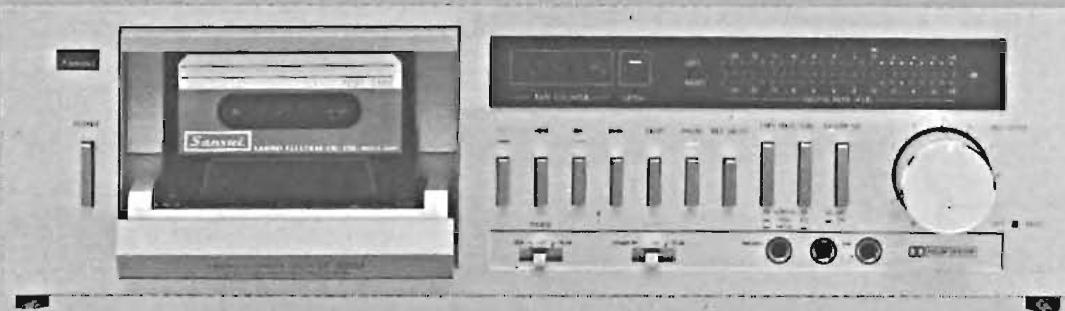


SERVICE MANUAL

STEREO CASSETTE TAPE DECK
METAL-TAPE-COMPATIBLE/HIGH-B HEAD

SANSUI D-300M



• SPECIFICATIONS

Track	4-Track (2-Channel Stereo)
Tape speed	4.8 cm/sec. (1-7/8 ips)
Motor	Electronically Controlled DC Motor
Wow and flutter	within 0.05 % WRMS
Fast wind time	approximately 85 seconds (C-60)
Frequency response (Record/Playback)	
Normal Tape (LH) (-20 VU)	
.	20 to 15,000 Hz (30 to 14,000 Hz ± 3 dB)
Metal Tape (-20 VU)	
.	20 to 18,000 Hz (30 to 17,000 Hz ± 3 dB) (0 VU)
.	30 to 13,000 Hz ± 3 dB
Signal to noise ratio (Record/Playback)	
Metal Tape (without Dolby Noise Reduction Effect)	better than 58 dB (weighted)
(With Dolby Noise Reduction)	better than 68 dB (above 5 kHz)
Erasure factor (Metal Tape)	more than 65 dB at 1,000 Hz
Input sensitivity and impedance (0 VU, 1,000 Hz)	
MIC	0.4 mV/200Ω ~ 5 kΩ
LINE IN (REC)	70 mV/47 kΩ
Output level (0 VU, 1,000 Hz)	
LINE OUT (PLAY)	400 mV
PHONES	30 mV
Power requirements	
Power voltage	110 ~ 120, 220 ~ 240 V (50/60 Hz)
For U.S.A. and Canada	120 V (60 Hz)
Power consumption	38 W
Dimensions	430 mm (16-15/16") W 132 mm (5-1/4") H 238 mm (9-3/8") D
Weight	5.1 kg (11.2 lbs) net 5.8 kg (12.7 lbs) packed

* Design and specifications subject to changes without notice for improvements.

Sansui

SANSUI ELECTRIC CO., LTD.

1. BLOCK DIAGRAM

1-1. TYPE I (G-1305)

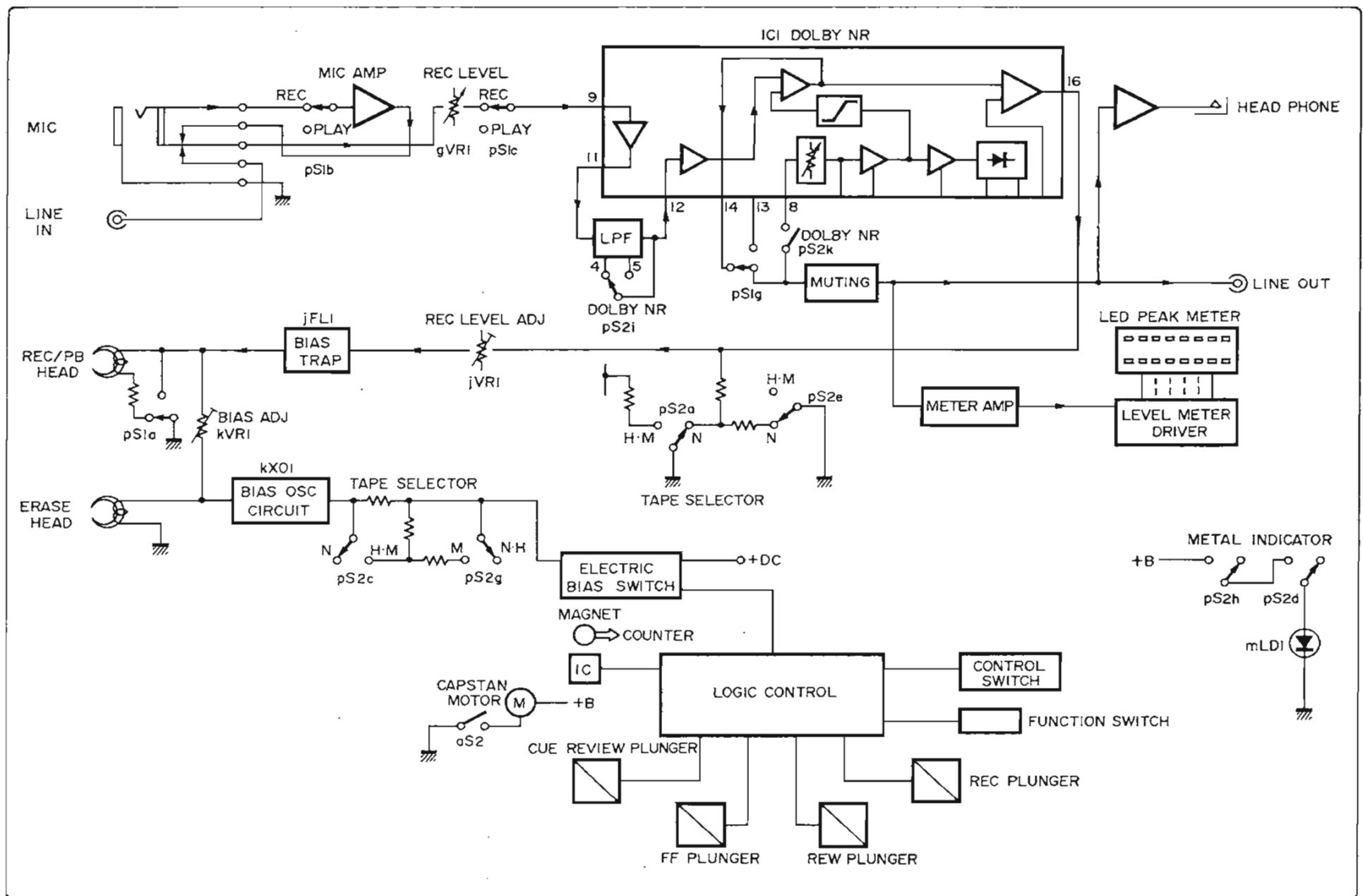
A) Recording Operation Block Diagram

* There exist two kinds of D-300M electrical partition, principal difference of TYPE I from TYPE II.

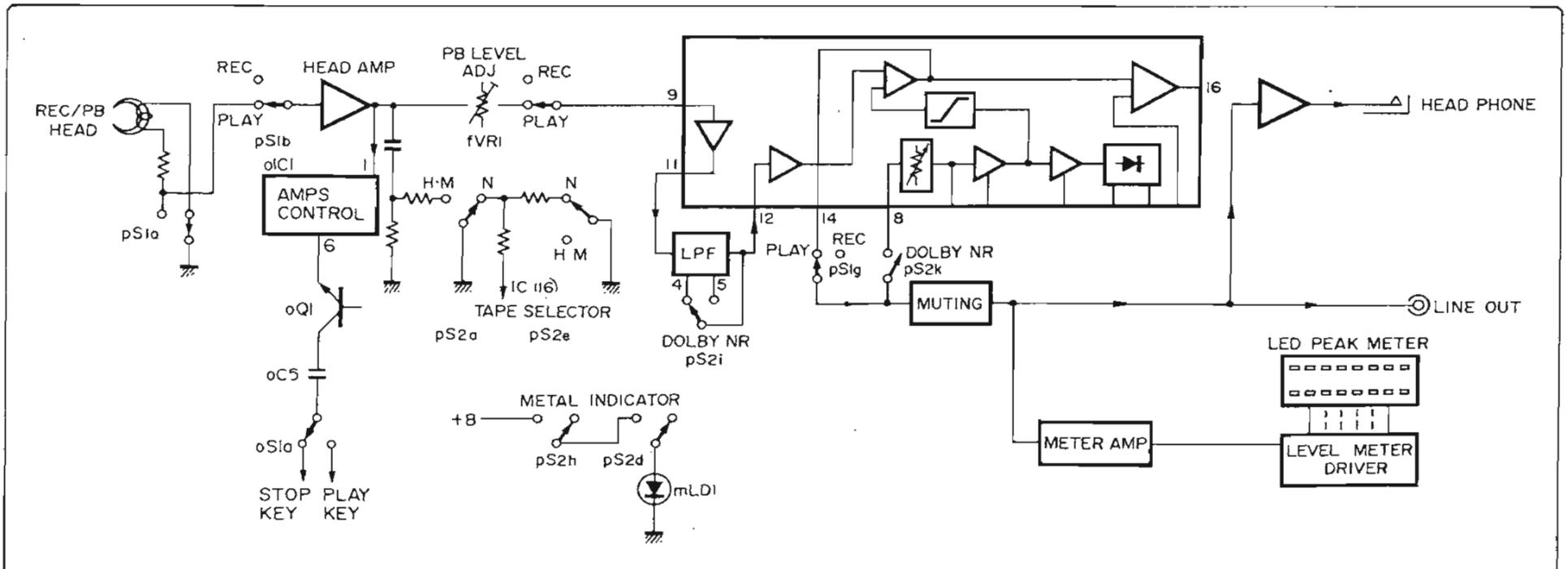
TYPE I; It has DOLBY NR IC (μ A7300) with built in REC amplifier.

TYPE II; It has DOLBY NR IC (NE646B), and other models too.

They can not put NE646B in place of μ A7300, please be carefully.

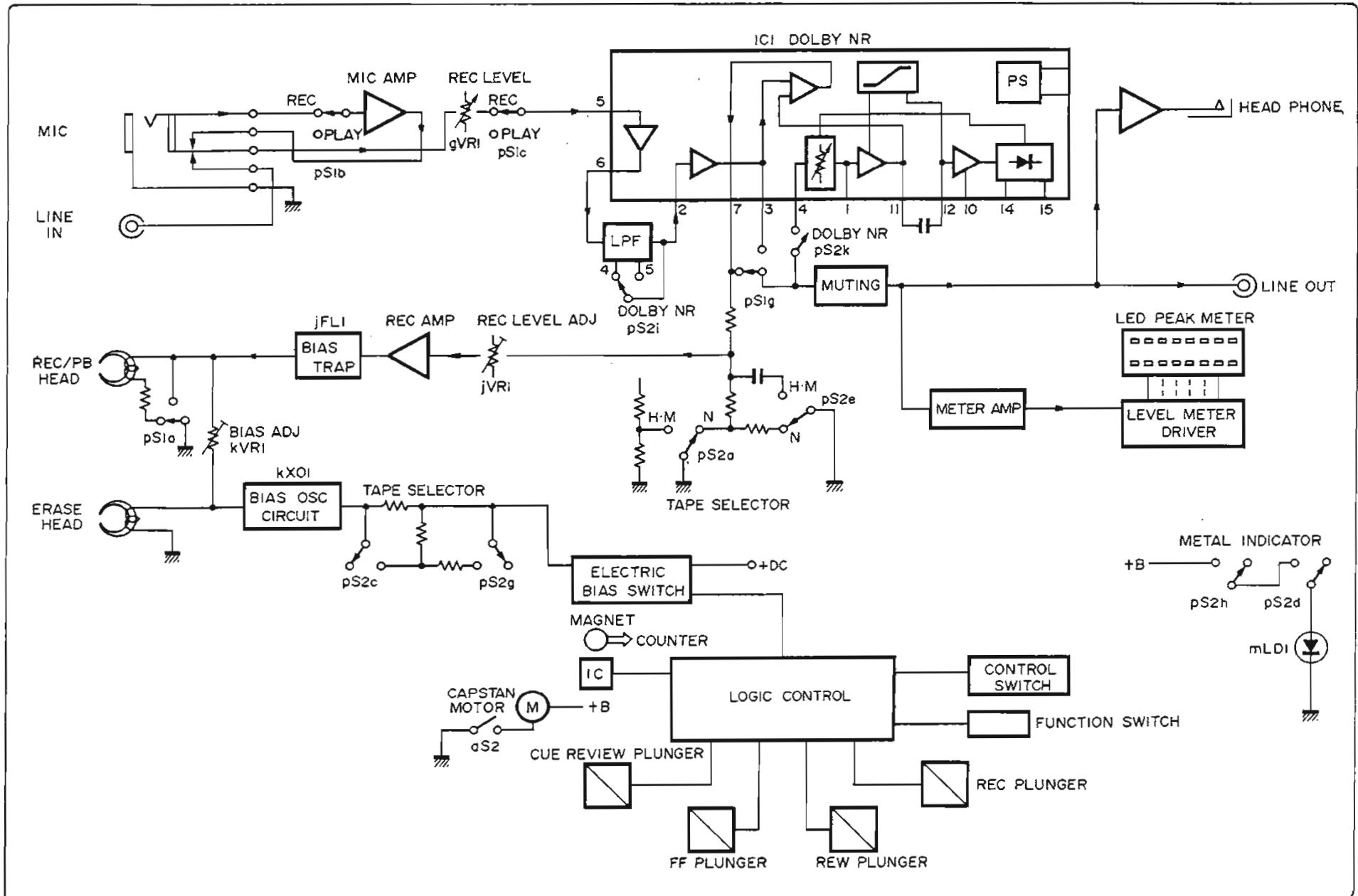


B) Playback Operation Block Diagram

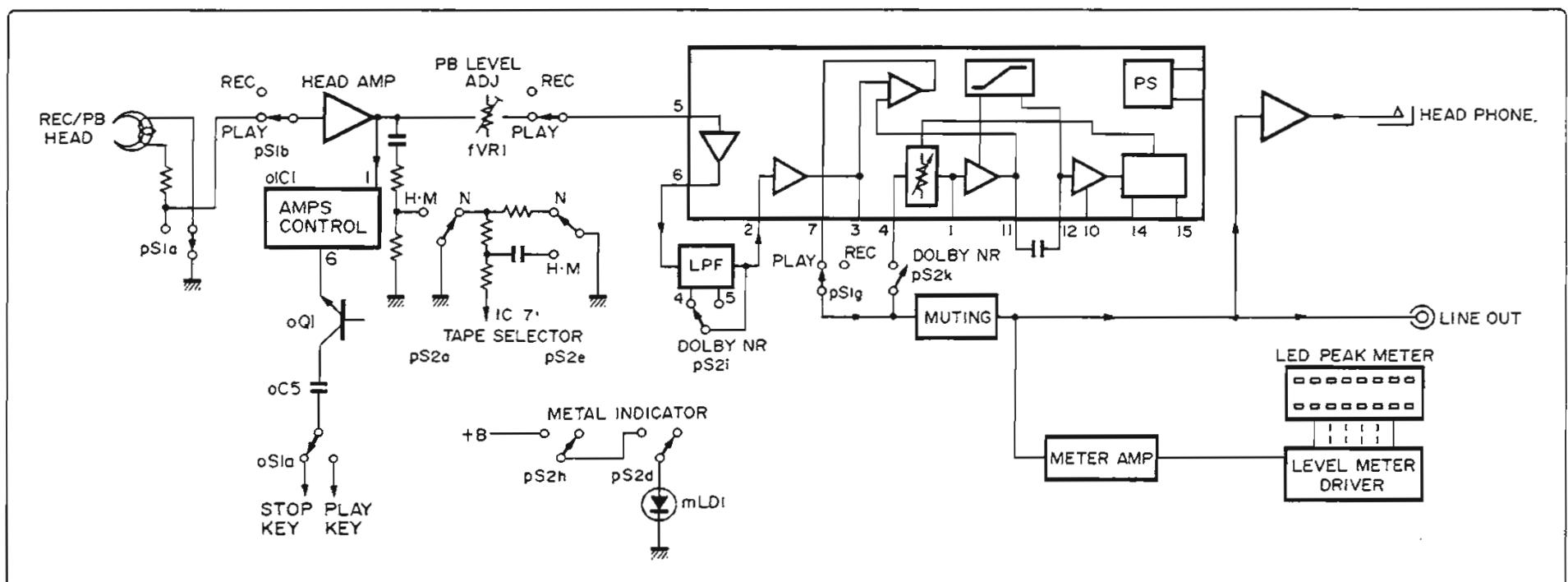


1-2. TYPE II (G-1324)

A) Recording Operation Block Diagram



B) Play Back Operation Block Diagram



2. OPERATION

2-1. Operation of Mechanism Section (See Fig. 2-1, Fig. 2-2)

A. Release of Brake

When depressing one of the control buttons PLAY, FF, or REW, the FF or REW plunger moves the brake shoes downwards to release the brake.

B. Operations of PLAY

- 1) When setting the cassette-half, the cassette sensor lever moves upwards to turn on the half-switch. In this condition, the capstan motor begins to rotate.
- 2) Accordingly, the capstan motor drives the capstan through the capstan belt and flywheel.
- 3) When depressing the PLAY button in this condition, the FF and REW plungers move the shift lever upwards through the solenoid and PLAY levers, and moves the stopper arm at the same time.
- 4) The gear rotates in mesh with the gear portion of the flywheel. At the same time, the cam portion of the gear moves the shift arm and the head base upwards.
- 5) Next, the head base lock arm locks the shift arm, and holds the head base at the upward position. After that, the gear stops a distance away from the flywheel.
- 6) In this condition, the pinch roller is pressed against the capstan to drive the tape. In addition, the subidler also moves upwards and, thereby, the motor drives the take-up reel hub assembly through the take-up idler to wind the tape.

C. Operations of REC

- 1) The basic operations are the same as in the PLAY operation. When the erroneous-erasure prevention claw of the cassette half moves the REC Sensor Lever upwards, the erroneous-erasure prevention switch is turned on to enable to perform the REC operation of the logic circuit.
- 2) When depressing the REC button, the REC/PLAY plunger is energized to switch the PLAY/REC amplifier to the REC mode.

D. Operations of FF

- 1) When depressing the FF button, the FF plunger releases the brake. At the same time, the FF idler moves upwards, the motor drives the take-up reel hub assembly through the take-up idler.

E. Operations of REW

- 1) When depressing the REW button, the REW plunger releases the brake. At the same time, the take-up idler is directly pressed against the supply reel hub assembly to rotate it.

F. Operations of AMPS (Automatic Music Program Search)

- 1) When depressing the FF or REW button with the AMPS switch set to the STAND BY position during the PLAY operation, since the CUE REVIEW plunger and either the FF or REW plunger are energized, the head base lock arm returns to the original position to release the locking of the shift arm, with the result that the head base is moved downwards.
- 2) At the position where the head base moves 1.5 mm downwards, the cue review lock lever pushed by the cue review plunger holds the head base. In this condition, the FF or REW operation is performed.
- 3) When no signal portion on the cassette tape comes, since this condition is the same as that where the STOP button is depressed, the locking of the head base by the cue review lock lever is released.
- 4) When the AMPS switch is set to the PLAY position, the basic operation is the same as in the STAND BY operation. When no signal portion on the cassette tape comes, since this condition is the same as that where the PLAY button is depressed, the operation returns to the PLAY mode again.

Fig. 2-1

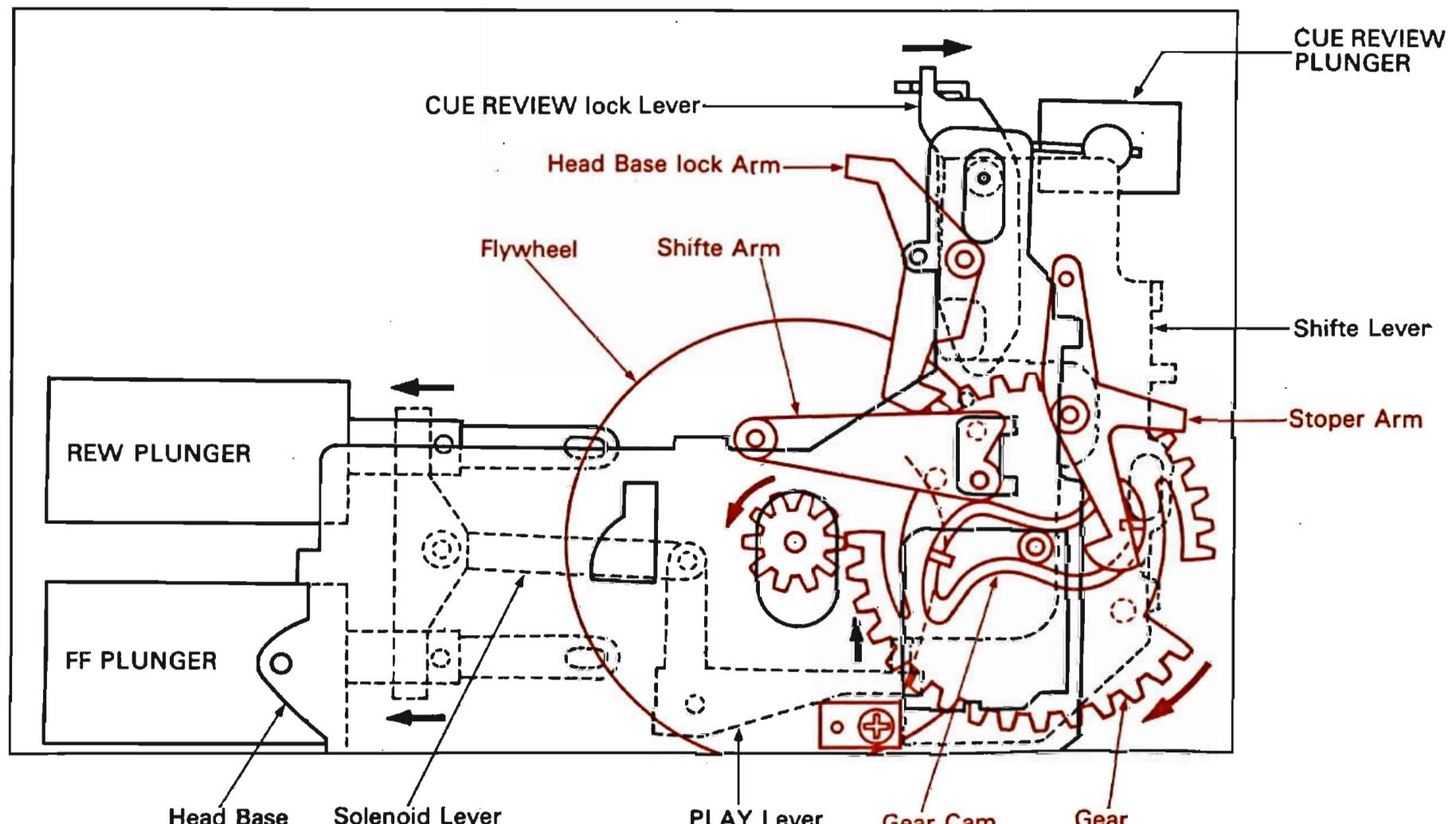
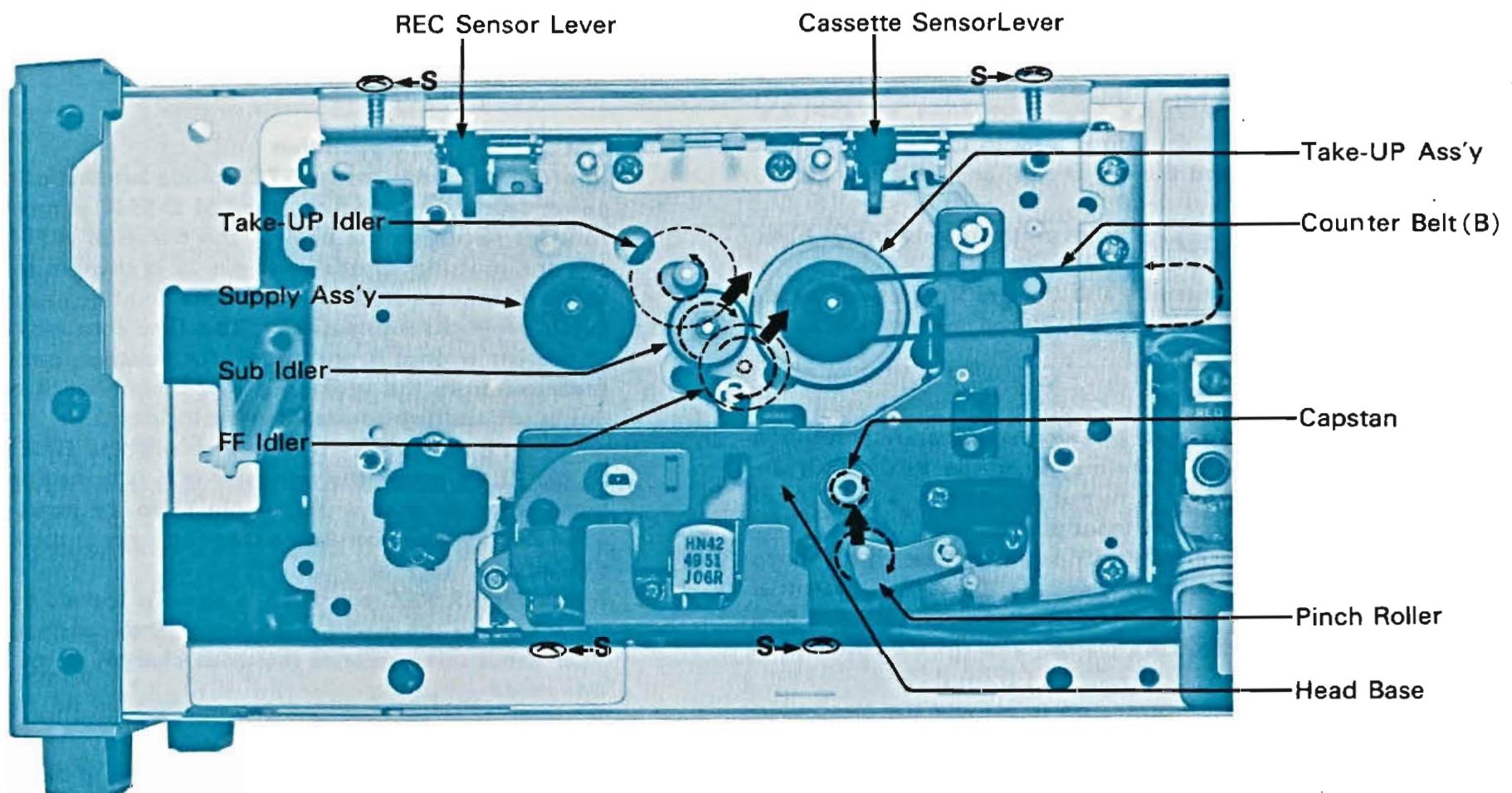


Fig. 2-2



2-2. Operation of Electric Circuit (Refer to block diagram, schematic diagram)

A. Functions and Operations of C-MOS LSI used for the logic control circuit

This stereo cassette deck has realized a full-logic, feather-touch control by using logic circuits mainly configured by a C-MOS LSI D-554C and plunger solenoids.

The main functions and operations of the D-554C are as follows:

- 1) Each mode is operated when a signal corresponding to each mode is applied to the input of the LSI through the corresponding transistor. The selected mode is kept until the mode is switched to another mode.
- 2) The most of operations are directly performed without any delay, however, operations of from STOP to PLAY and from PLAY

to REW are performed after a stop of about 0.2 sec. in order to protect the tape and the mechanism.

On the operations other than those described above, for instance, in the case where the pause operation is released from the REC PAUSE or PLAY PAUSE, each output changes immediately after the PAUSE key is depressed.

- 3) When turning the power supply on from off, the operation mode is set to the STOP mode for about three seconds.
- 4) It is possible to perform automatic recording and automatic playback by using the extra timer.

Fig. 2-3 Top View & Pin function of IC D-554C

OSC	1	28-OSC
	2	27-GND
	3	26-RESET
	4	25-TAPE END
	5	24
O-REW	6	23
O-FF · REW	7	22
O-FF	8	21
O-AUDIO MUTE	9	20-O-PLAY
O-REC	10	19
O-REC MUTE	11	18-O-REC(BIAS)
O-PLAY	12	17-O-PLAY
O-PAUSE	13	16-O-REC MUTE
Vdd	14	15

Fig. 2-4 Mode of each output terminal for each key input
(The "0" mark indicates the H-level output)

PIN No.	INPUT OUTPUT	STOP	FF	REW	PLAY	REC/ PLAY	PAUSE			REC/ MUTE
							STOP	PLAY	REC/ PLAY	
6	0-REW			○						
7	0-FF · REW		○	○						
8	0-FF		○							
9	0-AUDIO MUT	○	○	○	*○	*○	○	○	○	○
10	0-REC					○			○	○
11	0-REC MUT	○	○	○	○	○	○	○	*	*
12	0-PLAY				○	○				○
13	0-PAUSE						○	○	○	
16	0-REC MUT									○
17	0-PLAY				○	○	○	○	○	
18	0-REC					○				
20	0-PLAY				○	○				○

Note: The "*0" mark indicates level more than H-level by 0.8 V.
The "*" mark indicates level less than H-level by 0.8 V.

B. Operations of Logic Control Circuits (See Fig. 2-3, Fig. 2-4 and schematic diagram)**1. PLAY operation**

- 1) When depressing the PLAY key, the transistor nQ3 is turned on to apply a signal from the matrix signal output pin 2 to the input pin 22.
- 2) About 0.2 sec. after the PLAY key is depressed, the O-PLAY potential changes from L level to H level to turn on the transistors nQ22 and nQ23, and thereby the FF and REW plunger are both energized.
- 3) At the same time, the O-PLAY turns on the transistor nQ17 and lights up the PLAY LED (nLD2).
- 4) The O-AUDIO MUTE potential also changes from L-level to H-level to turn off the transistor nQ11, and thereby the audio muting is released.

2. REC operation

- 1) When the cassette half is set, the erroneous-erasure prevention switch aS1 is turned on. Therefore, when the REC key is depressed, the transistor nQ2 is turned on to apply a signal from the matrix output pin 2 to the input pin 23.
- 2) At the same time, when the PLAY key is depressed, the mode changes to the REC mode. In this case, the O-REC potential changes from L level to H level to turn on the transistor nQ26 and to energize the REC/PLAY plunger and the transistor nQ16 is also turned on to light up the REC LED (nLD1).
- 3) The transistor nQ2 is also turned on to activate the bias oscillation circuit.
- 4) Other operations are the same as in the PLAY operation.

3. PAUSE operation

- 1) In the PAUSE operation, the O-PLAY potential changes from H-level to L-level except potential of output pin 17 and FF, REW plunger are released.
- 2) At the same time, the O-PAUSE potential changes from L-level to H-level to turn on the transistor nQ18 and lights up the PAUSE LED (Led nLD3).

4. FF and REW operation

- 1) In the FF operation, the O-FF potential changes from L level to H level to turn on the transistor nQ20. Also, the O-FF/REW potential changes from L level to H level to turn on the transistor nQ19, and thereby the FF plunger is energized.
- 2) In the REW operation, the O-REW potential changes from L level to H level to turn on the transistor nQ21, and the O-FF/REW potential also changes from L level to H level to turn on the transistor nQ19. As a result, the REW plunger is energized.
- 3) The signal output generated during the FF or REW operations is eliminated by changing the O-AUDIO MUTE potential to L level to activate the muting circuit.

5. AUTO STOP operation

- 1) When no pulse is applied to the rotation detection pulse input pin 25 for about two seconds, the mode changes to the STOP mode automatically.

6. TIMER PLAY/REC operation

- 1) In order to change to the STOP mode automatically when the power supply is turned on, the LSI D-554C is provided a time constant circuit to the base of the transistor nQ14. That is to say, the potential of the reset pin 26 is changed to H level for about three seconds. This is the same condition when the STOP key is depressed automatically. This time constant circuit serves to prevent erroneous operations, for instance, caused by noise generated from the audio amplifier or unbalance of rise times due to various time constants in the logic circuits.
- 2) When the power supply is turned on with the TIMER switch set to the PLAY mode, the transistor nQ8 is turned on to apply a signal from the matrix output pin 19 to the input pin 21, and after about seven seconds the mode changes to the PLAY operation mode.
- 3) In the TIMER REC operation, a signal is applied by the transistor nQ9 from the matrix output pin 19 to the input pin 23 and after about seven seconds the mode changes to the REC operation mode

7. AMPS operation

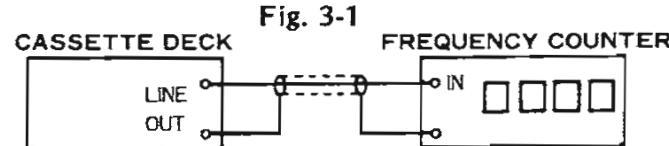
- 1) When the FF or REW key is depressed during the PLAY operation with the AMPS switch set to the STAND BY position, the PLAY operation is released. In this case, the O-FF or O-REW potential changes from L level to H level and the FF or REW operation is performed.
- 2) At the same time, through the AMPS switch, the transistors nQ24 and nQ25 are turned on to energize the CUE REVIEW plunger.
- 3) In this case, the REC/PLAY head detects the signals recorded on the tape in slight touch therewith. The detected signal is applied to the input pin 1 of the nIC₂ (BA-335). When no tape signal is detected for three seconds or more (on the PLAY mode), since the potential of the output pin 6 of the nIC₂ is changed to L level, the base potential of the transistor nQ4 is changed to L level in a moment through the oQ₁, OC5, AMPS switch. This is the same condition where the STOP key is depressed.
- 4) The basic operation is the same when the AMPS switch is set to the PLAY mode. Since the output of the nIC₂ changes the base potential of the transistor nQ₃ to L level through the oQ₁, OC5 and AMPS switch, this is the same condition where the PLAY key is depressed.

3. ADJUSTMENTS

* There exist two kinds of electric section, please be careful.

3-1. Tape Speed Adjustment

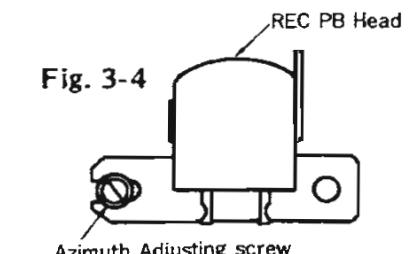
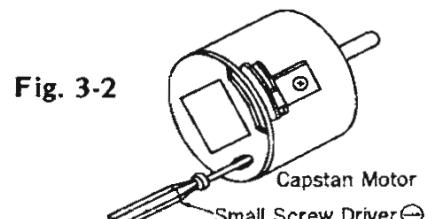
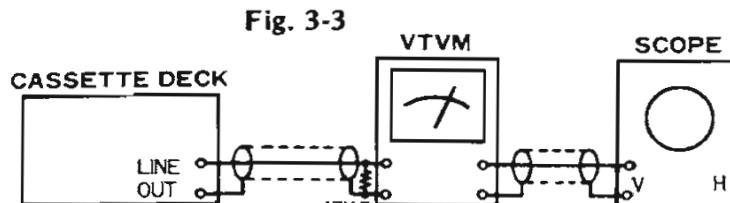
Note: 1. Use Sansui Test Tape, SCT-S3K
(3 kHz signals are recorded on the tape).
2. Connections are shown in Fig. 3-1.



STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	TAPE SPEED Adj.	LINE OUT Frequency counter	Playback the TEST TAPE SCT-S3K.	Turn semi-variable resistor as Fig. 3-2.	3000 Hz ± 45 Hz	Use small screw driver.

3-2. Playback Adjustment

Note: 1. Before this adjustment, clean REC/P.B. head surface.
2. For this adjustment, use Sansui Test Tape, SCT-F10KN, SCT-L400N and SCT-F1K.
3. Set the Dolby NR switch to be OFF.
4. Connections are shown in Fig. 3-3.



D-300M D-300M

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	REC/P.B. Head Adj.	LINE OUT VTVM, Scope	Playback the TEST TAPE SCT-F10KN	Adjust the azimuth adjusting screw in Fig. 3-4.	MAX. Output on both channels.	Refer to loosely method of head cover on page 7.
2.	Playback Level Adj.	Same as above	Set TAPE SELECTOR to NORMAL (LH) position. Playback the TEST TAPE SCT-L400N.	Adjust each fVR1 on L-CH and R-CH.	500 mV ± 2 dB	After this adjustment, lock the screw with paint. See Fig. 3-7 or Fig. 3-8.
3.	High Frequency Equalization Check	Same as above	Set TAPE SELECTOR to NORMAL (LH) position. Playback the TEST TAPE SCT-F1K.	—	—	Read output levels on both channels.
			Playback the TEST TAPE SCT-F10KN.	—	—	Confirm that the output levels are within ± 3 dB comparing with the above readings.

Note: On STEP 3, set the TAPE SELECTOR to HIGH (CrO_2) position during playback of SCT-10KN, and confirm the indication on VTVM drops approximately 3 dB ~ 4 dB.

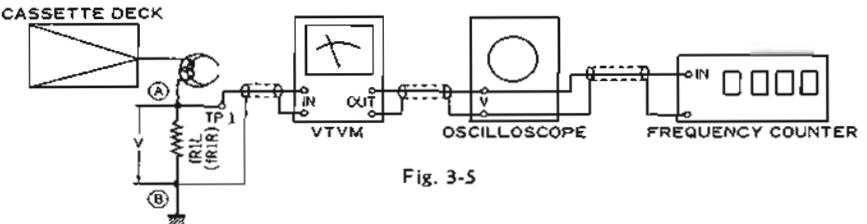


Fig. 3-5

3-3. Recording Adjustment

- 1) Bias Adjustment
Note: 1. For this adjustment, use Sansui Test Tape, SCT-SA.
2. Set the Dolby NR Switch to be OFF.
3. Connections are shown in Fig. 3-5.

STEP	SUBJECT	MEASURE OUTPUT	SETTING	ADJUSTMENT	ADJUST FOR	REMARKS
1.	Recording Bias Adj.	Between A & B points of each fR1L & fR1R. VTVM, Scope, Frequency Counter	Load the TEST TAPE SCT-SA.	Adjust kVR1L for L-CH and kVR1R for R-CH.	5 mV (G-1305) or 6.8 mV (G-1324)	See Fig. 3-7 or Fig. 3-8.
			Depress PAUSE, REC and PLAY buttons. Set TAPE SELECTOR to HIGH (CrO_2) position.	—	—	Confirm the indication on VTVM shows 3.7 mV (G-1305) or 4.5 mV (G-1324).
			Set TAPE SELECTOR to NORMAL (LH) position.	—	—	Confirm the indication on VTVM shows 8.5 mV.
2.	Bias Frequency Check	Same as above	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to NORMAL (LH) position.	—	—	Confirm that the Frequency Counter shows 85 kHz ± 10 kHz.

Fig. 3-7 G-1305 Main Circuit Board

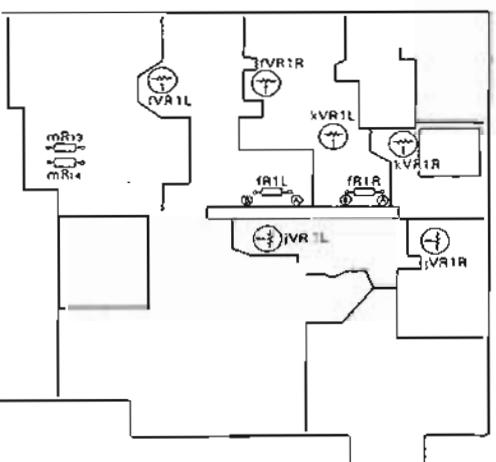
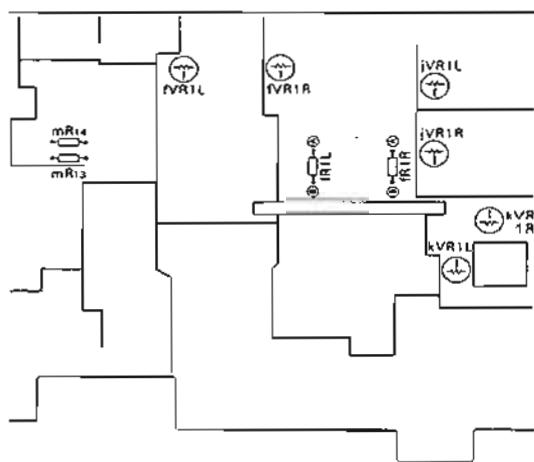
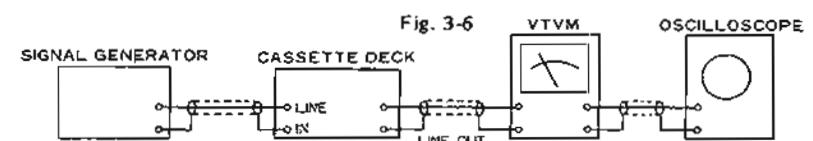


Fig. 3-8 G-1324 Main Circuit Board



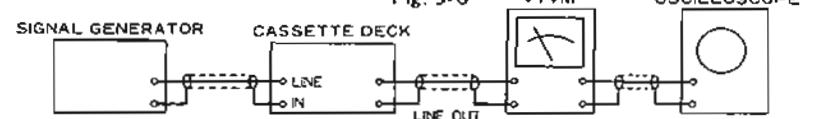
- 2) Rec Level & Frequency Response Adjustment
Note: 1. Rec Level Volume . . . Max.
2. Connections are shown in Fig. 3-6.
3. Set the Dolby NR switch to be OFF.



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	REC Level Adj.	Feed 1 kHz, 70 mV from S.G. into LINE IN.	LINE OUT VTVM Scope	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to HIGH (CrO_2) position.	1. If not, turn JVRI (REC, L-CH) and JVRI (REC, R-CH) until output level 400 mV ± 2 dB on both channel are obtained. 2. Repeat this REC Level adj. until the indication on VTVM will be 400 mV ± 2 dB.	See Fig. 3-7 or Fig. 3-8.
2.	Frequency Response Adj.	Feed 1 kHz 7 mV (-20 dB) and 10 kHz 7 mV (-20 dB) from S.G. into LINE IN.	Same as above	Load the TEST TAPE SCT-SA. Set TAPE SELECTOR to HIGH (CrO_2) position.	1. Record the 1 kHz and 10 kHz signals from S.G. 2. Play back the 1 kHz and 10 kHz signals, then confirm that both output levels equal.	As kVR1L and kVR1R are previously adjusted in step of Bias Adjustment, turn them slightly, if necessary.

2-4. Peak Level Indicator Adjustment

- Note: 1. Set the TAPE SELECTOR to be NORMAL (LH) position.
2. Set the Dolby NR Switch to be OFF.
3. Connections are shown in Fig. 3-6.



STEP	SUBJECT	INPUT SIGNAL	MEASURE OUTPUT	SETTING	ADJUSTMENT	REMARKS
1.	Peak Level Indicator Adjustment	Feed 1 kHz, 120 mV from S.G. into LINE IN	LINE OUT VTVM Scope	Load the TEST TAPE SCT-SA.	1. Depress PAUSE, PLAY & REC button. 2. Adjust the REC Level Volume for obtaining 0 dB point on Level Indicator. 3. Then confirm the output levels on both channels are 500 mV ± 2 dB on VTVM.	1. If more than it, take off mR13 (100kΩ). 2. If less than it, take off mR14 (33kΩ).

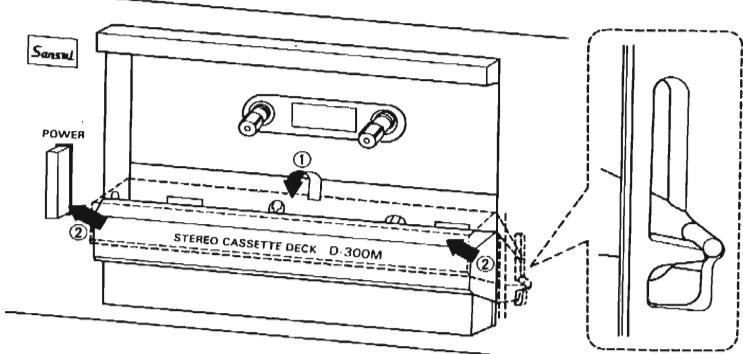
◆ List of Sansui Test Tape

Name of TEST TAPE	Recorded Frequency	Description
SCT-F40	40 Hz	Playback Frequency Response Check
SCT-F1K	1 kHz	High Frequency Equalization Check
SCT-F10K	10 kHz	REC/PB Head Adjustment
SCT-L400N	400 Hz	Playback Level and Indicator Level Adjustment
SCT-S3K	3 kHz	Speed Check and Wow & Flutter Check
SCT-LH NORMAL (LH)		Recording Bias Adjustment
SCT-SA HIGH (CrO_2)		REC/PB Level Adjustment
SCT-CS Fe-Cr		Frequency Response Check

◆ Tape Selector Position

NORMAL Position		HIGH Position	
FUJI	FL, FXI	MAXELL	FX II
MAXELL	UL, UD, XLI	TDK	SA
TDK	D, AD, DD	SCOTCH	TARTAN CRYSTAL MASTER 70
SCOTCH		SONY	JHF
SONY	AHF, BHF, CHF Low-Noise	AGFA	STEREO CHROM
AGFA	SUPER COLOR SUPER FERRO DYNAMIC	BASF	SCR
METAL Position		MAXELL	MX
MAXELL		TDK	MA-R, MA
SCOTCH		SCOTCH	Metalfine
SONY		SONY	METALLIC

Fig. 3-9



◊ Loosely Method of Head Cover

Perform this procedure when make azimuth adjustment or replacing head cover. Since props of head cover are fragile, please pay attention.

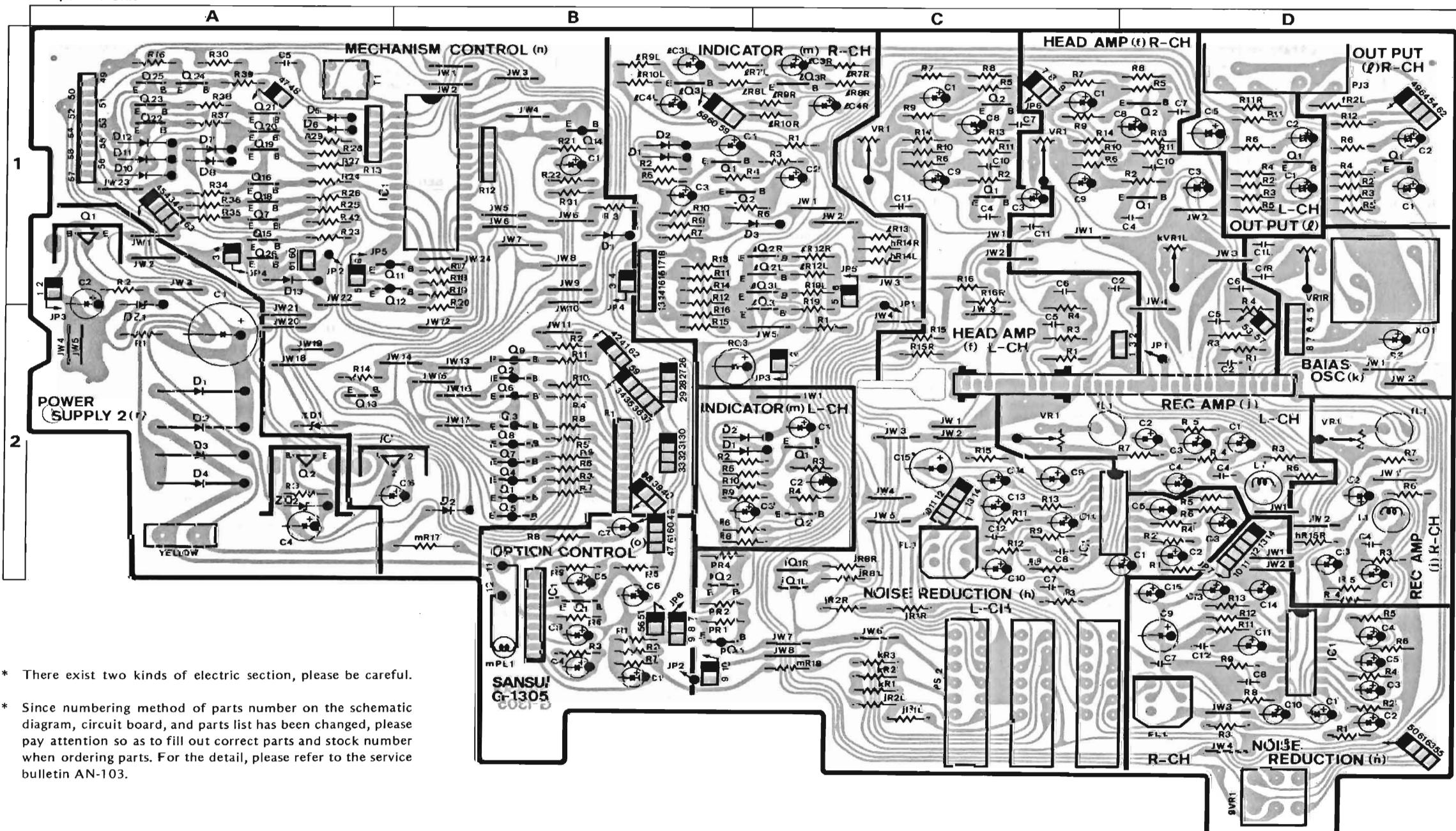
- 1) Open head cover above 1cm (1/3 inch) and this amalgation is important to remove it. (See Fig. 3-9 ①).
- 2) Putting forefinger in the 1 cm space (between head cover and mechanism cover) and lifting head cover inside to hold it by thumb and forefinger make easier to take off the supporting groove. (See Fig. 3-9 ②)
- 3) To attach head cover, perform Step 2) inversely at first, then push down diagonally after putting to supporting branch.

- Since some of capacitors and resistors are omitted from parts lists in this Service Manual, refer to the Common Parts List for capacitors & resistors which was appended previously to each Sansui Manual.

4. PARTS LOCATION & PARTS LIST

4-1. G-1305 Main Circuit Board (Stock No. 00612101) — (TYPE-I)

Component Side



Parts List

Parts No.	Stock No.	Description
● Transistor		
fQ1	07225400, 1	2SC2320L F, G
fQ2	07225400, 1	2SC2320L F, G
jQ1	03068301, 2	2SC2320 E, F
nQ21	03068301, 2	2SC2320 E, F
nQ22	07206900, 1	2SC2001 M, L
nQ23	07206900, 1	2SC2001 M, L
nQ24	03068301, 2	2SC2320 E, F
nQ25	07206900, 1	2SC2001 M, L
nQ26	07206900, 1	2SC2001 M, L
oQ1	03068301, 2	2SC2320 E, F
pQ1	03012700, 1	2SA999 E, F
pQ2	03068301, 2	2SC2320 E, F

Parts No.	Stock No.	Description
rQ1	03083901, 2	2SD313AL D, E
rQ2	03083901, 2	2SD313AL D, E
IQ1	07225400, 1	2SC2320L F, G
IQ2	03068301, 2	2SC2320 E, F
IQ3	03068301, 2	2SC2320 E, F
mQ1	03059501, 2	2SC945 Q, P
mQ2	03068301, 2	2SC2320 E, F
mQ3	03068301, 2	2SC2320 E, F
nQ1	03012700, 1	2SA999 E, F
nQ2	03012700, 1	2SA999 E, F
nQ3	03012700, 1	2SA999 E, F
nQ4	03012700, 1	2SA999 E, F
nQ5	03012700, 1	2SA999 E, F
nQ6	03012700, 1	2SA999 E, F
nQ7	03012700, 1	2SA999 E, F
nQ8	03012700, 1	2SA999 E, F
nQ9	03012700, 1	2SA999 E, F
nQ11	03012700, 1	2SA999 E, F
nQ12	03012700, 1	2SA999 E, F
nQ13	03068301, 2	2SC2320 E, F
nQ14	03068301, 2	2SC2320 E, F
nQ15	03068301, 2	2SC2320 E, F
nQ16	03068301, 2	2SC2320 E, F
nQ17	03068301, 2	2SC2320 E, F
nQ18	03068301, 2	2SC2320 E, F
nQ19	03068301, 2	2SC2320 E, F
nQ20	03068301, 2	2SC2320 E, F
● Diode		
mD1	03117600	1S2473D
mD2	03117600	1S2473D
mD3	07225500	1N60
nD1	03117600	1S2473D
nD2	03117600	1S2473D
nD3	03117500	1S2473D
nD4	03117600	1S2473D
nD5	03117600	1S2473D
nD6	03117600	1S2473D
nD10	03117700	10E-2
nD11	03117700	10E-2
nD12	03117700	10E-2
nD13	03117700	10E-2
rD1	03115300	30D-2
rD2	03115300	30D-2
rD3	03115300	30D-2
rD4	03115300	30D-2
● Zener Diode		
nDZ1	03178500	RD10E C
rDZ1	03179000	RD13E B
rDZ2	03163100	RD13E B
● Block Resistor		
nR1	07244500	RM8-223J
nR12	07244400	RM4-223J
nR13	07244400	RM4-223J
nT1	42306100	Clock Pulse Osc Coil
jFL1	42904400	Trap Coil
jL1	49005400	Inductor 3.3 mH
jVR1	07241300	10kΩ (B) Semi Variable Resistor REC LEVEL Adj.
fVR1	07241500	50kΩ (B) Semi Variable Resistor PB LEVEL Adj.

Parts No.	Stock No.	Description
gVR1	10250400	50kΩ (A) x 2 Variable Resistor
kVR1	07241600	100kΩ (B) Semi Variable Resistor BIAS Adj.
•IC		
hIC1	07224900	μA7300
oIC1	07252300	BA335
nIC1	07232500	μPD554C-031
nIC2	07232400	μPC78M10H
kXO1	07189700	Osc Block BO-3HA
hFL1	07196900	Low Pass Filter
pS1	07245000	Slide Switch (Play/REC)
pS2	07245200	Push Switch (Tape Selector)
pJ3	07249100	4P Terminal Board (Input/Output)
mR17	00182100	33Ω 1W N.I.R.
fC3	08301100	10μF 35V E.C.

- The circuit boards, G-1309, G-1306, G-1326, G-1307 (G-1327) and G-1308 (G-1325) are not supplied as the assembled, the individual parts on the circuit boards, however are provided for orders.

4-2. G-1309 Power Switch Circuit Board

Parts List		
Parts No.	Stock No.	Description
qC1	08302200	10000pF 125V C.C.
qS1	07194500	Push Switch (Power)

4-3. G-1306 Control Switch Circuit Board (TYPE-I)

Parts List		
Parts No.	Stock No.	Description
nLD1	03193700	SEL1110S LED
nLD2	07246200	SEL1710K LED
nLD3	07251600	SEL1910A LED
nS1	07245100	Push Switch (REC)
nS2	07245100	Push Switch (Rewind)
nS3	07245100	Push Switch (Play)
nS4	07245100	Push Switch (F.F.)
nS5	07245100	Push Switch (Stop)
nS6	07245100	Push Switch (Pause)
nS7	07245100	Push Switch (REC Mute)
nS8	07249900	Slide Switch (Timer)
oS1	07249900	Slide Switch (AMPS)

4-4. G-1326 Control Switch Circuit Board (TYPE-II)

Parts List		
Parts No.	Stock No.	Description
nLD1	03193700	SEL1110S LED
nLD2	07246200	SEL1710K LED
nLD3	07251600	SEL1910A LED
nS1	07234700	Push Switch (REC)
nS2	07234700	Push Switch (Rewind)
nS3	07234700	Push Switch (PLAY)
nS4	07234700	Push Switch (F.F.)
nS5	07234700	Push Switch (Stop)
nS6	07234700	Push Switch (Pause)
nS7	07234700	Push Switch (REC Mute)
nS8	07249900	Slide Switch (Timer)
oS1	07249900	Slide Switch (AMPS)

4-5. G-1307 (G-1327) Metal Indicator Circuit Board

Parts List		
Parts No.	Stock No.	Description
mLD1	07246200	SEL1710K LED

4-6. G-1308 (G-1325) Jack Circuit Board

Parts List		
Parts No.	Stock No.	Description
pJ1	07194300	Headphone Jack
pJ2	07200300	Mic Jack

● Abbreviations

C.R.	Carbon Resistor	E.L.	Low Leak Electrolytic Capacitor
S.R.	Solid Resistor	E.B.	Bi-Polar Electrolytic Capacitor
Ce.R.	Cement Resistor	E.BL.	Low Leak Bi-Polar Electrolytic Capacitor
M.R.	Metal Film Resistor	Ta.C.	Tantalum Capacitor
F.R.	Fusing Resistor	F.C.	Film Capacitor
N.I.R.	Non-Inflammable Resistor	M.P.	Metalized Paper Capacitor
C.C.	Ceramic Capacitor	P.C.	Polystyrene Capacitor
C.T.	Ceramic Capacitor, Temperature Compensation	G.C.	Gimmie Capacitor
E.C.	Electrolytic Capacitor		

4-7. G-1324 Main Circuit Board (Stock No. 00639101) — (TYPE-II)

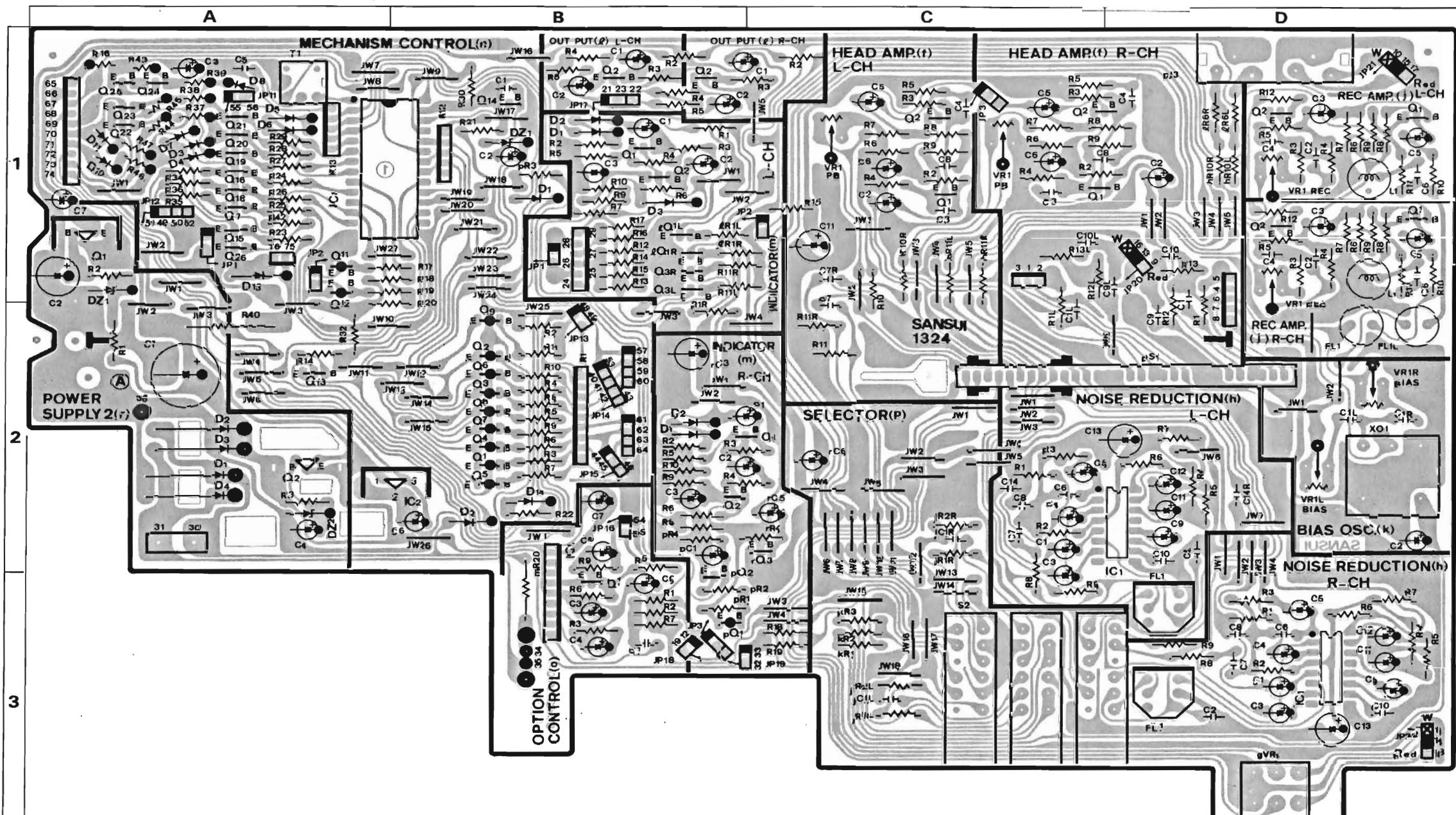
Parts List

Parts No.	Stock No.	Description
gVR1	10250400	50kΩ (A) x 2 Variable Resistor
●Transistor		
pQ1	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
pQ2	03068301, 2	2SC2320-E, F
	07194800, 1	2SC1815-Y, G
	07299700 ~ 2	2SC2603-D, E, F
	46057200, 1	LC945-P, K
pS1	07245000	Slide Switch (PLAY/REC)
pS2	07245200, 1	Push Switch (Tape Selector)
pJ3	07249100	4P Terminal Board (INPUT/OUTPUT)
●Transistor		
fQ1	07225400, 1	2SC2320L-F, G
	03060700 ~ 2	2SC1313-F, G, H
fQ2	07225400, 1	2SC2320L-F, G
	03060700 ~ 2	2SC1313-F, G, H
fC7	07215100	2700P C.C.
fC8	07215400	4700P C.C.
fC9	07216000	15000P C.C.
fC10	07215000	2200P C.C.
fVR1	07241500	50kΩ (B) Semi Variable Resistor PB LEVEL Adj.
●IC		
hIC1	03613600	NE646B
hC2	07211700	1000P C.C.
hC6	07215400	4700P C.C.
hC7	07215500	5600P C.C.
hC8	07216300	27000P C.C.
hC10	07216600	47000P C.C.
hFL1	07196900	Low Pass Filter
jQ1	03068301 ~ 3	2SC2320-E, F, G
	07194800, 1	2SC1815-Y, G
	07299700 ~ 2	2SC2603-D, E, F
jQ2	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	07299700 ~ 2	2SC2603-D, E, F
jC1	07215800	10000P C.C.
jC2	07211700	1000P C.C.
jC6	07216200	22000P C.C.
jFL1	42904400	Trap Coil
jL1	46090700	Inductor 3.3mH
jVR1	07241300	10kΩ (B) Semi Variable Resistor REC LEVEL Adj.
kXO1	46087000	Osc Block BO-3HA
kVR1	07241600	100kΩ (B) Semi Variable Resistor BIAS Adj.
●Transistor		
IQ1	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	07299700 ~ 2	2SC2603-D, E, F
IQ2	03068301, 2	2SC2320-E, F
	07194801	2SC1815-G
	46057200, 1	LC945-P, K
	07299701, 2	2SC2603-E, F

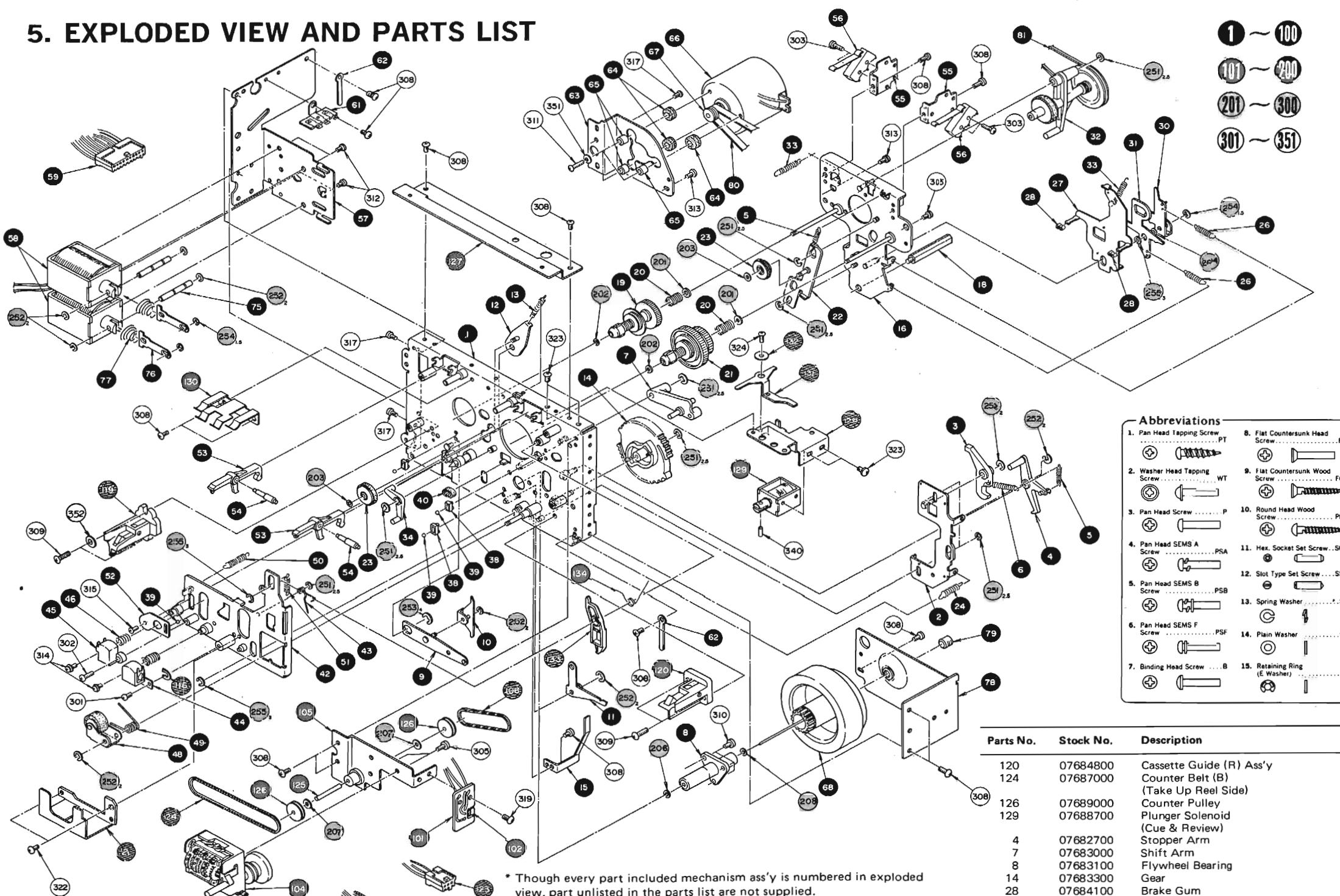
Parts No.	Stock No.	Description
mQ1	03059502, 3	2SC945-P, K
	07194801	2SC1815-G
	03068302, 3	2SC2320-F, G
	46057201	LC945-K
	07299702	2SC2603-F
mQ2	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
mQ3	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
●Diode		
mD1	03117600	1S2473D
	46092700	US1035
mD2	03117600	1S2473D
	46092700	US1035
mD3	07225500	1N60
mR20	00182100	33Ω 1W N.I.R.
●Transistor		
nQ1	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ2	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ3	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ4	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ5	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ6	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ7	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ8	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ9	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ11	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ12	03012700, 1	2SA999-E, F
	07194700, 1	2SA1015-Y, G
	07299600 ~ 2	2SA1115-D, E, F
nQ13	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ14	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ15	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ16	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F

D-300M D-300M

Parts No.	Stock No.	Description
nQ17	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ18	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ19	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ20	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ21	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ22	07206900, 1	2SC2001-M, L
	07254900, 1	2SC1741-Q, R
	03069101, 2	2SC2060-Q, R
nQ23	03085201, 2	2SD438-E, F
	07206900, 1	2SC2001-M, L
	07254900, 1	2SC1741-Q, R
	03069101, 2	2SC2060-Q, R
nQ24	03068300 ~ 3	2SC2320-D, E, F, G
	07194800, 1	2SC1815-Y, G
	46057200, 1	LC945-P, K
	07299700 ~ 2	2SC2603-D, E, F
nQ25	07206900, 1	2SC2001-M, L
	07254900, 1	2SC1741-Q, R
	03069101, 2	2SC2060-Q, R
nQ26	03085201, 2	2SD438-E, F
	07206900, 1	2SC2001-M, L
	07254900, 1	2SC1741-Q, R
	03069101, 2	2SC2060-Q, R
	03085201, 2	2SD438-E, F
•IC		
nIC1	07232500	μ PD554C-031
nIC2	07232400	μ PC78M10H
•Diode		
nD1	03117600	1S2473D
	46092700	US1035
nD2	03117600	1S2473D
	46092700	US1035
nD3	03111600	1S2473D
	03111800	IS1588
	46052500	US1035
nD4	03111600	1S2473D
	03111800	IS1588
	46052500	US1035
nD5	03117600	1S2473D
	46092700	US1035
nD6	03117600	1S2473D
	46092700	US1035
nD7	03111600	1S2473D
	03111800	IS1588
	46052500	US1035
nD8	03111600	1S2473D
	03111800	IS1588
	46052500	US1035
nD10	03103400	10D1
nD11	03103400	10D1
nD13	03117700	10E-2
nD14	03117600	1S2473D
	46092700	US1035



5. EXPLODED VIEW AND PARTS LIST



Parts List

Parts No.	Stock No.	Description
19	07683500	Supply Reel Hub Ass'y
21	07683700	Take-Up Reel Hub Ass'y
23	07683800	Idler (FF/REW)
32	07684300	Take-up Idler Ass'y
34	07684500	Idler Arm
44	07556600	REC/P.B. Head
45	45260400	Erase Head
48	07685400	Pinch Roller Ass'y
56	07688600	Micro Switch
58	07688800	Plunger Solenoid (REW, F.F.)

Parts No.	Stock No.	Description
64	07686100	Motor Cushion
66	43207500	Motor
67	07686300	Motor Pulley
68	07686400	Flywheel
80	07686600	Capstan Belt
81	07686700	Take Up Belt
102	03614000	Hall IC DN6838
104	07686800	Tape Counter
106	07686900	Counter Belt (A) (Counter Side)
119	07685000	Cassette Guide (L) Ass'y

- 1 ~ 100
- 101 ~ 200
- 201 ~ 300
- 301 ~ 351

6. MAIN PARTS REPLACEMENT

(See 5. Exploded View)

A. Replacement of mechanism chassis

- 1) Remove bonnet, bottom plate and front panel.
- 2) Loosen 2 screws at mechanism cover to remove it.
- 3) Pluck out 3 connectors on circuit board G-1305 or G-1324 and cut the vinyl bands.
- 4) While push down the top hook (T) of peak level indicator frame slightly (See top view on page 15), push it this side to remove peak level indicator frame ass'y.
- 5) Loosen 4 screws (5) (See Fig. 2-2 on page 4) fixing mechanism chassis.

B. Replacement of motor 66

- 1) Take out mechanism chassis from set.
- 2) Loosen 2 screws (10) (17) at motor mounting plate (63) and 1 screw (10) at flywheel bearing plate (78).
- 3) Take out motor mounting plate (63) with motor from mechanism chassis.
- 4) Loosen 3 screws fixing motor.
- 5) Pull out motor pulley (67) after heating motor pulley by soldering iron. (To settle motor pulley, fix it by adhesive for metal.)

C. Replacement of capstan belt 80

- 1) Take out mechanism chassis from set.
- 2) Loosen 3 screws (10) to remove flywheel bearing plate (78).
- 3) Take out take-up belt (81) and take out capstan belt (80) from the gap (between mechanism chassis and motor pulley).

D. Replacement of take-up reel hub ass'y & supply reel hub ass'y

- 1) Remove bonnet, bottom plate and front panel.
- 2) Loosen 2 screws at mechanism cover to remove it.
- 3) Take out polye-thrust washer (10) and pull out reel hub ass'y.

E. Replacement of counter belt A B & counter belt

- 1) Remove bonnet.
- 2) Take out counter belt A (10).
- 3) Remove front panel and mechanism cover.
- 4) Take out counter belt B (10).

F. Replacement of take-up idler ass'y 32

- 1) Remove bonnet.
- 2) Take out take-up belt (81).
- 3) Take off take-up idler spring (33).
- 4) Take out E-type washer (33) at take-up idler shaft.
- 5) Pull out take-up idler ass'y.

Abbreviations	
1. Pan Head Tapping Screw	PT
2. Washer Head Tapping Screw	WT
3. Pan Head Screw	P
4. Pan Head SEMS A Screw	PSA
5. Pan Head SEMS B Screw	PSB
6. Pan Head SEMS F Screw	PSF
7. Binding Head Screw	B
8. Flat Countersunk Head Screw	F
9. Flat Countersunk Wood Screw	FC
10. Round Head Wood Screw	PH
11. Hex. Socket Set Screw	SC
12. Slot Type Set Screw	SS
13. Spring Washer	S
14. Plain Washer	P
15. Retaining Ring (E Washer)	E

Parts No.	Stock No.	Description
120	07684800	Cassette Guide (R) Ass'y
124	07687000	Counter Belt (B) (Take Up Reel Side)
126	07689000	Counter Pulley
129	07688700	Plunger Solenoid (Cue & Review)
4	07682700	Stopper Arm
7	07683000	Shift Arm
8	07683100	Flywheel Bearing
14	07683300	Gear
28	07684100	Brake Gum
39	65400300	Steel Ball
53	07685800	Rec Prevention Nail
79	07686500	Flywheel Thrust Screw
116	07685300	Head Spacer

Parts	Stock No.	Description
Spring	6	07682900
	13	Spring, lock arm
	15	07683200
	33	Reset Plate
	46	07684200
	50	Spring, take-up idler, blake lever
	46	07685200
	50	Spring, head
	50	07685600
		Spring, head base

Parts	Stock No.	Description
Washer, Screws	202	07688400
	308	Poly-thrust Washer with Cut Bind Head Tapping Screw M3 x 4
	314	07687400
		Toothed Screw M2 x 6

A

B

C

D

E

F

G

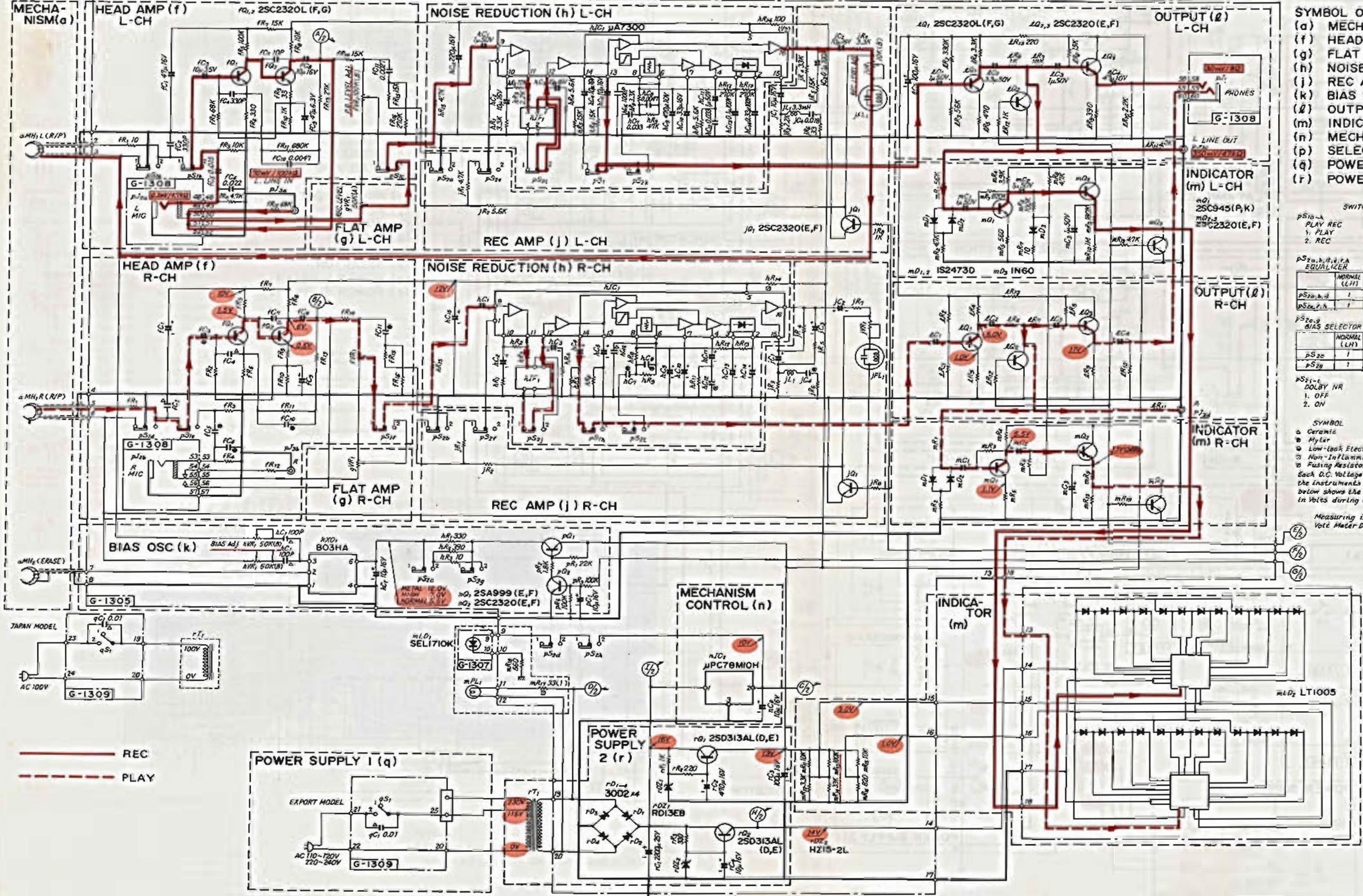
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7. SCHEMATIC DIAGRAM

7-1. TYPE-I (G-1305) Amplifier Section

Design and specifications subject to change without notice for improvement.
 La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

(I)



A

B

C

D

E

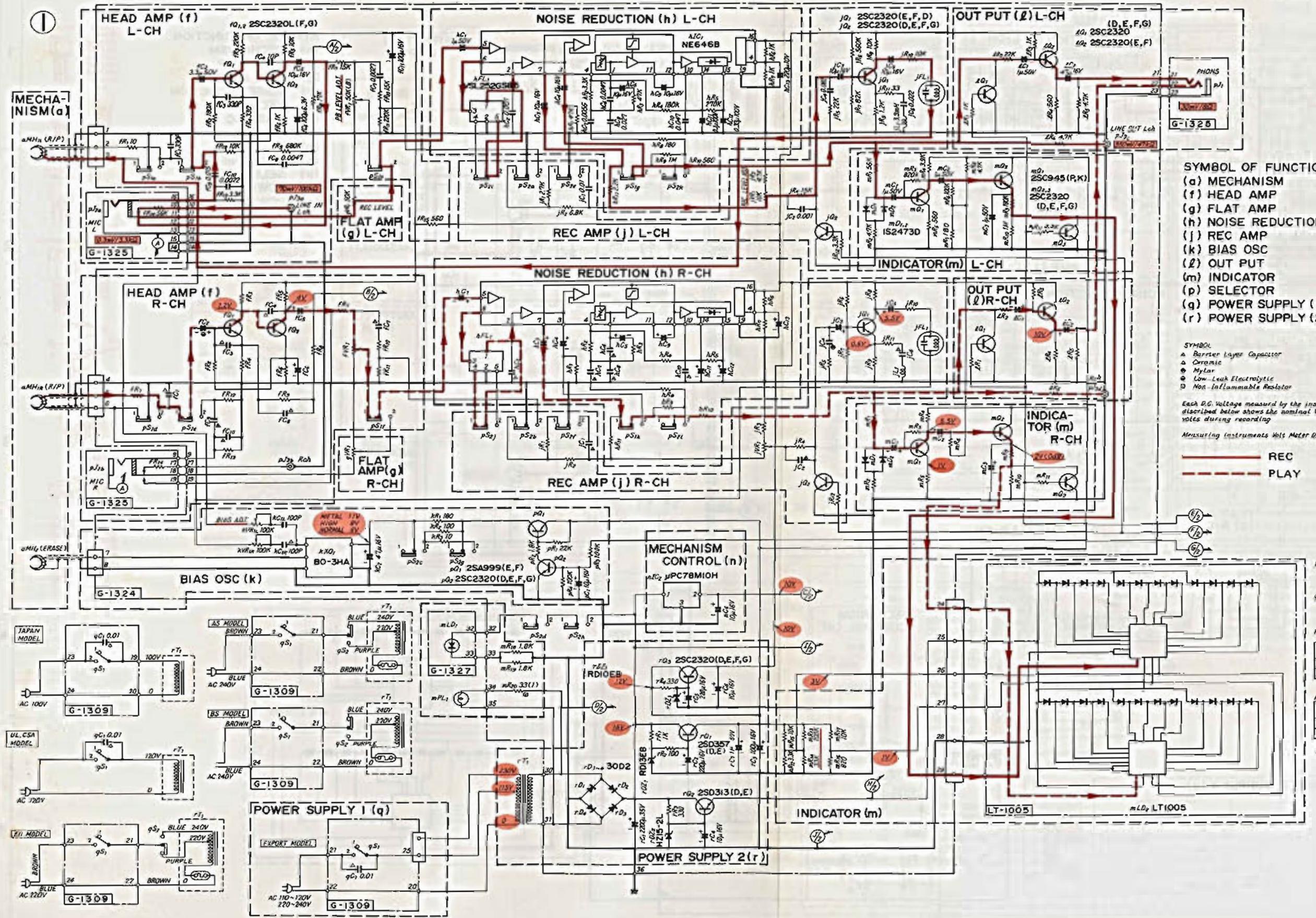
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G

H

7-2. TYPE-II (G-1324) Amplifier Section

* La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.
 * Design and specifications subject to change without notice for improvement.



A

B

C

D

E

F

G

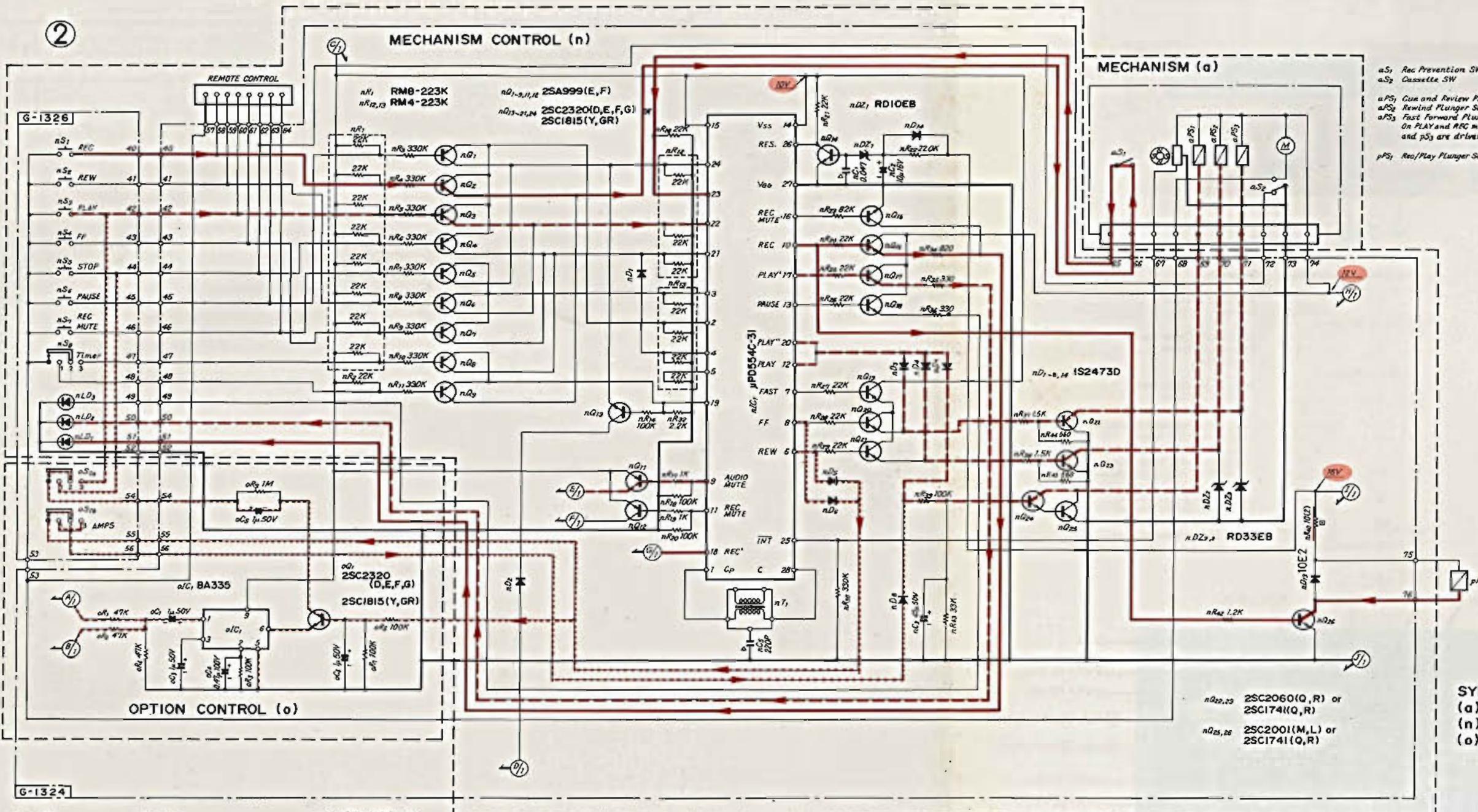
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7-3. Control Section

* Since the schematic diagram of G-1305 (Control Section) is similar to that of G-1324, it is omitted from this manual.

- Design and specifications subject to change without notice for improvement.
- La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
- Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.

(2)



G-1324

nS₁ REC
 nS₂ REW
 nS₃ PLAY
 nS₄ FF
 nS₅ STOP
 nS₆ PAUSE
 nS₇ REC MUTE

nLD₁ SEL110S REC
 nLD₂ SEL1710K PLAY
 nLD₃ SEL1910A PAUSE

oS₁ AMPS
 1. Stand by
 2. OFF
 3. Play

SYMBOL
 □ Ceramic
 ○ Non-Inflammable Resistor

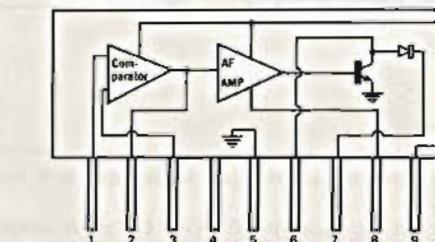
Each D.C. Voltage measured by the instruments described below shows the nominal value in volts during recording

Measuring Instruments Volt Meter D.C. 20kΩ/V

OPTIONAL USE FOR TRANSISTORS.

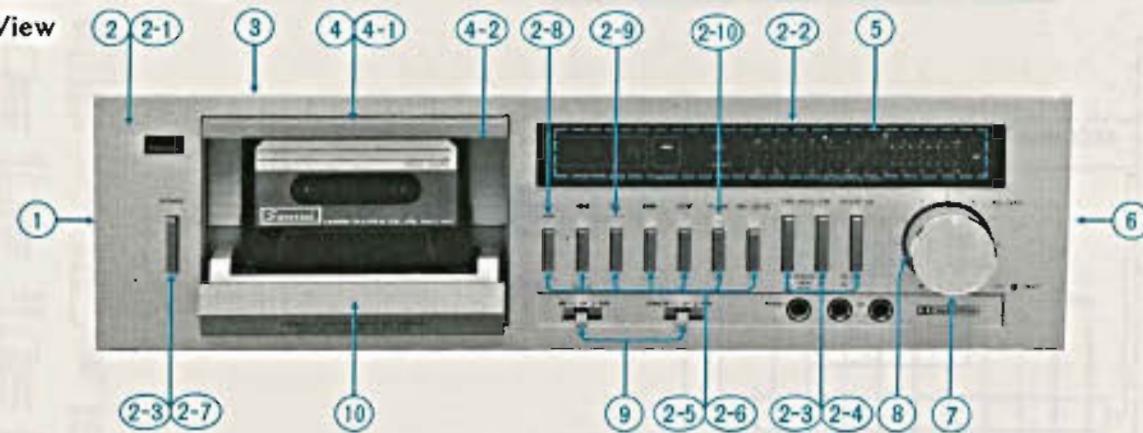
PWB NO	PARTS NO	TYPE NO OF TRANSISTOR
G-1324	$\mu Q_{1,2}$ $\mu Q_{1,2}$	2SC2320 2SC1815 2SC2603
	$\mu Q_{2,3}$ $\mu Q_{2,3}$ $\mu Q_{2,4}$ $\mu Q_{2,5}$ $\mu Q_{2,6}$	2SC2320 2SC1815 2SC2603 LC945
	μQ_1	2SC2320 2SC1815 2SC2603 2SC945 LC945
	$\mu Q_{1-3}, \mu Q_{1,2}$ μQ_1	2SA999 2SA1115 2SA1015
	$\mu Q_{22,23,25,26}$	2SC2001 2SC1741 2SC2060 2SD438
$\mu Q_{1,2}$	2SC2320L 2SC1313	

BA-335



8. OTHER PARTS

8-1. Front View

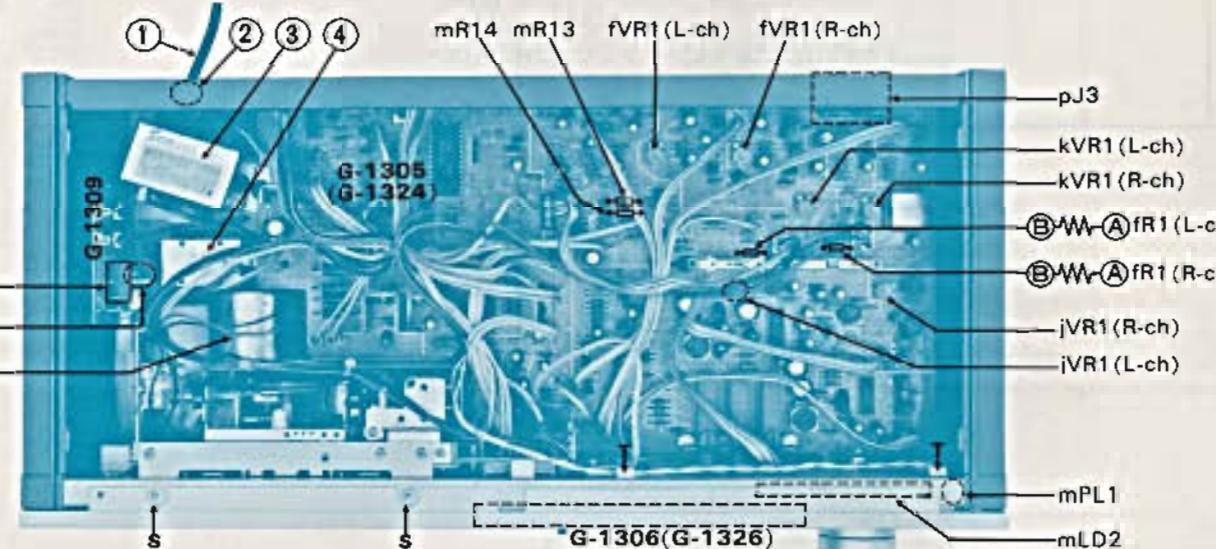


Parts List

Parts No.	Stock No.	Description
<Silver Model>		
1	07601900	Side Panel Ass'y Left
2	07626610	Front Panel Ass'y
2-1	07620600	Front Panel
2-2	07626700	Peak Level Indicator Cover
2-3	07580300	Push Button Power, etc.
2-4	07581300	Push Button Guide Tape Sel., Dolby
2-5	07583600	Push Button Control
2-6	07583400	Push Button Guide Control
2-7	07595700	Push Button Guide Power
<Black Model>		
2	07627610	Front Panel Ass'y
2-1	07620700	Front Panel
2-2	07626700	Peak Level Indicator Cover
2-3	07580500	Push Button Power, etc.
2-4	07581200	Push Button Guide Tape Sel., Dolby
2-5	07583700	Push Button Control
2-6	07583500	Push Button Guide Control
2-7	07628000	Push Button Guide Power
2-8	07578000	Indicator (REC)
2-9	07678100	Indicator (Play)

Parts No.	Stock No.	Description
<Silver Model>		
2-10	07578200	Indicator (Pause)
3	07601400	Bonnet
<Black Model>		
4	07651100	Mechanism Cover Ass'y
4-1	07610500	Mechanism Cover
4-2	07609700	Dress Panel
<Black Model>		
4	07651200	Mechanism Cover Ass'y
4-1	07610600	Mechanism Cover
4-2	07609800	Dress Panel
5	07647910	Peak Level Indicator Frame Ass'y
6	07602000	Side Panel Ass'y Right
7	07626300	Knob Left REC Level (Silver Model)
8	07511600	Knob Left REC Level (Black Model)
9	07611500	Knob Right REC Level (Silver Model)
10	07603100	Slide Knob (Silver Model)
	07603200	Slide Knob (Black Model)
	07610100	Head Cover (Silver Model)
	07610200	Head Cover (Black Model)

8-2. Top View



Parts List

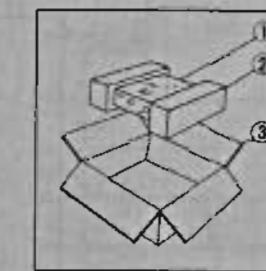
Parts No.	Stock No.	Description
mLD2	07245900	LT1005 LED
mPL1	07244800	Lamp 12 V
1	38005400	Power Supply Cord
2	39106000	Strain Relief
3	15001201	Power Transformer
4	*07271900, 1 *43402500, 1	Plunger Solenoid (REC/PLAY) TYPE I Plunger Solenoid (REC/PLAY) TYPE II

Note:

- * On the occasion of TYPE II plunger solenoid, solder nR₄₀ (10Ω 2W Ce.R.) and it in series.
- * On the occasion of TYPE I plunger solenoid, must not solder nR₄₀ in series.

9. PACKING LIST

Parts No.	Stock No.	Description
1	91263800	Vinyl Cover
2	07641000	Styrofoam Packing
3	07651400	Carton Case (Silver Model)
	07651600	Carton Case (Black Model)



10. ACCESSORY LIST

Stock No.	Description
07641500	Operating Instructions
38103300, 1	PJP Cord x 2
94300500	Head Cleaner (Cotton Buds)



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