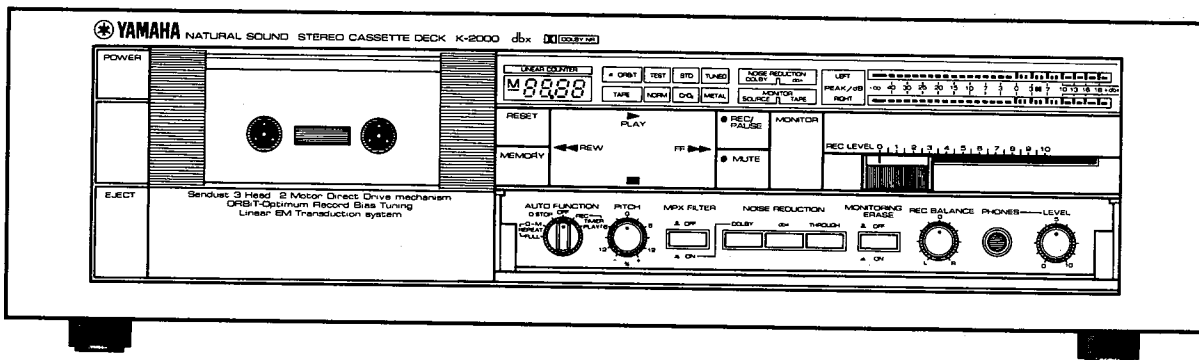


329

STEREO CASSETTE DECK K-2000

SERVICE MANUAL

FRONT PANEL



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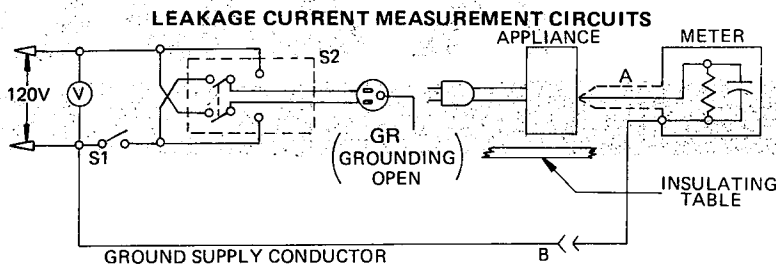


■ TO SERVICE PERSONNEL

(Prepared in accordance with UL Standard 1270)

Before service of this appliance by you, please carefully read this service manual.

Please make Leakage-current or Resistance measurements by suitable meter to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.



Appliance intended for connection to a 120 volt power supply.

- A PROBE WITH SHIELDED LEAD.
 B SEPARATED AND USED AS CLIP WHEN MEASURING CURRENTS FROM ONE PART OF APPLIANCE TO ANOTHER.

Confirm that the leakage current is not more than 0.5mA AC.

■ SPECIFICATIONS

Track Configuration	4-track 2 channel Stereo Cassette Deck
Transport Controls	5-key feather touch full logic control
■ MECHANICAL SECTION	
Tape Speed	4.8 cm/sec
Wow & Flutter	less than 0.08% W. Peak less than 0.02% W. RMS
Rapid Transport (F. FWD/REW)	Within 75 seconds (for C-60 cassette)
Motor	1 Pulse Servo Brushless DD motor (Capstan) 1 Flat Torque DC motor (Reel)
Mechanism	2-motor, 2-solenoid mechanism
■ HEAD SECTION	
Recording/Playback Head	Combination, Low-Impedance Sendust 3 Laminated Core
Erase Head (Main, Sub)	Double Gap Sendust Clevite
■ AMPLIFIER SECTION	
REC/PB Frequency Response	
Normal tape (-20dB)	20Hz to 18kHz ±3dB
Chrome tape (-20dB)	20Hz to 20kHz ±3dB
Metal tape (-20dB)	20Hz to 20kHz ±3dB
(0dB)	30Hz to 15kHz ±3dB
Input Sensitivity/Impedance	LINE: 50mV/30kΩ
Maximum allowable input	LINE: 6V

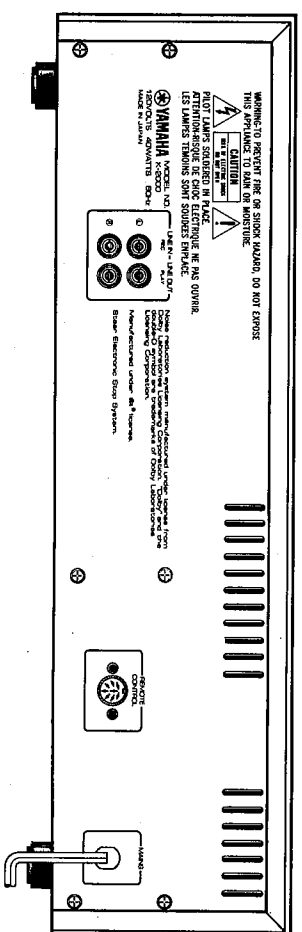
Output Level/Impedance	LINE: 500mV/30kΩ PHONES: 170mV/8Ω
Signal-to-Noise Ratio	THROUGH more than 59dB DOLBY more than 68dB dbx more than 108 dB
Harmonic Distortion	Metal tape (315Hz) less than 0.8%
■ GENERAL	
Power Supplies	
U.S. & Canadian Models	120V 60Hz
European Model	220V 50Hz
British & Australian Models	240V 50Hz
General Model	110/120/220/240V 50/60Hz
Power Consumption	40W
Dimensions (W x H x D)	435 x 122.5 x 346 (17-1/8x4-7/8x13-5/8")
Weight	9 kg (19.8 lbs)

Specifications subject to change without notice.

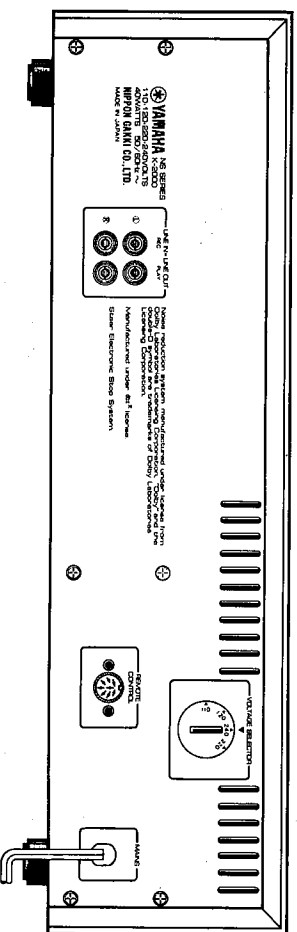
- (U) U.S.A. model
 (C) Canadian model
 (A) Australian model
 (G) European model
 (B) British model
 (R) General model

REAR PANEL

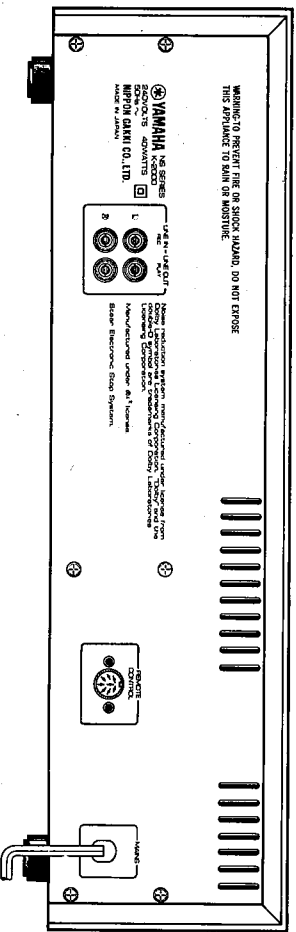
U.S.A. & Canadian models



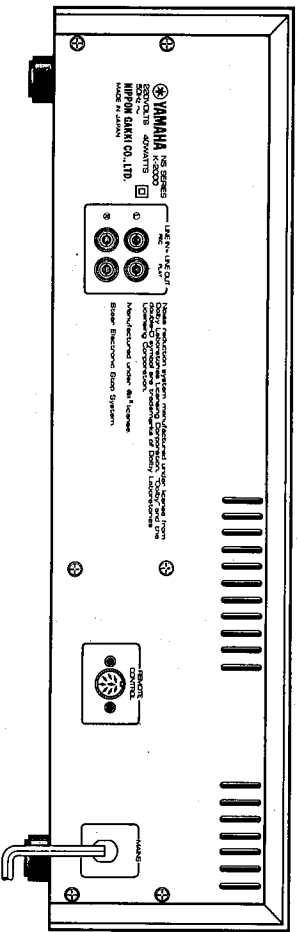
General model



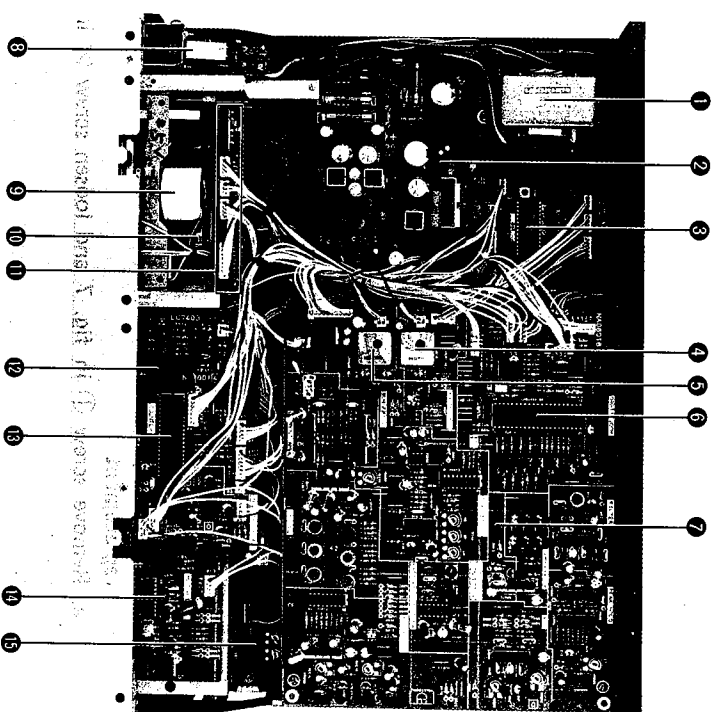
British & Australian Models



European model



INTERNAL VIEW



DISASSEMBLY PROCEDURES

DISASSEMBLY PROCEDURES OF CABINET PARTS

1. Top cover removal

Remove screws ① and ② of both left and right sides in fig. 1, and then remove the top cover.

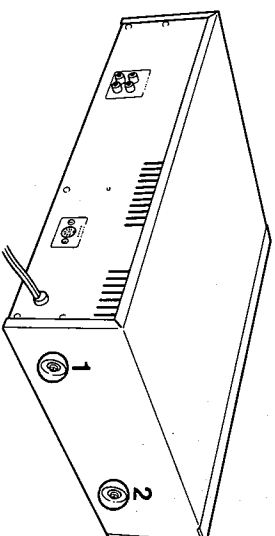


Fig. 1

2. Bottom cover removal

Remove screws ① through ⑧ in fig. 2 and then remove the bottom cover.

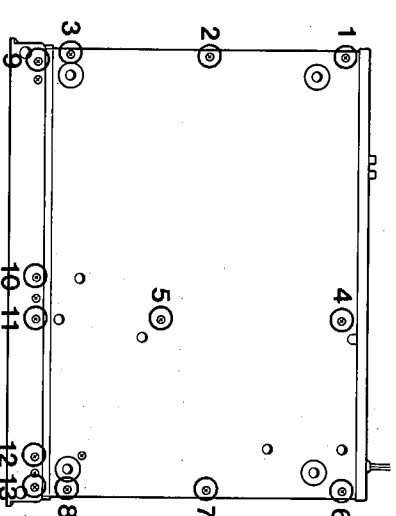


Fig. 2

3. Front panel removal

- Remove the top cover.
- Open two binding ties which tieup each connector.
- Remove screws ① and ② in fig. 3 and pull the counter circuit board (1) backward gently (connected to the front panel by connectors.)
- Remove screws ③ and ④ in fig. 3 and pull the counter circuit board (2) backward gently (connected to the front panel as well as counter circuit board (1).)
- Remove connectors #12, #14, #15, #16, #17.
- Remove screws ⑨ through ⑬ (binding screws only) in fig. 2 and screws ⑤ through ⑧ (binding screws only) in fig. 3, and then pull the front panel forward gently.

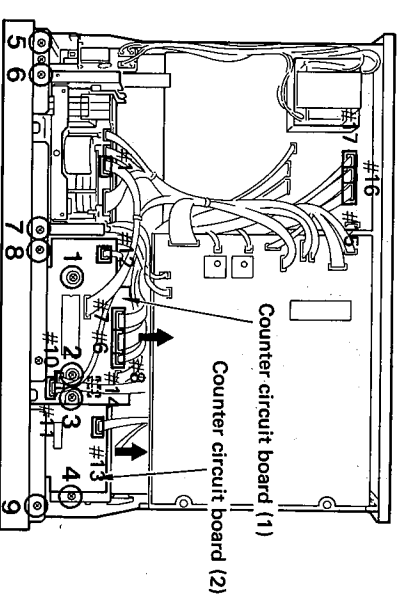


Fig. 3

- ① POWER TRANSFORMER
- U.S.A. & Canadian models: GA658850
- Australian & British models: GA65860
- European model: GA65840
- General model: GA65840
- ② POWER CONTROL BOARD (1)
- ③ LOGIC CONTROL IC: μ PD554-083
- ④ BIAS OSC.: IG08970
- ⑤ BIAS OSC.: IG07600
- ⑥ α ORBIT IC: LM6405A-150
- ⑦ RECORDING AMP - CIRCUIT BOARD
- ⑧ POWER SWITCH
- ⑨ REEL MOTOR
- ⑩ CAPSTAN MOTOR (D.D. Motor)
- ⑪ RELAY CIRCUIT BOARD
- ⑫ COUNTER CIRCUIT BOARD (1)
- ⑬ COUNTER IC: LM6402A-108
- ⑭ COUNTER CIRCUIT BOARD (2)
- ⑮ MAIN CIRCUIT BOARD (1)
- ⑯ COUNTER CIRCUIT BOARD (1)

DISASSEMBLY PROCEDURES OF CASSETTE MECHANISM

1. Cassette mechanism unit removal
 - a. Remove the top cover and front panel.
 - b. Disconnect the connectors (#1, #3, #4, #5) connected to the relay circuit board. (Refer to fig. 15)
 - c. Disconnect the head lead wire connectors #25, #26, #27, #28). (Refer to fig. 15)
 - d. Remove screws ① and ③ in fig. 4, and you can remove the cassette mechanism unit.

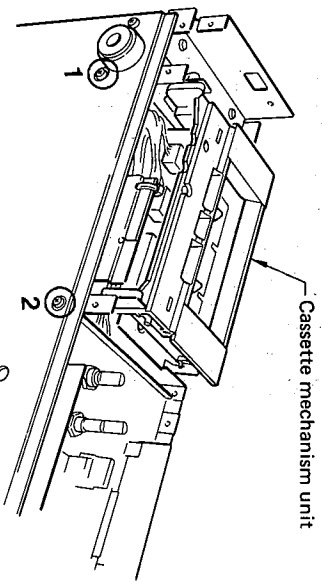


Fig. 4

2. Idler Ass'y replacement
 - a. Remove screw ① in fig. 5 and open the cassette holder.
 - * Be careful of the spring position when assembling unit. (Refer to fig. 5)
 - b. Loosen the lead wires (orange and white-colored) of LED on the blind plate.
 - c. Remove screws ② and ③ in fig. 5 and then remove the blind plate.

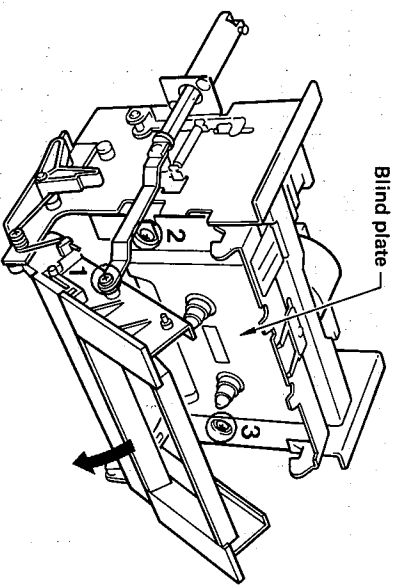


Fig. 5

- d. Remove screw ① and idler spring in fig. 6, and replace the idler ass'y.

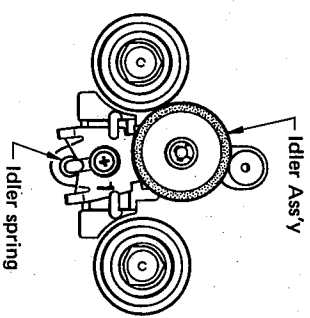


Fig. 6

3. Recording/playback combination head and erase head replacement
 - a. Remove screw ① in fig. 7 and loosen screw ② in fig. 7, and then remove the M circuit board plate.
 - b. Remove screw ③ in fig. 7 and open the cassette holder.
 - c. Unsolder the lead wires of heads.
 - * Refer to fig. 9 when connecting them.
 - d. Remove screws ① and ② in fig. 8 and then replace the recording/playback combination head.
 - e. Remove screws ③ and ④ in fig. 8 and then replace the erase head.
 - * Check head azimuth adjustment when replacing the recording/playback head.
 - * Check height adjustment of erase head guide when replacing the erase head.
 - f. Remove screw ⑤ in fig. 8 and then replace the sub erase head.

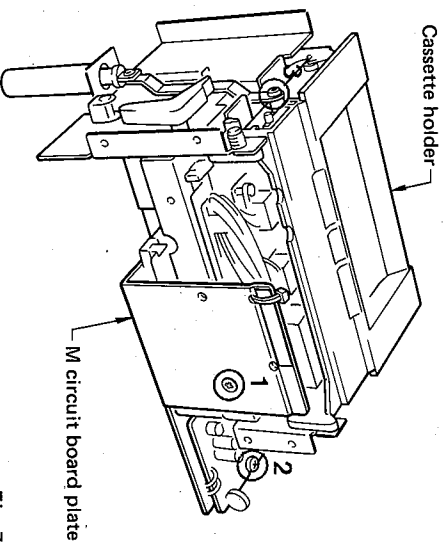


Fig. 7

4. Pinch roller replacement
 - a. Open the cassette holder.
 - b. Remove the washer ① in fig. 10 and then replace the pinch roller arm ass'y.
 - * Refer to fig. 10 as to the position of pinch roller spring.

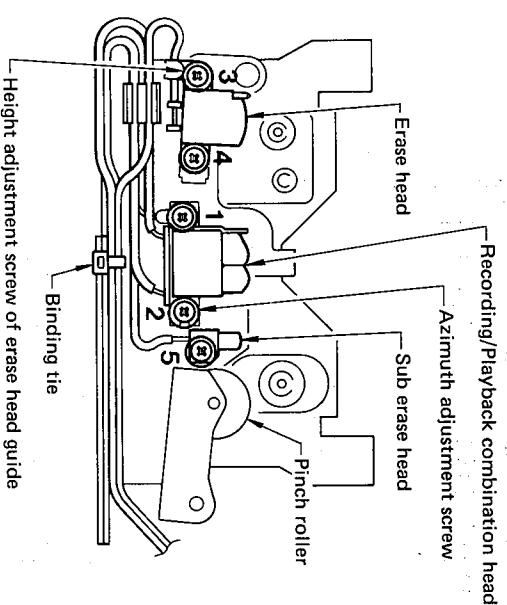


Fig. 8

• WIRE COLOR ABBREVIATIONS

BL ▶ Black	VI ▶ Violet
BR ▶ Brown	GY ▶ Gray
RE ▶ Red	WH ▶ White
OR ▶ Orange	GG ▶ Light Green
YE ▶ Yellow	SB ▶ Light Blue
GR ▶ Green	PK ▶ Pink
BE ▶ Blue	TR ▶ Transparent

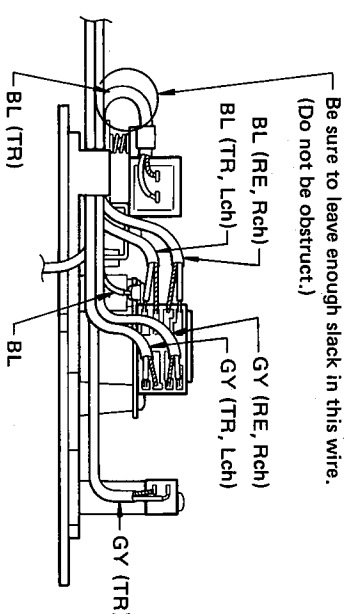


Fig. 9

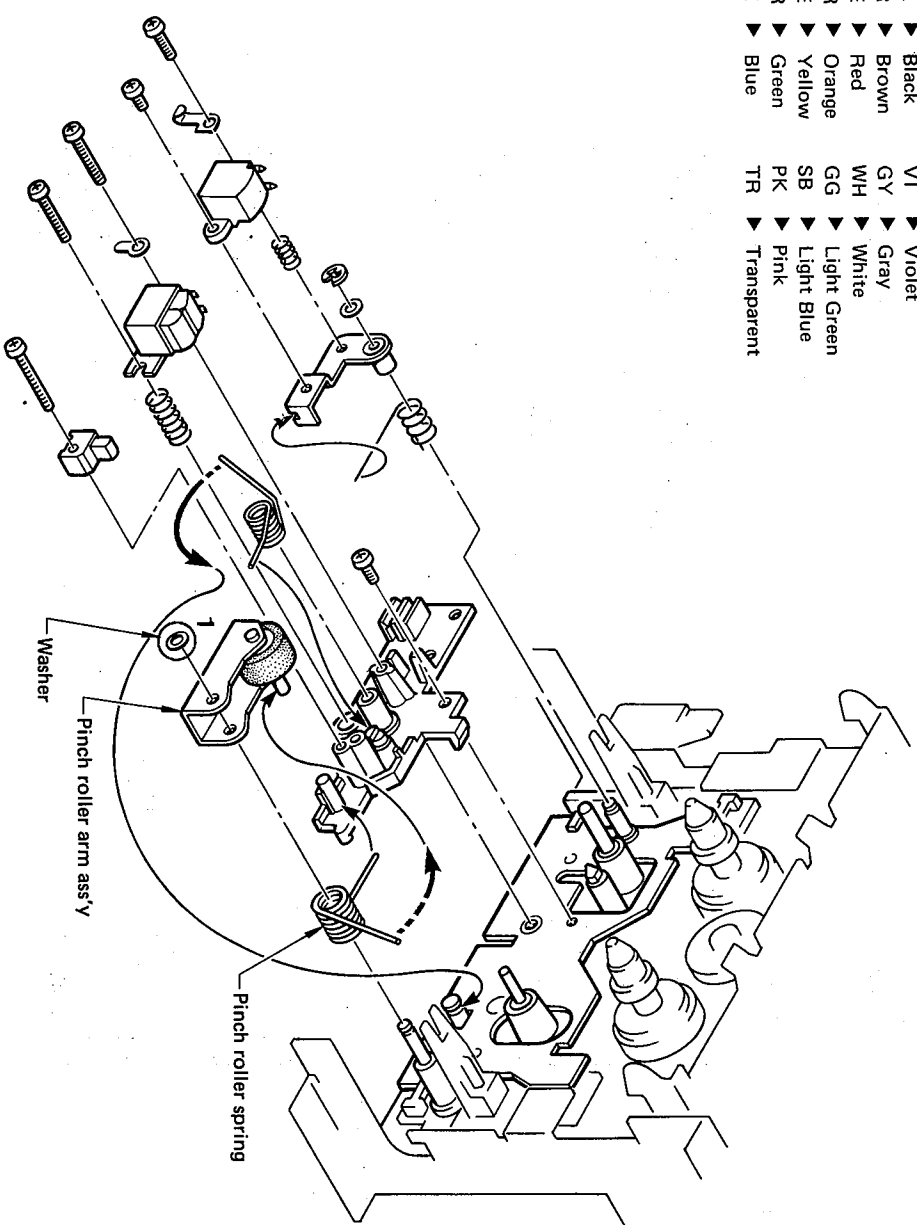


Fig. 10

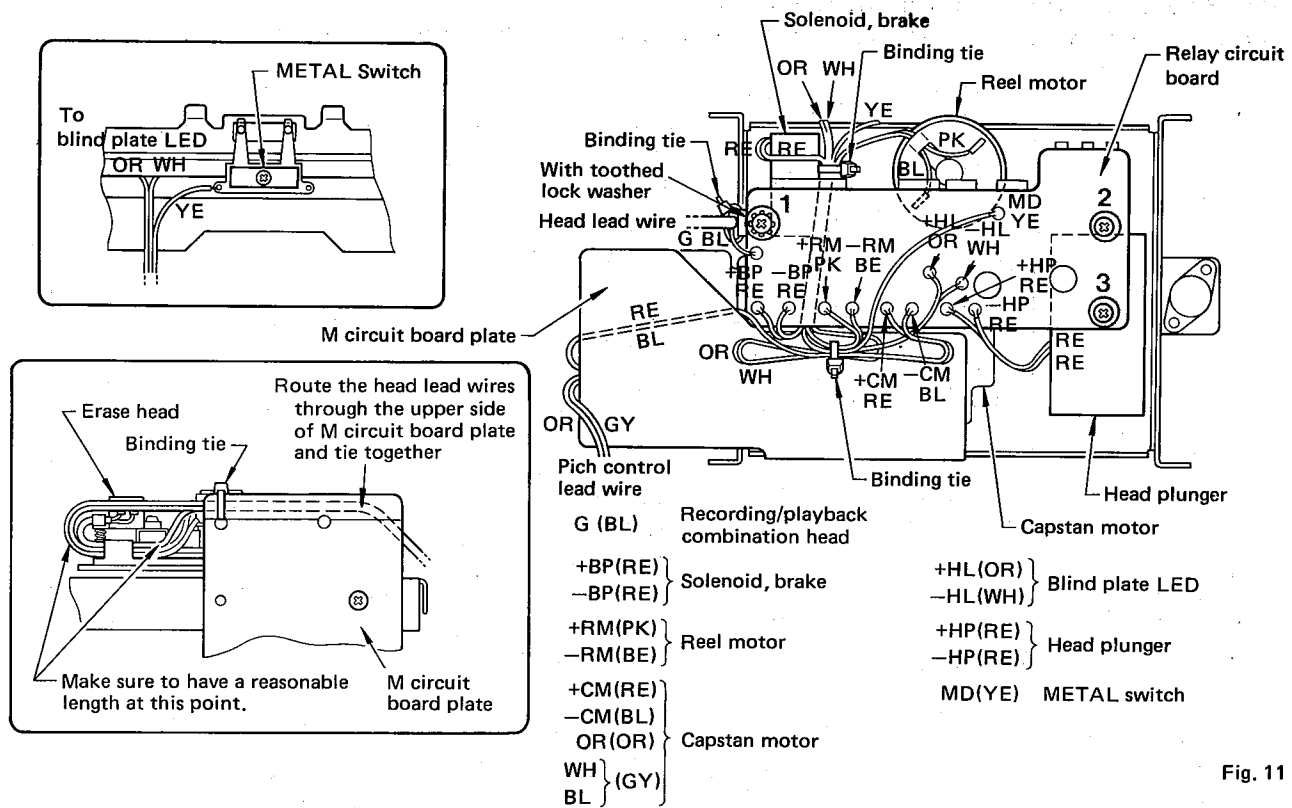


Fig. 11

5. Reel motor replacement

- Removing the reel motor with idler ass'y is impossible, so first remove the idler ass'y according to procedure 2 on P4.
 - Remove screws ① through ③ in fig. 11 and then remove the relay circuit board.
 - Remove screw ① in fig. 12 and then remove the reel motor unit.
- * At this time, if the idler ass'y has not been removed, you will be not able to remove the reel motor unit.

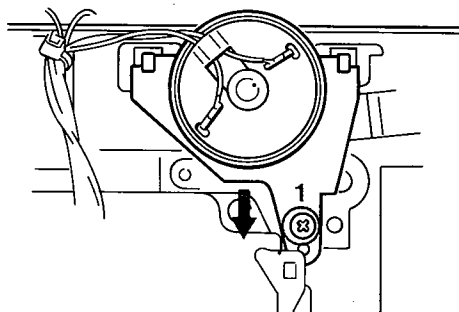


Fig. 12

- When installing relay circuit board, make sure that acrylic fibers are securely fitted into acrylic fiber holders (2 locations).

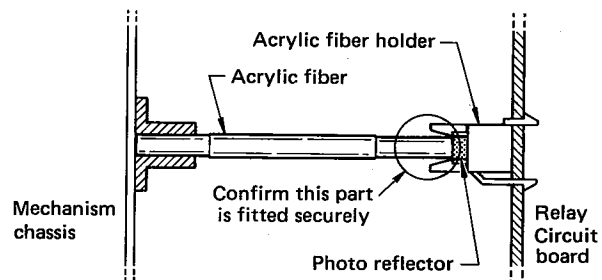


Fig. 13

6. Capstan motor replacement

- Remove the relay circuit board.
- Remove the M circuit board plate.
- Remove screws ① through ③ in fig. 14 and then replace the capstan motor.

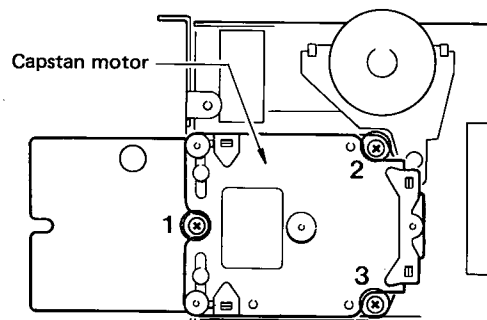


Fig. 14

PARTS OF EACH CIRCUIT BOARD REPLACEMENT

* Replacement of the parts of most circuit boards in this unit is possible by removing the top and bottom cover.

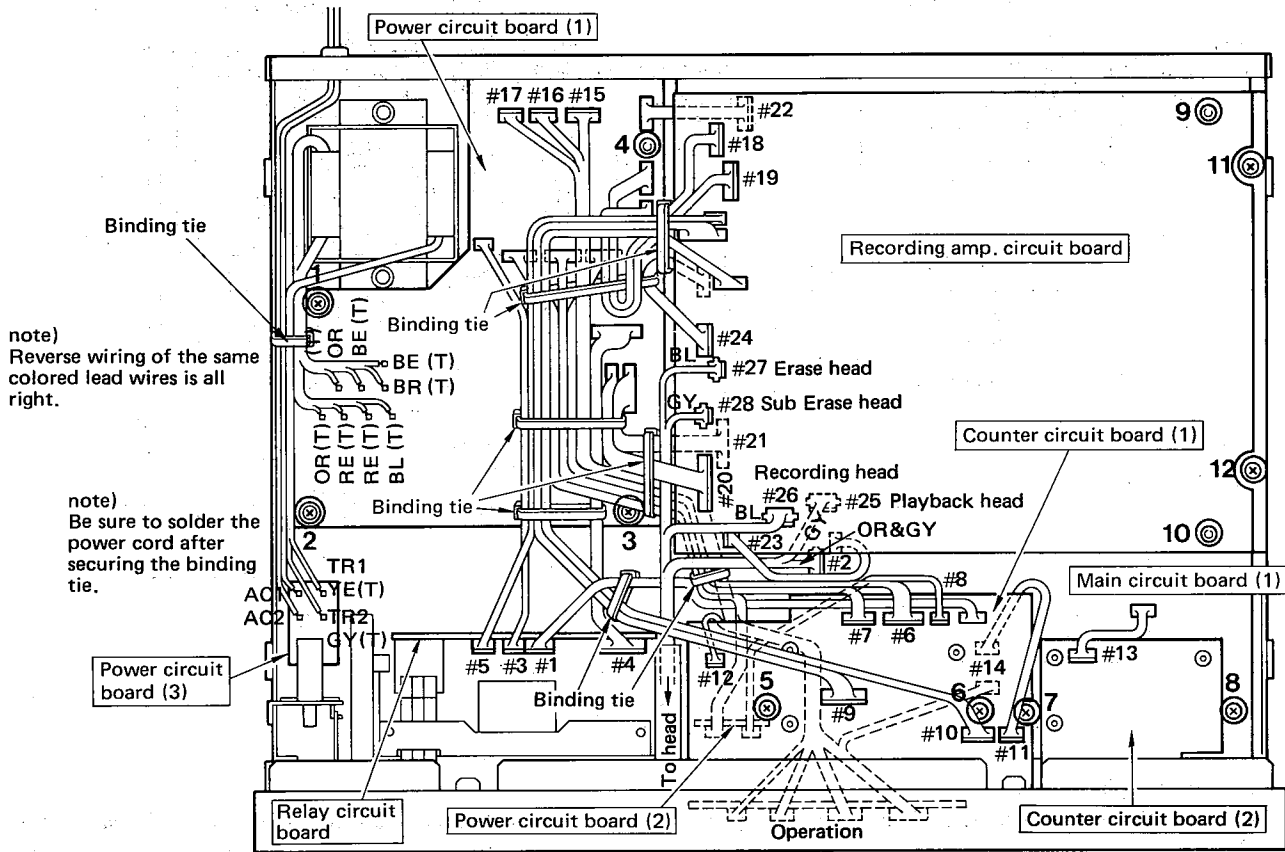


Fig. 15

1. Counter circuit board (1) removal

Remove screws ⑤ and ⑥ in fig. 15 and then pull out the counter circuit board (1) by sliding it backward.

* This circuit board is connected to the front panel with connectors.

2. Counter circuit board (2) removal

Remove screws ⑦ and ⑧ and then pull out the counter circuit board (2) by sliding it backward.

* This circuit board is connected to the front panel with connectors.

3. Recording amp. circuit board replacement

Remove plastic rivets ⑨ and ⑩ in fig. 15 and then rotate the recording amp. circuit board upward. (Refer to fig. 16)

In this way, you can replace the parts.

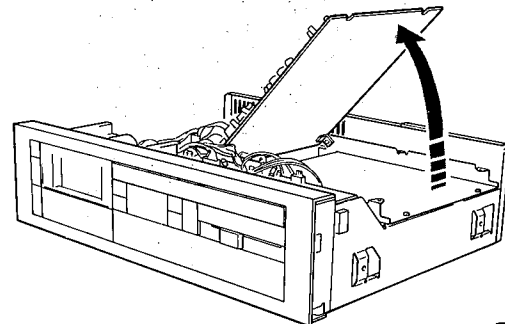


Fig. 16

4. Adjustment and parts replacement of main circuit board

Remove screws ⑪ and ⑫ (don't remove plastic rivets ⑨ and ⑩) in fig. 15 and then rotate the recording amp. unit upward.

In this way, you can perform adjustments and parts replacement on main circuit board.

ADJUSTMENTS

1. Before adjustment

- Since head magnetization, dust accumulations, etc. are likely to introduce error in the various characteristics, it is very important that the heads are properly demagnetized and cleaned.
- Proceed with the recording section adjustment after having finished the playback section adjustment.

2. Instruments required

- Audio frequency oscillator
- ACVM or 2 channel ACVM
- Wow/flutter meter
- Oscilloscope
- Torque meter
- DCVM

MECHANICAL ADJUSTMENT

"CONFIRMATION OF TORQUES"

Confirm that torques are within the following ratings;

Adjustment item	Ratings	Measurement conditions
TAKE UP torque	35 ± 10 g.cm	Couple the Torque Meter (SRK CT-100M) to the deck in play mode, and read the torque of take up reel's. (While in play, read the center of deflection.)
FF torque	More than 80 g.cm	Set the Torque Meter (SRK CT-100M) to the FF mode, and when it was wound completely, read the torque of take up reel's.
REW torque	More than 80 g.cm	Set the Torque Meter (SRK CT-100M) to the REW mode, and when winding is over, read the torque of supply reel's.
BACK TENSION torque	$2.5^{+1.5}_{-0.5}$ g.cm $2.5^{+1.5}_{-0.5}$ g.cm	Measure the back tension torque with the Torque Meter (CT-W) in play mode.
Pinch roller pressure	460 ± 50 g	Measure the pinch roller pressure to the capstan in play mode.
Tape tension	More than 150 g (Referential rating)	Set the power torque meter and measure the tape tension of pinch roller and capstan in play mode.

• CHECK OF FAST FORWARD AND FAST REWIND TIMES.

Insert a C-60 tape and check to ensure that time of fast forward and fast rewind is less than 75 seconds and that the tape is transported at a constant speed all the way.

• MECHANICAL ADJUSTMENT

Step	Adjustment item	Tape	Instrument required	Mode	Adjustment part	Rating	Remarks
1	Tape speed	MTT-111 3kHz, -10dB (250nwb/m)	Wow/flutter meter or Frequency counter	PB	Semi fixed variable resistor in circuit board of the D.D capstan motor.	3000 +10 Hz PITCH knob → center (0)	This adjustment is possible through the bottom cover (Fig. 17) *Perform adjustment at the center of the test tape length if possible.
2	Wow/flutter	MTT-111 3kHz, -10dB (250nwb/m)	Wow/flutter meter	PB		Less than 0.035% (JIS WRMS)	After the test tape has run about 30 seconds, check that the meter deflects less than 0.035%.
3	Azimuth	MTT-114 10kHz, -10dB (250nwb/m)	ACVM	PB	Azimuth adjustment screw of REC/PB combination head. (Fig. 18)	Set both channel levels to maximum output level and the phase difference between the left and right channels to minimum.	After the adjustment, make sure to apply screw lock paint.
4	Height of erase head guide	Mirror cassette (MC-09)		PB	Height adjustment screw of erase head. (Fig. 18)	Adjust the height position so that the tape runs smoothly.	

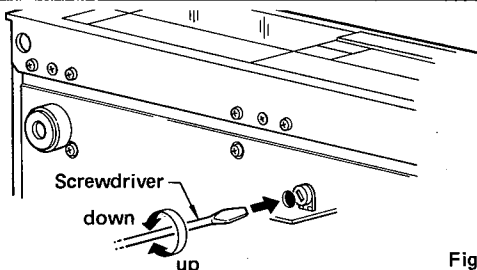


Fig. 17

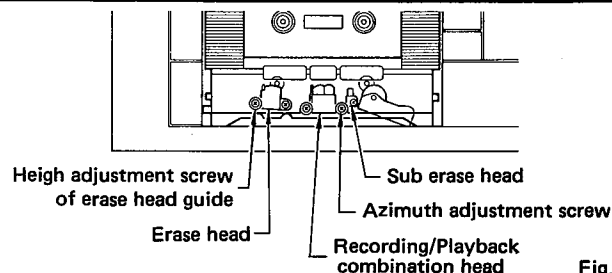


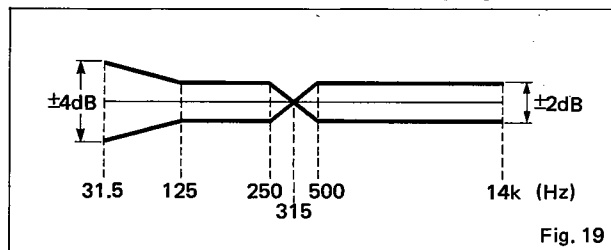
Fig. 18

ELECTRICAL ADJUSTMENT

Perform each adjustment or measurement at THROUGH position of NOISE REDUCTION.

Step	Adjustment item	Tape	Instrument required	Mode	Measurement conditions	Point of measurement	Adjustment part	Rating
1	Playback Amp. offset		DCVM			TP11(Lch) ~E TP12(Rch) ~E	VR119(Lch) VR120(Rch) (OFFSET)	0V \pm 100mV
2	Playback level	MTT-212C 315Hz, 160nwb/m or MTT-212 315Hz, 250nwb/m	ACVM	PB TAPE		LINE OUT	VR113(Lch) VR114(Rch) (PBL)	-6dBV \pm 0.5dBV (500mV \pm 30mV) -2dBV \pm 0.5dBV (794mV \pm 30mV)
3	Playback frequency	Test tape for frequency check. 3180 μ s+120 μ s (LH) 315Hz, -10dB 10kHz, -10dB or MTT-256	ACVM	PB TAPE		LINE OUT	VR111(Lch) VR112(Rch) (PBF)	Check that the 10kHz playback level lies within 0 \pm 1dB of the 315Hz playback level.
4	Playback frequency response confirmation	Test tape for frequency check. 3180 μ s+120 μ s (LH) (MTT-256) 3180 μ s+70 μ s (CrO ₂) (MTT-356)	ACVM	PB TAPE		LINE OUT		Check that the 14kHz playback level lies within 0 \pm 2dB of the 315Hz playback level. (Refer to Fig. 19)
5	Meter		ACVM	REC SOURCE	Apply a 1kHz signal to LINE IN terminals. Set the REC LEVEL knob so that LINE OUT voltage is -6dBV (500mV)		VR117(Lch) VR118(Rch) (METER)	Adjust VR117 and VR118 to the lowest level where the 0dB display part of the level meter light up.
6	Record level	YAMAHA CR60 (CrO ₂)	ACVM	REC	Apply a 1kHz signal to LINE IN terminals Short TP1 (AUTO OFF) terminals.	LINE OUT	VR805(Lch) VR806(Rch) (REC-L, R)	-6dBV \pm 0.5dBV (500mV \pm 30mV)
7	Record bias	YAMAHA CR60 (CrO ₂)	ACVM	REC TAPE	Apply 1kHz and 15kHz signal to LINE IN terminals at the same interval. Short TP1 terminals.	LINE OUT (-26 dBV)	VR808 (BIAS CR) VR810 (BIAS BALANCE)	15kHz record and playback level lies within 0 \pm 2dB of the 1kHz record and playback level.
		YAMAHA NR60 (LH)	ACVM	REC TAPE	Apply 1kHz and 14kHz signal to LINE IN terminals at the same interval. Short TP1 terminals.	LINE OUT (-26dBV)	VR809 (BIAS-LH)	14kHz record and playback level lies within 0 \pm 2dB of the 1kHz record and playback level.
		YAMAHA MR60 (METAL)	ACVM	REC TAPE	Apply 1kHz and 17kHz signal to LINE IN terminals at the same interval. Short TP1 terminals.	LINE OUT (-26dBV)	VR807 (BIAS-ME)	17kHz record and playback level lies within 0 \pm 2dB of the 1kHz record and playback level.
8	Channel balance		ACVM	REC	Apply a 1kHz, -10dBV signal to LINE IN terminals.	LINE OUT	VR115 (R-GAIN)	When center of REC LEVEL within 0.2dB.

PLAYBACK FREQUENCY RESPONSE

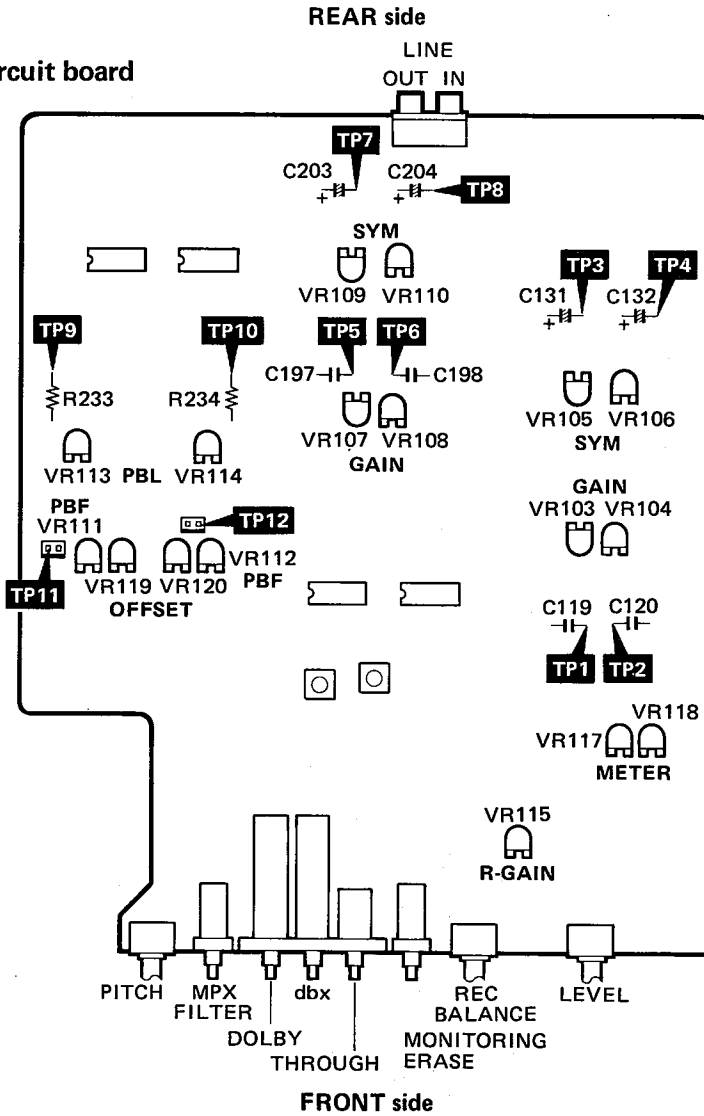


- 2dBV = 794mV = 0.2dBm
- 6dBV = 500mV = - 3.8dBm
- 10dBV = 316mV = - 7.8dBm
- 21dBV = 89mV = -18.8dBm
- 26dBV = 50mV = -23.8dBm

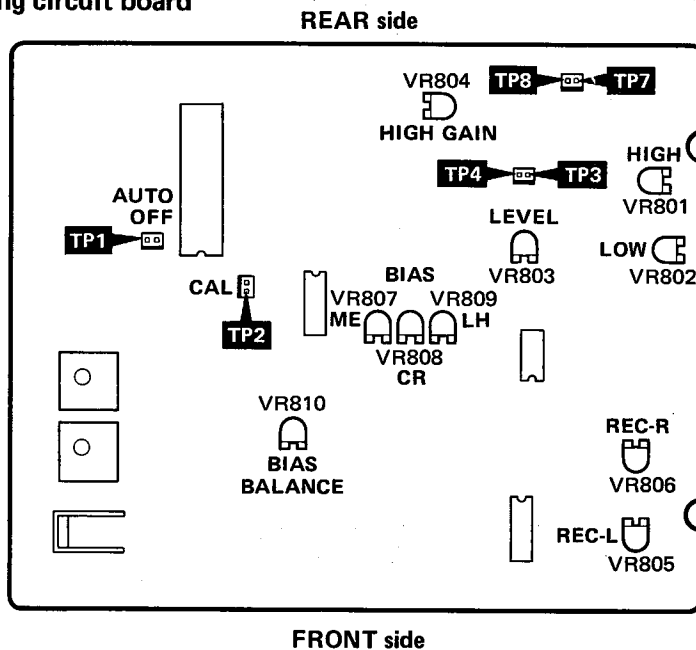
(0dBV = V)

• TEST POINT

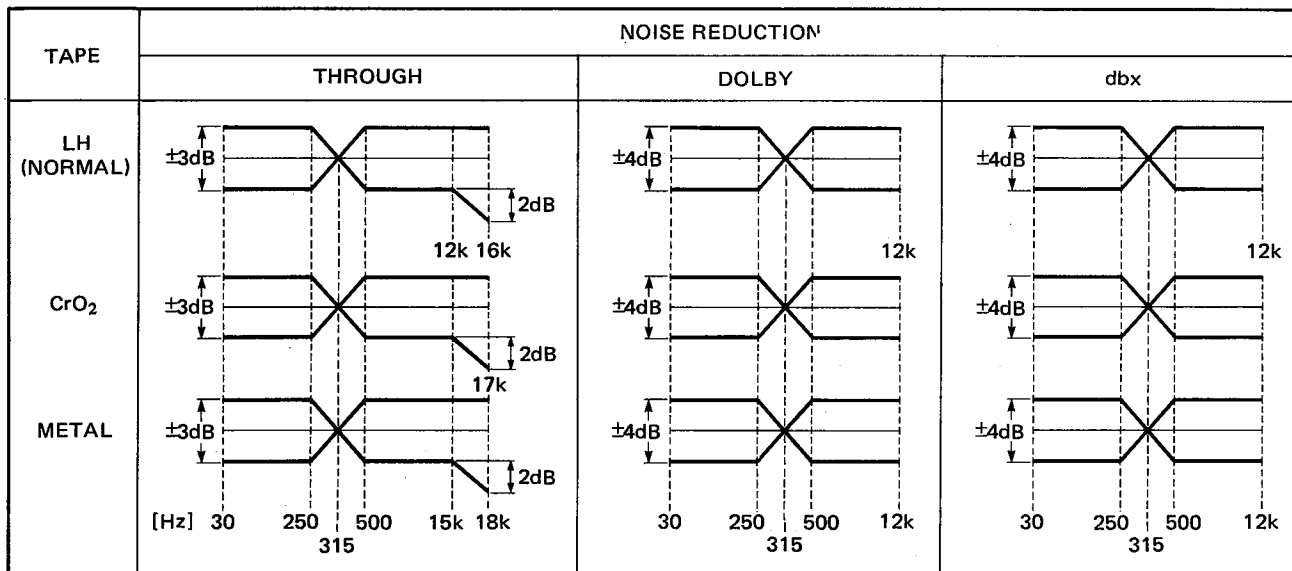
• Main circuit board



• Recording circuit board



TOTAL FREQUENCY RESPONSE



• dbx ADJUSTMENT

Perform this adjustment only when dbx system needs to be readjusted.

Step	Adjustment item	Input signal	Instrument required	Measurement conditions	Point of measurement	Adjustment part	Rating
1	dbx output offset (Playback)		DCVM	STOP mode REC LEVEL → Min	TP7 (Lch) TP8 (Rch)	VR109 (Lch) VR110 (Rch) (SYM)	0V ± 10mV
2	dbx gain at playback mode.	TP9 (Lch) TP10 (Rch) 100Hz	ACVM	Apply a 100Hz signal to TP9 and TP10 terminals so that the TP5 (Lch) and TP6 (Rch) becomes to 400mV.	TP7 (Lch) TP8 (Rch)	VR107 (Lch) VR108 (Rch) (GAIN)	400mV ± 10mV
3	dbx output offset (Record)		DCVM	STOP mode REC LEVEL → Min	TP3 (Lch) TP4 (Rch)	VR105 (Lch) VR106 (Rch) (SYM)	0V ± 10mV
4	dbx gain at record mode	LINE IN 100Hz	ACVM	Apply a 100Hz signal to LINE IN terminals so that the TP1 (Lch) and TP2 (Rch) becomes to 400mV	TP3 (Lch) TP4 (Rch)	VR103 (Lch) VR104 (Rch) (GAIN)	400mV ± 10mV

• ORBiT (Optimum Record Bias Tuning) ADJUSTMENT

Proceed with the ORBiT adjustments after having finished the total frequency response adjustment and confirmation.

Step	Adjustment item		Tape	Instrument required	Mode	Measurement conditions	Point of measurement	Adjustment part	Rating
1	OSC output	10kHz		ACVM Frequency counter	STOP	Short TP2 terminals one time.	TP3	VR801 (HIGH)	5V ± 0.1V (10kHz ± 2kHz)
		1kHz					TP4	VR802 (LOW)	5V ± 0.1V (1kHz ± 200Hz)
2	ORBiT	1kHz level	YAMAHA CR60 (CrO ₂)	ACVM			TP8	VR803 (LEVEL)	2.5V ± 50mV
		10kHz level					TP7	VR804 (HIGH GAIN)	2.5V ± 50mV

Adjusting ORBiT, TEST indicator continue to light. After the adjustment, once turn the power switch off and turn it on again. Confirm that the α ORBiT indicator changes TEST to TUNED when REC.

● **ORBIT SELF TEST**

The following items are set by SELF TEST movements. It is able to advance the steps with being shorted TP2 (CAL) terminals repeatedly.

(Note) Jumping may be occurred by chattering. In order to avoid the chattering it is recommended to provide the circuit like fig. 20 and to check the following items.

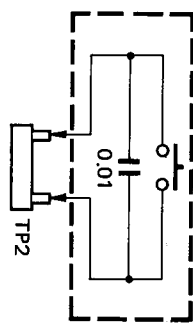
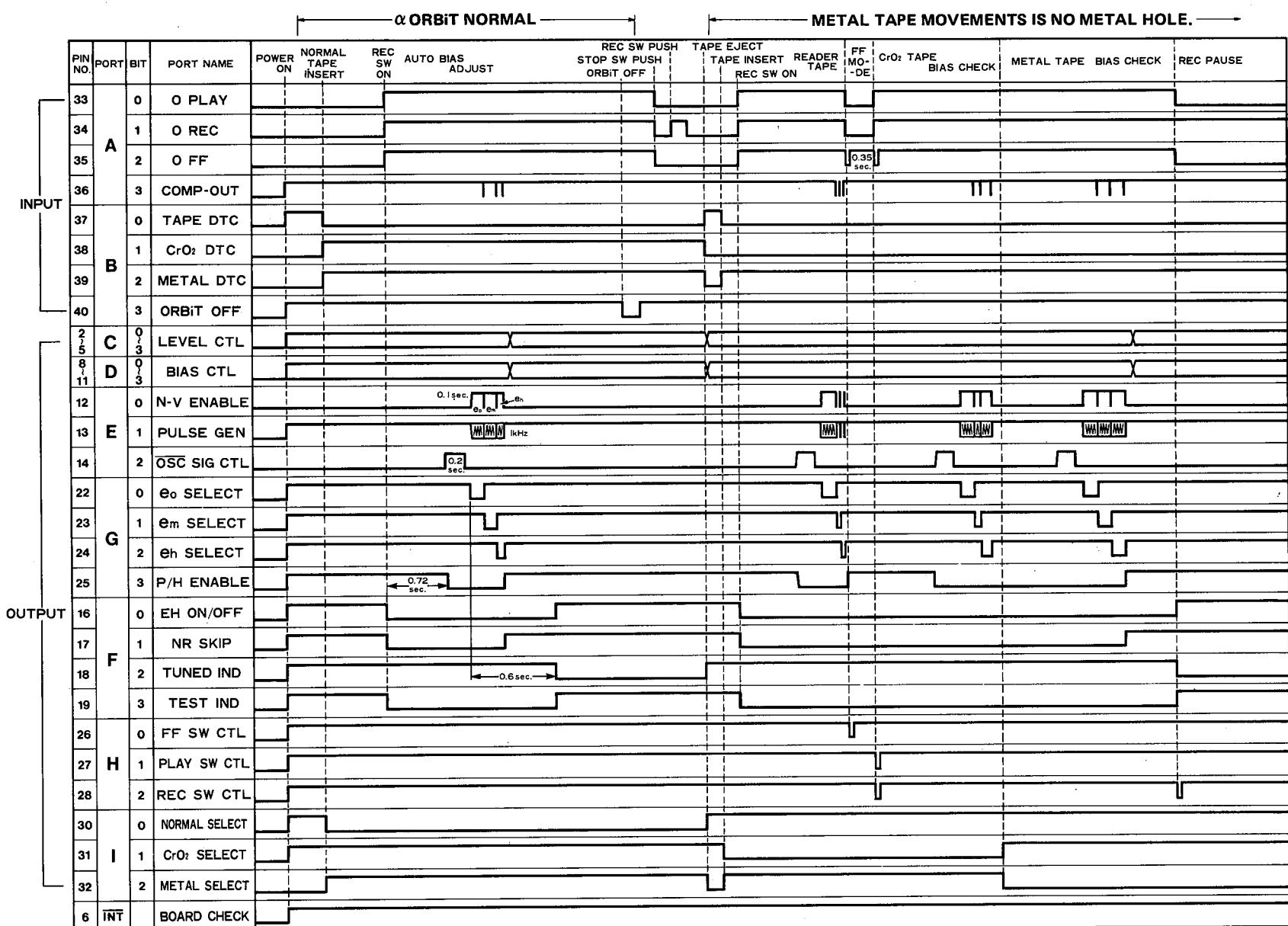


Fig. 20

SELF TEST STEP	ITEM CHECKED	POINT OF MEASUREMENT	RATING	IC OUTPUT	REMARKS
1	Ref Volt	TP9	DC +3.5V ± 0.1V (E ₀)	REC C → ON ("L") OSC → ON ("H")	Load a YAMAHA CR60 (CR02 tape). In REC PLAY mode.
	Select : E ₀			EH, NR, PH, E ₀ → ON ("L")	
2	Select : E _m	TP10	DC +3.5V ± 0.5V	E ₀ → OFF ("H") E ₀ → ON ("L")	
	Select : E _h	TP10	DC +3.5V ± 0.5V		
3	Level : STD	TP11, 12	AC 82mV ± 5mV (Recording level of test signal.)	E _m → OFF ("H") E _h → ON ("L")	
4	Level : Min	TP11, 12	-2.7 ± 0.3dB (Level : Level ratio of STD)	L (0 ~ 3) = 111	
5	Level : Max	TP11, 12	+1.8 ± 0.3dB (Level : Level ratio of STD)	L (0 ~ 3) = 0000	
6	Level : STD	TP11, 12	AC 82mV ± 5mV	L (0 ~ 3) = 1001	Condition is back to STEP 3.
7	Bias : Max	TP14	+0.8 ± 0.1dB (Level : Level ratio of STD)	B (0 ~ 3) = 1111	
8	Bias : Min	TP14	-1.7 ± 0.2dB (Bias : Level ratio of STD)	B (0 ~ 3) = 0000	
9	Bias : STD	TP14	AC 1V ± 0.3V	B (0 ~ 3) = 1010 E _h → OFF ("H") E ₀ → ON ("L") N-V → ON ("H") PLS → ON (f=1kHz)	f = 200kHz
10	A-D Conv Check & FF Check			FF, C → ON ("L") REC C → ON ("L") PLAY C → ON ("L")	Output level from PLS is decided by E ₀ level.
11	TUNED		TEST → OFF OPT → ON	REC C → ON ("L") TUNED → lights ("L")	SELF TEST is completed. (In REC PAUSE mode.)
12	NORMAL MODE				Getting out of SELF TEST routine, normal movements is active.

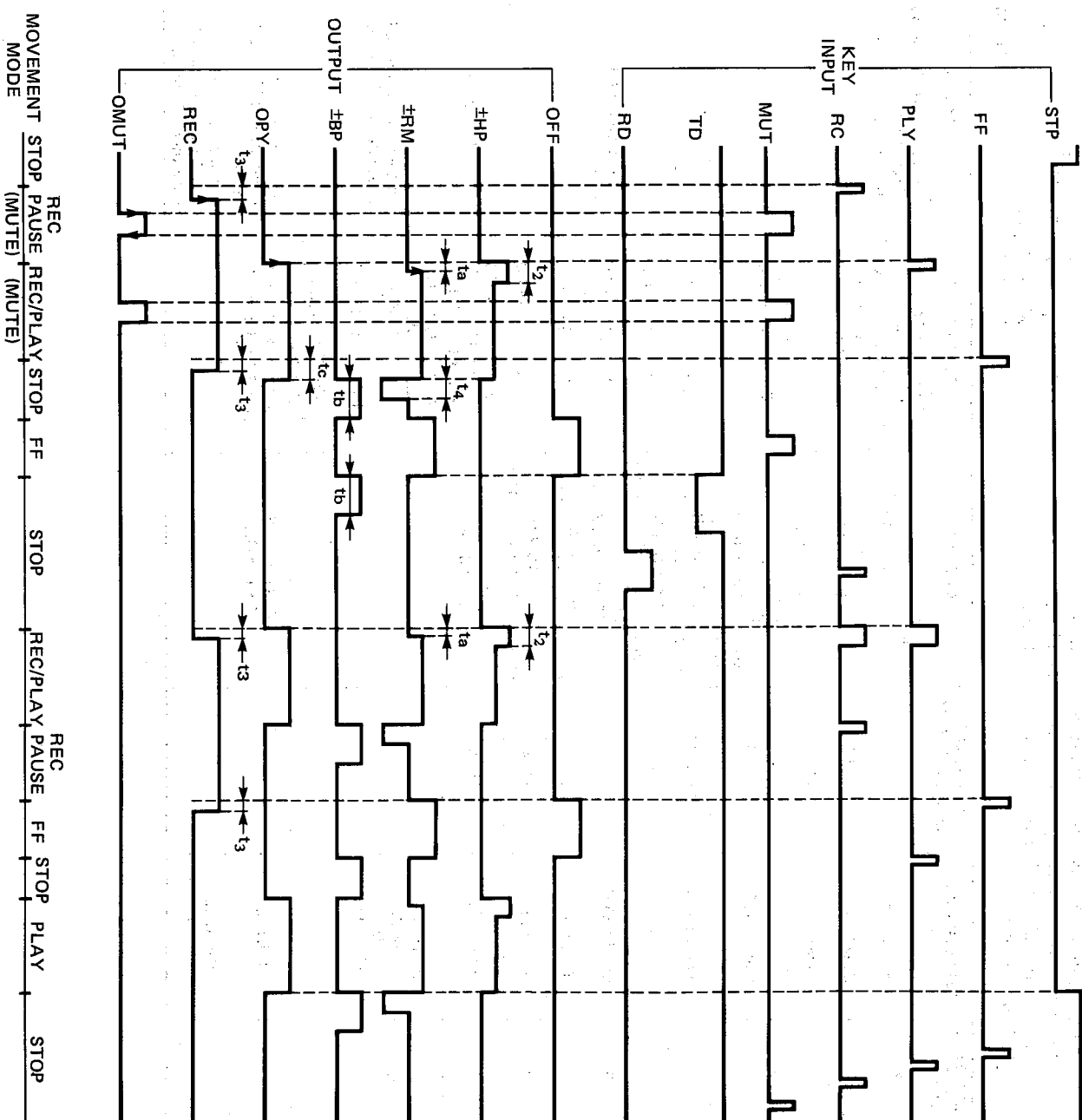
■ TIMING CHART

● AUTO BIAS TIMING CHART (IC811: LM6405-150)



P/H : Peak hold
 N-V : Pulse count-Voltage
 COMP : Comparator

● FOUNDATION MOVEMENTS
 Set the AUTO FUNCTION to OFF position.

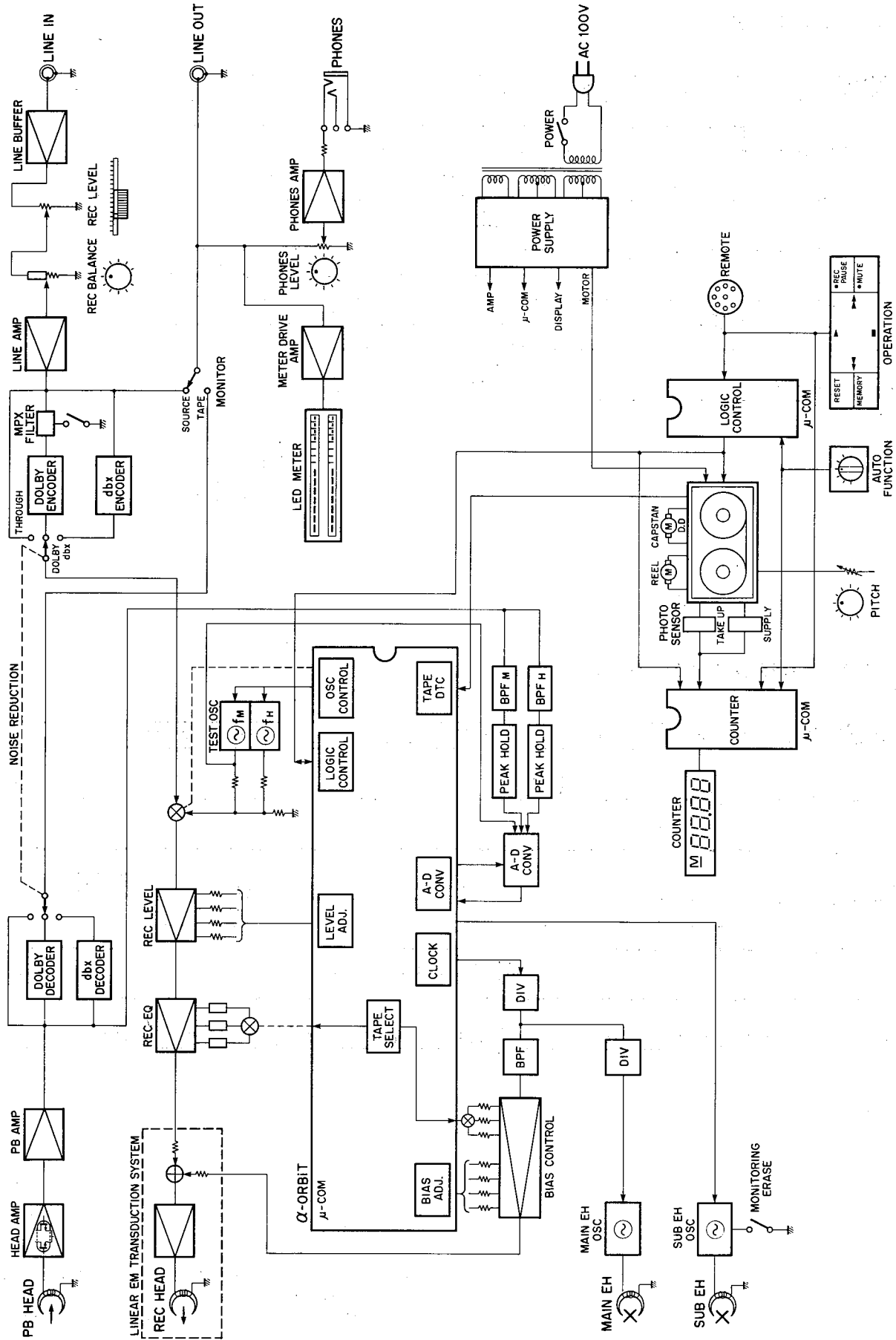


Terms and symbols
 STP : Stop
 FF : Fast forward
 PLY : Play
 RC : Recording
 MUT : Muting
 TD : Tape detector
 RD : Record inhibit detector

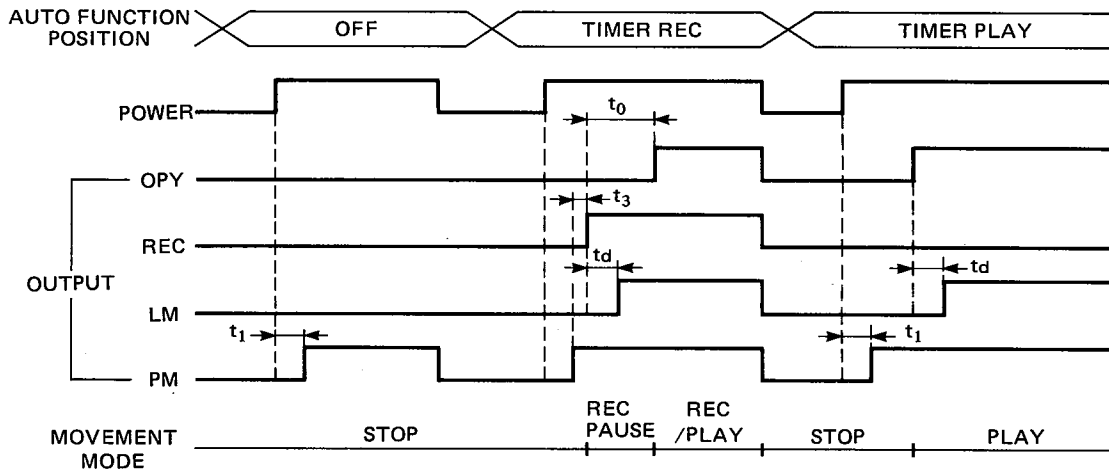
HP : Head plunger
 RM : Rec mute
 BP : Brake plunger
 OPY : Play out
 OMUT : Muting out
 LM : Line mute
 MEM : Memory
 INT : Interrupt
 ORW : Rewind out

t₁ : 0.1 sec.
 t₂ : 0.3 sec.
 t₃ : 0.01 sec.
 t₄ : 0.04 sec.
 t_a : 0.1 sec.
 t_b : 0.2 sec.
 t_c : 0.05 sec.

BLOCK DIAGRAM

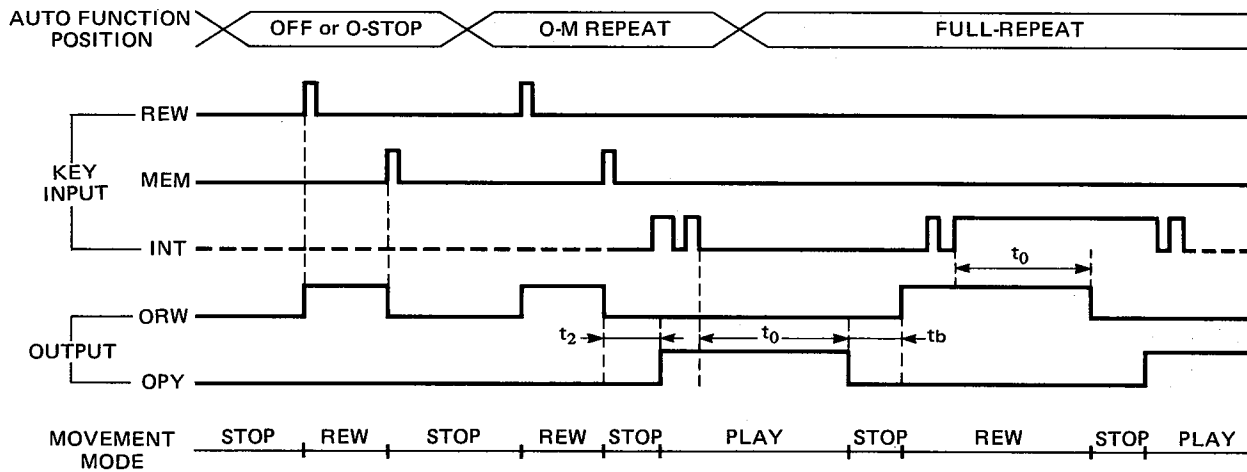


● **TIMER MOVEMENT**



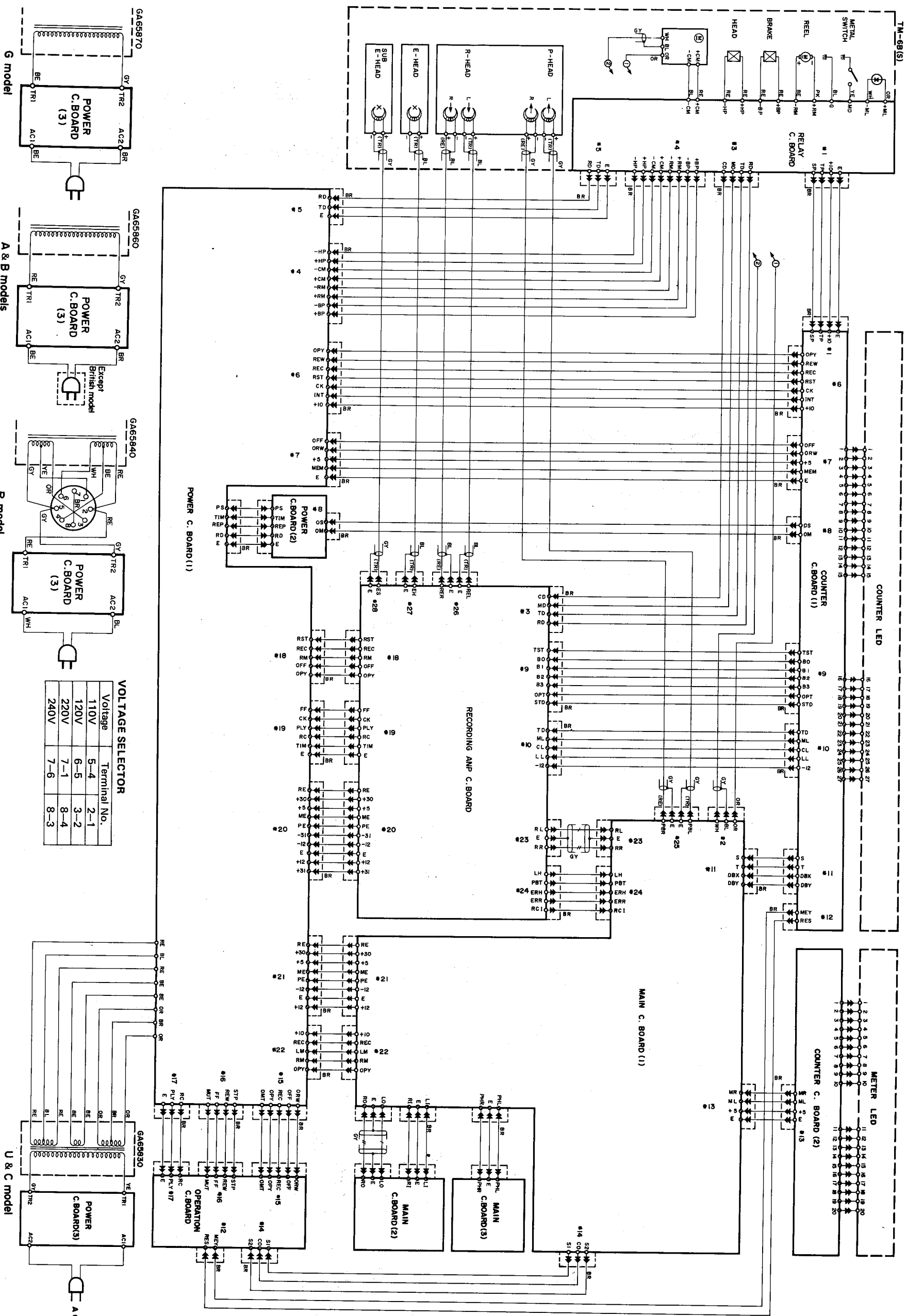
- t_0 : 2 sec.
- t_1 : 0.1 sec.
- t_3 : 0.01 sec.
- t_d : 0.15 sec.

● **MEMORY & REPEAT MOVEMENT**



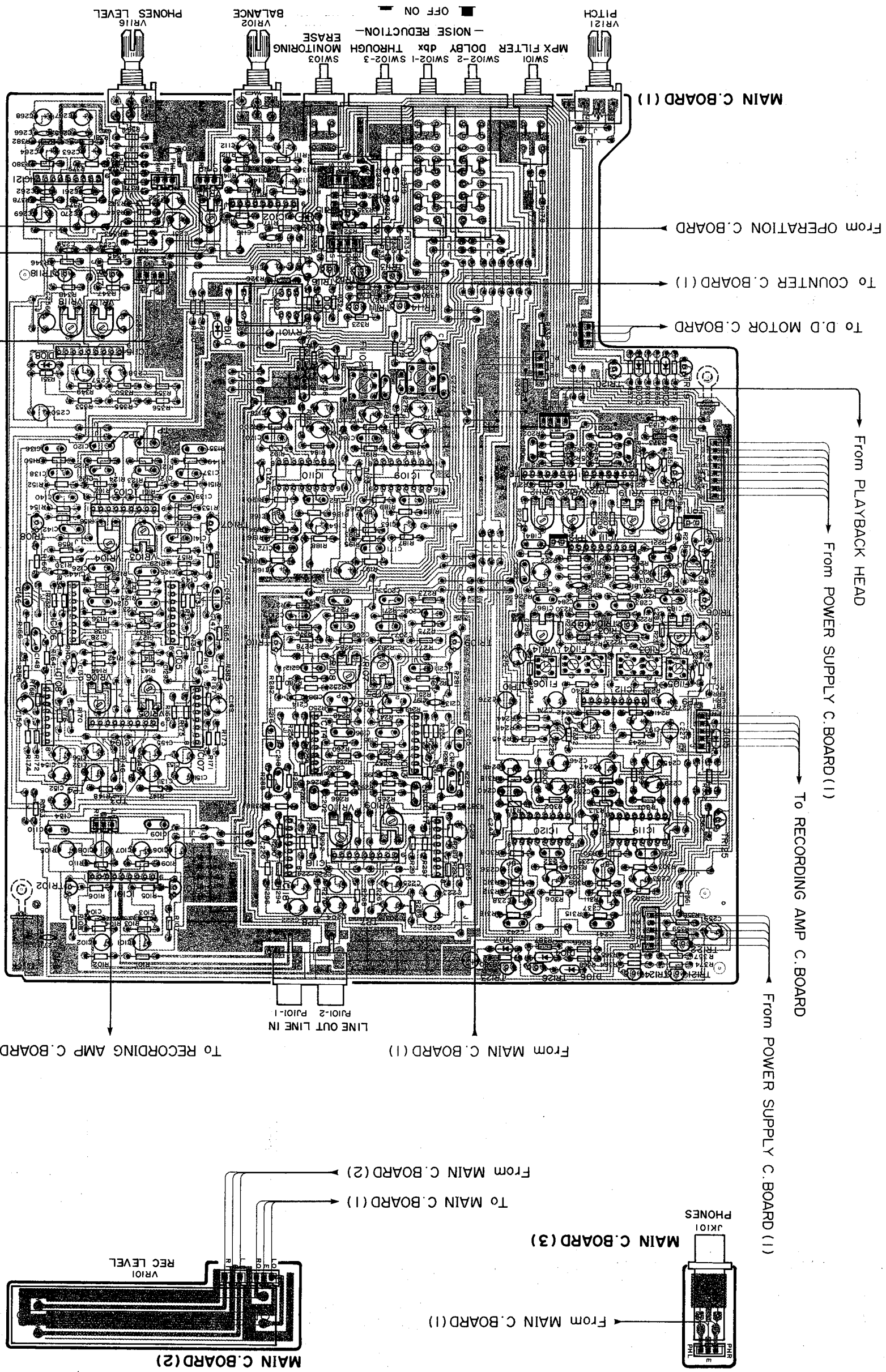
- t_0 : 2 sec.
- t_2 : 0.3 sec.
- t_b : 0.2 sec.

Note) AUTO STOP and AUTO REPEAT act after 2 second (t_0) when INT signal changes last.
(Cycle of INT signal's repeat should be more than 12 msec.)

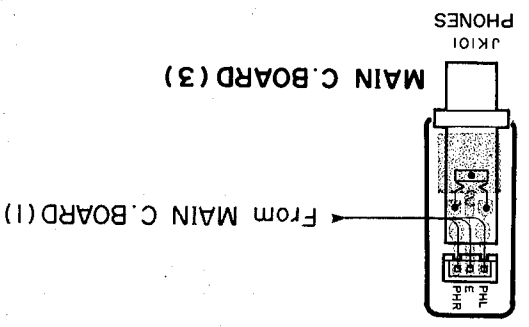
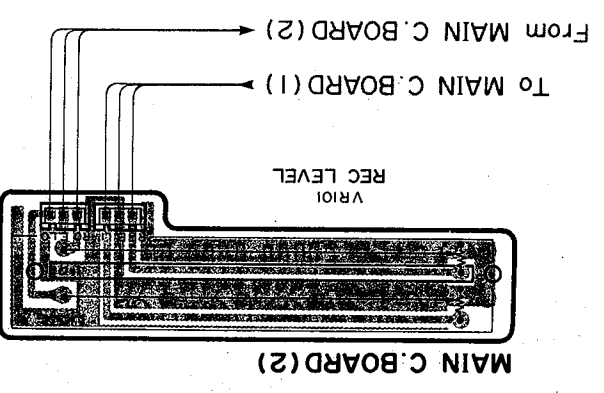
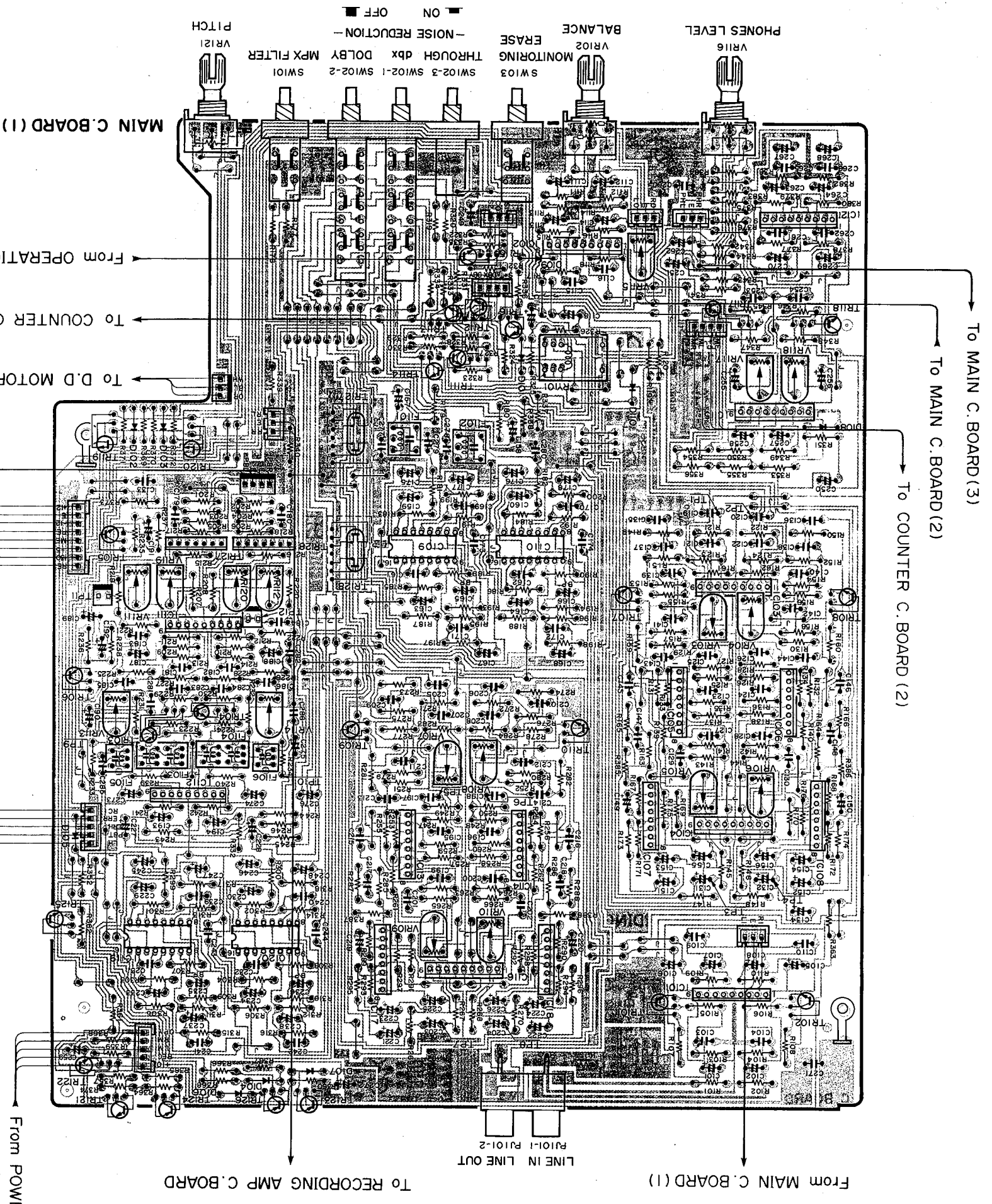


PRINTED CIRCUIT BOARD

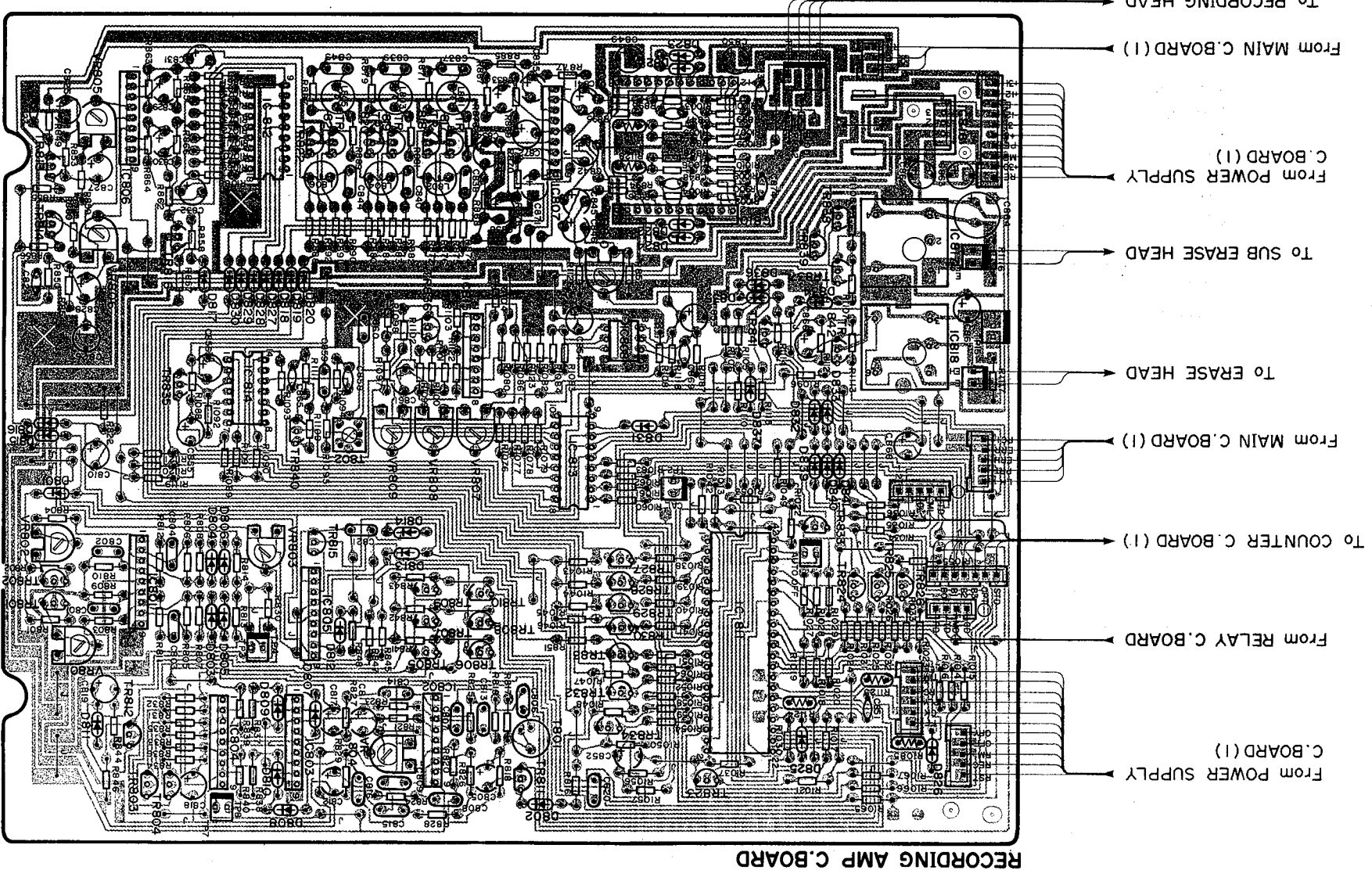
<Main circuit board> Parts side



1 < Main circuit board > Pattern side

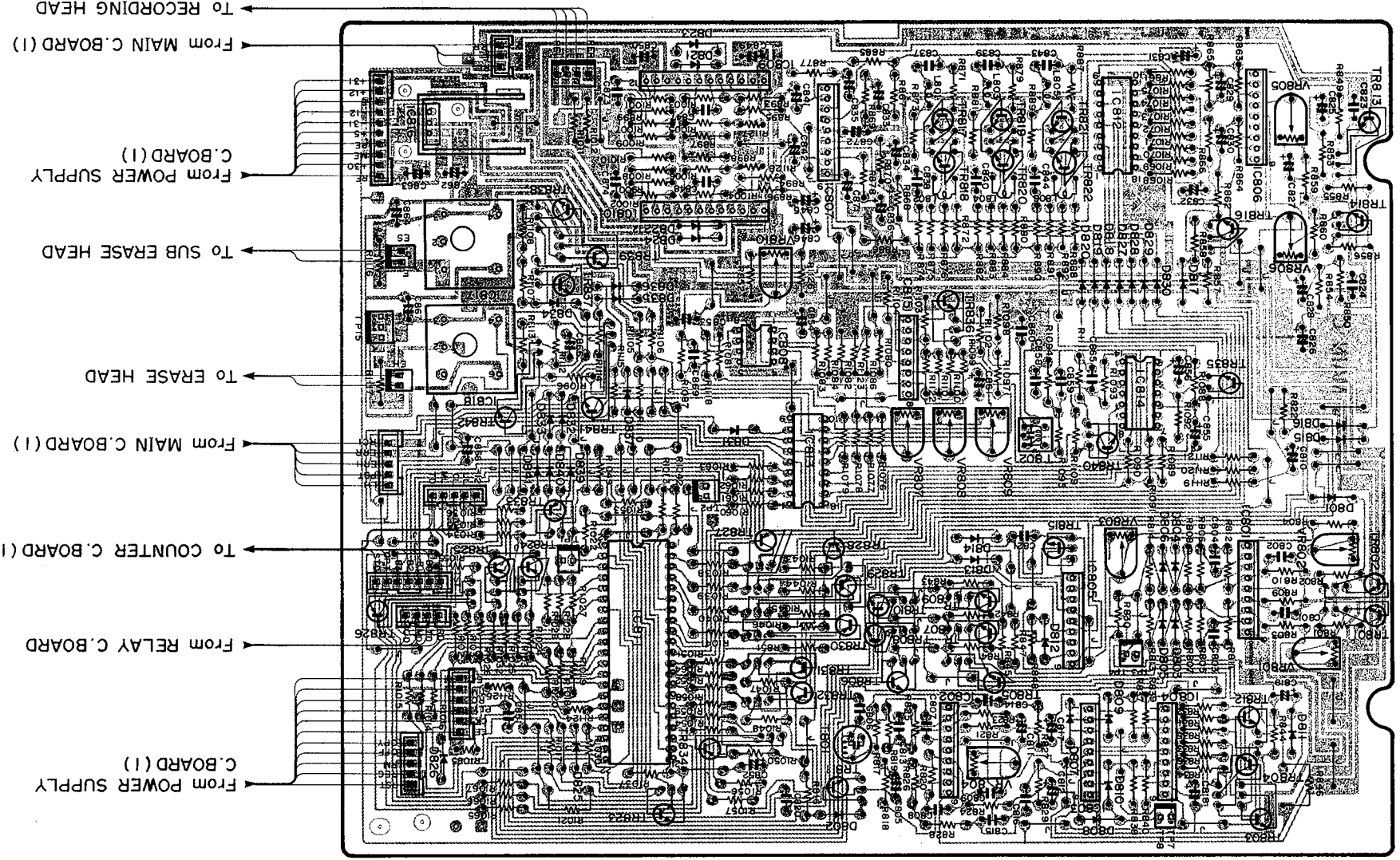


< Record circuit board >
Parts side



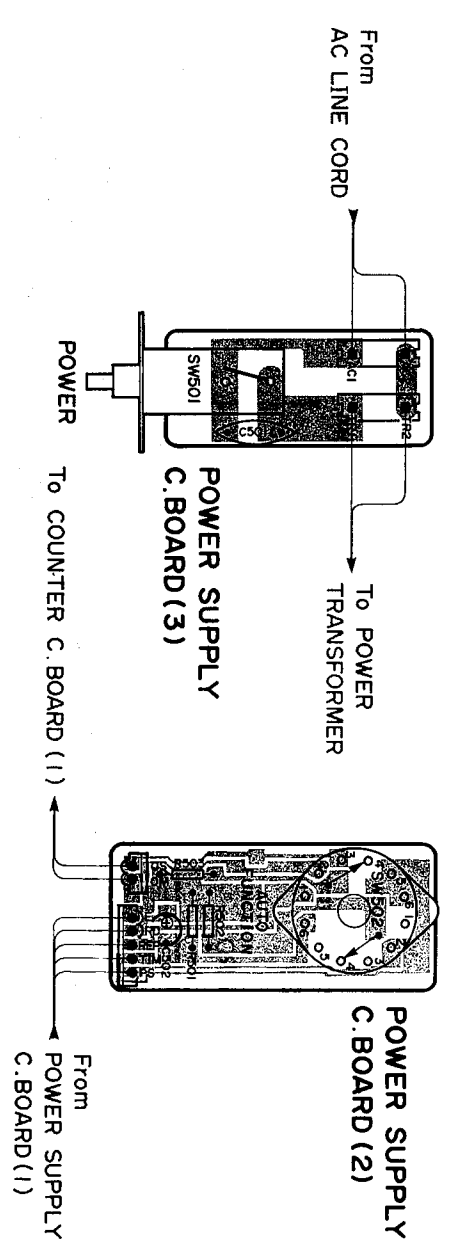
RECORDING AMP C BOARD

Pattern side

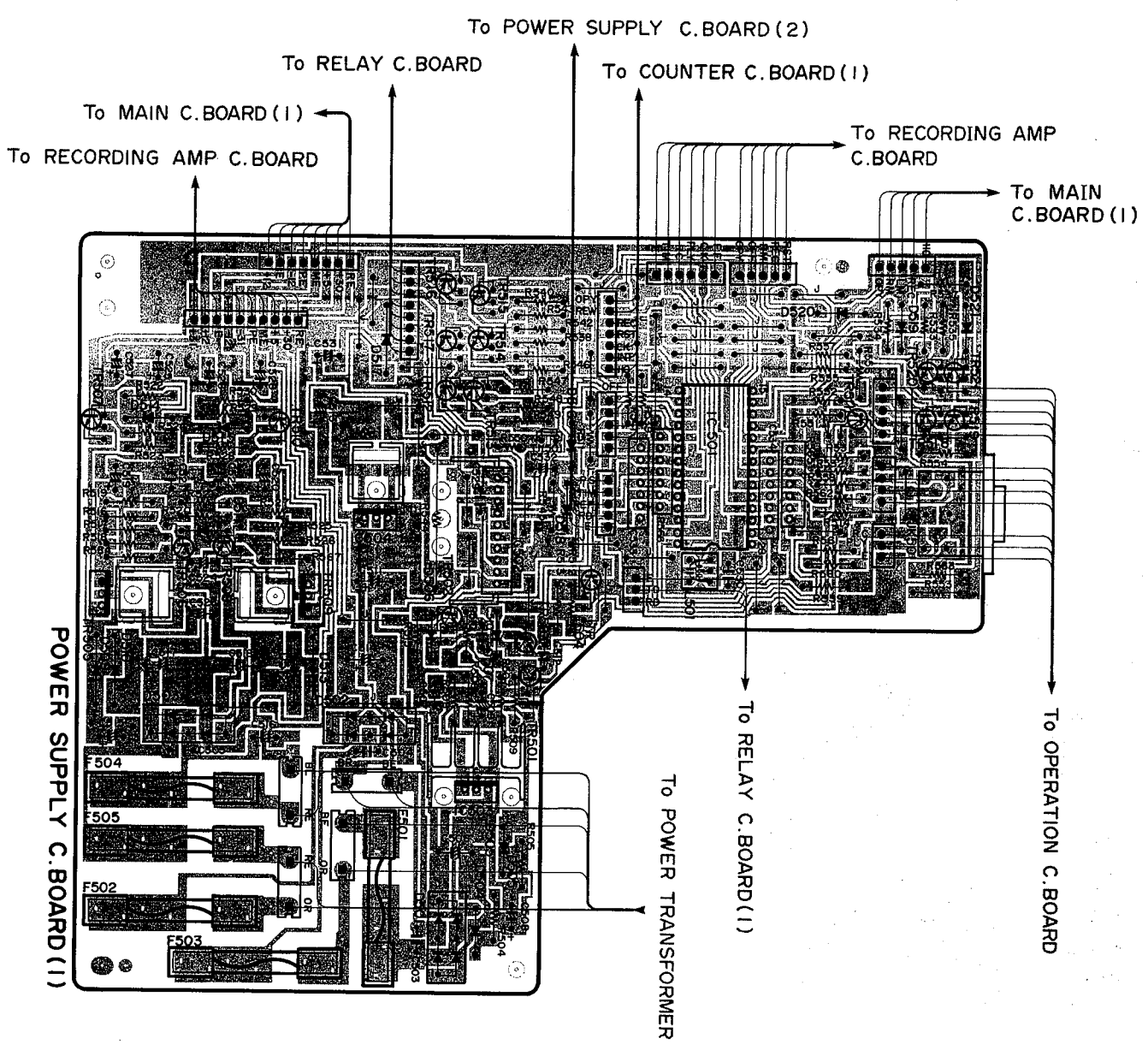
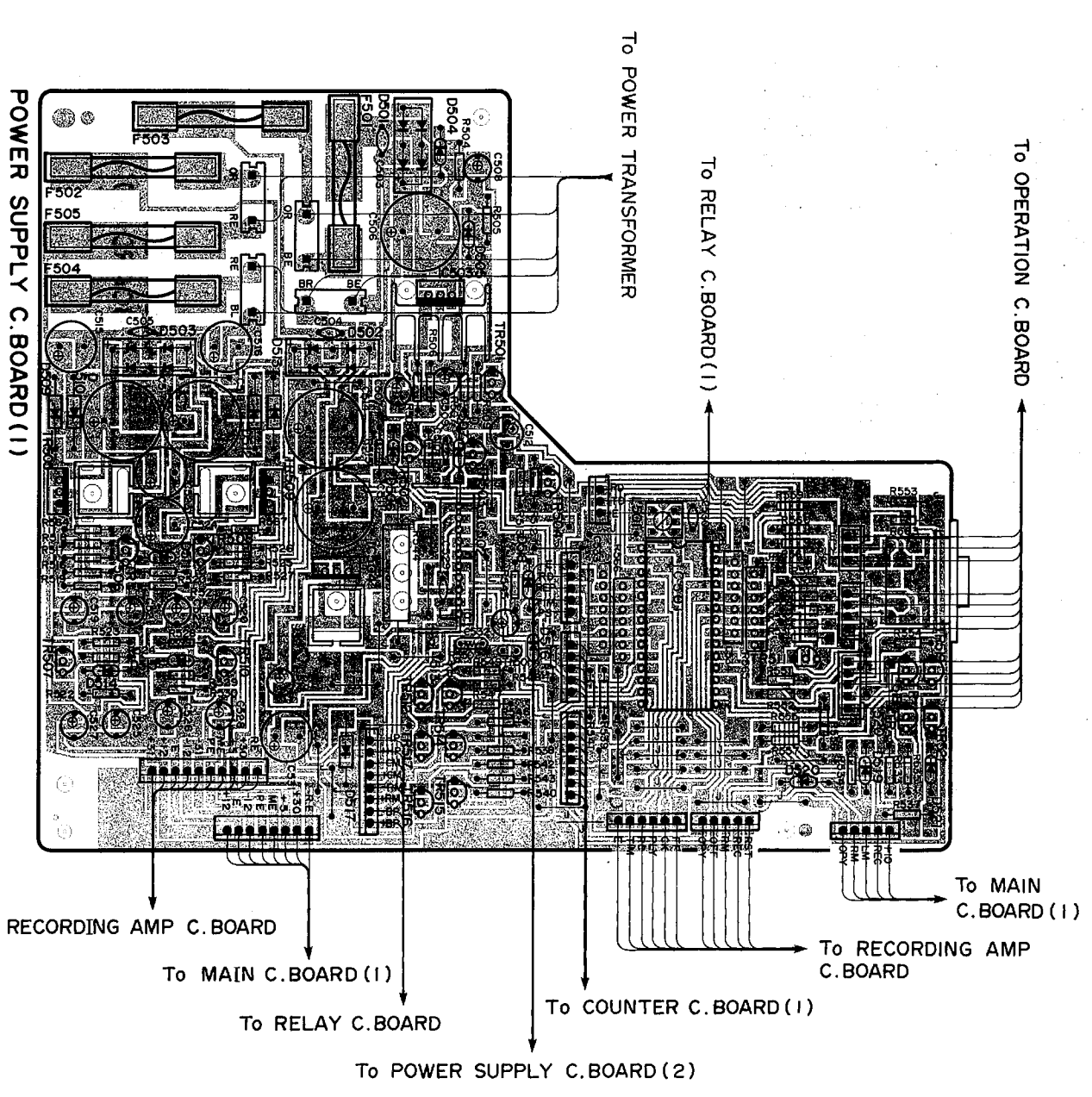
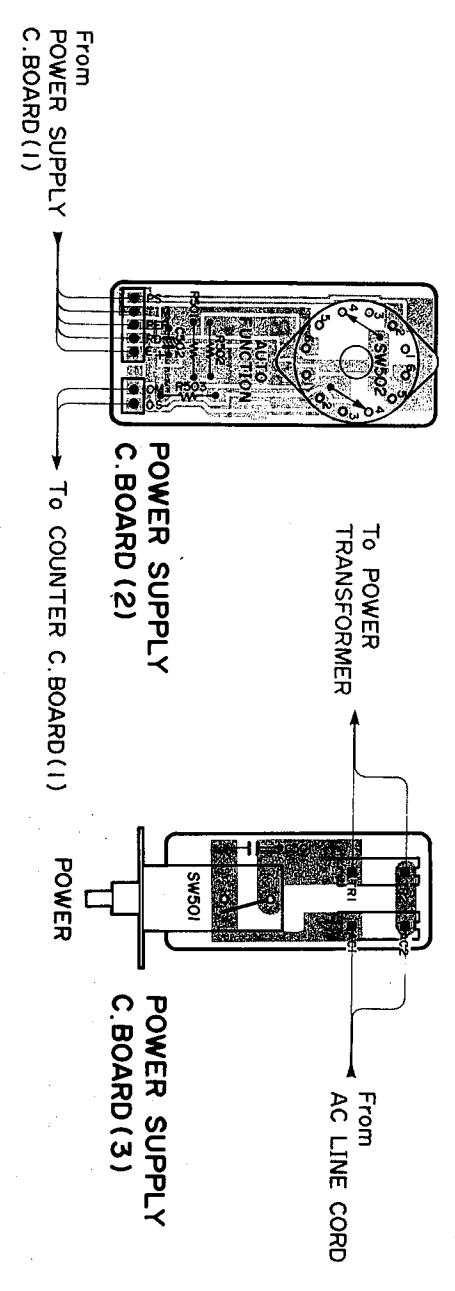


RECORDING AMP C BOARD

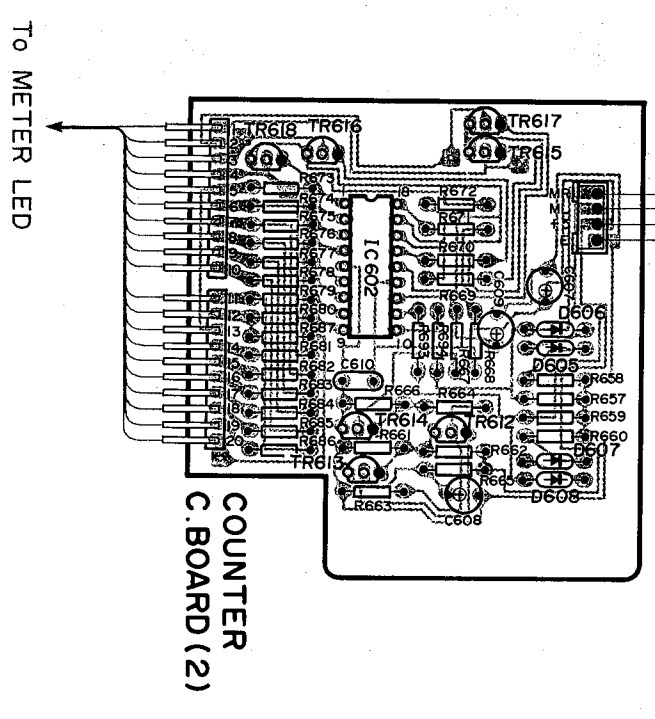
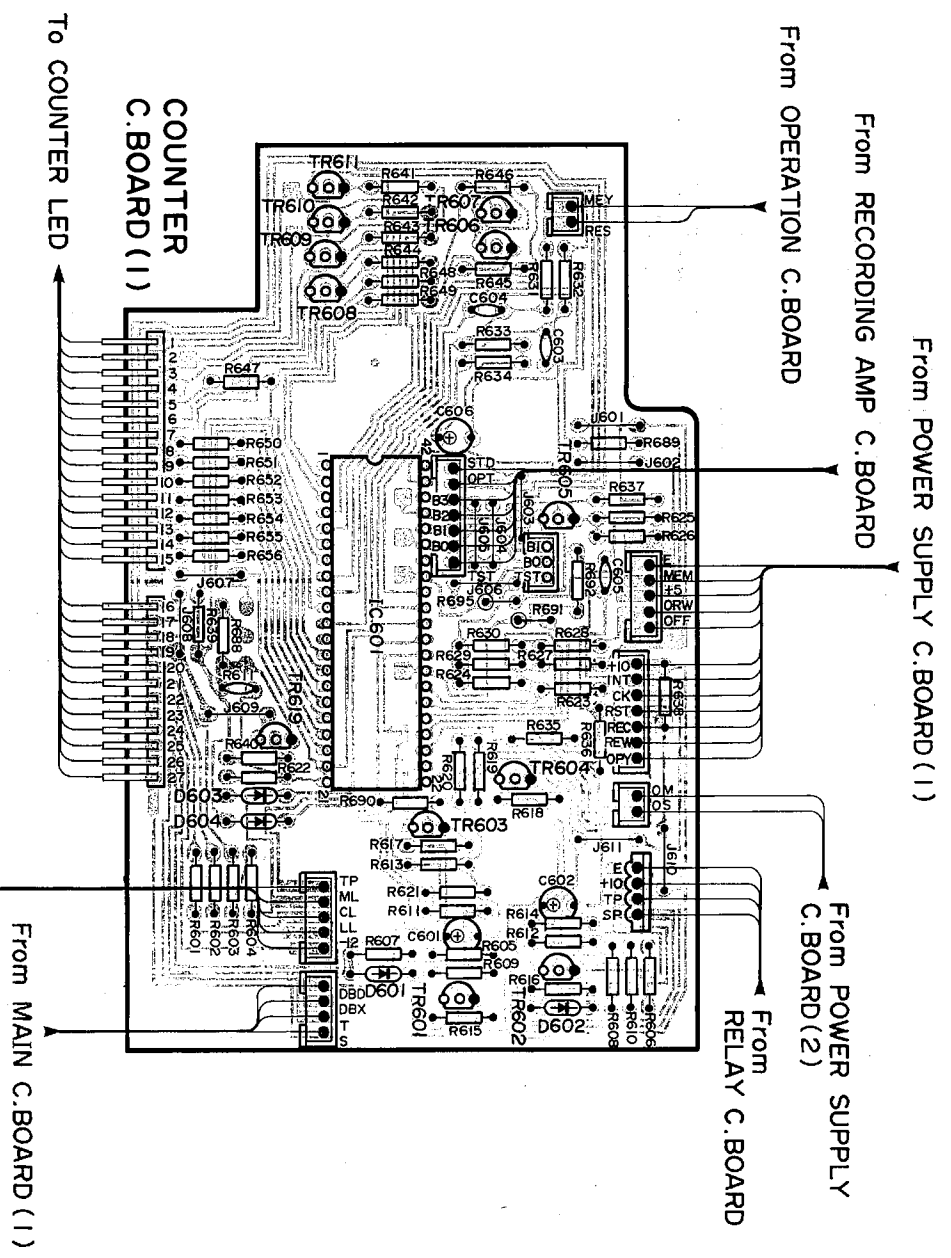
1 <Power circuit board>
Parts side



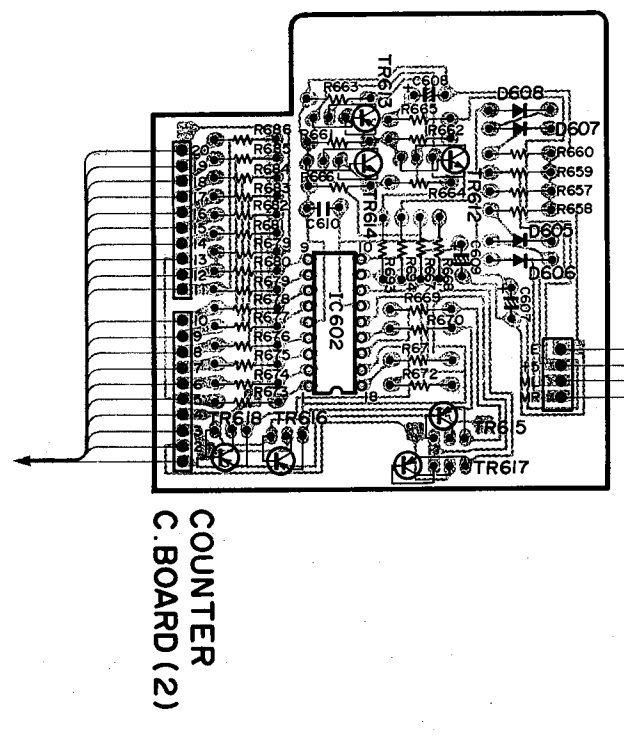
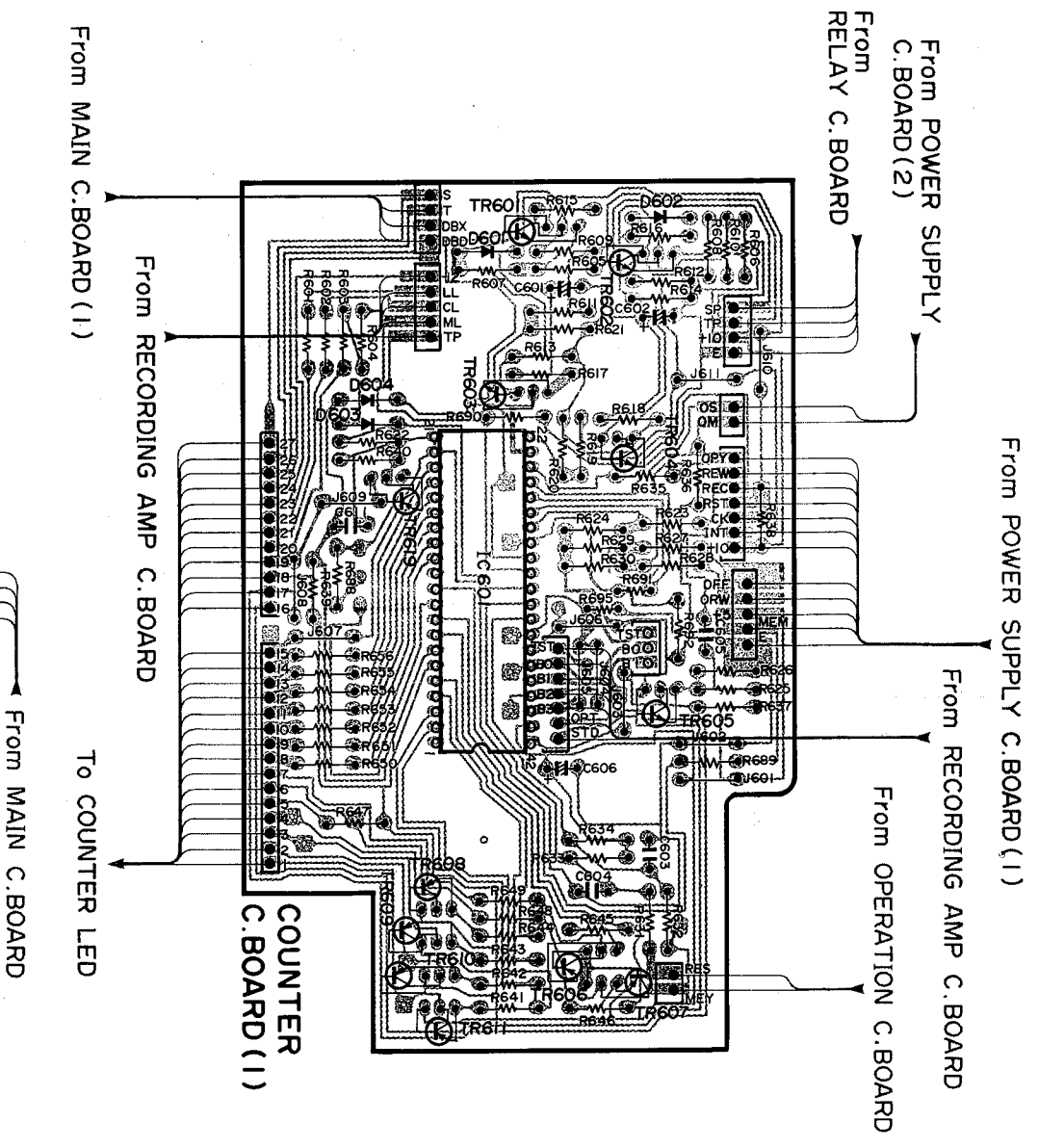
Pattern side



<Counter circuit board>
Parts side



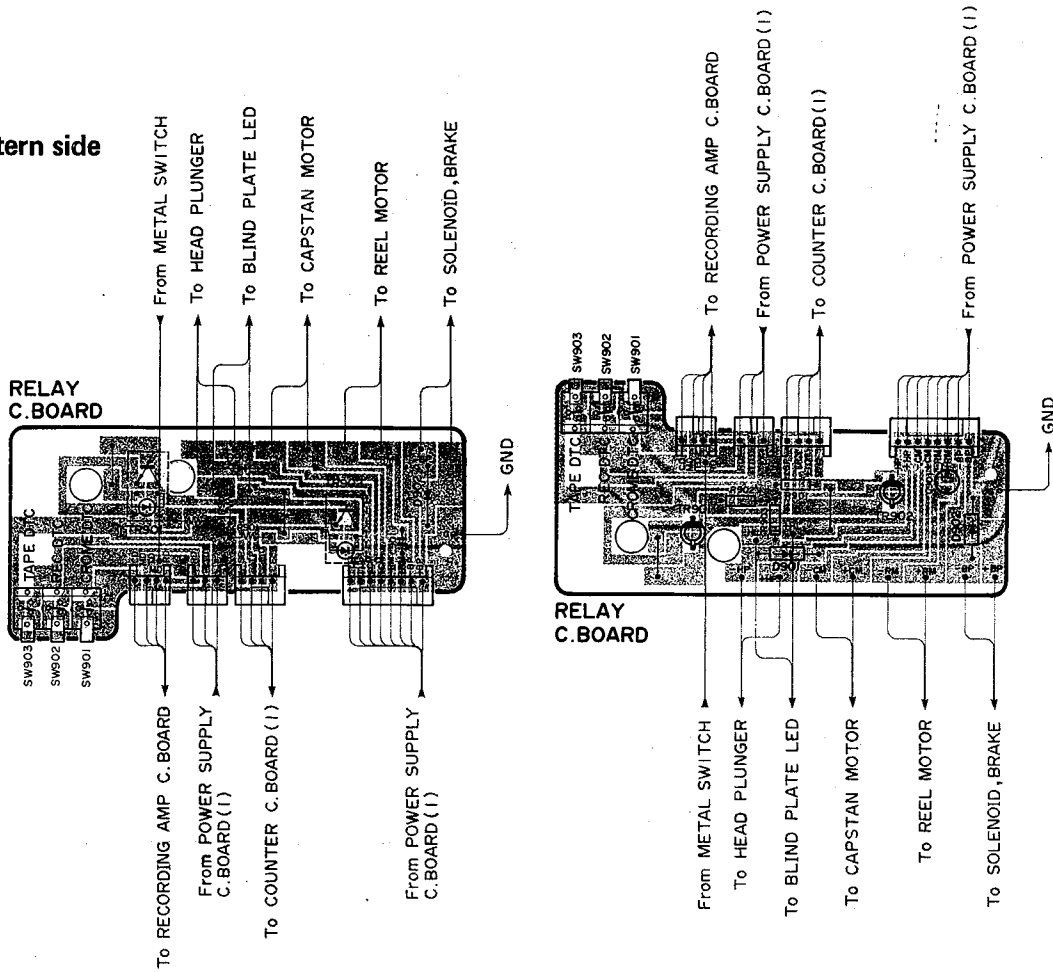
Pattern side



1

<Relay circuit board>

Pattern side



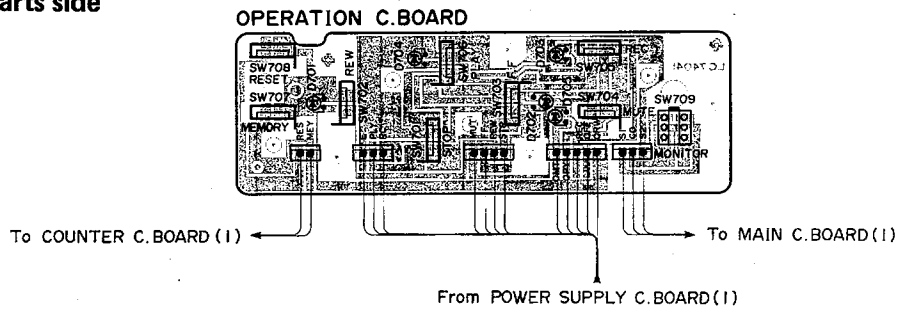
2

3

4

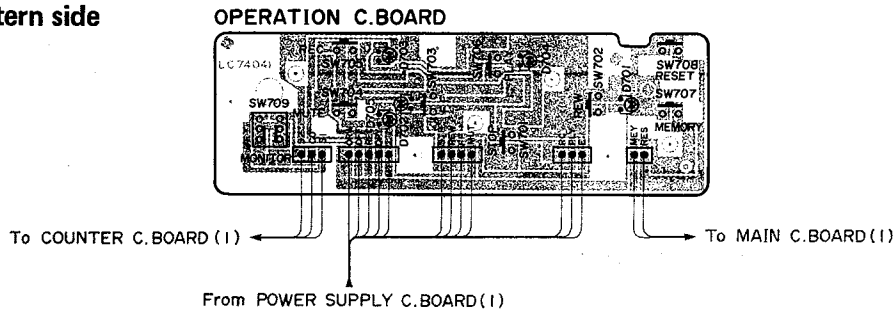
<Operation circuit board>

Parts side



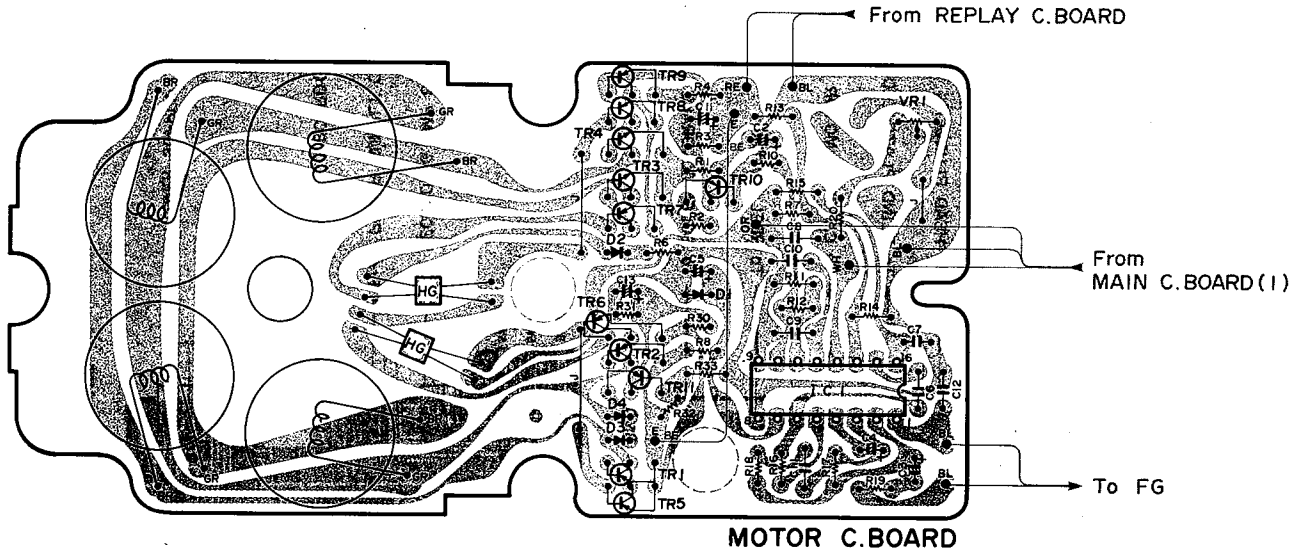
5

Pattern side

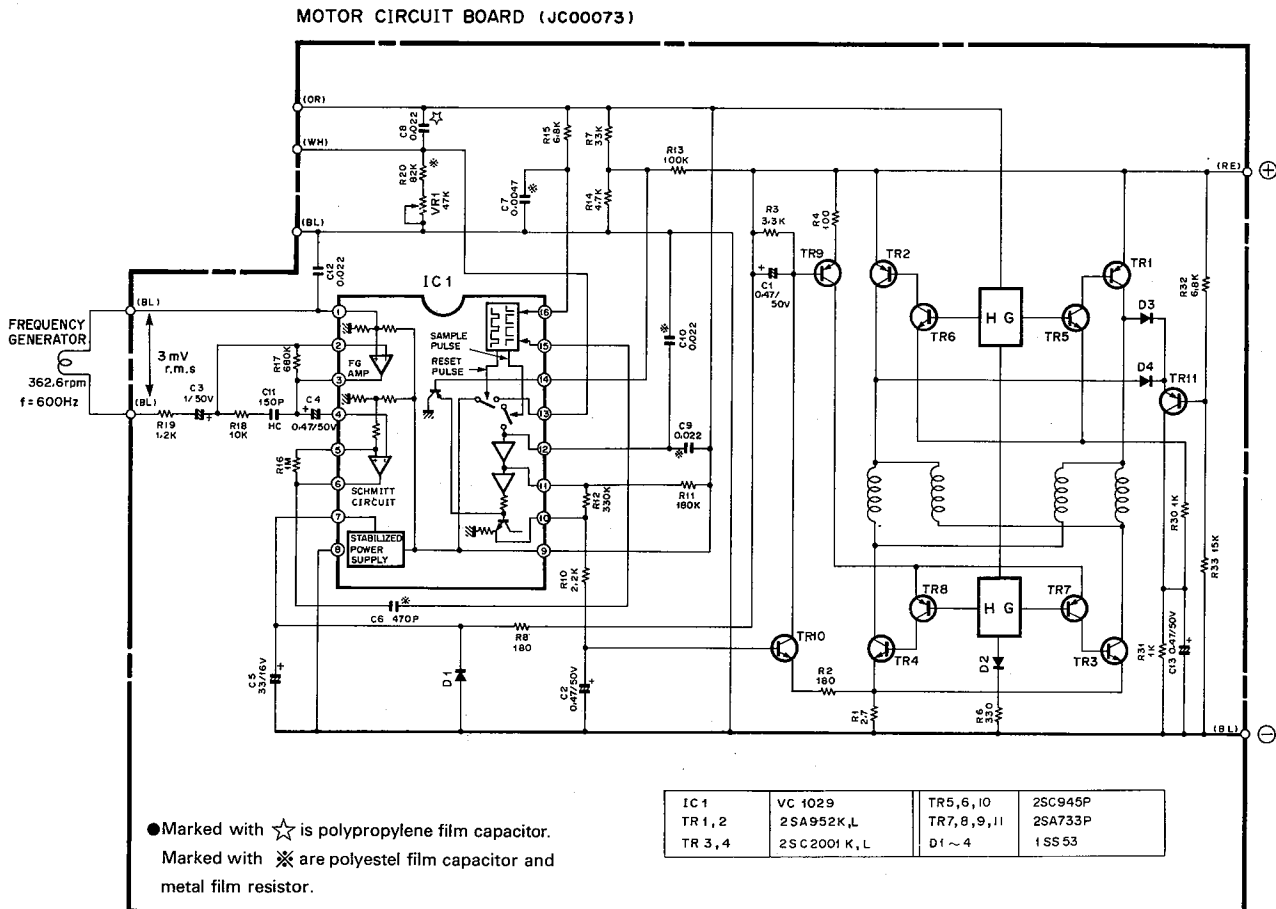


6

<D.D. Motor circuit board> Pattern side



SCHMATIC DIAGRAM <D.D Motor>



PARTS LIST

■WARNING

UL Standard 1270 requires that components marked Δ be replaced with parts having specifications equal to those originally installed.

- Carbon resistors of this cassette deck are $\frac{1}{4}W$. There is no description about them in this parts list. Use the "Part No." HJ350000 or equivalent.

■ ELECTRICAL PARTS

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
※	NA 08 00 40	Main Circuit Board	Silver	メ イ ン シ ー ト		J,R,A,G,B
※	NA 08 00 50	"	"	"		U,C
※	NA 08 00 60	"	Black	"		J,R,A,G,B
※	NA 08 00 70	"	"	"		U,C
	FG 41 21 00	Ceramic Cap.	100pF 50V	セ ラ コ ン	C115,116,127~130,199, 200,261,262,265,266	
	FG 41 23 30	"	330pF 50V	"	C143,144,213,214,285,286	
	FG 41 24 70	"	470pF 50V	"	C173,174,243,244	
	FG 41 22 20	"	220pF 50V	"	C103,104	
	FG 41 25 60	"	560pF 50V	"	C253,254	
	FG 41 32 20	"	2200pF 50V	"	C181,182	
	FG 44 41 00	"	0.01 μ F 50V	"	C133,271	
	FG 44 44 70	"	0.047 μ F 50V	"	C260	
※	FT 55 22 00	Polypropylene Cap.	200pF 50V	ポ リ プ ロ コ ン	C197,198	
	FA 15 31 20	Mylar Cap.	1200pF 50V	マ イ ラ ー コ ン	C179,180	
	FA 15 31 30	"	1300pF 50V	"	C283,284	
	UA 25 32 20	"	2200pF 50V	"	C109,110,169,170,239,240	
	UA 25 31 50	"	1500pF 50V	"	C281,282	
	UA 25 33 30	"	3300pF 50V	"	C139~142,209~212	
	UA 25 33 90	"	3900pF 50V	"	C185,186,277~280	
	UA 25 41 00	"	0.01 μ F 50V	"	C125,126,147,148,201,202, 217,218	
	UA 25 41 20	"	0.012 μ F 50V	"	C161,162,183,184,231,232	
	UA 25 41 80	"	0.018 μ F 50V	"	C171,172,241,242	
	UA 25 51 00	"	0.1 μ F 50V	"	C119~122,135~138,145, 146,205~208,215,216	
	FA 15 53 00	"	0.3 μ F 50V	"	C123,124,195,196	
	UK 14 64 70	Electrolytic Cap.	4.7 μ F 25V	B P コ ン	C165,166,235,236	
	UW 56 53 30	"	0.33 μ F 50V	ケ ミ コ ン	C175,176,245,246	
	UW 91 74 70	"	47 μ F 6.3V	"	C113,114	
	UW 91 81 00	"	100 μ F 6.3V	"	C259,273,274	
	UW 93 71 00	"	10 μ F 16V	"	C117,118,131,132,155~160,203,204, 225,226,229,230,250,255,256	
	UW 93 72 20	"	22 μ F 16V	"	C107,108,153,154,163,164,193,194, 223,224,227,228,233,234,263,264,	
	UW 93 73 30	"	33 μ F 16V	"	C151,152,221,222,269,270, 275,276	
	UW 93 81 00	"	100 μ F 16V	"	C134,191,192,272,	
	UW 94 64 70	"	4.7 μ F 25V	"	C167,168,237,238	
	UW 96 61 00	"	1 μ F 50V	"	C101,102,105,106,111,112,149,150,177,178,219, 220,247~249,251,252,257,258,261,268	
	FV 24 71 00	"	10 μ F 25V	"	C187,188	
	FV 26 61 00	"	1 μ F 50V	"	C189,190	
※	GE 20 04 50	Dolby Filter	200kHz	ドルビーフィルター	Fi101,102	
※	GE 90 08 80	Trap Coil	200kHz	トラップコイル	Fi103,104	
※	GE 90 10 10	Bias Trap Coil	75kHz	バイアストラップコイル	Fi105,106	
	HL 31 54 70	Metal Oxide Film Resistor	470 Ω 1P	酸 金 抵 抗	R331	
※	HZ 00 27 70	Carbon Composition Resistor	22M Ω	ソ リ ッ ド 抵 抗	R385~388	
※	HQ 40 02 00	Slide Variable Resistor	A5k Ω × 2	ス ラ イ ド V R	VR101 REC LEVEL	
※	HS 41 16 90	Variable Resistor	10k Ω CC	可 変 抵 抗 器	VR102 BALANCE	
※	HS 41 17 00	"	A50k Ω × 2	"	VR116 PHONES LEVEL	
※	HS 41 17 10	"	B10k Ω CC,CT	"	VR121 BIAS	
	HT 37 01 50	Semi Variable Resistor	B100 Ω	半 固 定 抵 抗	VR119,120	
	HT 37 00 40	"	B500 Ω	"	VR115	

※ New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
	HT 37 00 60	Semi Variable Resistor	B2kΩ	半 固 定 抵 抗	VR117,118	
	HT 37 00 20	"	B10kΩ	"	VR103,104,107,108,111~114	
	HT 37 01 00	"	B50kΩ	"	VR105,106,109,110	
	IA 09 99 10	Transistor	2SA999(E,F)	ト ラ ン ジ ス タ	TR106,123,124,126	Inter-
	IA 11 27 00	"	2SA1127(R,S,T)	"	" "	changeable
	IC 23 20 10	"	2SC2320(E,F)	"	TR101~105,107~110,115,117,118,121,122,125	Inter-
	IC 26 34 00	"	2SC2634(R,S,T)	"	"	changeable
	IC 26 55 00	"	2SC2655(O,Y)	"	TR116	
※	IC 28 78 00	"	2SC2878	"	TR111~114	
	IE 10 00 20	FET	2SK30A(GR)	F E T	TR119,120	
	IE 10 19 00	Dual FET	„PA68H	デュアル F E T	TR127,128	
	IF 00 00 40	Diode	1S1555	ダ イ オ ー ド	D101~108,110	Inter-
	IF 00 06 70	"	1S2473	"	"	changeable
	IF 00 15 10	Zener Diode	HZ-6C1L	ツェナーダイオード	D109	
※	IG 06 23 00	IC	„PC1180C	I C	IC109,110,119,120	
※	IG 06 24 00	"	„PC1253H2	"	IC107,108,117,118	
※	IG 06 25 00	"	„PC1252H2	"	IC105,106,113,114	
※	IG 07 49 00	"	BA6138	"	IC115	
※	IG 07 68 00	"	NJM4558S	"	IC103,104,111,112,116	
※	IG 08 02 00	"	NJM2043S	"	IC101,102	
※	IG 07 74 00	"	NJM4556S	"	IC121	
	KA 80 28 20	Push Switch		プッシュスイッチ	SW101 MPX FILTER	
※	KA 80 31 50	"		"	SW 103 MONITORING ERASE	
※	KA 80 31 60	"		"	SW 102 NOISE REDUCTION	
	KC 00 12 90	Relay	HB 24V	リ レ -	RY101	
※	LB 30 16 80	Phone Jack	HLJ0520 White	ホ ー ン ジャ ッ ク	JK101	J,R,U,A,G,C,B
※	LB 30 16 90	"	" Black	"	"	G
※	LB 40 10 30	Pin Jack	4P	ピ ン ジャ ッ ク		
	LB 30 07 30	2.5 Pitch Base Pin	TEB3P-SHF	2.5ピッチベースピン		
	LB 40 05 70	"	TEB4P-SHF	"		
	LB 91 20 30	Short Plug	3P i-Type	シ ョ ー ト プ ラ グ		
	LB 91 20 50	"	5P i-Type	"		
	LB 90 20 80	"	8P i-Type	"		
	LB 20 13 90	2.5 Pitch Base Pin	TEB2P-SHF	2.5ピッチベースピン		
	BB 06 62 90	Ground Washer		ア ー ス ワ ッ シ ャ ー		
※	NA 08 01 10	Power Supply Circuit Board		電 源 シ ュ ー ト		J,R
※	NA 08 01 20	"		"		U,C
※	NA 08 01 30	"		"		G,B
※	NA 08 07 90	"		"		R,A
	FG 41 22 20	Ceramic Cap.	220pF 50V	セ ラ コ ン	C530	
	FG 44 41 00	"	0.01μF 50V	"	C529	

※ New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
※	FG 44 44 70	Ceramic Cap.	セラコン	C503~505,510		
※	Fi 40 41 00	"	"	C501		J
※	Fi 41 41 00	"	"	"		R,U,A,G,C,B
	FZ 00 35 70	Capacitor Array	コンデンサアレイ	C533,534		
	UW 54 92 20	Electrolytic Cap.	ケミコン	C511,517,518		
※	UW 86 91 00	"	"	C514		
	UW 56 52 20	"	"	C512		
	UW 93 71 00	"	"	C507,513 521,522		
	UW 93 72 20	"	"	C502		
	UJ 15 92 20	"	"	C506		
	UW 94 81 00	"	"	C519,520		
	UW 95 71 00	"	"	C527,528		
	UW 85 72 20	"	"	C525,526		
	UW 96 61 00	"	"	C509		
	UW 96 62 20	"	"	C508,532		
	UW 86 81 00	"	"	C515,516		
	UW 67 81 00	"	"	C523,524		
※	UM 05 86 80	"	"	C531		
※	GE 90 08 90	OSC. Coil	発振コイル	L501		
※	HM 55 42 20	Cement Molded Resistor	セメント抵抗	R544		
	HU 07 61 00	Metal Film Resistor	金属被膜抵抗	R550		
※	HZ 00 25 80	Resistor Network	抵抗ネットワーク	R565,566		
※	HZ 00 28 90	Thermistor	サーミスタ	Th501		
	iA 09 99 10	Transistor	トランジスタ	TR501,508,512	} Inter-changeable	
	iA 11 27 00	"	"	"		
	iB 05 07 00	"	"	TR509		
※	iB 08 65 00	"	"	TR510,516		
	iC 23 20 10	"	"	TR502~504,508,511 513,515,518~521	} Inter-changeable	
	iC 26 34 00	"	"	"		
	iC 19 83 00	"	"	TR505		
※	iD 11 53 00	"	"	TR507,514,517		
	iF 00 00 40	Diode	ダイオード	D504~507,516 518~521	} Inter-changeable	
	iF 00 06 70	"	"	"		
	iF 00 15 10	Zener Diode	ツェナーダイオード	D511		
※	iF 00 41 80	"	"	D514,515		
	iH 00 05 90	Diode	ダイオード	D509,510,512,513,517		
	iH 00 09 70	Diode Bridge	ダイオードブリッジ	D501~503		
※	iG 07 40 00	IC	I C	IC502		
※	iG 07 50 00	"	"	IC501		
※	iG 07 53 00	"	"	IC503	} Inter-changeable	
※	iG 07 56 00	"	"	"		
※	iG 07 54 00	"	"	IC504	} Inter-changeable	
※	iG 07 57 00	"	"	"		
※	KA 50 17 80	Rotary Switch	ロータリースイッチ	SW502 AUTO FUNCTION		
※	KA 80 32 90	Power Switch	パワースイッチ	SW501		

※ New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
	KB 00 03 10	Fuse	T0.5A 250V	ヒ ュ ー ズ	F504,505	J,R,A
	KB 00 07 10	"	T500mA 250V	"	"	G,B
	KB 00 11 50	"	0.5A 250V	"	"	U,C
	KB 00 03 40	"	T1.5A 250V	"	F501	J,R,A
	KB 00 07 40	"	T1.6A 250V	"	"	G,B
※	KB 00 27 10	"	1.5A 250V	"	"	U,C
	KB 00 03 50	"	T2A 250V	"	F502,503	J,R,A
	KB 00 07 50	"	T2A 250V	"	"	G,B
	KB 00 12 40	"	2A 250V	"	"	U,C
※	LB 60 50 30	DIN Jack	8P 12.5 Black	DIN ジャ ッ ク	JK501	
	LA 00 21 40	Wrapping Terminal	P=10 2P i-Type	i型ラッピング端子板		
	LB 20 18 80	Fuse Holder Pin	PC-FH1	ヒューズホルダーピン		
	LB 91 20 30	Short Plug	3P i-Type	ショートプラグ		
	LB 91 20 40	"	4P i-Type	"		
	LB 91 20 50	"	5P i-Type	"		
	AA 61 35 60	Bracket,Switch		スイッチブラケット		K-1000
	BA 08 39 90	Heat Sink		放 熱 板		"
	BA 08 40 00	"		"		"
	BB 06 62 90	Ground Washer		アースワッシャー		
	Ei 03 00 60	Binding Head Tapping Screw	3×6 ZMC2-Y	バインドタッピングネジ		
	ED 03 00 40	Binding Head Screw	3×4 ZMC2-Y	バインド小ネジ		
	BA 06 77 80	Radiator		放 熱 器		
※	NA 08 01 50	Counter Circuit Board (02n)	マ ス ミ - カウ ン タ ー シ ー ト		02n1ms4T	J,R,A,G,B
※	NA 08 02 10	"	"	"		U,C
	FG 44 41 00	Ceramic Cap.	0.01 μ F 50V	セ ラ コ ン	C603~605,611	
	UA 25 51 00	Mylar Cap.	0.1 μ F 50V	マ イ ラ ー コ ン	C610	
	UW 91 74 70	Electrolytic Cap.	47 μ F 6.3V	ケ ミ コ ン	C606	
	UW 91 82 20	"	220 μ F 6.3V	"	C607	
	UW 93 71 00	"	10 μ F 16V	"	C608,609	
	UW 94 64 70	"	4.7 μ F 25V	"	C601,602	
	HJ 35 51 00	Carbon Resistor	100 Ω 1/4W	カ ー ボ ン 抵 抗	R695	
	HJ 35 71 00	"	10k Ω "	"	R691	
	iA 09 99 10	Transistor	2SA999(E,F)	ト ラ ン ジ ス タ	TR606,607,613,619	Inter-changeable
	iA 11 27 00	"	2SA1127(R,S,T)	"	"	
※	iB 05 98 00	"	2SB598(E,F)	"	TR608~611,615~618	
	iC 23 20 10	"	2SC2320(E,F)	"	TR601~605,612,614	Inter-changeable
	iC 26 34 00	"	2SC2634(R,S,T)	"	"	
※	iG 07 51 00	IC	LM6402A-108	I C	IC601	
※	iG 07 52 00	"	MSL9350RS	"	IC602	
	iF 00 00 40	Diode	1S1555	ダ イ オ ード	D601~608	Inter-changeable
	iF 00 06 70	"	1S2473	"	"	
※	LB 60 09 60	Connector Pin	10Pin L-Type	L型コネクターピン		
※	LB 60 09 90	"	12Pin L-Type	"		
※	LB 60 10 30	"	15Pin L-Type	"		
	LB 91 20 20	Short Plug	2P i-Type	シ ョ ー ト プ ラ グ		

※ New Parts (新規部品)

Ref. No.	Part No	Description	部 品 名	Remarks	Common Model	Markets
	LB 91 20 40	Short Plug	4P i-Type	シ ョ ー ト プ ラ グ		
	LB 91 20 50	"	5P i-Type	"		
	LB 91 20 70	"	7P i-Type	"		
	AA 61 35 70	Holder,Circuit Board		基 板 ホ ル ダ ー		
	CB 60 56 20	Plastic Rivet		プ ラ ス チ ッ ク リ ヱ ッ ト		
	Ei 03 00 86	Binding Head Tapping Screw	3×8 ZMC2-Y	バ イ ン ド タ ッ ピ ン グ ネ ジ	PACK	
	EV 20 00 36	Plain Washer	φ3 ZMC2-Y	平 座 金	PACK	
※	NA 08 01 70	Operation Circuit Board		オ ペ レ ー シ ョ ン シ ー ト		
	IF 00 23 70	LED	SLR-34GC (Green)	L E D	D701,702,704	
	IF 00 23 80	"	SLR-34URC (Red)	"	D703,705	
※	KA 80 31 70	Push Switch		プ ッ シ ュ ス イ ッ チ	SW 709	
	KA 90 30 10	Switch		タ ク ト ス イ ッ チ	SW701~708	
	CB 06 88 80	Plastic Rivet		プ ラ ス チ ッ ク リ ヱ ッ ト		
	CB 61 36 50	Holder		ホ ル ダ ー		
※	NA 08 01 80	Recording Amp. Circuit Board		録 音 ア ン プ シ ー ト		J.R
※	NA 08 01 90	"		"		U.A.G.C.B
	FG 41 04 00	Ceramic Cap.	4pF 50V	セ ラ コ ン	C847,848	
	FG 41 11 50	"	15pF 50V	"	C869	
	FG 41 14 70	"	47pF 50V	"	C865	
	FG 41 11 00	"	10pF 50V	"	C873,874	
	FG 41 21 00	"	100pF 50V	"	C823,824	
	FG 41 31 00	"	1000pF 50V	"	C858	
	FG 44 41 00	"	0.01 μ F 50V	"	C851	
	FG 44 44 70	"	0.047 μ F 50V	"	C875,876	
	UA 25 31 00	Mylar Cap.	1000pF 50V	マ イ ラ ー コ ン	C801,803,806,807,859,860	
	UA 25 32 20	"	2200pF 50V	"	C809,813,814	
	UA 25 33 30	"	3300pF 50V	"	C815	
	FA 15 35 10	"	5100pF 50V	"	C839,840	
	FA 15 34 30	"	4300pF 50V	"	C843,844	
	UA 25 36 80	"	6800pF 50V	"	C808,820	
	UA 25 41 50	"	0.015 μ F 50V	"	C802,804	
	UA 25 41 60	"	0.016 μ F 50V	"	C816	
	FA 15 53 30	"	0.33 μ F 50V	"	C821	
	UA 25 35 60	"	5600pF 50V	"	C837,838	
	UW 91 81 00	Electrolytic Cap.	100 μ F 6.3V	ケ ミ コ ン	C827,828	
	UW 93 71 00	"	10 μ F 16V	"	C855	
	UW 93 72 20	"	22 μ F 16V	"	C817~819,861	
	UW 93 73 30	"	33 μ F 16V	"	C852,856	
	UW 94 71 00	"	10 μ F 25V	"	C812,841,842,862,866, 867,871,872	
	UW 94 82 20	"	220 μ F 25V	"	C864	
	UW 96 54 70	"	0.47 μ F 50V	"	C868	
	UW 56 56 80	"	0.68 μ F 50V	"	C831~834	
	UW 96 61 00	"	1 μ F 50V	"	C805,811,829,830,835,836,846, 848,849,850,853,854,863	
	UW 96 62 20	"	2.2 μ F 50V	"	C825,826	
	UW 96 63 30	"	3.3 μ F 50V	"	C810	
	GE 90 02 50	Coil	10mH	コ イ ル	L803,804	
	GE 90 02 40	"	8.2mH	"	L801,802	
	GE 90 04 30	"	15mH	"	L805,806	

※ New Parts (新規部品)

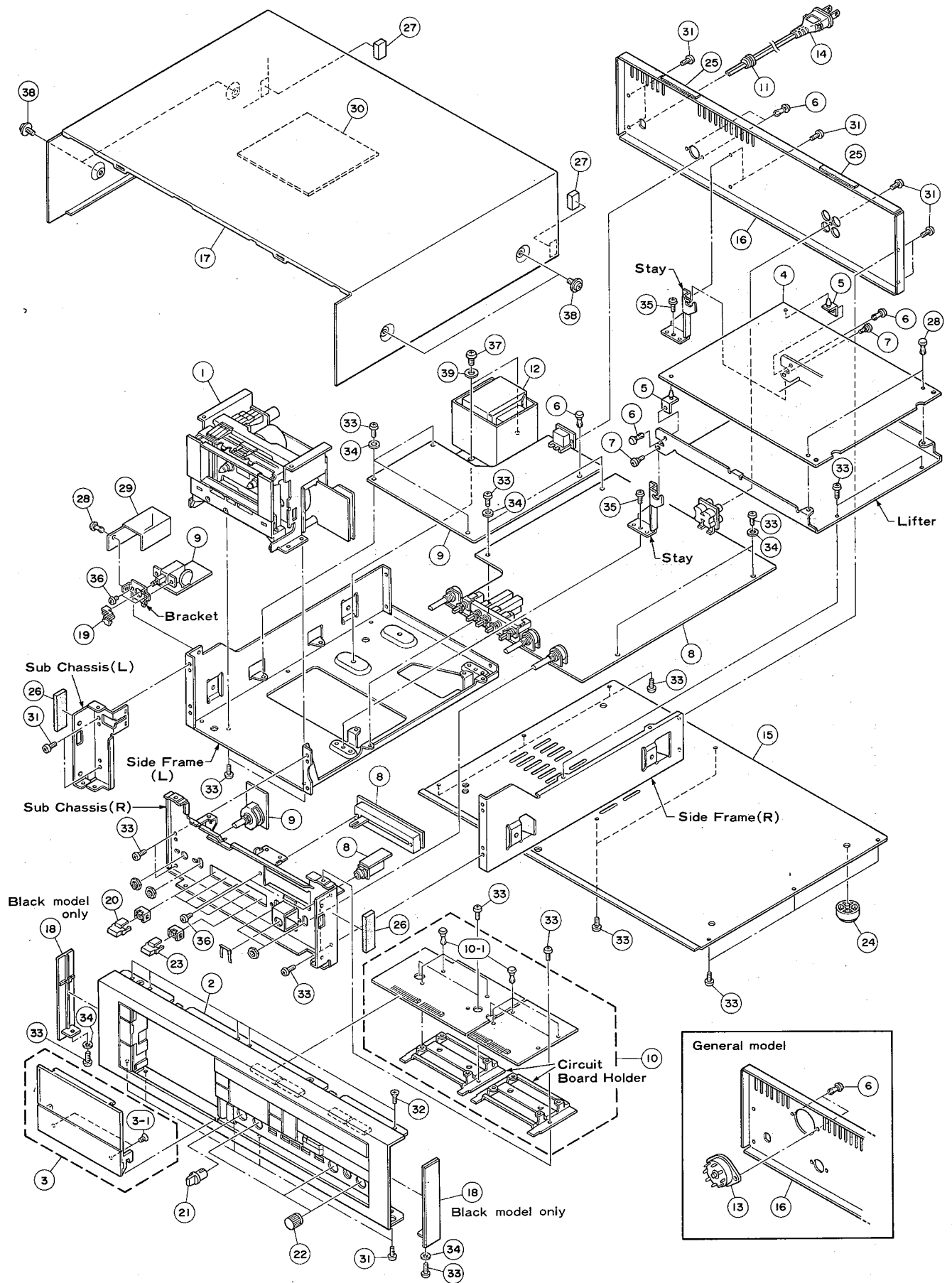
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
※	GE 90:09:90	OSC. Coil	600kHz	発 振 コ イ ル	T802	
※	GE 90:10:00	Bias Trap Coil	75kHz	バイアストラップコイル	T801	
	HU 07:63:30	Metal Film Resistor	3.3k Ω RE35	金 属 被 膜 抵 抗	R1127,1128	
	HU 07:71:00	"	10k Ω "	"	R1085,1124,1125	
	HT 37:00:60	Semi Variable Resistor	B2k Ω	半 固 定 抵 抗	VR801~803,808	
	HT 37:00:70	"	B3k Ω	"	VR805~807	
	HT 37:00:40	"	B500 Ω	"	VR810	
	HT 37:01:60	"	B200 Ω	"	VR804	
	HT 37:00:10	"	B1k Ω	"	VR809	
	iA 09:99:10	Transistor	2SA999(E,F)	ト ラ ン ジ ス タ	TR824~834 } Inter-	
	iA 11:27:00	"	2SA1127(R,S,T)	"	" } changeable	
	iC 23:20:10	"	2SC2320(E,F)	"	TR801~812,816~823 } Inter-	
	iC 26:34:00	"	2SC2634(R,S,T)	"	835~842 } changeable	
※	iD 10:12:00	"	2SD1012(G,H)	"	TR813,814 } Inter-	
	iD 06:55:00	"	2SD655(D,E,F)	"	" } changeable	
	iE 10:00:20	FET	2SK30A(GR)	F E T	TR815	
	iF 00:00:40	Diode	1S1555	ダ イ オ ー ド	D801~837 } Inter-	
	iF 00:06:70	"	1S2473	"	" } changeable	
	iG 02:67:10	IC	HD74LS93	I C	IC814	
	iG 06:25:00	"	PC1252H2	"	IC815	
	iG 06:71:00	"	PC1225H	"	IC809,810	
※	iG 07:48:10	"	LM6405A-150	"	IC811	
※	iG 07:58:00	"	NJM78M20A	"	IC816	
※	iG 08:97:00	Bias OSC. Block	100kHz	バイアス発振ブロック	IC818	
※	iG 07:60:00	"	75kHz	"	IC817	
	iG 07:68:00	IC	NJM4558S	I C	IC801~805	
※	iG 08:30:00	Transistor Array	AN90B70	ト ラ ン ジ ス タ ア レ イ	IC812	
※	iG 08:99:00	"	AN90B20	"	IC813	
※	iG 07:74:00	IC	NJM4556S	I C	IC806,807	
	iG 04:25:00	"	NJM4556D	"	IC808	
	LB 20:13:90	2.5 Pitch Base Pin	TEB2P-SHF	2.5ピッチベースピン		
	LB 40:05:70	"	TEB4P-SHF	"		
	LB 91:20:30	Short Plug	3P	シ ョ ー ト プ ラ グ		
	LB 91:20:50	"	5P	"		
	LB 91:20:60	"	6P	"		
	LB 91:21:00	"	10P	"		
	LB 30:07:30	2.5 Pitch Base Pin	TEB3P-SHF	2.5ピッチベースピン		
	BA 08:59:80	Radiator		放 熱 器		
	Ei 03:00:66	Binding Head Tapping Screw	3 \times 6 ZMC2-Y	バ イ ン ド タ ッ ピ ン グ ネ ジ	PACK	

※ New Parts (新規部品)

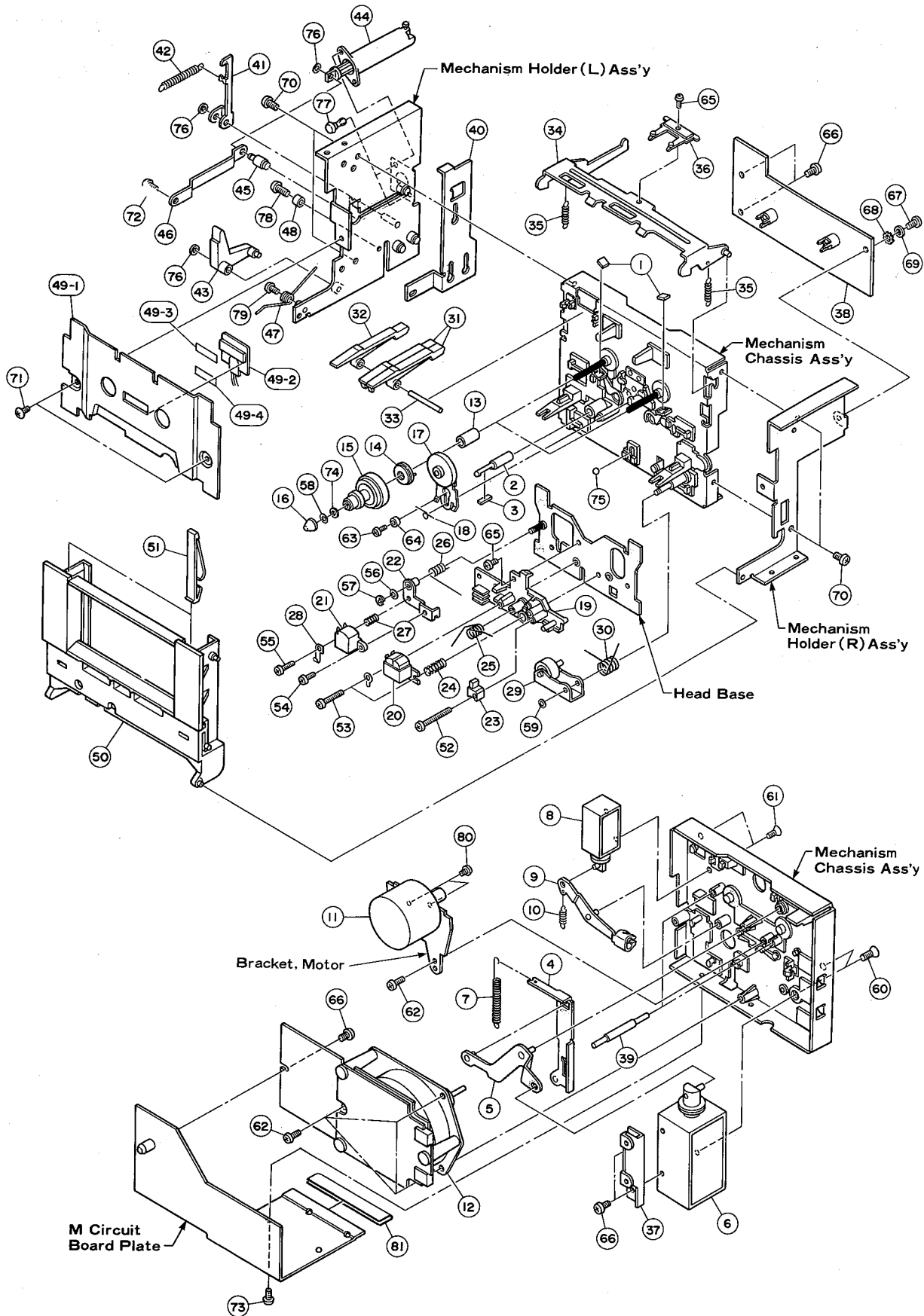
Ref. No.	Part No.				Description	部 品 名	Remarks	Common Model	Markets
*	NA	07	87	60	Relay Circuit Board	中 継 シ ー ト			
	UK	13	72	20	Electrolytic Cap.	22 μ F 16V	B P コ ン	C901	
	iH	00	05	90	Diode	10E-1	ダ イ オ ー ド	D901,902	
	iK	00	03	80	Photo Reflector	NJL5141EA	フ ォ ト リ フ レ ク タ ー	TR901,902	
	KA	60	04	70	Switch	MSW-S209CU	ス ケ ル ト ン ス イ ッ チ	SW901~903	
	LB	91	10	30	Short Plug	3P L-Type	シ ョ ー ト プ ラ グ		
	LB	91	10	40	"	4P L-Type	"		
	LB	91	10	80	"	8P L-Type	"		
	CB	60	95	10	Holder		フ ァ イ バ ー ホ ル ダ ー		
*	JC	00	07	30	D.D Motor	MC950E	D D モ ー タ ー		
	UW	96	54	70	Electrolytic Cap.	0.47 μ F 50V	ケ ミ コ ン	C1,2,4,13	
	UW	86	61	00	"	1 μ F 50V	"	C3	
	UW	83	73	30	"	33 μ F 16V	"	C5	
	FD	21	24	70	Polystyrene Film Cap.	470pF	ス チ コ ン	C6	
	FD	15	34	70	"	0.0047 μ F	"	C7	
	FD	15	42	20	"	0.022 μ F	"	C9,10	
	FT	17	42	20	Polypropylene Film Cap.	0.022 μ F	ポ リ プ ロ ピ レ ン フ ィ ル ム コ ン	C8	
	FH	61	21	50	Ceramic Cap.	150pF	セ ラ コ ン	C11	
	FG	74	42	20	"	0.022 μ F	"	C12	
	HK	15	32	70	Carbon Resistor	2.7 Ω FCR25	カ ー ボ ン 抵 抗	R1	
	HU	57	78	20	Metal Film Resistor	82k Ω	金 属 被 膜 抵 抗	R20	
	HT	41	01	40	Variable Resistor	47k Ω	半 固 定 抵 抗	VR1	
	iX	60	06	80	Transistor	2SA952(K,L)	ト ラ ン ジ ス タ	TR1,2	
	iC	99	01	50	"	2SC2001(K,L)	"	TR3,4	
	iX	60	03	70	"	2SC945(P)	"	TR5,6,10	
	iX	60	13	70	"	2SA733(P)	"	TR7,8,9,11	
	iF	99	04	00	Diode	1SS53	ダ イ オ ー ド	D1~4	
	iX	60	04	80	IC	VC1209	I C	IC1	




* New Parts (新規部品)

EXPLODED VIEW



EXPLODED VIEW (CASSETTE MECHANISM)



In this figure, apply silicone grease to the parts printed 
 apply diamond oil to the parts printed 
 apply molybdate to the parts printed 

CASSETTE MECHANISM PARTS

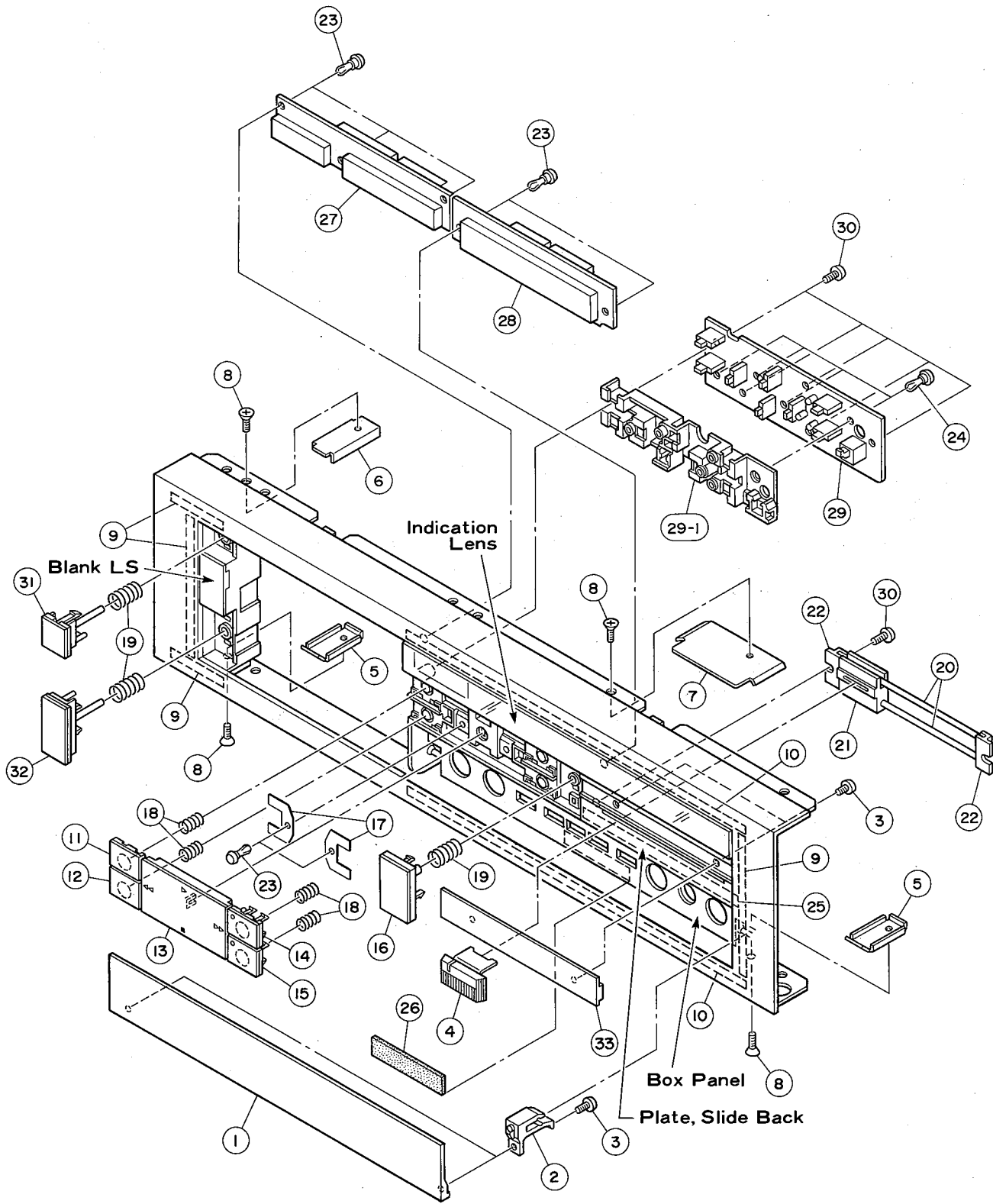
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
※	SM 60 16 00	Cassette Mechanism Ass'y	TM-6B Silver	TM-6B 総組立		
※	SM 60 25 00	"	" Black	"		
1	CC 01 67 80	Felt, Brake		ブレーキフェルト		
2	AA 61 09 80	Shaft, Erase Head Tension		E.Hテンションポスト	K-1000	
3	CC 01 68 90	Felt, Erase Head Tension		E.Hテンションフェルト	K-1000	
4	NB 60 51 80	Coupling Plate Ass'y		ベース連結板Ass'y	K-1000	
5	NB 09 81 50	Link Ass'y		リンク Ass'y		
6	JF 00 03 10	Solenoid, Base	TDS-10E	ベースソレノイド	K-1000	
7	AA 61 09 90	Return Spring		リターンスプリング	K-1000	
8	JF 00 03 50	Solenoid, Brake	TDS-07A	ブレーキソレノイド	K-1000	
9	CB 60 94 80	Lever, Brake		ブレーキレバー	K-1000	
10	AA 61 27 30	Brake Spring		ブレーキスプリング	K-1000	
11	JC 00 07 40	Reel Motor	BFS-7B	リールモーター	K-1000	
※	JC 00 07 30	D.D. Motor	MC-950E	D.Dモーター		
13	AA 61 10 00	B.T Spring		B.TスプリングL	K-1000	
14	NB 09 81 80	B.T Disk Ass'y		B.Tディスク Ass'y		
15	NB 60 52 50	Reel Base Ass'y		リール台 Ass'y	K-1000	
16	CB 09 24 00	Reel Cap		リールキャップ		
17	NB 60 51 90	Idler Ass'y		アイドラ Ass'y	K-1000	
18	AA 61 27 40	Idler Spring		アイドラースプリング	K-1000	
19	CB 61 53 40	Base		支柱台	K-1000	
※	GF 00 02 30	Rec/Playback Combination Head		録再コンビネーションヘッド		
21	GF 00 02 60	Erase Head		消去ヘッド	K-1000	
22	NB 60 52 30	Erase Head Arm Ass'y		消去ヘッドアーム Ass'y	K-1000	
※	GF 00 02 40	Sub Erase Head		サブ消去ヘッド		
24	AA 60 45 10	Spring		アジマススプリング		
25	AA 61 10 50	"		ベース駆動スプリング	K-1000	
26	AA 61 10 60	"		消去ヘッドスプリング	K-1000	
27	AA 61 15 00	"		消去ヘッドアジマススプリング	K-1000	
28	BB 07 01 30	Binding Plate		束線止め	K-1000	
29	NB 60 52 00	Pinch Roller Ass'y		ピンチローラー Ass'y	K-1000	
30	AA 61 10 10	Pinch Roller Spring		ピンチローラーズプリング	K-1000	
31	CB 60 04 80	Lever, Sensor		センサーレバー		
32	CB 61 30 40	"		"	K-1000	
33	BB 06 92 50	Shaft, Sensor		センサーシャフト		
34	NB 60 52 70	Holder Plate Ass'y		押え板 Ass'y	K-1000	
35	AA 61 10 20	Spring		押えスプリング	K-1000	
36	NB 60 18 50	Metal Switch Ass'y		メタルスイッチ Ass'y	K-20	
37	AA 61 29 40	Bracket		基板ブラケット	K-1000	
※	NA 07 87 60	Relay Circuit Board		中継シート		
39	CB 60 95 00	Acrylic Fiber		アクリルファイバー	K-1000	
40	AA 61 28 40	Plate (Eject Operate)		イジェクト作動板	K-1000	
41	AA 61 28 50	Lever, Lock		ロックレバー	K-1000	
42	AA 61 29 30	Spring		ロックレバースプリング	K-1000	
43	CB 61 30 50	Lever, Eject		イジェクトレバー	K-1000	
44	NB 60 78 70	Damper Ass'y		ダンパー Ass'y	K-1000	
45	BB 07 00 10	Shaft, Slide		スライド軸	K-1000	
46	AA 61 28 60	Coupling Plate		イジェクト連結板	K-1000	
47	AA 61 29 10	Spring		イジェクトスプリング	K-1000	
48	CB 61 42 10	Stopper		ストッパー	K-1000	
49-1	AA 61 28 90	Blind Plate Ass'y	Silver	ブラインドプレート	K-1000	
"	AA 61 29 00	"	Black	"	K-1000	
49-2	IF 00 35 70	LED		L E D	K-1000	

※ New Parts (新規部品)

Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
49-3	CB 07 41 90	Adhesive Tape	ダブルタックテープ		K-1000	
49-4	CB 07 42 00	"	"		K-1000	
50	NB 60 52 10	Cassette Guide Ass'y	カセットガイド Ass'y	Silver	K-1000	
"	NB 60 78 80	"	"	Black	K-1000	
51	CB 61 30 90	Half Spring	ハーフ押えスプリング	Silver		
"	CB 61 31 00	"	"	Black		
52	EA 02 02 06	Pan Head Screw	2×20 ZMC2-Y	ナベ小ネジ	PACK	
53	ED 02 01 46	Binding Head Screw	2×14 ZMC2-Y	バインド小ネジ	PACK	
54	ED 02 00 36	"	2×3 ZMC2-Y	"	PACK	
55	ED 02 00 66	"	2×6 ZMC2-Y	"	PACK	
56	EV 90 04 70	Washer	2.6×4.7×0.13	ポリスライダークワッシャー	STW-FT25	
57	EV 50 12 06	E Ring	ETWJ-2	Eリング	PACK	
58	CB 09 08 60	Washer	1.6×3.4×0.25	ポリスライダークワッシャー		
59	CB 60 04 60	"	2.1×4.5×0.5	"		
60	EB 03 00 86	Flat Head Screw	3×8 ZMC2-Y	皿小ネジ	PACK	
61	EB 02 60 46	"	2.6×4 ZMC2-Y	"	PACK	
62	Ei 02 60 80	Binding Head Tapping Screw	2.6×8 ZMC2-Y	バインドタッピングネジ		
63	Ei 02 00 56	"	2×5 ZMC2-Y	"	PACK	
64	EZ 00 14 20	Bush	φ2×2 ZMC2-Y	巻きブッシュ		
65	ED 02 00 46	Binding Head Screw	2×4 ZMC2-Y	バインド小ネジ	PACK	
66	ED 03 00 46	"	3×4 ZMC2-Y	"	PACK	
67	EA 03 00 66	Pan Head Screw	3×6 ZMC2-Y	ナベ小ネジ	PACK	
68	EV 42 00 36	Toothed Lock Washer	M3 ZMC2-Y	歯付き座金	PACK	
69	EV 20 00 36	Plain Washer	φ3 ZMC2-Y	平座金	PACK	
70	Ei 03 00 66	Binding Head Tapping Screw	3×6 ZMC2-Y	バインドタッピングネジ	PACK	
71	EC 12 60 66	Truss Head Screw	2.6×6 FNM3-3g	トラス小ネジ	PACK	
72	Ei 32 60 56	Binding Head Tapping Screw	2.6×5 FCM3-BI	バインドタッピングネジ	PACK	
73	EO 03 00 66	Flat Head Tapping Screw	3×6 ZMC2-Y	皿タッピングネジ	PACK	
74	EV 90 02 10	Washer	2.1×4×0.13	ポリスライダークワッシャー	STW-F-20	
75	EZ 00 19 80	Steel Ball	φ2.5	スチールボール		
76	CB 61 30 60	Washer	2.6×4.7×0.5	ポリスライダークワッシャー		
77	CB 60 92 60	Plastic Rivet		プラスチックリベット		
78	Ei 03 00 86	Binding Head Tapping Screw	3×8 ZMC2-Y	バインドタッピングネジ	PACK	
79	ED 02 60 46	Binding Head Screw	2.6×4 ZMC2-Y	バインド小ネジ	PACK	
80	EA 02 60 36	Pan Head Screw	2.6×3 ZMC2-Y	ナベ小ネジ	PACK	
81	CB 08 01 00	Tape		アセテートテープ	1Roll=30m	
	LA 00 39 80	Ground Lug	2×4.5	アースラグ		
	CB 06 92 50	Binding Tie		インシュロックタイ		

* New Parts (新規部品)

EXPLODED VIEW(FRONT PANEL)

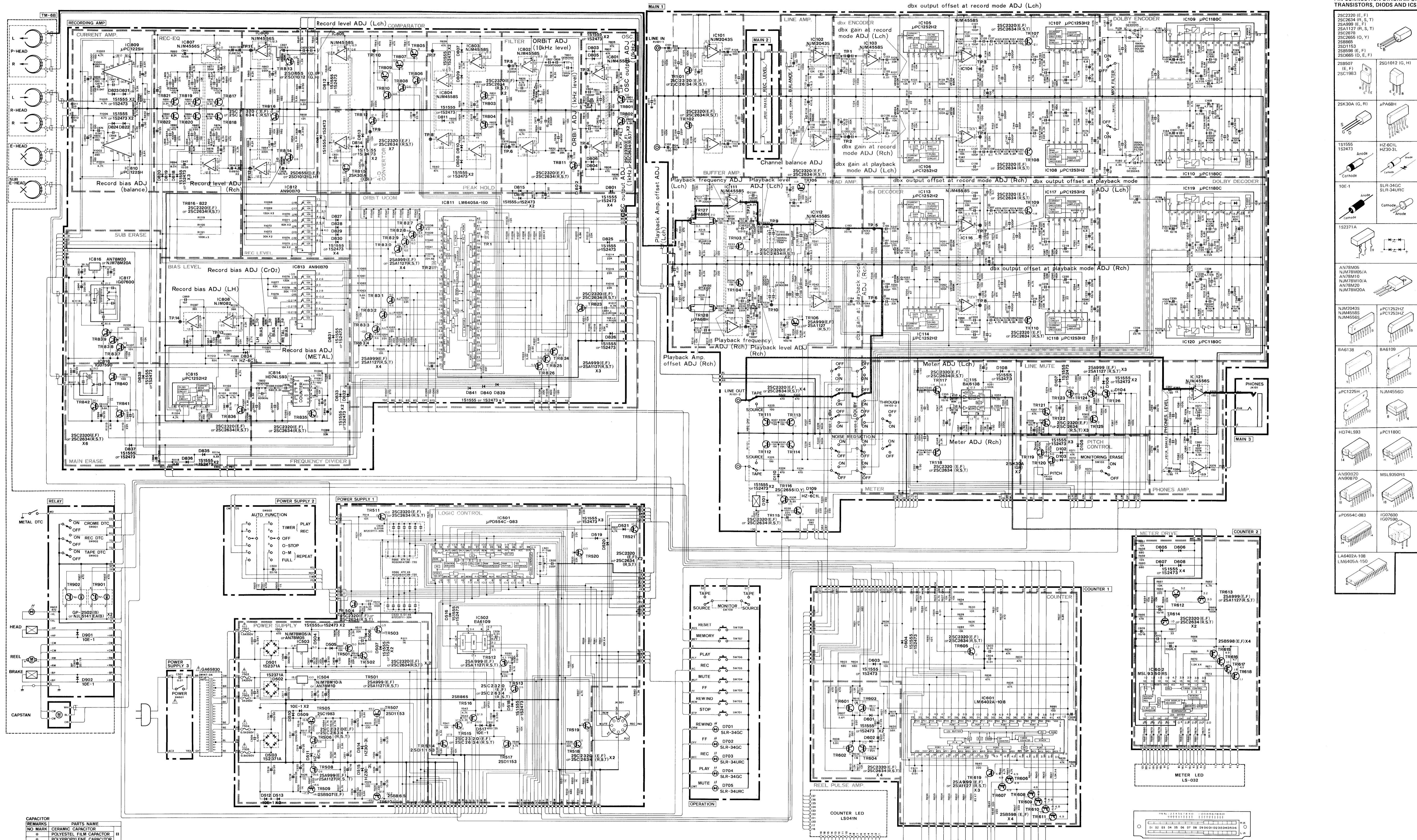


FRONT PANEL PARTS

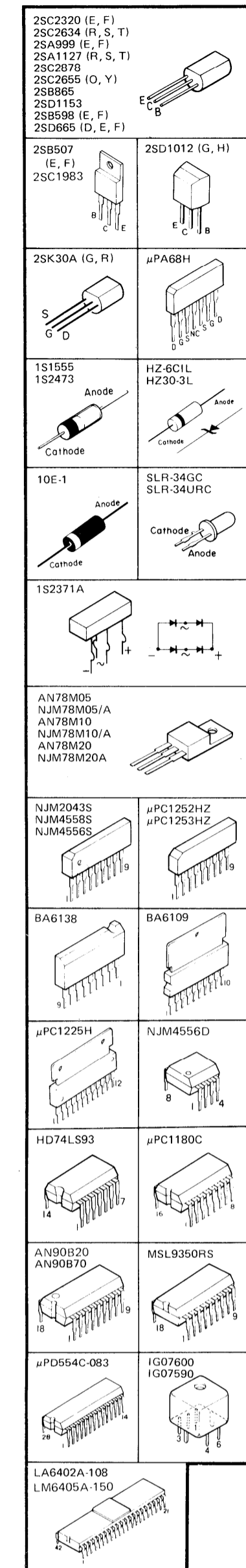
Ref. No.	Part No.	Description	部 品 名	Remarks	Common Model	Markets
※	NB 60:85:00	Panel Unit	Silver	パネルユニット		
※	NB 60:85:40	"	Black	"		
※	1 BA 08:42:50	Siling Panel	Silver	シーリングパネル		
※	" BA 08:42:60	"	Black	"		
	2 CB 61:37:90	Hinge,Door	Silver	ドアーヒンジ		K-1000
	" CB 61:38:00	"	Black	"		K-1000
	3 ED 03:00:50	Binding Head Screw	3×5 ZMC2-Y	バインド小ネジ		
	4 NB 60:83:50	Slide Knob Ass'y	Silver	スライドつまみ Ass'y		K-1000
	" NB 60:83:60	"	Black	"		K-1000
	5 AA 61:37:10	Clamp A		クランプ A		K-1000
	6 AA 61:37:20	Clamp B		クランプ B		K-1000
	7 AA 61:37:30	Clamp C		クランプ C		K-1000
	8 EN 39:00:40	Flat Head Tapping Screw	3×8 FCRM3-B ϕ	皿タッピングネジ		
	9 CB 61:57:70	Adhesive Tape		ダブルタックテープ		
	10 CB 07:41:90	"		"		
	11 NB 60:82:30	Button Ass'y	Silver	ボタン Ass'y	RESET	K-1000
	" NB 60:82:40	"	Black	"	"	K-1000
	12 NB 60:82:50	"	Silver	"	MEMORY	K-1000
	" NB 60:82:60	"	Black	"	"	K-1000
	13 NB 60:82:70	"	Silver	"	OPERATION	K-1000
	" NB 60:82:80	"	Black	"	"	K-1000
	14 NB 60:82:90	"	Silver	"	REC/PAUSE	K-1000
	" NB 60:83:00	"	Black	"	"	K-1000
	15 NB 60:83:10	"	Silver	"	MUTE	K-1000
	" NB 60:83:20	"	Black	"	"	K-1000
※	16 NB 60:83:30	"	Silver	"	MONITOR	
※	" NB 60:83:40	"	Black	"	"	
	17 AA 61:37:00	Leaf Spring		リーフスプリング	OPERATION	K-1000
	18 AA 61:36:80	Spring	ϕ 6	スプリング		K-1000
	19 AA 61:36:90	"	ϕ 8	"		K-1000
	20 AA 61:36:70	Slide Shaft		スライドシャフト		K-1000
	21 CB 61:38:10	Slider		スライダ		K-1000
	22 CB 61:38:20	Shaft Holder		シャフトホルダー		K-1000
	23 CB 60:88:10	Plastic Rivet		プラスチックリベット		
	24 CB 06:88:80	"		"		
	25 CB 07:42:00	Adhesive Tape		ダブルタックテープ		
	26 CB 61:71:10	Anti-Vibration Rubber		防振ゴム		K-1000
※	27 NA 08:05:80	Indication LED	2SLS041-3	インジケーションLED	Silver	
※	" NA 08:05:90	"	2BLS041-2	"	Black	
	28 NA 08:06:00	LED Meter	SLS032-S	LEDメーター	Silver	K-1000
	" NA 08:06:10	"	BLS032-B	"	Black	K-1000
※	29 NA 08:01:70	Operation Circuit Board		オペレーションシート		
※	29-1 CB 61:36:50	Holder		ホルダー		K-1000
	30 EN 03:00:20	Binding Head Tapping Screw	3×8 ZMC2-Y	バインドタッピングネジ		
	31 NB 60:81:90	Button Ass'y	Silver	ボタン Ass'y	POWER	K-1000
	" NB 60:82:00	"	Black	"	"	K-1000
	32 NB 60:82:10	"	Silver	"	EJECT	K-1000
	" NB 60:82:20	"	Black	"	"	K-1000
※	33 BA 08:43:30	Blank Panel	Silver	ブランクパネル		
※	" BA 08:43:40	"	Black	"		

※ New Parts (新規部品)

SCHEMATIC DIAGRAM



PIN CONNECTION DIAGRAM OF TRANSISTORS, DIODES AND ICs.

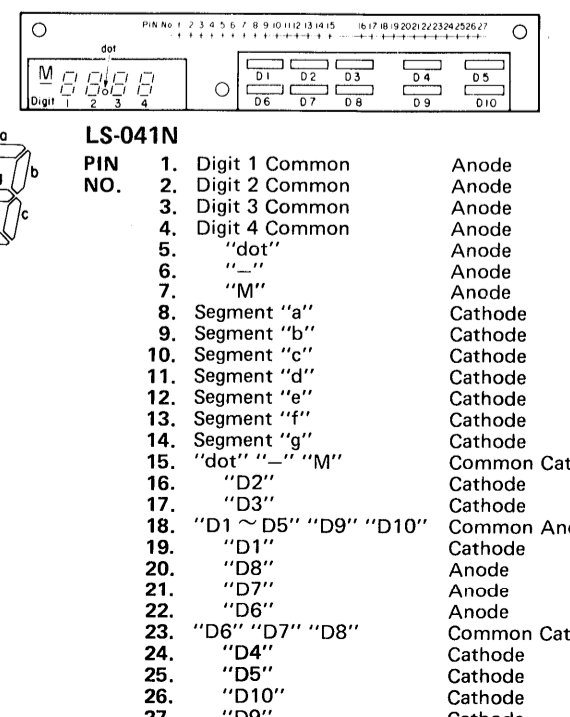


CAPACITOR

REMARKS	PARTS NAME
NO MARK	CERAMIC CAPACITOR
⊖	POLYESTER FILM CAPACITOR
⊕	POLYPROPYLENE CAPACITOR
NO MARK	ELECTROLYTIC CAPACITOR

RESISTOR

REMARKS	PARTS NAME
NO MARK	CARBON FILM RESISTOR
⊖	METAL OXIDE FILM RESISTOR
⊕	SEMI VARIABLE RESISTOR



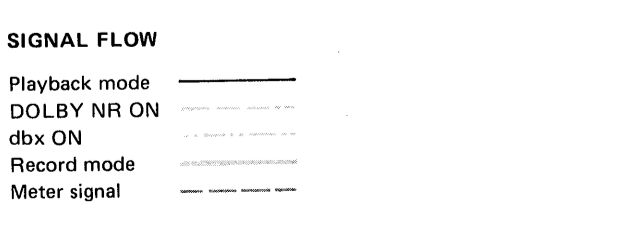
LS-032

PIN NO.	Segment	Common
1	D1 D8 Lch	Anode
2	D1 D8 Hch	Anode
3	D9 D16 Lch	Anode
4	D9 D16 Hch	Anode
5	D1	Cathode
6	D2	Cathode
7	D3	Cathode
8	D4	Cathode
9	D5	Cathode
10	D6	Cathode
11	D7	Cathode
12	D8	Cathode
13	D9	Cathode
14	D10	Cathode
15	D11	Cathode
16	D12	Cathode
17	D13	Cathode
18	D14	Cathode
19	D15	Cathode
20	D16	Cathode

This schematic diagram is for U.S. and Canadian models. The following parts and values differ from each model, so refer to the corresponding column.

	U. C.	R. A.	G. B.
F501	1.5A 250V	T1.5A 250V	T1.6A 250V
F502, 503	2A 250V	T2A 250V	T2A 250V
F504, 505	0.5A 250V	T0.5A 250V	T400mA 250V

* Schematic diagram is subject to change without notice.
 * All voltages are measured with a 10MΩ/DC electric voltmeter.
 * The voltages are measured by METAL tape at PLAY mode.



WARNING
 UL Standard 1270 requires that components marked with a triangle be replaced with parts having specifications equal to those originally installed.

K-2000

YAMAHA
