DENON

SH

Hi-Fi Stereo Cassette Tape Deck

SERVICE MANUAL

MODEL DR-M07

STEREO CASSETTE TAPE DECK

CONTENTS

NIPPON COLUMBIA CO., LTD.

220

SPECIFICATIONS

Model:	Vertical 4 track 2 channel stereo cassette tape deck
Used Head:	Recording and playback head x 1 (Hard parmalloy) Erasing head x 1 (Double gap ferrite)
Used Motor:	DC servo motor
Tape Speed:	4.8 cm/sec
Signal to Noise Ratio:	(for T.H.D. 3% level) a metal tape is used Dolby NR switch is turned off: more than 55 dB with Dolby NR B-Type: more than 64 dB with Dolby NR C-type: more than 73 dB
Total Frequency Characteristics:	20 ~ 17,000 Hz (–20 dB), for Metal Tape 20 ~ 16,000 Hz (–20 dB), for CrO_2 Tape 20 ~ 16,000 Hz (–20 dB), for Normal Tape
Channel Separation:	Over 45 dB (1 kHz)
Crosstalk:	Over 65 dB (1 kHz)
Wow and Fluttering:	0.057% wrms.
Input:	
Line:	100 mV at the maximum of input volume Unbalanced input impedance: 50 k ohm
Output:	
Line:	580 mV at 47 k ohm loading:
Headphone:	0.5 mW (proper loading impedance: 8 ohm ~ 2 k ohm output volume at Maximum)
Power Source:	AC 120 Volts, 60 Hz (for America, Canada) AC 110/120/220/240 Volts, 50/60 Hz (for Asia) AC 220 Volts, 50 Hz (for Europe) AC 240 Volts, 50 Hz (for United Kingdom, Australia, New Zealand)
Power Consumption:	12 W
Outer Dimensions:	434 (W) x 110 (H) x 236 (D) mm (including Foot and Knob)
Weight:	3.7 kg

Design and specification subject to change without notice.

NOTE: The following codes correspond to the appropriate models.
E1 for Asia, E2 for Europe, EA for Australia, New Zealand, EK for U.K., EU for U.S.A. and EC for Canada.
This Service Manual is prepared based on E2 Black Version.

DESIGNATIONS AND FUNCTIONS OF PANEL CONTROLS

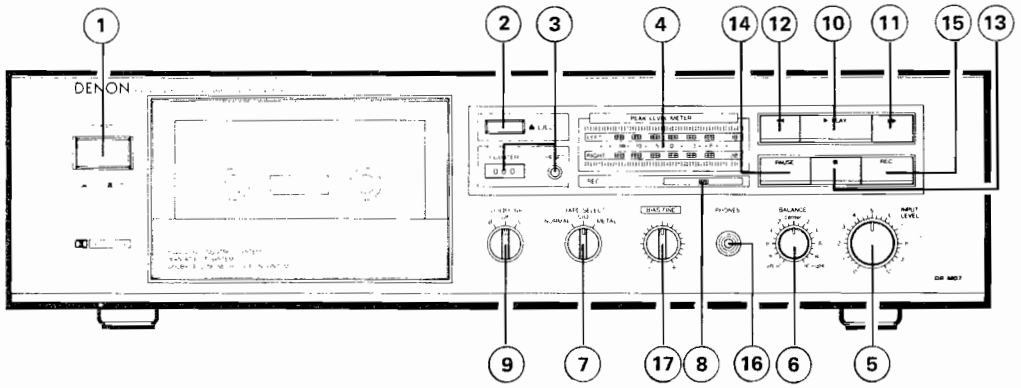


Fig. 1

① POWER (Power Switch)
② EJECT (Eject Button)
③ TAPE COUNTER (Tape Counter & Reset Button)
④ LEVEL INDICATOR
⑤ INPUT LEVEL (Recording Input Level)
⑥ BALANCE (Balance Volume)
⑦ TAPE SELECTOR (Tape Selector Switch)
⑧ REC (Record Indicator)
⑨ DOLBY NR (Dolby Noise Reduction B/C-Type Selector Switch)
⑩ ▶ (Play Button)
⑪ ▶▶ (Fast Forward Button)
⑫ ◀◀ (Rewind Button)
⑬ ■ (Stop Button)
⑭ PAUSE (Pause Button)
⑮ REC (Record Button)
⑯ PHONES (Headphone Jack)
⑰ BIAS FINE (Bias Fine Volume)

LEVEL DIAGRAM

Record

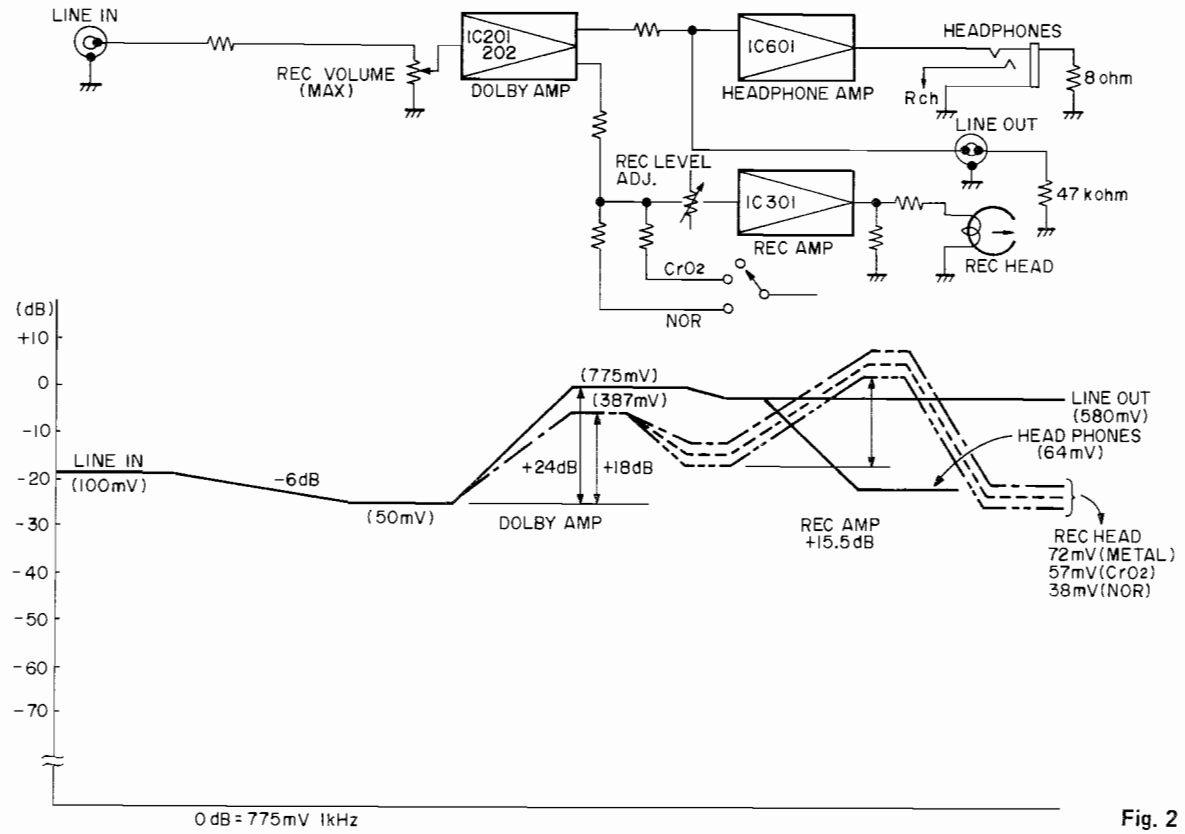


Fig. 2

Playback

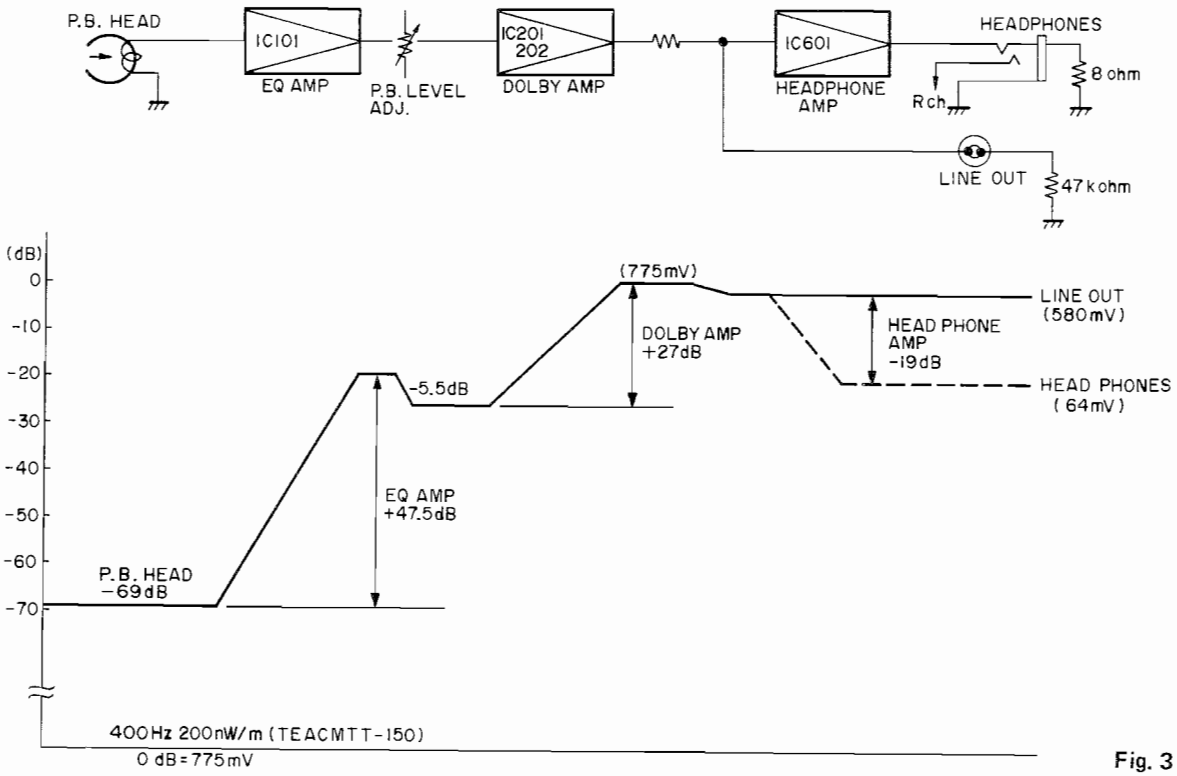


Fig. 3

BLOCK DIAGRAM . . . for L ch.

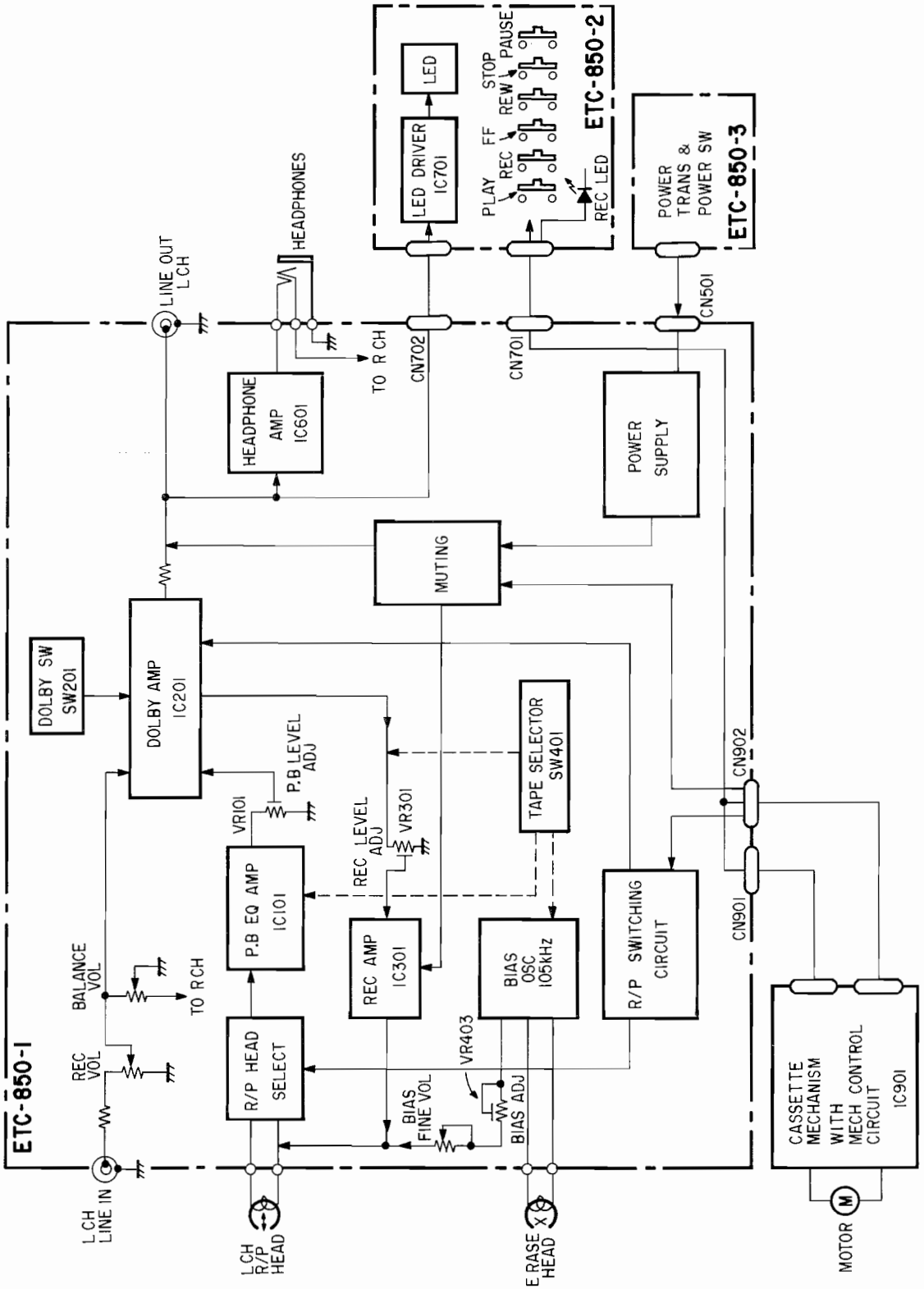


Fig. 4

REMOVAL OF EACH SECTION

1. **How to remove top cover**
   Remove 4 screws.

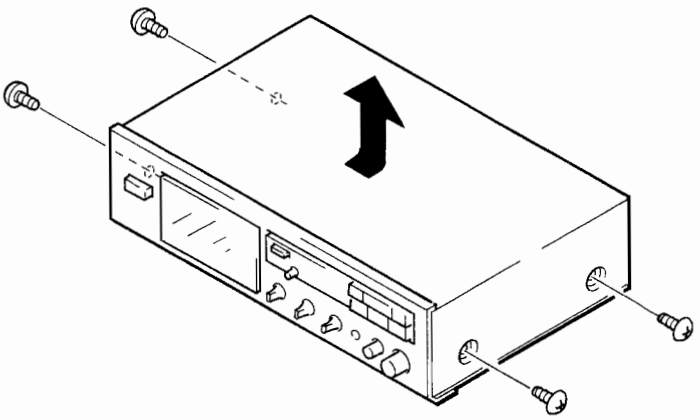


Fig. 5

2. **How to remove bottom cover**
   Remove 3 screws.

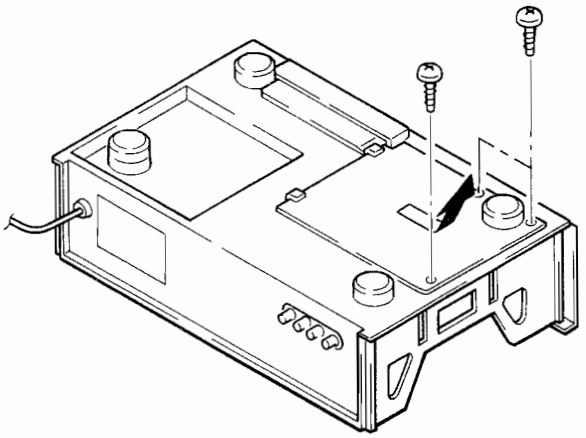


Fig. 6

3. **How to remove front panel**
   Remove 3 screws, then push 3 nails of chassis downward and remove.

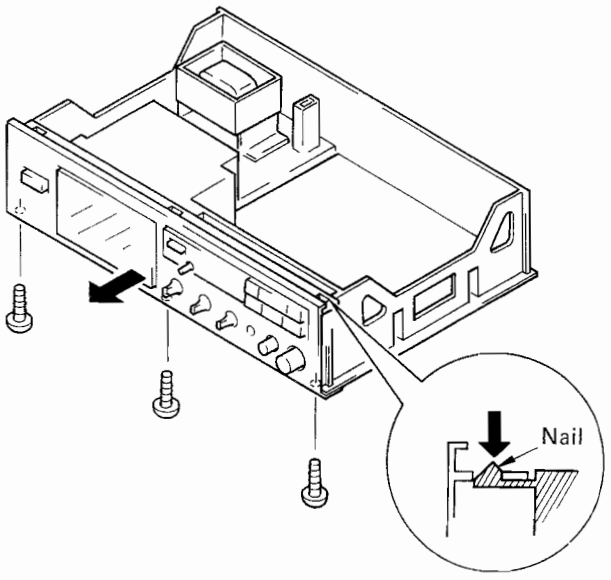


Fig. 7

4. **How to remove cassette window**
   Turn as arrow directioned.

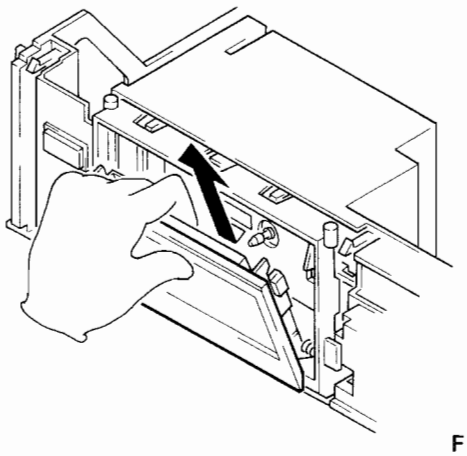


Fig. 8

5. **How to remove control panel and cassette mecha.**

- Remove 6 nails of control panel by pushing.
- Remove 2 screws of mecha cover.
- Remove 2 connector wires of cassette mecha.
- Remove head wire of cassette mecha.
- Remove 4 screws of cassette mecha.

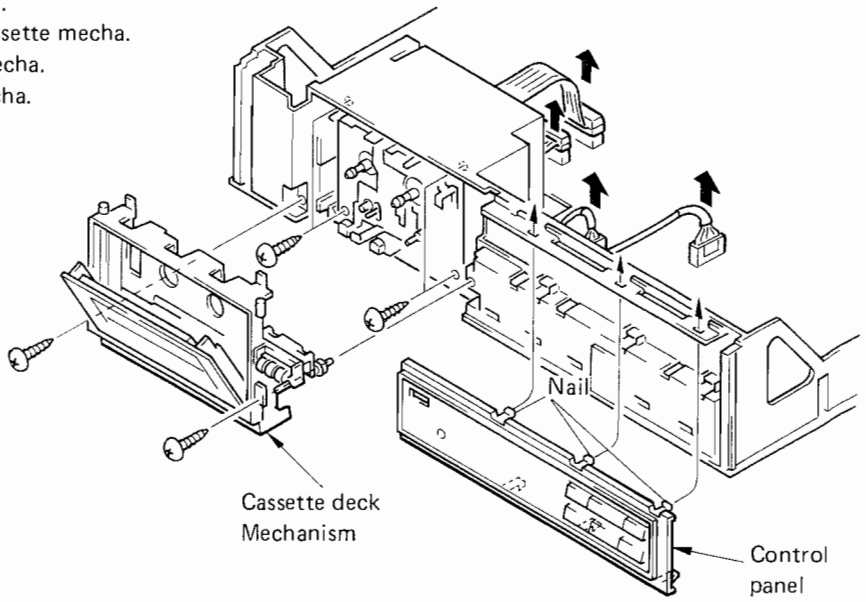


Fig. 9

6. **How to assemble cassette knob cap**

- Insert the down side slit of the knob cap into the nail of the control panel.
- Insert the upper side slit of the knob cap into the nail of the control panel.

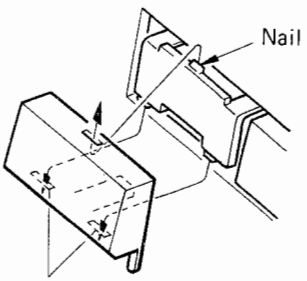


Fig. 10

7. How to remove P.W.B. unit.

- Remove knob.
- Remove connector wire of the display P.W.B..
- Remove 2 screws of back panel.
- Remove 3 nails of back panel.
- Remove connector wire of the transformer.
- Remove 3 front nails of chassis sliding the P.W.B. unit a little backwardly.
- Pull the P.W.B. unit as the arrow direction.

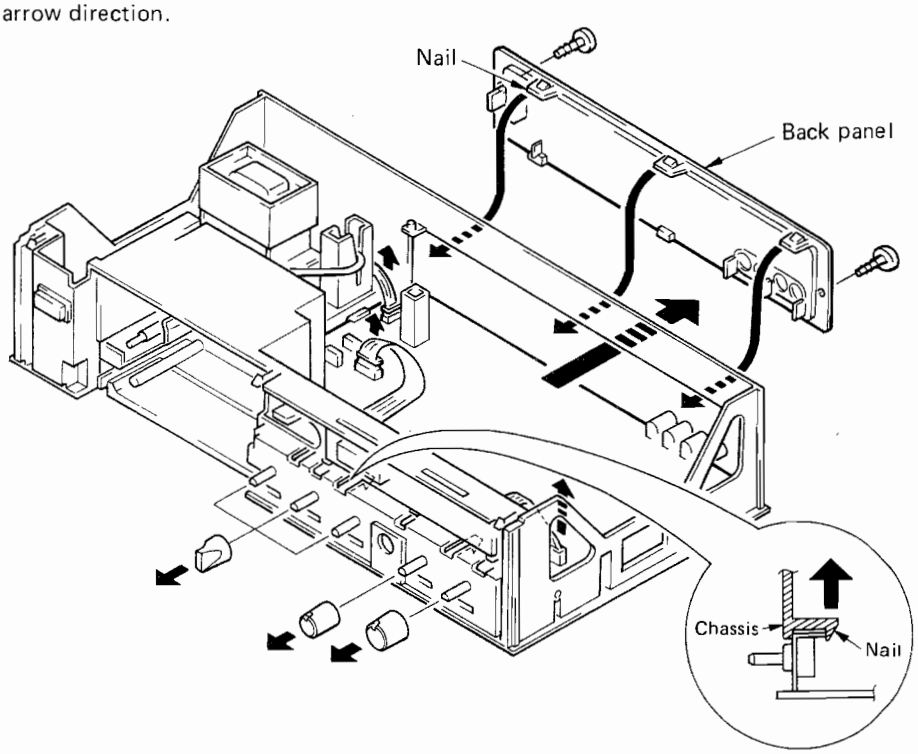


Fig. 11

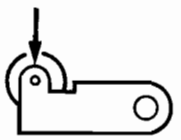
METHOD OF ADJUSTMENT

[I] SPECIFICATIONS FOR MECHANICAL PARTS

Table 1

Item	Standard	Remarks
Winding torque (PLAY)	30 ~ 60 gcm	SONY (TW-2111)
FF. REW torque	65 ~ 125 gcm	SONY (TW-2231)
Back tension torque	1 ~ 5 gcm	SONY (TW-2111)
Pinch roller pressure	160 ~ 260 g	Note 1
FF. REW duration	within 120 seconds	C-60

Note: 1. Measurement for pinch roller pressure



Press the tension gauge in the direction shown by an arrow in the playback mode, and read the value when the pinch roller stops rotating.

Fig. 12

[II] SPECIFICATIONS FOR ELECTRICAL PARTS

- **Preparation for measurement**

1. Measuring Tools Required for Adjustment
   - * Screwdriver for adjustment: small regular screwdriver for adjusting the semi-fixed volume control
   - * Low-frequency oscillator
   - * Attenuator
   - * V.T.V.M.
   - * Oscilloscope
   - * Frequency counter
   - * Test Tape (TEAC MTT-111, MTT-114, MTT-150, DENON HD-7, or equivalent)
   - * Digital voltmeter

- **Precautions for Adjustment**

   (1) Before adjustment, clean the head surface, capstan shaft, and pinch roller with a soft cloth dampened with alcohol.
   (2) Demagnetize the recording head and the erasing head with a head demagnetizer.
   (3) Demagnetize the screwdriver used for adjustment.
   (4) Set the recording input level to the maximum (i.e., turn the volume control clockwise.)
   (5) Set the Balance Volume, Bias Fine Volume to the center.
   (6) Use LINE IN as the input, and LINE OUT as the test points (refer to Fig. 19 for further details). Set the switches as follows, if not otherwise specified.

DOLBY NR switch: OFF
TAPE SELECTOR switch: NOR

1. Playback Adjustment

1-1 Azimuth Adjustment

Playback the test tape (TEAC MTT-114). Set the azimuth adjusting screw so as to set A to the maximum and B to the minimum in accordance with the Lissajous' figure.

(Some oscilloscopes may be of the model in which A and B are reversed. Be sure to check that the phase of the signal in the left channel is the same as that in the right channel.)

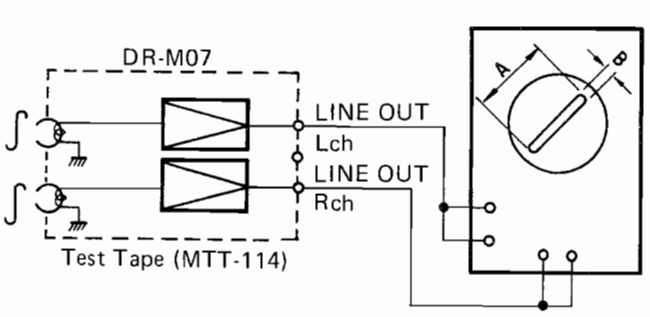


Fig. 13

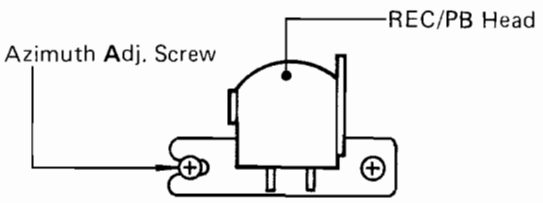


Fig. 14

1-2 Tape Speed Checking and Adjustment (Fig. 15, 16)

Connect the digital counter to the test point and playback the test tape (TEAC MTT-111). When stable tape driving is established, insert a bladed screwdriver into a speed adjustment hole at the back of the motor and adjust the frequency to $3{,}000\,^{+6}_{-12}$ Hz. After adjustment, seal the hole with a piece of polyester tape.

1-3 Playback Level Adjustment

Playback the Dolby reference level tape (TEAC MTT-150) and set the levels of VR101 (for left channel) and VR102 (for right channel) so that the voltmeter reads –2.5 dBm (580 mV) with 47 kΩ Load at LINE OUT.

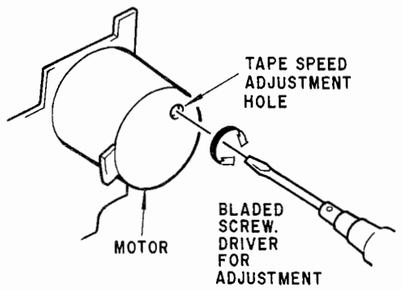


Fig. 15

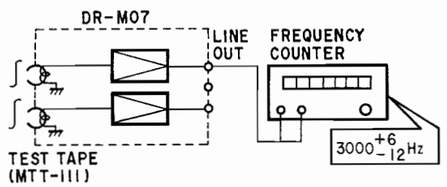


Fig. 16

2. Recording Adjustment

2-1 Total Frequency Characteristic Adjustment for Recording and Playback

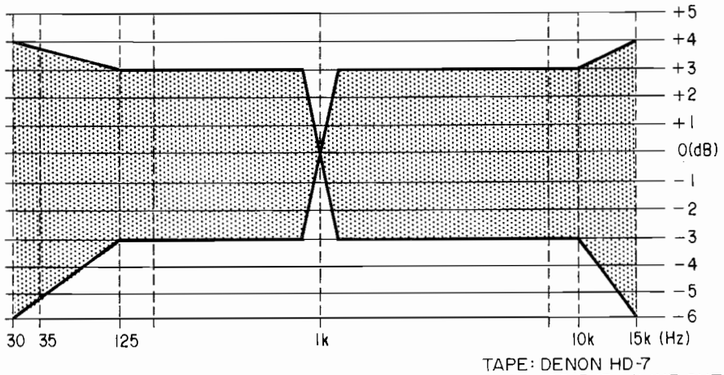
Set the TAPE SELECTOR switch to the CrO_2 position and mount the tape (DENON HD-7) C-60 for adjustment 1 kHz and 10 kHz signals are recorded and played back in order to set outputs to –22.5 dBm (58 mV) at LINE OUT. Adjust the output level in response to 1 kHz input signal to be approximately equal to the output level in response to the 10 kHz input signal. If the output level of 10 kHz signal is higher than that of 1 kHz signal, turn VR403 (for left channel) and VR404 (for right channel) in the counterclockwise direction. However, if the output level of 1 kHz signal is higher than the output level of 10 kHz signal, turn them in the clockwise direction.

2-2 Recording Level Adjustment

Set the TAPE SELECTOR switch to the CrO_2 position and mount the tape (DENON HD-7) for adjustment. When a signal of 400 Hz (–22.5 dBm) is recorded and playback, adjust VR301 (for left channel) and VR302 (for right channel) so that the digital voltmeter reads the same voltage in recording and playback.

* With the above adjustment, other TAPE SELECTOR switch positions are automatically adjusted.

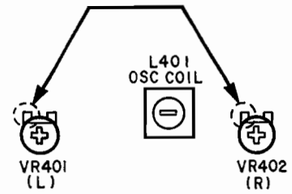
Total Frequency Characteristics for Recording and Playback



TAPE: DENON HD-7
0 dB = -22.5 dBm (LINE OUT)
TAPE SELECT: CrO2
DOLBY NR: OFF

Fig. 17

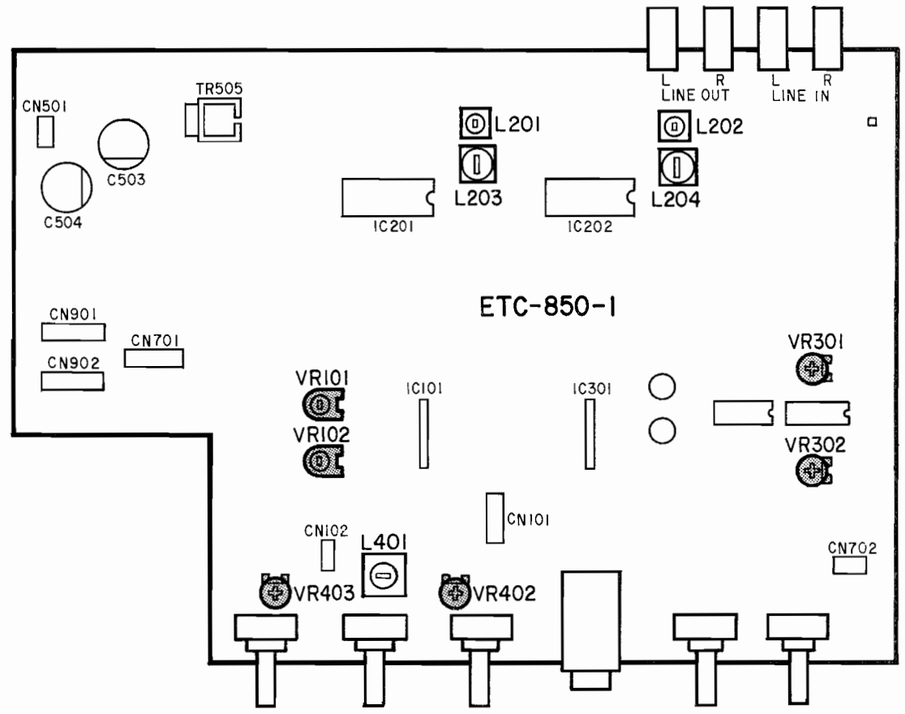
- When the OSC (oscillation) coil L401 is replaced, connect the frequency counter between VR403 (for left channel) and GND or between VR404 (for right channel) and GND. Adjust the OSC coil so that the frequency counter reads 105 ± 2 kHz and repeat items 2-1 and 2-2.



Connect one of the terminal to the positive terminal of the frequency counter.

Fig. 18

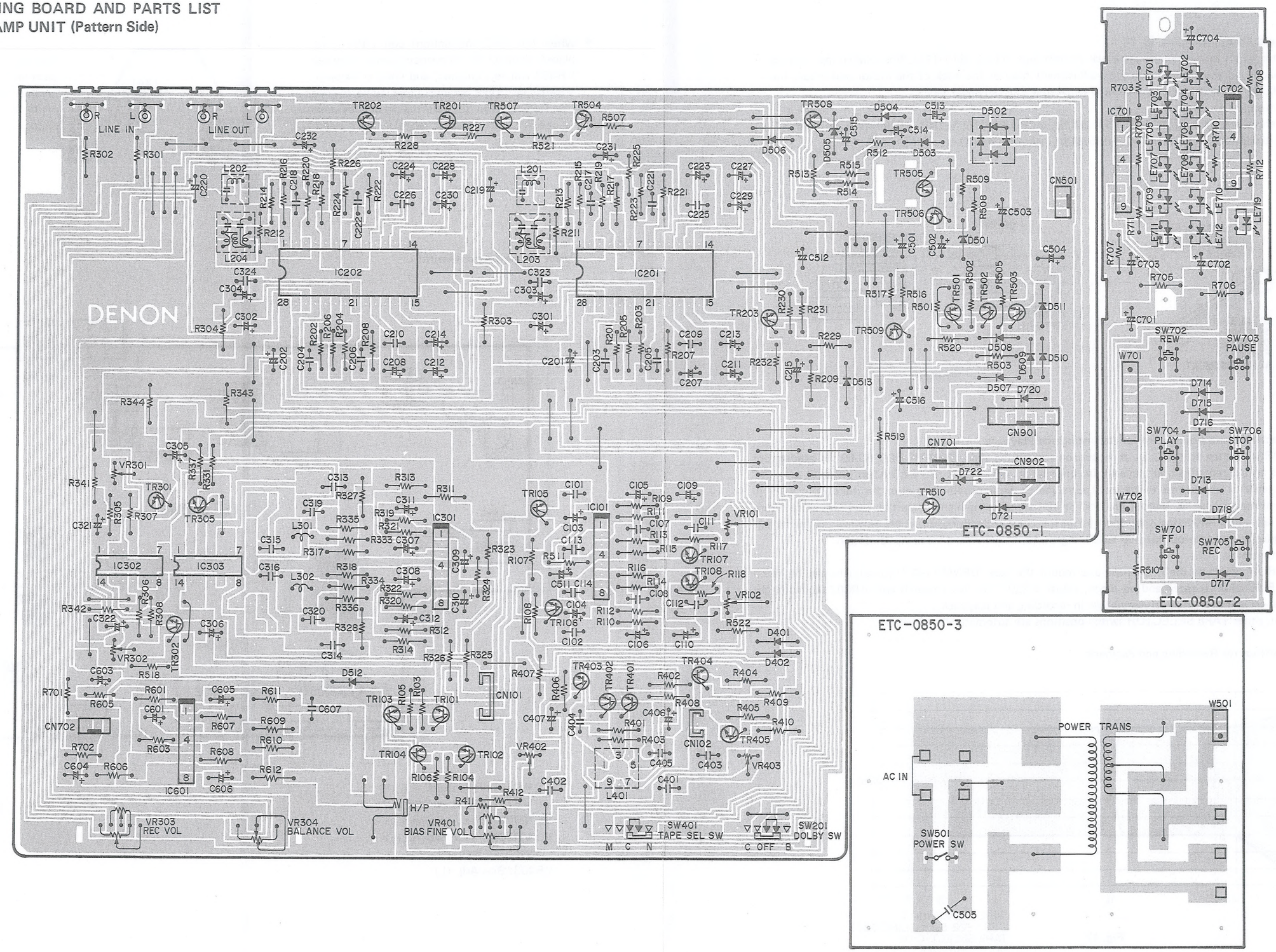
View for Adjustment Points



VR101: P.B. Level Adj. (L)
VR102: P.B. Level Adj. (R)
VR301: Rec. Level Adj. (L)
VR302: Rec. Level Adj. (R)
VR401: Bias Adj. (R)
VR403: Bias Adj. (L)

Fig. 19

PRINTED WIRING BOARD AND PARTS LIST
ETC0850 R/P AMP UNIT (Pattern Side)



ETC0850 R/P AMP UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions	
SEMICONDUCTORS			
IC101	2630434002	LA3161 (Sanyo)	IC
IC201,202	2630353002	TEA0665 (TEXAS)	IC
IC301	2630189001	M5218L (Mitsubishi)	IC
IC302,303	2620276005	HD14066BP (Hitachi)	IC
IC601	2630189001	M5218L (Mitsubishi)	IC
IC701,702	2630221008	LB1403N (Sanyo)	IC
TR101 ~104	2370187039	2SC2240(BL)/(GR)	Transistor
TR105 ~108	2730021043	2SC458(D)	Transistor
TR201, 202	2740038000	2SD467(C)	Transistor
TR203	2730021043	2SC458(D)	Transistor
TR301 ~305	2730178022	2SC1740(S)/(R)	Transistor
TR401, 402	2730111050	2SC1213A(C)	Transistor
TR403, 404	2740038000	2SD467(C)	Transistor
TR405	2730021043	2SC458(D)	Transistor
TR501	2710094032	2SA970(BL)/(GR)	Transistor
TR502 ~504	2730021043	2SC458(D)	Transistor
TR505	2740065044	2SD880(Y)/(GR)	Transistor
TR506	2730021043	2SC458(D)	Transistor
TR507	2710179009	2SA564A(Q/R)	Transistor
TR508, 509	2730021043	2SC458(D)	Transistor
D401~404	2760049008	1S2076	Diode
D501	2760249015	HZ18-3	Zener
D502	2760446009	PB103M	Diode
D503,504	2760049008	1S2076	Diode
D505	2760173039	HZ6B-2	Zener
D506~511	2760049008	1S2076 or IN4148	Diode
D713~718	2760049008	1S2076 or IN4148	Diode
D720,721	2760049008	1S2076 or IN4148	Diode
D722	2760249015	HZ18-3	Zener
LE701 ~708	3939356000	LT9233(GR)	LED
LE709 ~712	3939173005	LT9213R(RD)	LED
LE719	3939173005	LT9213R(RD)	LED

RESISTORS (not included Carbon Film ±5%, 1/4W Type)					
⚠R402,403	2412313082	4.7 ohm	±5%	1/4W	Carbon Film (FR)
⚠R408	2412313082	4.7 ohm	±5%	1/4W	Carbon Film (FR)
VR101, 102	2116000073	Semi Fixed Resistor 20k ohm			
VR301, 302	2116048022	Semi Fixed Resistor 10k ohm			
VR303, 304	2110482008	Variable Resistor 100k ohm			
VR401, SW201, 401	2190003009	V-Switch 100k ohm			
VR402, 403	2116048019	Semi Fixed Resistor 47k ohm			

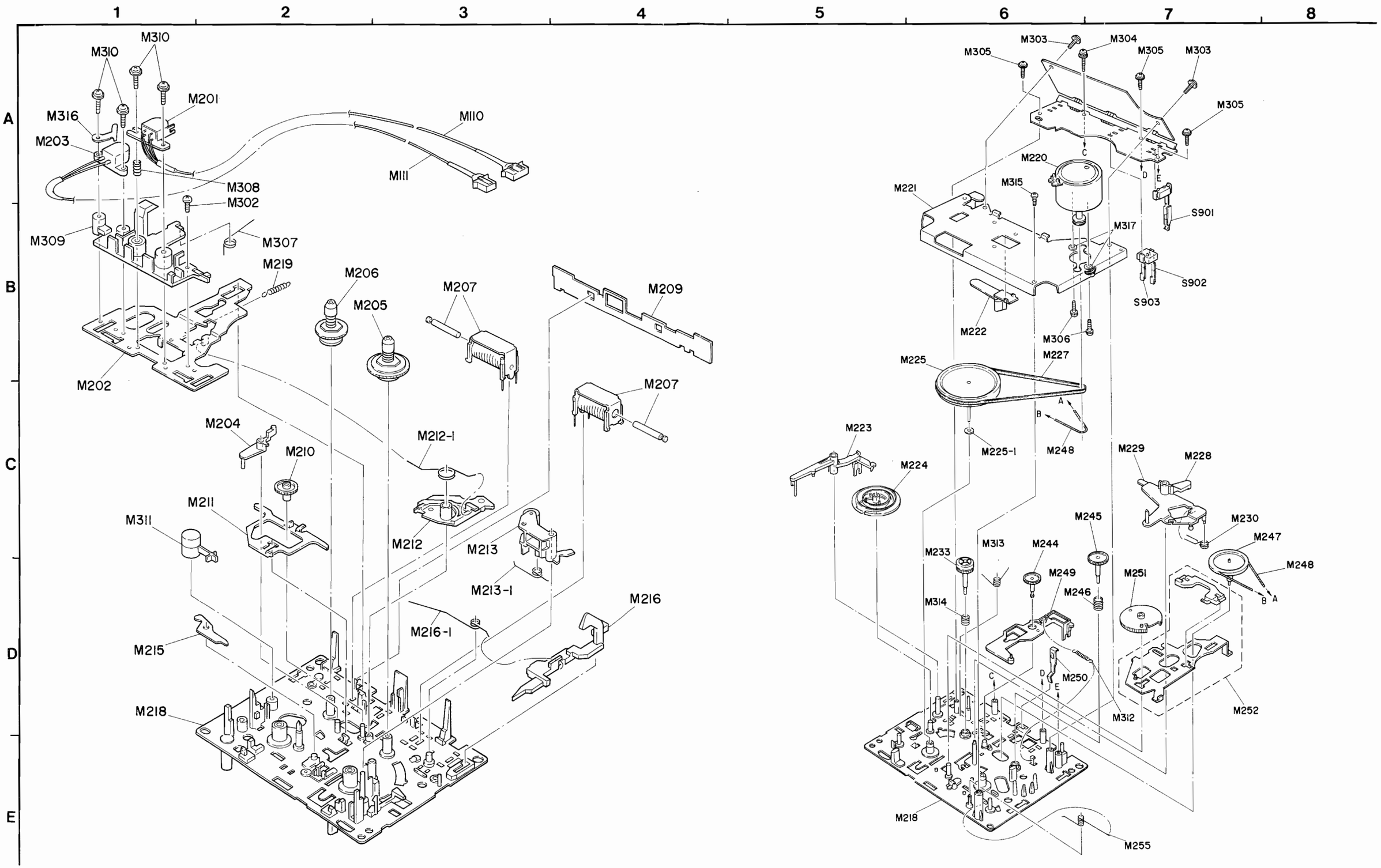
CAPACITORS					
C101,102	2531055027	820pF	±10%	50V	Ceramic
C103,104	2544237000	10μF		16V	Electrolytic
C105,106	2544233020	100μF		6.3V	Electrolytic
C107,108	2551135082	0.027μF	±5%	50V	Plastic Film
C109,110	2544239011	10μF		25V	Electrolytic
C111,112	2551140035	0.018μF	±5%	50V	Plastic Film
C113,114	2533627000	100pF	±5%	50V	Ceramic
C201,202	2544243010	1μF		50V	Electrolytic
C203,204	2551134025	0.01μF	±5%	50V	Plastic Film
C205,206	2551134041	0.047μF	±5%	40V	Plastic Film

Ref. No.	Part No.	Part Name & Descriptions			
C207,208	2544237000	10μF		16V	Electrolytic
C209,210	2551021002	0.047μF	±10%		
C211,212	2544228029	0.22μF		16V	Electrolytic (Low Leak)
C213,214	2544228058	0.68μF		16V	Electrolytic (Low Leak)
C215,216	2544237000	10μF		16V	Electrolytic
C217,218	2551140006	0.001μF	±5%	50V	Plastic Film
C219,220	2544237055	220μF		16V	Electrolytic
C221,222	2551140022	0.0047μF	±5%	50V	Plastic Film
C223,224	2544237000	10μF		16V	Electrolytic
C225,226	2551021002	0.047μF	±10%	50V	Plastic Film
C227,228	2544228029	0.22μF		50V	Electrolytic (Low Leak)
C229,230	2544228058	0.68μF		50V	Electrolytic (Low Leak)
C231,232	2544237000	10μF		16V	Electrolytic
C301,302	2544243010	1μF		50V	Electrolytic
C303,304	2544237000	10μF		16V	Electrolytic
C305,306	2544243007	0.47μF		50V	Electrolytic
C307~310	2544235028	47μF		10V	Electrolytic
C311,312	2549014005	0.1μF		50V	Electrolytic
C313,314	2539030015	0.0015μF	±10%	25V	Ceramic
C315,316	2539033096	0.012μF	±10%	25V	Ceramic
C319,320	2539030031	0.0033μF	±10%	25V	Ceramic
C323,324	2531024003	0.01μF	+80,−20%	50V	Ceramic
C401,402	2533635005	220pF	±5%	50V	Ceramic
C403	2554078023	0.0033μF	±5%	100V	Plastci Film
C404	2551011009	0.0068μF	±10%	50V	Plastic Film
C405	2551017003	0.022μF	±10%	50V	Plastic Film
C406	2544241012	10μF		35V	Electrolytic
C407	2544235034	100μF		10V	Electrolytic
C408	2531024003	0.01μF	+80,−20%	50V	Ceramic
C501	2544239053	100μF		25V	Electrolytic
C502	2544239040	47μF		25V	Electrolytic
C503	2544241083	470μF		35V	Electrolytic
C504	2544237084	1000μF		16V	Electrolytic
⚠C505	2538014003	0.01μF	±20%	250V(AC)	Ceramic
C511	2544239040	47μF		25V	Electrolytic
C512	2544239066	220μF		25V	Electrolytic
C513	2544241012	10μF		35V	Electrolytic
C514	2544237026	33μF		16V	Electrolytic
C515	2544174021	47μF		10V	Electrolytic
C516	2544237000	10μF		16V	Electrolytic
C601,602	2544237000	10μF		16V	Electrolytic
C603,604	2544243010	1μF		50V	Electrolytic
C605,606	2544237026	33μF		16V	Electrolytic
C701,702	2544243010	1μF		50V	Electrolytic
C703,704	2544243023	2.2μF		50V	Electrolytic

E.U.P			Q'ty
⚠SW501	2124409006	Power Switch	1
SW701 ~706	2124407008	Tact Switch	4
L201,202	2350031002	Inductor	2
L203,204	2320105007	Dolby Filter	2
L301,302	2350032001	Inductor	2
L401	2318059107	105kHz OSC Coil	1
	2048167013	Headphone Jack	1
	2048192020	Pin Jack	4

Ref. No.	Part No.	Part Name & Descrptions	Q'ty
OTHER PARTS			
	2221364206	(P.W. Board)	1
	2090008120	Jumper Wire P=10mm	48
	EP-5667H1	Terminal Pin	3
	1460845008	LED Holder	1
	4170275004	Radiator	1
	4730354019	Tapping Screw (2) 3x8	1
⚠*	2335563003	Power Trans	1
	2050271036	3PPH Connector Base	1
	2050271052	5P Connector Base	1
	2050190036	3P NH Connector Base	2
	2050190065	6P Connector Base	1
	2050190078	7P Connector Base	1
	2050190081	8P Connector Base	1
	2034348008	3P Connector Cord	1
	2042184005	8P Connector Cord	1
	2040174004	6P Connector Cord	1
	2042183006	7P Connector Cord	1

CASSETTE MECHANISM EXPLODED VIEW

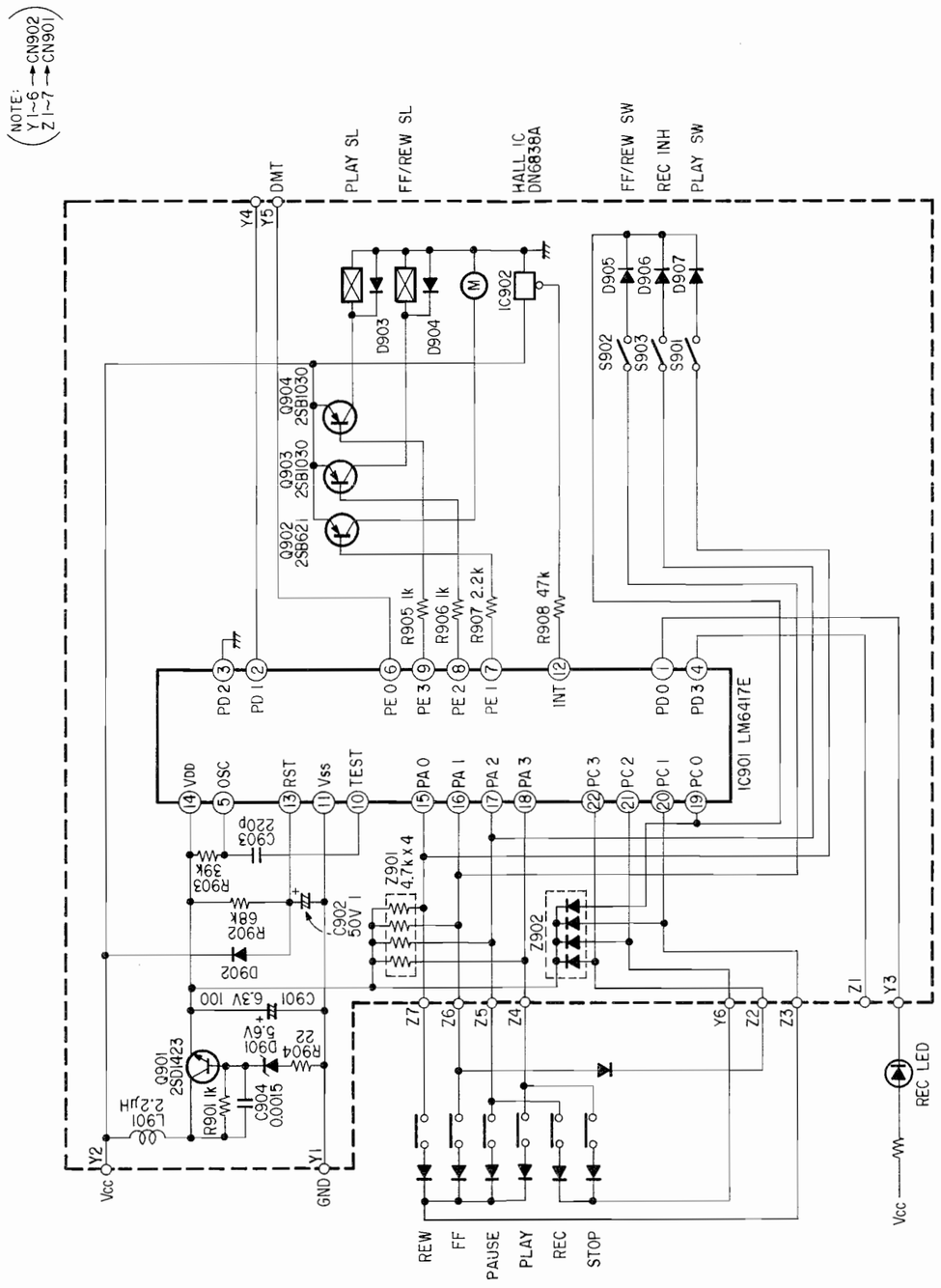


CASSETTE MECHANISM EXPLODED VIEW OF PARTS LIST (Part No. 3380104005)

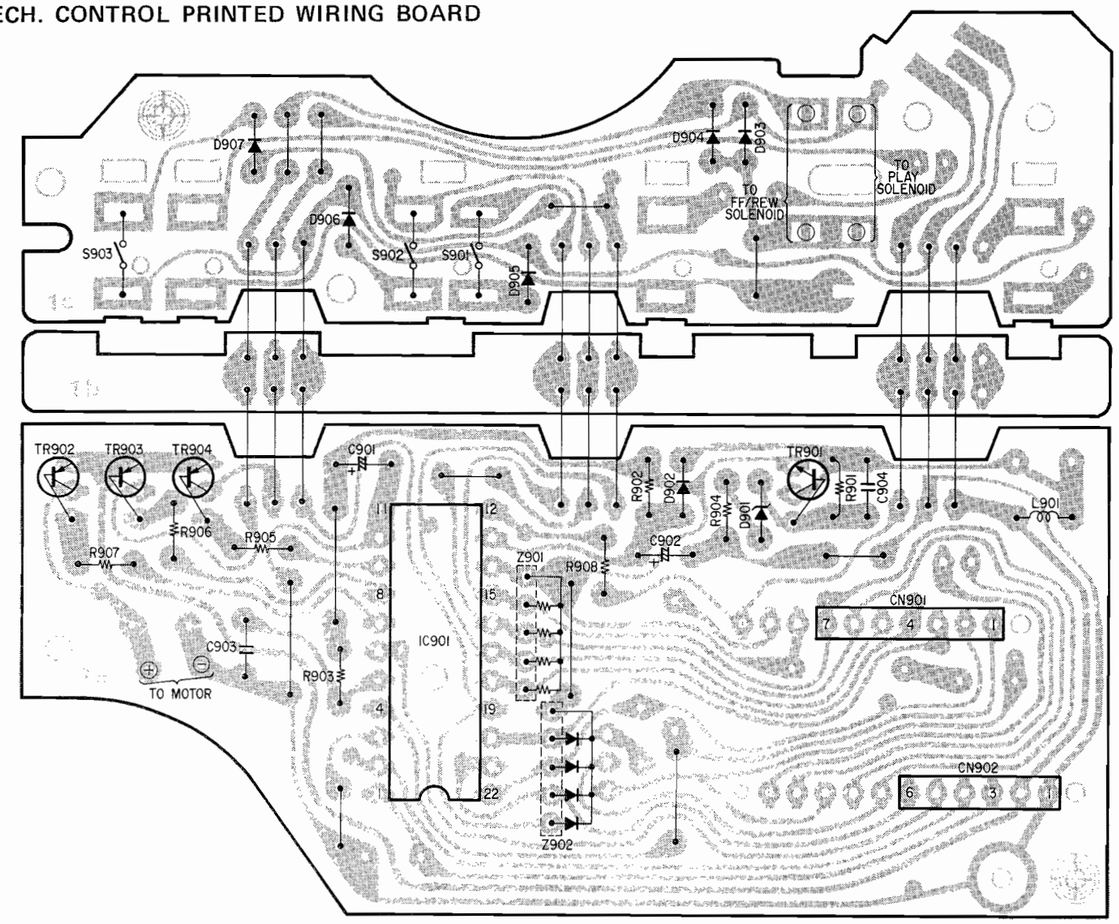
Ref. No.	Part No.	Part Name & Descriptions	Q'ty
M110	9270085005	LEAD FOR REC/PB HEAD	1
M111	9270086004	LEAD FOR ERASE HEAD	1
M201	9270087003	REC/PB HEAD	1
M202	9270088002	HEAD BASE	1
M203	9270089001	ERASE HEAD	1
M204	9270005001	ARM, TAKE UP	
M205	9270006000	REEL TABLE ASS'Y (REVERSE)	
M206	9270090003	REEL TABLE ASS'Y (FORWARD)	
M207	9270091002	PLUNGER ASS'Y	
M209	9270010009	SWITCH LEVER	
M210	9270011008	GEAR, TAKE UP RELAY GEAR	
M211	9270012007	BRAKE ROD	
M212	9270092001	MAIN LEVER ASS'Y	
M212-1	9270093000	MAIN LEVER SPRING	
M213	9270014005	PINCH ROLLER ASS'Y	
M213-1	9270015004	SPRING, PINCH ROLLER ASS'Y	
M215	9270018001	LEVER, FF	
M216	9270019000	CASSETTE LOCK ROD	
M216-1	9270020002	SPRING, CASSETTE LOCK ROD	
M218	9270094009	MECHA CHASSIS ASS'Y	
M219	9270023009	SPRING, HEAD BASE	
M220	9270095008	DC MOTOR ASS'Y WITH PULLEY	
M221	9270096007	BRACKET, FLYWHEEL	
M222	9270097006	SPACER	
M223	9270029003	LEVER, MAIN CONTROL	
M224	9270031004	GEAR, MAIN	
M225	9270098005	FLYWHEEL ASS'Y	
M225-1	9270099004	WASHER ϕ2.5	
M227	9270100003	BELT, MAIN	
M228	9270038007	ARM, FF	
M229	9270039006	LEVER, FF SPRING	
M230	9270040008	SPRING, FF ARM	
M233	9270043005	REEL TABLE GEAR ASS'Y	
M244	9270044004	GEAR, FF RELAY GEAR	
M245	9270045003	GEAR, REEL TABLE	
M246	9270046002	SPRING, BACK TENSION	
M247	9270047001	MAIN PULLEY ASS'Y	
M248	9270048000	BELT, FF	
M249	9270049009	LEVER, SUB CONTROL	
M250	9270051000	SPRING, CASSETTE PRESSURE	
M251	9270101002	GEAR, SUB	
M252	9270053008	FF ROD ASS'Y	
M255	9270057004	SPRING, FF ROD ASS'Y	
M302	9270059002	SCREW, HEAD BLOCK ASS'Y M'TG	
M303	9270102001	SCREW, CIRCUIT BOARD, FLYWHEEL BRACKET M'TG	
M304	9270103000	SCREW, CIRCUIT BOARD M'TG	
M305	9270104009	SCREW, CIRCUIT BOARD M'TG	
M306	9270105008	SCREW, DC MOTOR ASS'Y M'TG	
M307	9270106007	SPRING, ARM (REVERSE)	
M308	9270107006	SPRING, AZIMUTH	
M309	9270108005	HEAD SPACER	
M310	9270109004	SCREW, REC/PB HEAD, ERASE HEAD M'TG	

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
M311	9270065009	ARM	
M312	9270110006	SPRING, SUB CONTROL LEVER	
M313	9270030005	SPRING, MAIN CONTROL LEVER	
M314	9270066008	SPRING	
M315	9270111005	SCREW, FLYWHEEL BRACKET M'TG	
M316	9270112004	ERASE HEAD EARTH PLATE	
M317	9270113003	RUBBER CUSHION	

CASSETTE MECH. CONTROL SCHEMATIC DIAGRAM



MECH. CONTROL PRINTED WIRING BOARD



MECH. CONTROL UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
IC901	9270117009	LM6417E1825 IC
IC902	2680028002	DN6838A IC
Q901	9270071006	2SD1423R Transistor
Q902	9270116000	2SB621R or Transistor 2SB621S Transistor
Q903,904	9270115001	2SB1030Q or Transistor 2SB1030R or Transistor 2SB1030S Transistor
D901	9270118008	MA4056M Diode
D902~907	9P5331592	1SS133 Diode
Z901	9270120009	F5E472J Zener
Z902	9270119007	DAN401 Zener
RESISTORS		
R901	2412333062	1k ohm ±5% 1/6W Carbon
R902	2412338009	68k ohm ±5% 1/6W Carbon
R903	2412337042	39k ohm ±5% 1/6W Carbon
R904	2412336085	22 ohm ±5% 1/6W Carbon
R905,906	2412333062	1k ohm ±5% 1/6W Carbon
R907	2412334045	2.2k ohm ±5% 1/6W Carbon
R908	2412337068	47k ohm ±5% 1/6W Carbon

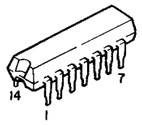
Ref. No.	Part No.	Part Name & Descriptions	Q'ty
CAPACITORS			
C901	2544250026	100μF ±20% 6.3V Electrolytic	
C902	2544260045	1μF ±20% 50V Electrolytic	
C903	2533635005	220pF ±5% 50V Ceramic	
C904	2551062003	0.0015μF ±10% 50V Plastic Film	
E.U.P.			
L901	9270121008	Inductor 2.2μH	
S901	9270068006	Switch	
S903	9270067007	Switch	
OTHER PARTS			**Q'ty**
	9270114002	P.W.Board	1
CN901	–	Connector	1
CN901	–	Connector	1
	–	Solenoid Pin Socket	4
	–	Jumper Wire	7
	–	Jumper Wire	22
	–	Motor Wire	1

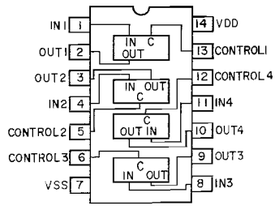
SEMICONDUCTORS

• IC

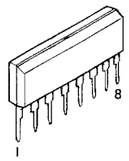
PB103M

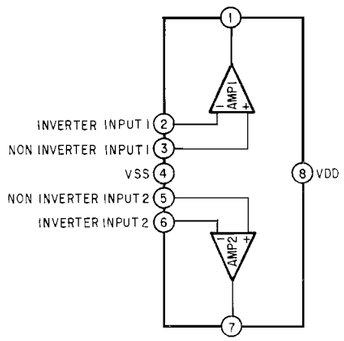
HD14066BP



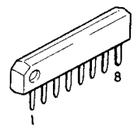


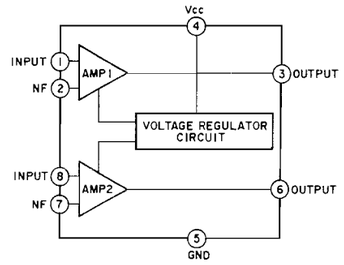
M5218L



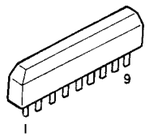


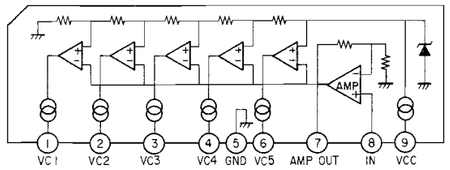
LA3161



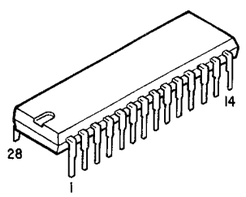


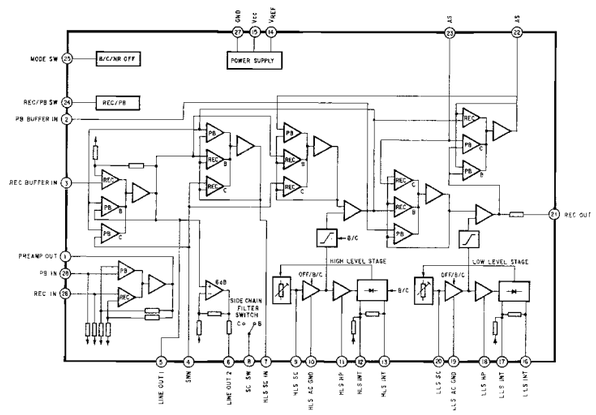
LB1403N





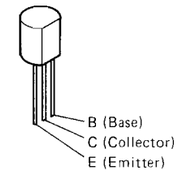
TEA0665



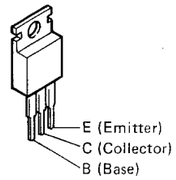


• TRANSISTORS

2SA564A(Q/R)
2SC458(D)
2SC1213A(C)
2SC1740(S)/(R)
2SD467(C)
2SA970(BL/GR)
2SC2240(BL/GR)

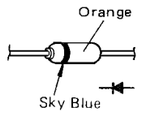


2SD880(Y/GR)

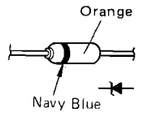


• DIODES (including LED)

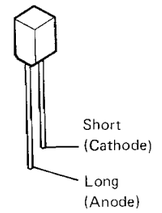
1S2076 or IN4148



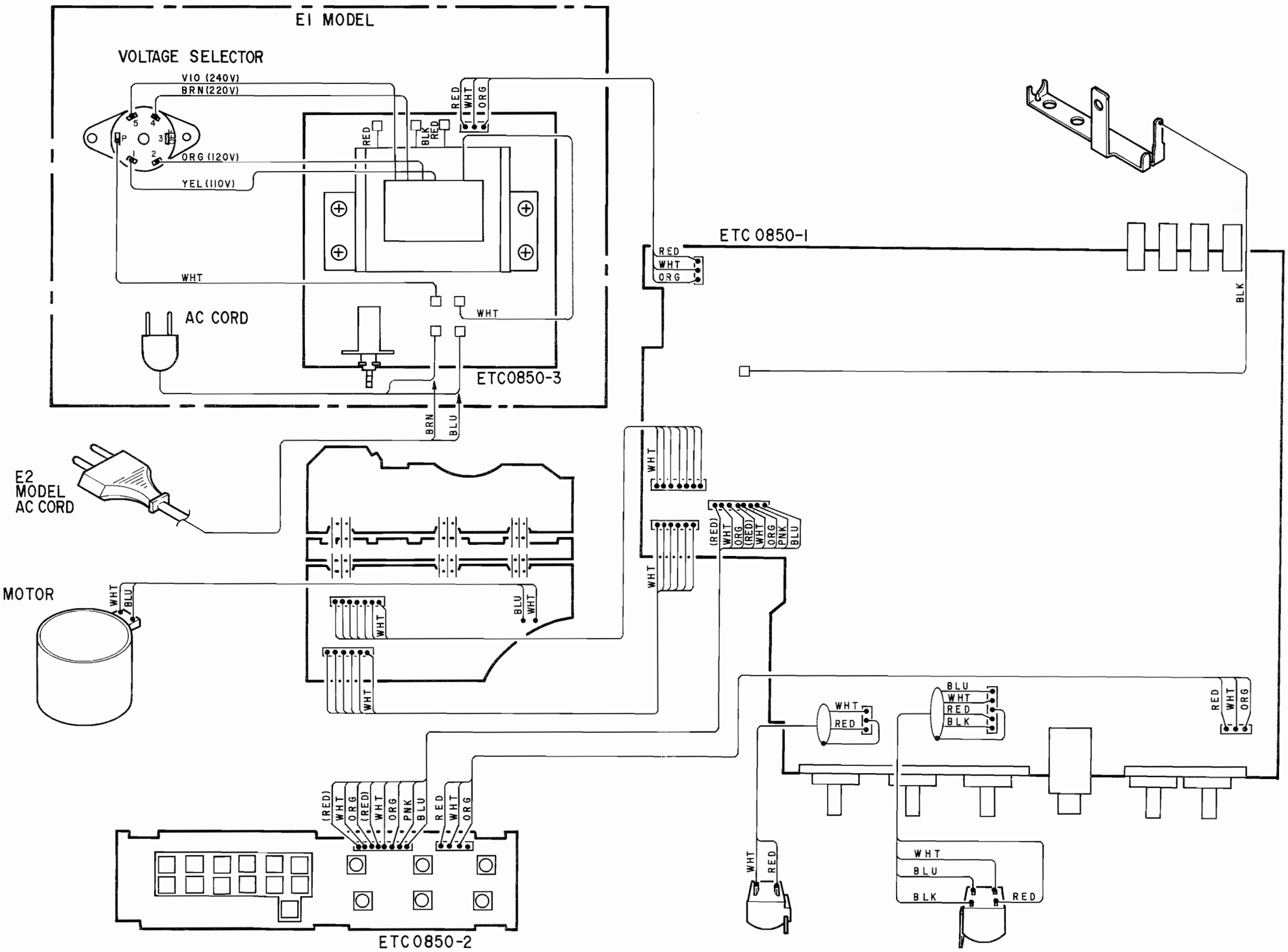
HZ18-3
HZ6B-2



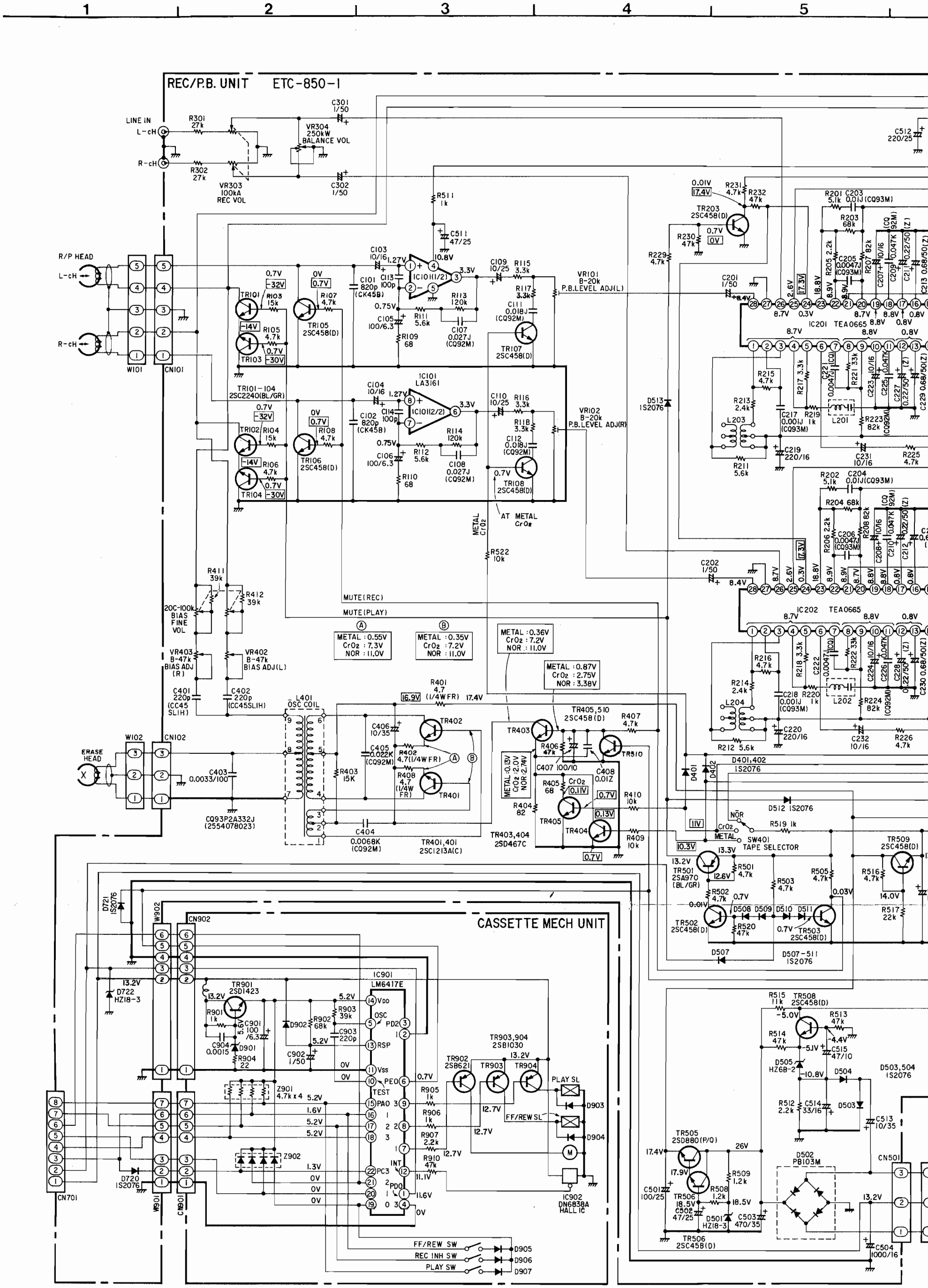
LED
LT9213R(RED)
LT9233(GREEN)



WIRING DIAGRAM



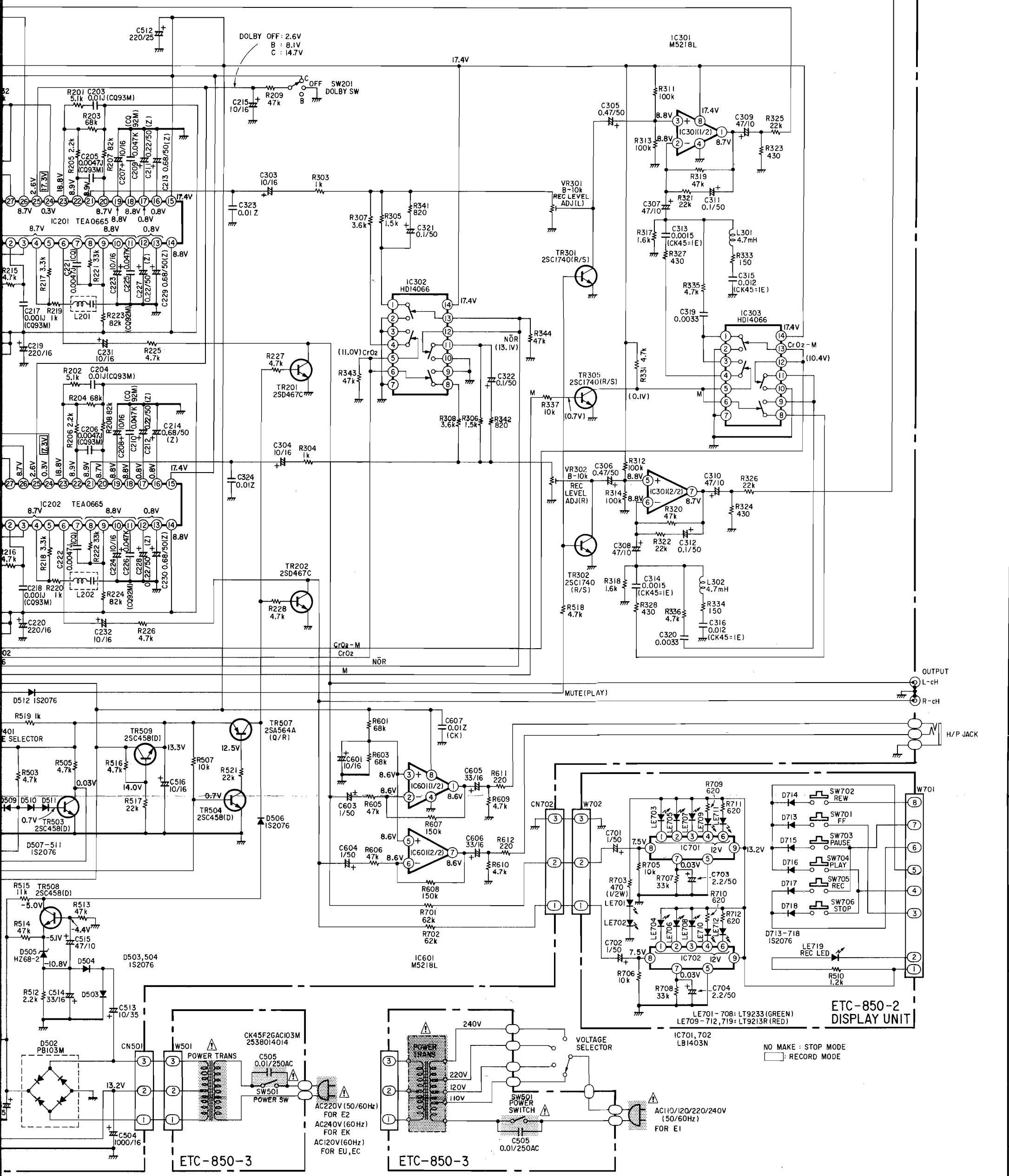
SCHEMATIC DIAGRAM



5 6 7 8 9 10

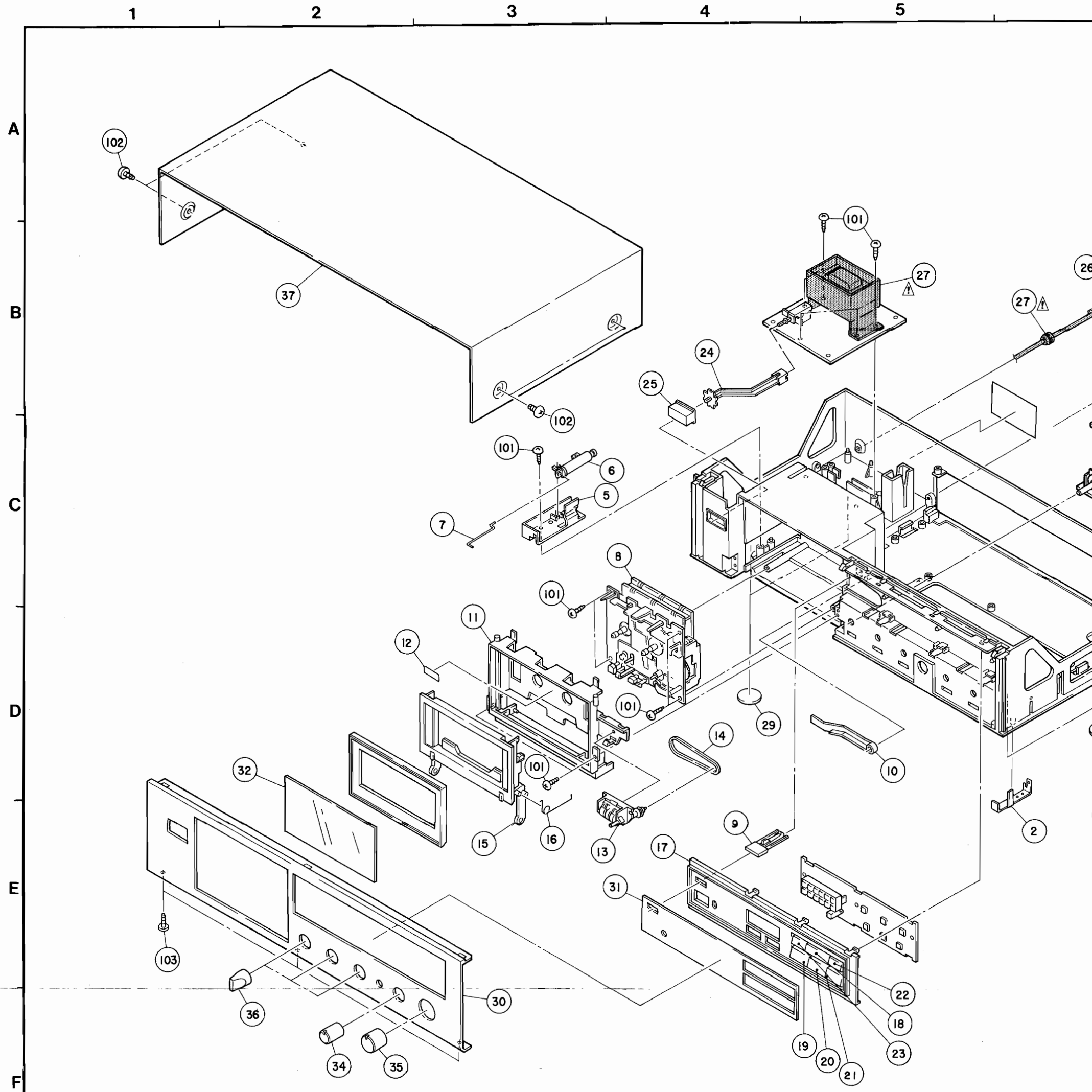
⚠ ▩ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.

A B C D E F G H



NOTES
ALL RESISTANCE VALUES IN OHM K = 1,000 OHM M = 1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD P = MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

EXPLODED VIEW OF CHASSIS AND CABINET



NOTE: 1. See addendum list right side for the parts with asterisk (*) on the Ref. No. and the other parts not included in the list.
2. ★ Mark not included EXPLODED VIEW.
3. The list is prepared based on E2 for Black Version.

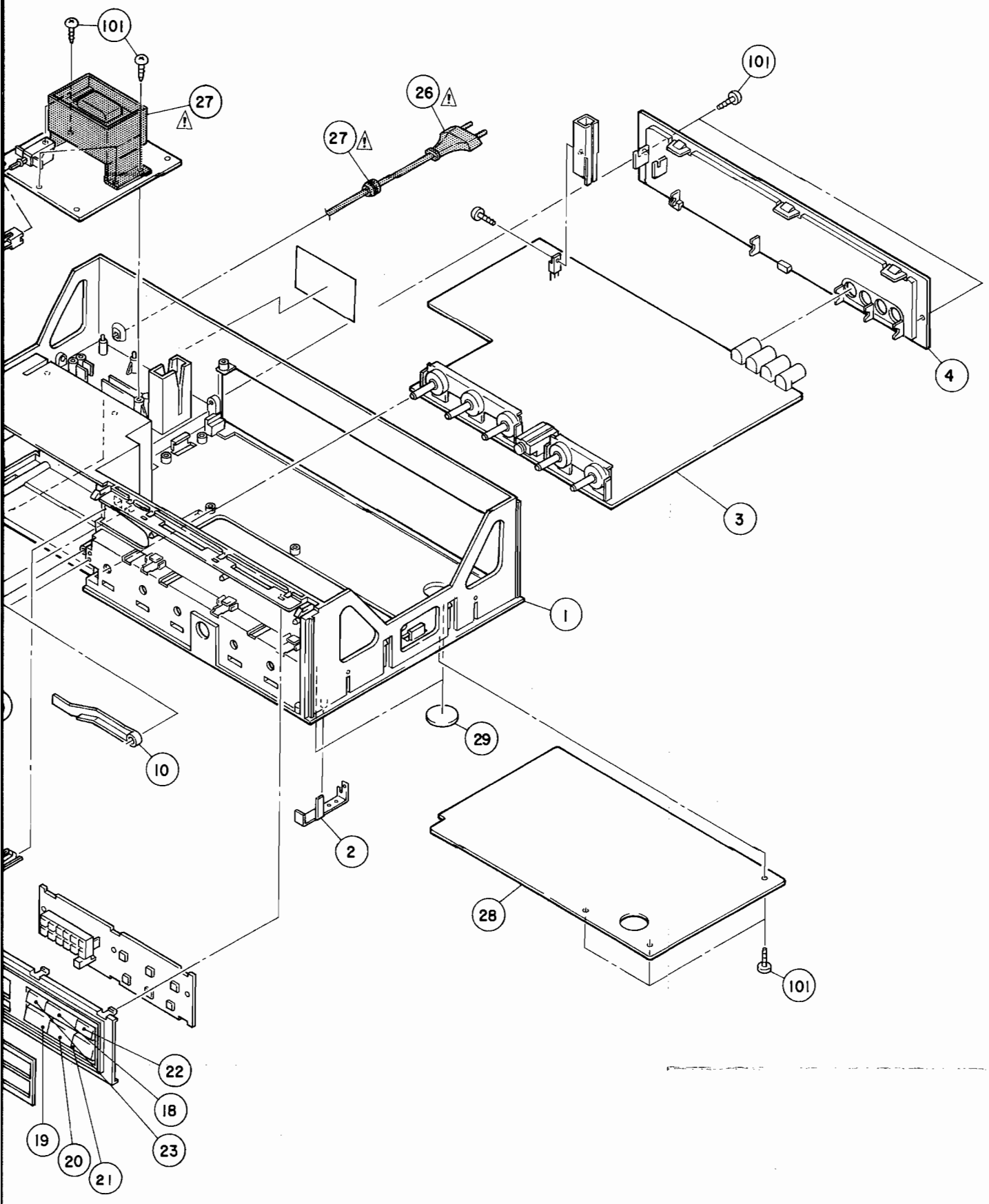
EXPLODED VIEW OF CHASSIS AND CABINET PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
1	1030939001	CHASSIS	1
2	4122071007	EARTH PLATE	1
*3	ETC0850	R/P AMP UNIT	1s
*4	1030945008	BACK PANEL	1
5	4490035005	DAMPER HOLDER	1
6	4390010007	AIR DAMPER	1
7	4350103006	DAMPER ROD	1
8	3380104005	C. MECH ASS'Y	1s
9	1130845008	EJECT KNOB	1
10	4330467005	EJECT LEVER	1
11	1030941002	MECHA. COVER	1
12	5131187004	SHEET	1
13	3470039006	COUNTER ASS'Y	1
14	4230045006	COUNTER BELT	1
15	1030940100	CASSETTE COVER	1
16	4630393002	DOOR SPRING	1
17	1030938002	CONTROL PANEL	1
18	1130846007	KNOB CAP (A)	1
19	1130847006	KNOB CAP (B)	1
20	1130847019	KNOB CAP	1
21	1130847022	KNOB CAP	1
22	1130848005	KNOB CAP (C)	1
23	1130848018	KNOB CAP	1

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
24	1190056002	KNOB JOINT	1
25	1130854002	PUSH KNOB (P)	1
⚠ *26	2062002031	AC CORD	1
⚠ *27	4450020005	CORD BUSH	1
28	1050688002	BOTTOM COVER	1
29	4610162004	FELT PAD	4
30	1441534008	FRONT PANEL	1
31	1430487001	WINDOW PLATE	1
32	1430486002	CASSETTE PLATE	1
33	1030946007	CASSETTE WINDOW	
34	1120491006	KNOB (A)	1
35	1120492005	KNOB (B)	1
36	1120493004	KNOB (C)	3
37	1020258006	TOP COVER	1
☆*38	5131186005	RATING SHEET	1
☆*39	5138253009	APPROVAL MARK	1
40	5138294000	VDE LABEL	1
41			
42			
43			
44			
45			

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
SCREWS			
101	4730305013	TAPPING SCREW (1) 3x10	17
102	4734801005	TRUS SCREW 4x8	4
103	4770281003	FIXING SCREW	3
104			
105			
106			
PACKING & ACCESSORIES (not included EXPLODED VIEW)			
201	5050133003	CABINET COVER	1
202	5030575005	CUSHION	2
*203	5011134009	CARTON CASE	1
204	PC-3244	ENVELOPE	1
205	2032101001	2P CONNECTOR CORD	2
206	5111461009	INST. MANUAL	1
*207	5139111014	COLOR LABEL (BLACK)	2
*208	5131167008	CONTROL CARD	1
209			
210			
211			

⚠ ▒▒ Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.



Part No.	Part Name & Descriptions	Q'ty
	SCREWS	
4730305013	TAPPING SCREW (1) 3x10	17
4734801005	TRUS SCREW 4x8	4
4770281003	FIXING SCREW	3
	KING & ACCESSORIES (not included EXPLODED VIEW)	
5050133003	CABINET COVER	1
5030575005	CUSHION	2
5011134009	CARTON CASE	1
PC-3244	ENVELOPE	1
2032101001	2P CONNECTOR CORD	2
5111461009	INST. MANUAL	1
5139111014	COLOR LABEL (BLACK)	2
5131167008	CONTROL CARD	1

E2 Gold Version PARTS LIST
(Same as E2 BLACK VERSION (Left P/List) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
25	1130854015 (P)	PUSH KNOB	1
30	1441534011	FRONT PANEL	1
32	1430486015	CASSETTE PLATE	1
34	1120491019	KNOB (A)	1
35	1120492018	KNOB (B)	1
36	1120493017	CAP (C)	1
37	1020258019	TOP COVER	1
	PACKING & ACCESSORIES		
203	5011134014	CARTON CASE	1
207	5139111001	COLOR LABEL (GOLD)	2

E2F Gold Version (for France) PARTS LIST
(Same as E2 BLACK VERSION (Left P/List) except the followings.)

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
25	1130854015 (P)	PUSH KNOB	1
30	1441534011	FRONT PANEL	1
32	1430486015	CASSETTE PLATE	1
34	1120491019	KNOB (A)	1
35	1120492018	KNOB (B)	1
36	1120493017	CAP (C)	1
37	1020258019	TOP COVER	1
	PACKING & ACCESSORIES		
203	5011134054	CARTON CASE	1
207	5139111001	COLOR LABEL (GOLD)	2

ADDENDUM LIST

Ref. No.	Part Name & Descriptions	Part No.					
		EK for U.K.	E2F for France	E1 for Asia	EU for U.S.A.	EC for Canada	EA for Australia
3	R/P AMP UNIT	ETC0850	ETC0850	ETC0850	ETC0850	ETC0850	ETC0850
4	BACK PANEL	1030945008	1030945008	1030945011	1030945008	1030945008	1030945008
⚠ 26	AC CORD	2062051008	2062047009	2062048008	2062050009	2062050009	2062028002
⚠ 27	CORD BUSH	4450020005	4450020005	4450020005	4450020005	4450020005	4450020005
38	RATING SHEET	5131186005	5131186018	5131214003	5131186034	5131186034	5131186005
39	APPROVAL MARK	–	5138253009	–	–	–	–
40	VDE LABEL	–	5138294000	–	–	–	–
⚠ 41	POWER TRANS	2335563003	2335563003	2335575004	2335585007	2335585007	2335563003
⚠ 42	VOLTAGE SELECTOR	–	–	2123315036	–	–	–
43							
44							
45							
203	CARTON CASE	5011134009	5011134012	5011134038	5011134025	5011134025	5011134009
207	COLOR LABEL (BLACK)	5139111014	5139111014	5139111014	5139111014	5139111014	5139111014
208	CONTROL CARD	–	5131167008	–	–	–	–
212	WARRANTY IN ENVELOPE	–	–	–	5150349108	–	–
213	DANGEROUS MARK	–	–	–	5138266009	–	–
214	DCI WARRANTY	–	–	–	–	5150388004	–
215							

For Australia model only.

FOR YOUR SAFETY

To ensure safe operation the three-pin plug supplied must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

For U.S.A. and Canada models.

CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

DENON

WARNING:

1. Component parts

Parts marked with ⚠ and/or shading in this service manual have special characteristics important to safety. Be sure to use the specified parts for replacement.

2. Leakage current

Before returning the appliance to customer, test the leakage current when the power plug is connected. Use a calibrated (with an error of not more than 5%) leakage current tester and measure the leakage current from any exposed metal to the earth ground. Reverse the power plug polarity and test the above again.

Any current measured MUST NOT EXCEED 0.5 miliamps. Corrective measure must be taken if it exceeds the limit.

CAUTION

RISK OF ELECTRIC SHOCK

DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD.
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

For United Kingdom model only.

WARNING:

As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

IMPORTANT

The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

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