

GENERAL SH 112/12

MODEL C800 STEREO CASSETTE DECK

SERVICE MANUAL



- Germany : GENERAL CORPORATION JAPAN (Euro) GmbH
D-4000 Dusseldorf-Heerdt Werftstr 20
Tel. 0211-50 47 021 Tlx. 8588 366
- Great Britain : TELETON Electro (U.K.) Co. Ltd.
Somerton Works. Prince Avenue.
Westcliff-on-Sea. Essex, SSO OHU
Tel. 0702 337681 Tlx. 40 581
- Netherlands : GENERAL CORPORATION JAPAN (NL) B.V.
Marconiweg 10. Vianen
Tel. 03 473-37 44 Tlx. 40 581
- Distributor
- Switzerland : Allelectric AG Gartenstr 12
5600 Lenzburg
Tel. 064 51 6951 Tlx. 68 208
- France : ELECTRODIS S.A. 21, rue Paul-Lafargue.
94270 Le Kremlin-Bicetre
Tel. 6 77 69 34 Tlx. 20 44 68
- Spain : HiFi Audio S.A. Manigua 50 Barcelona-27
Tel. (93) 3400166 Tlx. 51246
- Portugal : Telvi Sociedade Electrica LDA
Praca de Velasques, 293-Galeria, 4003 Porto.
Tel. 497153
- Malta : C.Petroni and Sons, Ltd. Testaferata street, Msida.
Tel. 34874
- Finland : KESKO OY
Rautaryhmä Satamaktu 3, SF 00161 Helsinki 16.
Tel. 1622273 Tlx. 124748

CONTENTS

SPECIFICATIONS	Page
ILLUSTRATION OF CONTROLS	1
DISASSEMBLY INSTRUCTIONS	1
ADJUSTMENT FOR MECHANISM	2
ALIGNMENT PROCEDURE	3
WIRING DIAGRAM	5
AU P.C.BOARD	6
LEVEL INDICATOR P.C.BOARD	7
CABINET EXPLODED VIEW	8
CASSETTE MECHANISM EXPLODED VIEW (1)	9
CASSETTE MECHANISM EXPLODED VIEW (2)	10
CABINET & CASSETTE MECHANISM PARTS LIST	11
INTEGRATED CIRCUIT INTERCONNECTION	15
SCHEMATIC DIAGRAM	17

⚠ This indication serves as a safety critical component mark.

WARNING

FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

SPECIFICATIONS

Specifications are subject to change without notice.

ELECTRICAL PERFORMANCE

Power Source	AC 220V, 50 Hz (For Eur.) AC 240V, 50 Hz (For Aus.)
Power Consumption	12W
Dimensions	402 (W) x 155 (H) x 274 (D) mm
Weight	6 kg
Cassette	C-30, C-60, C-90
Tape Speed	4.76 cm/sec
Fast Forward Time	Less than 100 sec (with C-60)
Rewind Time	Less than 100 sec (with C-60)
Recording System	AC bias, 85 kHz
Erasing System	AC erasing
Terminals :	
LINE IN	70mV (80k Ω)
L-MIC-R, PB/REC (DIN)	0.7 mV (6.8k Ω)
LINE OUT	600mV (47k Ω)
PHONES	2 mW (8 Ω)
	} with Dolby tape MTT-150
Wow and Flutter	Less than 0.07% WRMS
Signal-To-Noise Ratio	50 dB (Normal) 52 dB (CrO ₂) 52 dB (Metal) } Dolby OFF

Dolby Effect	9.0 dB
Frequency Response	40 ~ 12,500 Hz (Normal) 40 ~ 14,000 Hz (CrO ₂) 40 ~ 15,000 Hz (Metal)
Distortion	1.5% (Normal, Metal) 2% (CrO ₂)
Subfunctions :	
Tape Select Switch	Norm/CrO ₂ /Metal
Dolby NR	Dolby NR (ON/OFF)
Input Select	MIC (DIN)/LINE IN
Green LED	Dolby NR/Power/Metal/CPQS indicator
Red LED	Recording Indicator
3-digit	Tape Counter
Semiconductors :	
Transistors	10
ICs	7
Diodes	8 + 1 stacked diode
LEDs	25

NOTE : Dolby is a trade mark of Dolby Laboratories Inc.

ILLUSTRATION OF CONTROLS

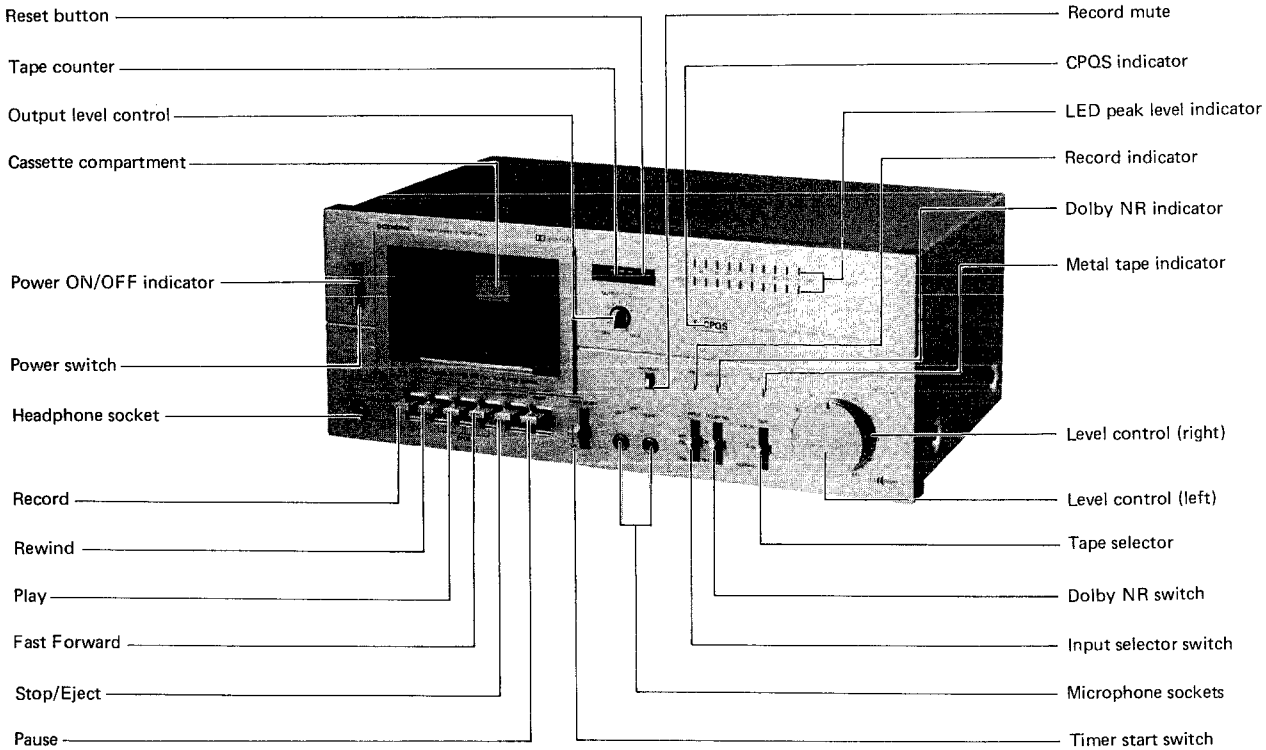


Fig. 1

DISASSEMBLY INSTRUCTIONS

- 1. To expose the copper side of Play/Record P.C.Board. (Refer Cabinet Exploded View, Page 8) (Refer Fig. 2)
 - 1. Remove 4 screws (Ref. No. 228) and remove cover (Ref. No. 151)
 - 2. Remove P.C.Board fixing screws. (Ref. No. 231)
 - 3. Remove Nylon rivet 1 and 2 of which are fixing IN/OUT jack. (Ref. No. 167)
 - 4. Remove all screws marked with * in Fig. 2.

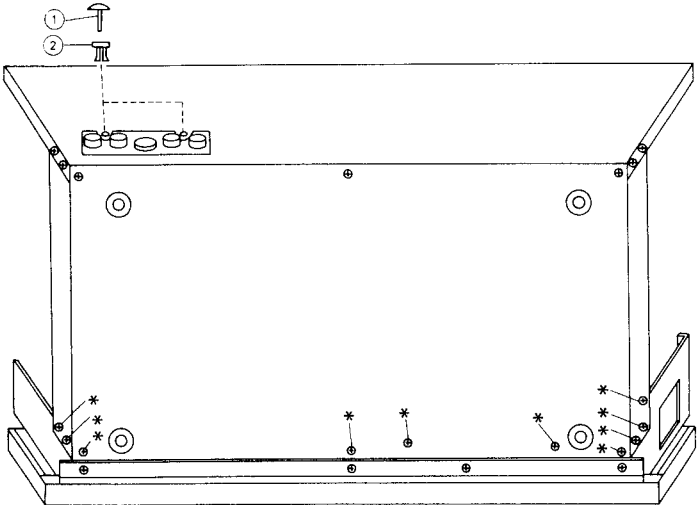


Fig. 2

ADJUSTMENT FOR MECHANISM

Play (Reproduction) Timing Adjustment
(Refer Fig. 3)

1. Slowly depress the play (▶) button. Confirm that the clearance between Capstan and Pinch-roller is within 0 ~ 1 mm when the Take-up reel begins to turn.

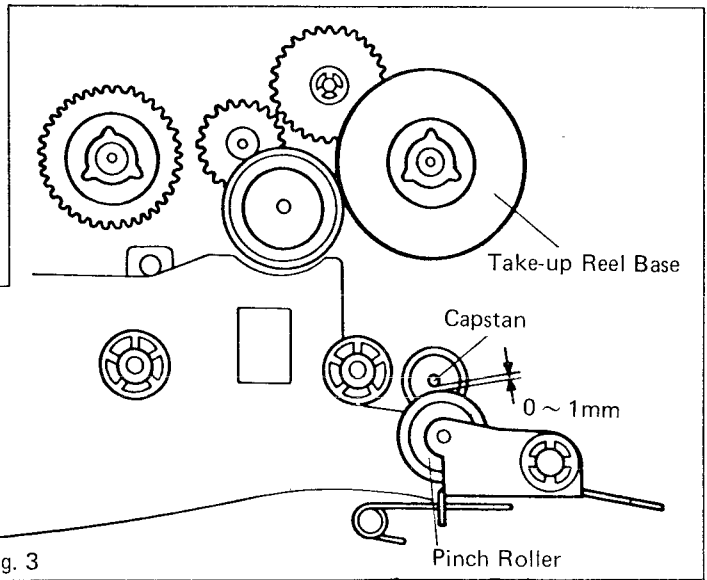
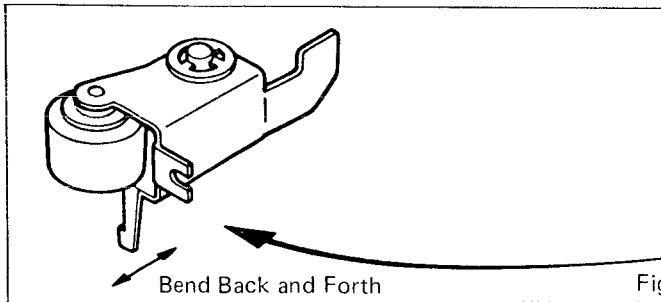


Fig. 3

2. Adjust the lower portion of the Pinch roller with bend back and forth when item 1 is not satisfied.

Pause Timing Adjustment
(Refer Fig. 4)

1. Slowly depress the Pause button. Confirm that the clearance between Capstan and Pinch roller is within 0 ~ 1 mm when the Take-up Idler parts with Take-up reel base.

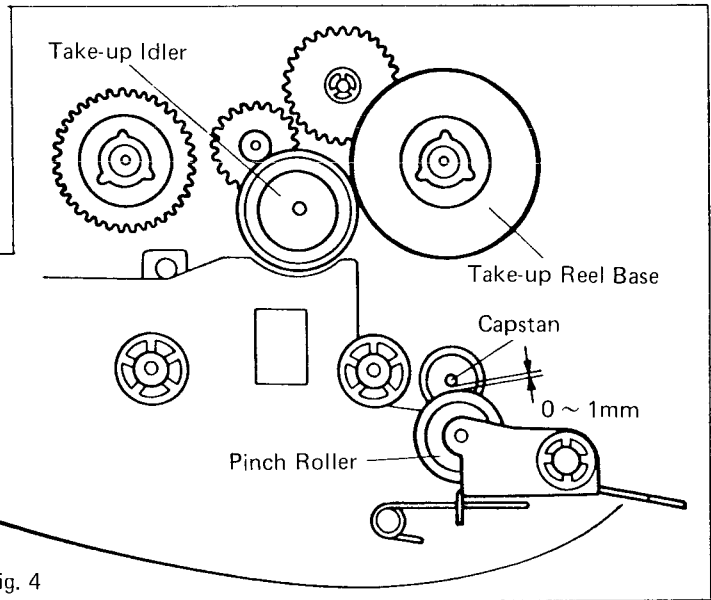
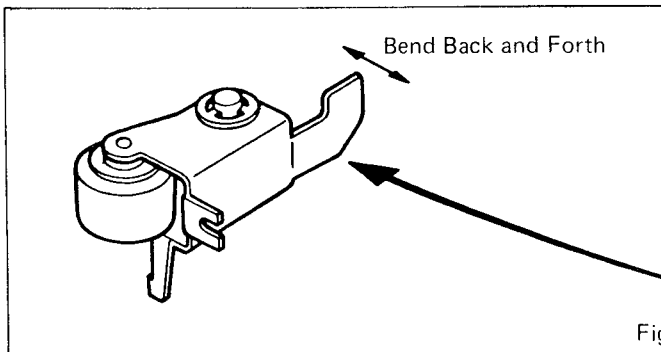


Fig. 4

2. Adjust the rearward portion of the Pinch roller with bend back and forth when item 1 is not satisfied.

Pinch Roller Pressure Adjustment
(Refer Fig. 5)

1. Set in Play condition.
2. Parts the Pinch roller from the Capstan by pressing the Tension Gauge (500g) to the Position indicated in the illustration.
3. Confirm the Gauge value is within 300 ~ 500g when the Pinch roller touch on Capstan by slowly loosen the Gauge in opposite direction.
4. Bend or replace the Spring for Pinch roller Pressure when item 3 is not satisfied.

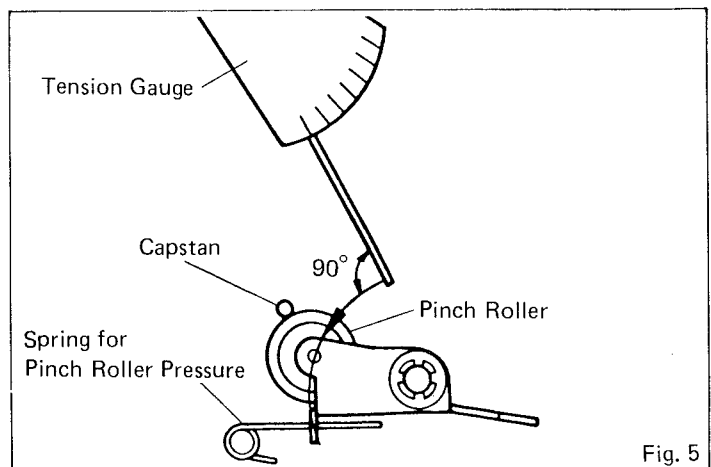


Fig. 5

Adjustment of Tape Speed
(Refer Fig. 7)

1. Reproduce a Test Tape (MTT-111, 3 KHz).
Note : Use approx in mid portion of the Test Tape.
2. Connect Frequency Counter to the both ends of 50 KΩ resistor connected to the Line out terminal (J103 or J203).
3. Adjust a variable resistor through an adjusting hole which is positioned on the bottom side of the motor with a flat head screw driver so as to obtain a 3015 ± 45 Hz in reproduced condition.

Note : Confirm that the impurities are not stained with the Motor-pulley, Drive-belt, Fly-wheel, Rewind idler or Rewind reel base, etc.

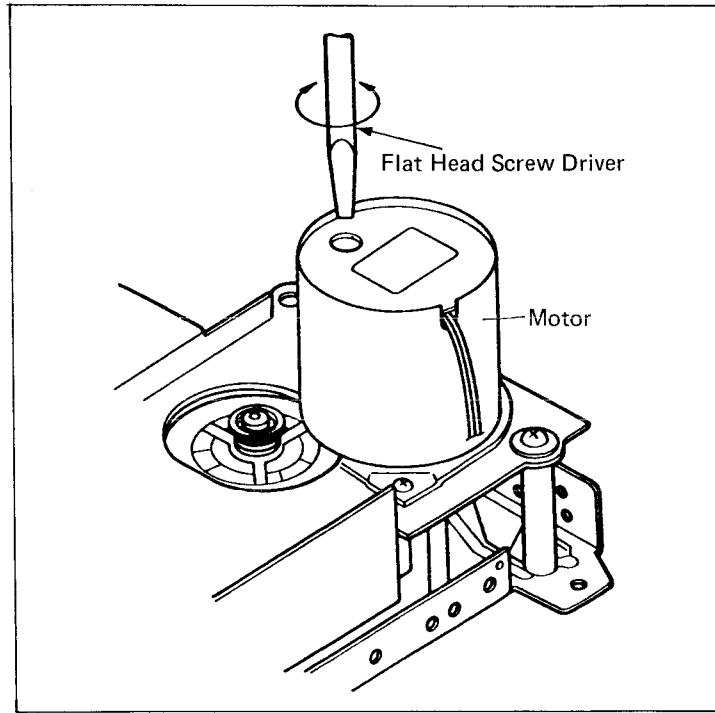


Fig. 7

NOTE : To clean the head.

The heads can be reached for cleaning when the cassette compartment's transparent facing panel is removed by pulling it upwards. In this case open the cassette compartment first by pressing Eject button. (see Fig. 8)

To avoid damage to the sensitive head surfaces it is advisable to use "Q-Tips" (small wooden sticks wrapped with cotton wool) soaked in alcohol.

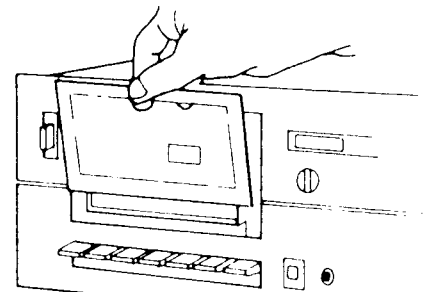


Fig. 8

ALIGNMENT PROCEDURE

Rear View

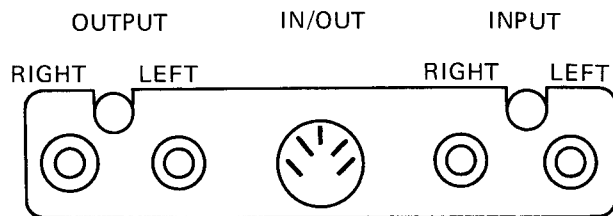


Fig. 9

1. Bias Oscillator Frequency

Connect a frequency counter to the terminals of the erase head and adjust the oscillator Coil (T101) to an oscillating frequency of 85 KHz \pm 5 KHz (See Fig. 10).

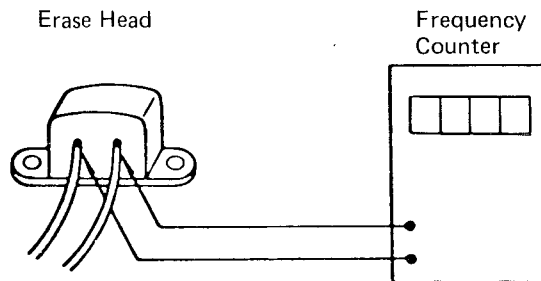
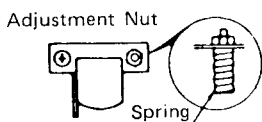


Fig. 10

2. Head Azimuth

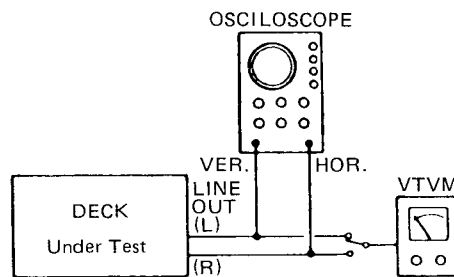
Play back the Test Tape of 10 KHz (MTT-114 or equivalent) and rotate the Adjusting Nut (See Fig. 12) for maximum output (See Fig. 11).

Use Locking varnish on adjustment nut after adjusting.



Head Phase Check Setup

Fig. 12



Head Azimuth Adjustments Location

Fig. 11

3. Playback Level

Playback the Test Tape of Dolby Level Calibration (MTT-150 or equivalent) and adjust VR101 (left channel) and VR201 (right channel) until an output of 600 mV is obtained at the LINE OUT terminals with the O/P control at max level.

4. Recording Current

Load a C90 Blank tape (MTT-502 or equivalent). Set the Tape Selector Switch to NORM and apply an input of -20 dB, 400 Hz to the LINE IN terminals (See Page 1). In the record mode adjust the Record Level control (See Page 1) until the output of 420 mV is obtained at the LINE OUT terminal (See Fig. 9)


Play the tape back and adjust VR103 (left channel) and VR203 (right channel) until the output at the LINE OUT terminals is 420 mV [at this time OUTPUT LEVEL control (page 1) is at maximum and the semifixed resistor for Bias Current adjustment: VR104 (left channel) and VR204 (right channel) should be at the mechanical mid-position].

5. Bias Current

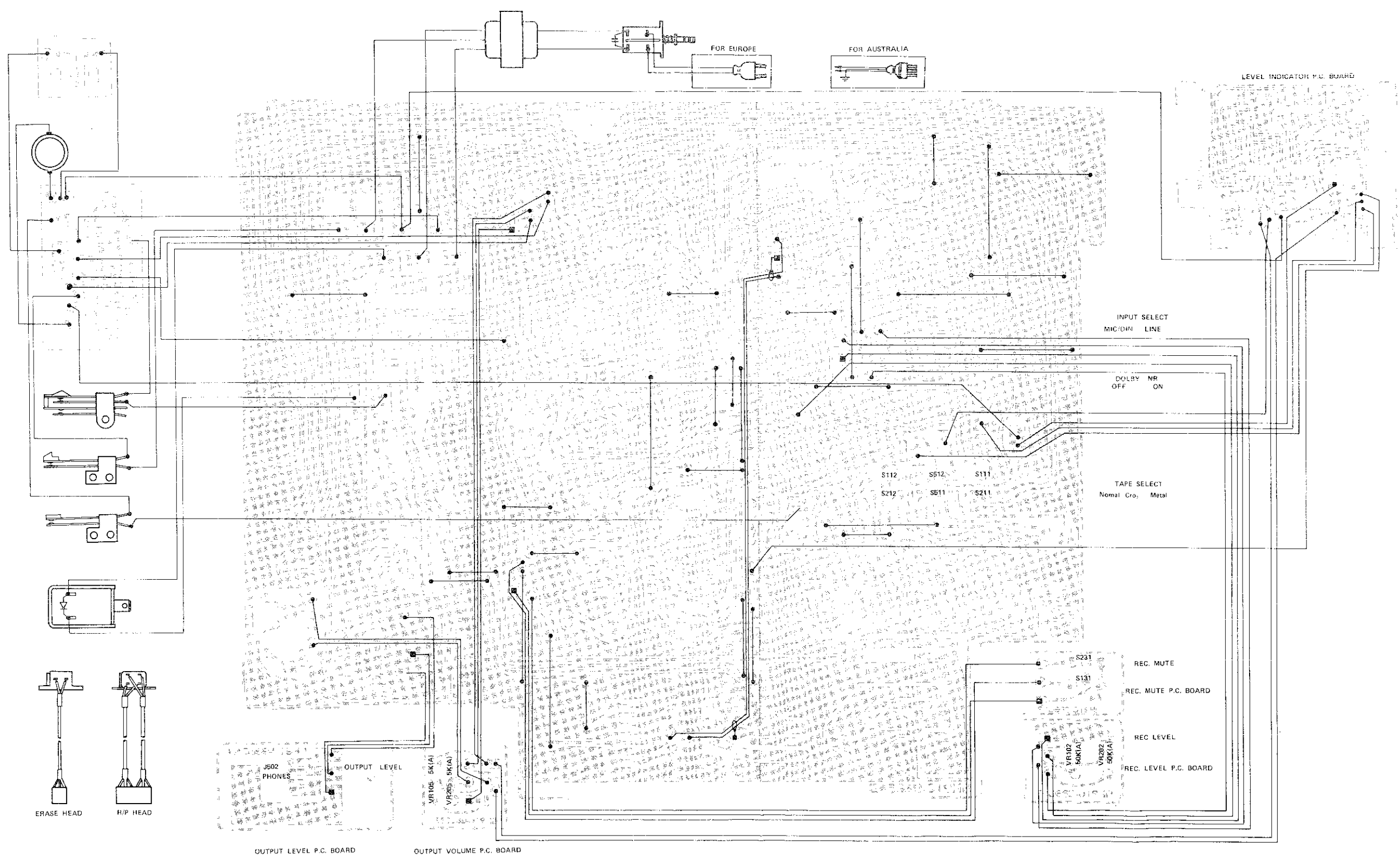
Load a C90 Blank tape (MTT-502 or equivalent). Set the TAPE SELECTOR switch to NORM and the DOLBY NR switch (See Page 1) to ON. Apply an input of -20 dBs to the LINE IN terminals (See Fig. 9) and adjust the RECORD LEVEL control (See Page 1) until the output of 600 mV is obtained at the LINE OUT terminals (See Fig. 9) at 400 Hz. Then apply an input of -45 dBs (1 KHz and 10 KHz) to the LINE IN terminals and record.

Play the tape back and adjust VR104 (left channel) and VR204 (right channel) until the playback outputs of the LINE OUT terminals of 1 KHz and 10 KHz are of the same level [at this time OUTPUT LEVEL control (page 1) is at maximum].

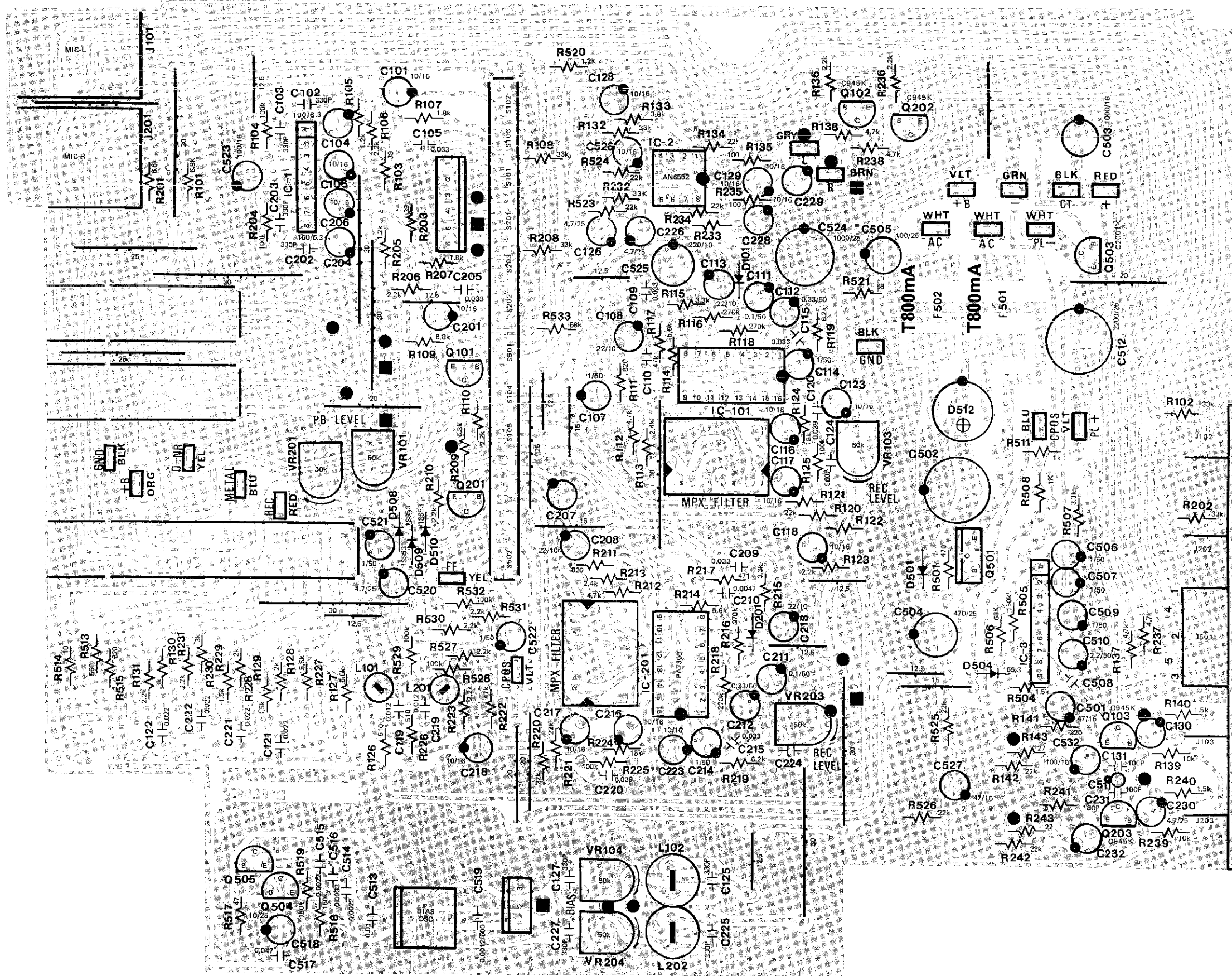
6. Peak Meter

Play back the Dolby Level Calibration tape (MTT-150 or equivalent) and adjust VR106 (left channel) and VR206 (right channel) so as to just illuminate the point marked with  LED of Peak Level.

WIRING DIAGRAM



AU P.C. BOARD



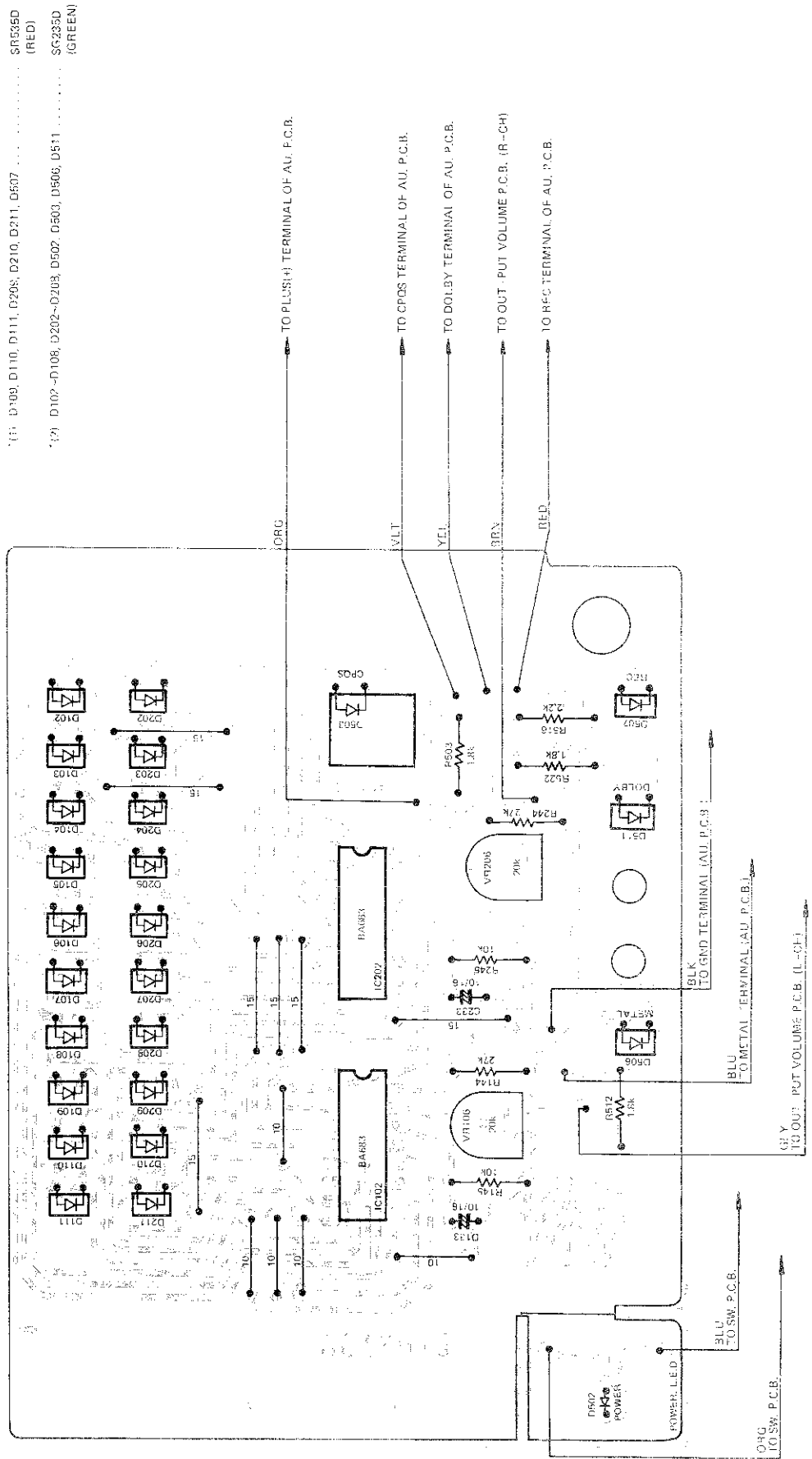
IC101, IC201

1	OV
2	15.6V
3	16.6V
4	7.1V
5	
6	6.8V
7	6.8V
8	6.8V
9	7.3V
10	6.8V
11	6.8V
12	6.8V
13	6.6V
14	6.8V
15	6.3V
16	8.5V

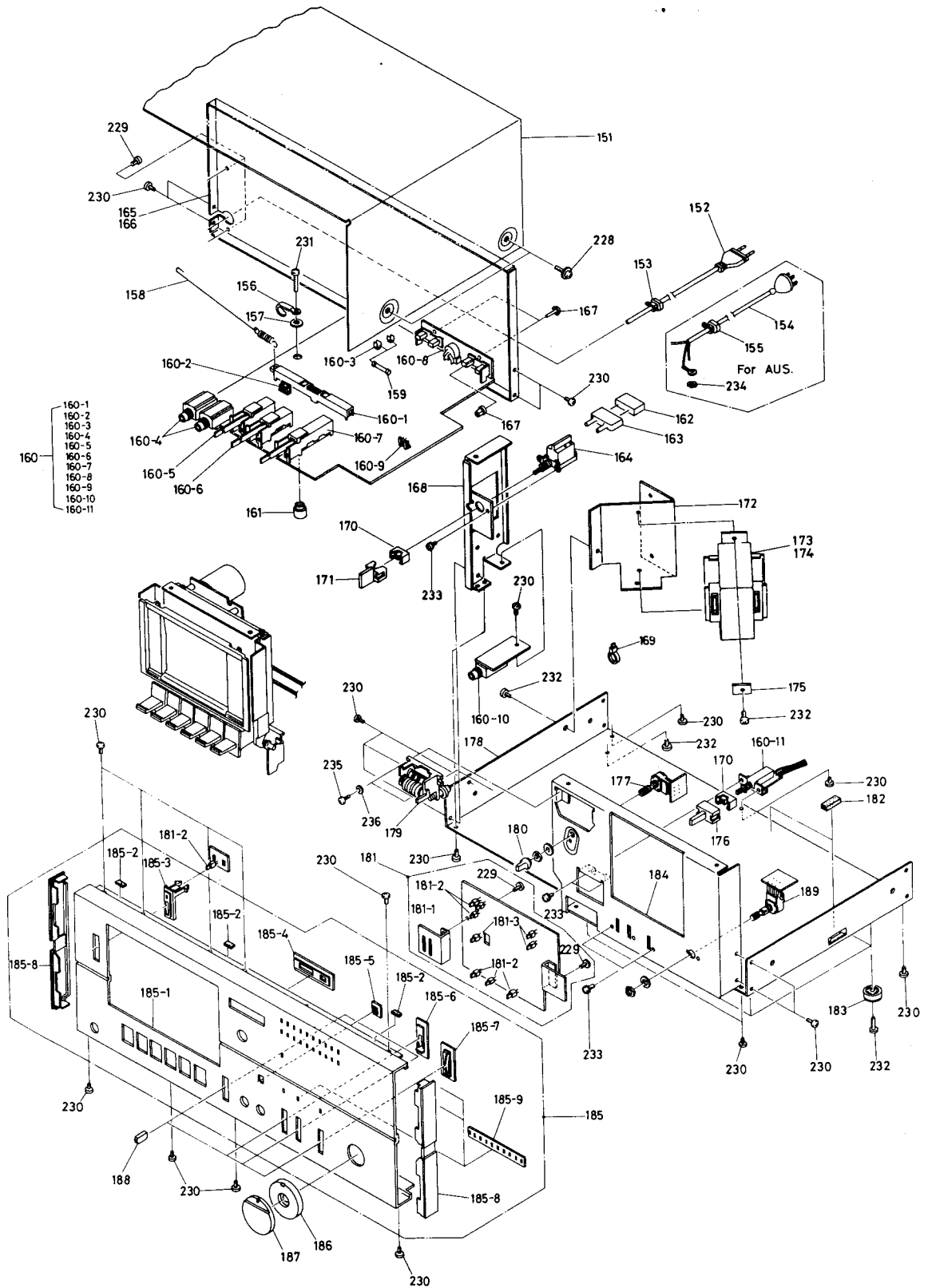
IC-1, IC-2

1	1.3V
2	0.8V
3	3.8V
4	16.4V
5	OV
6	3.8V
7	0.8V
8	1.3V

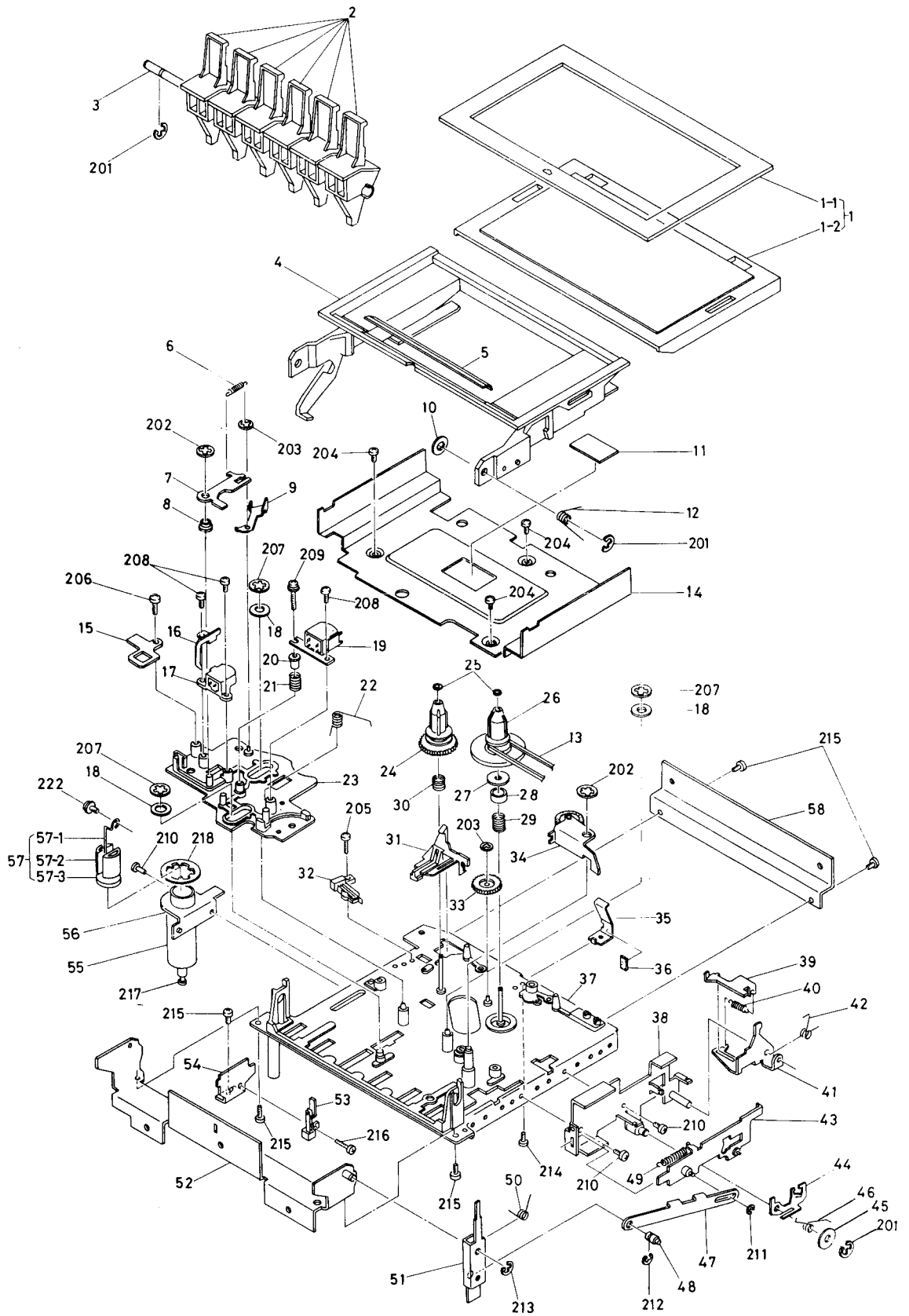
LEVEL INDICATOR P. C. BOARD



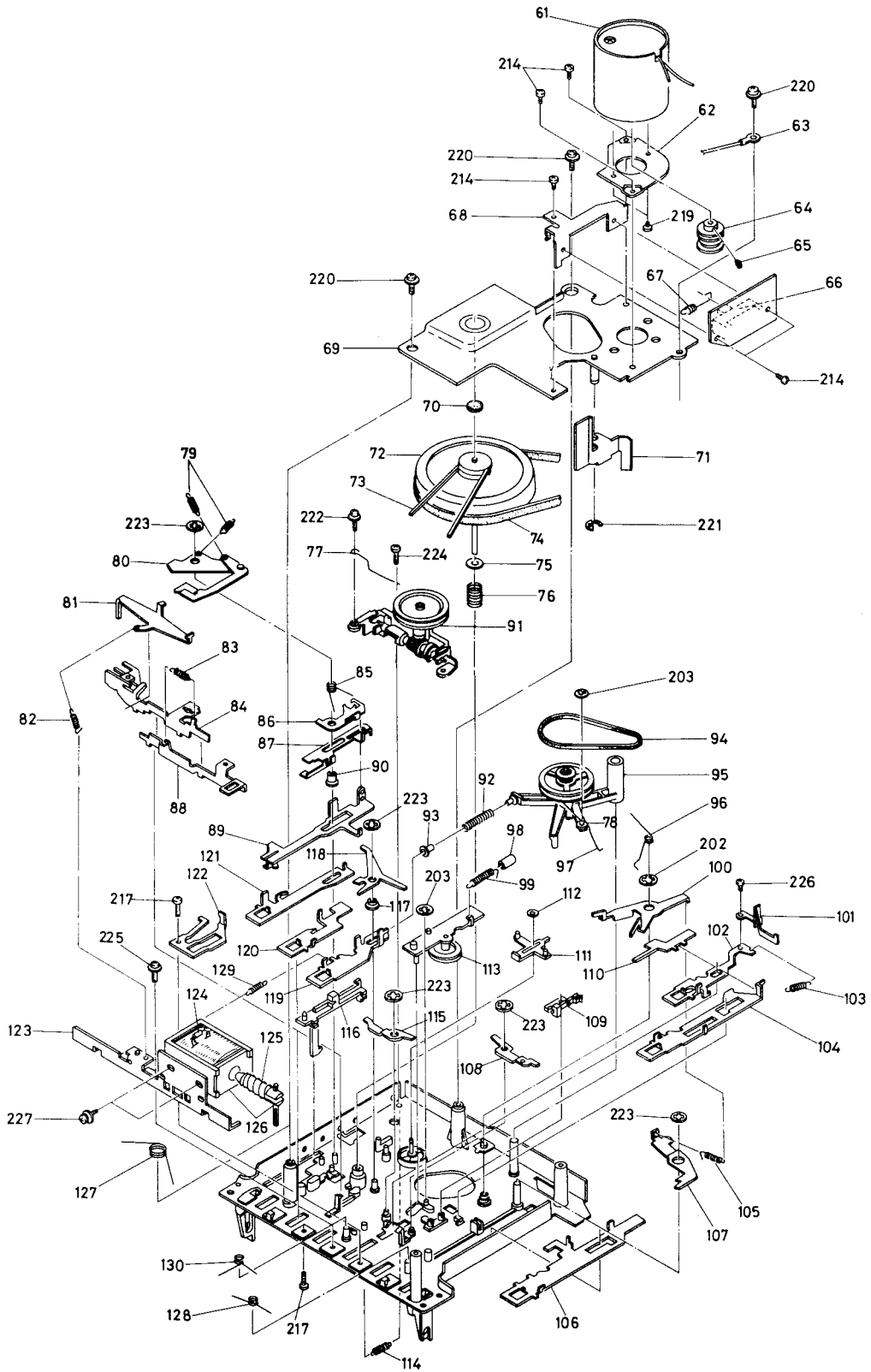
CABINET EXPLODED VIEW



CASSETTE MECHANISM EXPLODED VIEW (1)



CASSETTE MECHANISM EXPLODED VIEW (2)



CABINET & CASSETTE MECHANISM PARTS LIST

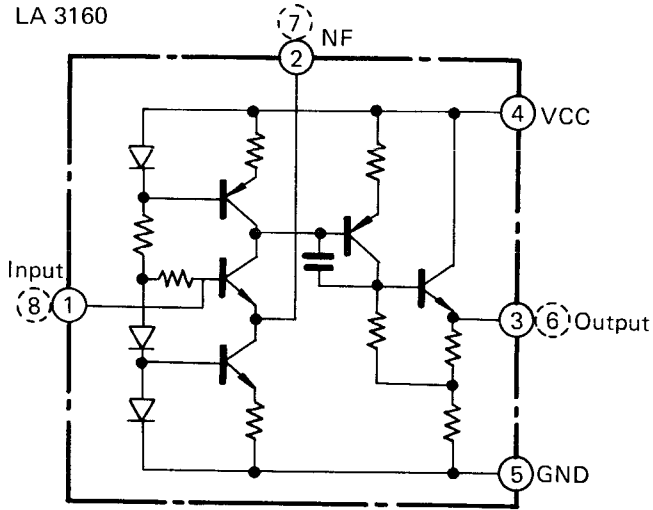
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	KGE014740	Cassette door ass'y	61	KGE47387	Motor
1-1	KGD102730	Cassette door	62	PBE13927	Motor holder
1-2	KGD102731	Door decoration plate	63	PBE3909	Lead wire
2	KGC102702	Button	64	PBE14035	Motor pulley
3	PBE14305	Button shaft	65	PGSS06A2003	Fitting screw M2x3
4	KGB102729	Loading case	66	PBE62344	Slide switch
5	KGE102738	Decoration plate	66	PBE3940	Muting P.C.Board
6	PBE13994	Tension coil spring	67	PBE13939	Tension coil spring
7	PBE13980	Switch lever A	68	PBE13923	Switch plate
8	PBE13986	Collar	69	PBD0539	Flywheel bracket calking ass'y
9	PBE13981	Switch lever B	70	PBE14058	Thrust plate
10	KGE98674	Washer	71	PBE13924	Lever
11	KGE102739	Mirror	72	PBE01154	Flywheel ass'y
12	PBE13934	Door arm spring	73	PBE14033	Square belt
13	PBE13380	Square belt	74	PBE14031	Flat belt
14	KGD102737	Separation plate	75	PBE13880	Washer $\phi 2.1 \times \phi 10 \times t 0.25$
15	PBE14020	Head protector	76	PBE13864	Compression coil spring
16	KGE102827	Earth plate	77	PBE13968	Pause spring
17	KGE47376	Erase head	78	PGWM22x060020	Washer $\phi 2.2 \times \phi 6 \times t 0.2$
18	PBE13869	Washer $\phi 5.2 \times \phi 10 \times t 0.5$	79	PBE13996	Pause lever (B) spring
19	KGE47290	Record head	80	PBE01330	Cancel lever calking ass'y
20	PGEC24x3860	Tube rivet	81	PBD1435	Stop lever
21	PBE13666	Compression coil spring	82	PBE13649	Stop lever spring
22	PBE13641	Pinch arm spring	83	PBE13994	Stopper spring A B
23	PBE1161	Head base calking	84	PBD0550	Button stopper ass'y A
24	PBE01054	Supply reel ass'y	85	PBE6027	Lock plate spring (B)
25	PGWM16x040020	Washer $\phi 1.6 \times \phi 4 \times t 0.2$	86	PBD1442	Lock plate
26	PBE01129	Take-up reel ass'y	87	PBD1571	Cancel lever (S)
27	PBE14265	Nylon washer $\phi 5.2 \times \phi 12 \times t 0.35$	88	PBD1501	Button stopper B
28	PBE13723	Clutch plate	89	PBD1499	PAUSE lever (B)
29	PBE6009	Compression coil spring	90	PBE14405	PAUSE collar
30	PBE6003	Brake spring	91	PBD0551	Auto stop mechanism ass'y
31	PBC1077	Inter-lock	92	PBE6011	Compression coil spring
32	MSW0058	Leaf switch (S551)	93	PGEE26x5360	Tube rivet
33	PBE14337	Idler gear	94	PBE14032	Square belt
34	PBE01276	Pinch arm ass'y (C)	95	PBD0657	Driving arm ass'y
35	PBE13722	Crossarm leaf spring	96	PBE6040	Switch plate spring
36	PBE14113	Cushion	97	PBE14024	Twist spring
37	PBD0591	Mechanical base ass'y	98	PBE14114	Tube $\phi 4 \times l 12$
38	PBD0650	Timer plate calking ass'y (B)	99	PBE13662	Tension coil spring
39	PBE13850	Cancel lever T	100	PBE13693	Switch plate
40	PBE13993	Cancel lever T spring	101	PBE13928	PLAY lever spring
41	PBE13960	Reset lever	102	PBD1536	PLAY lever
42	PBE13964	Reset spring	103	PBE14268	REV spring
43	PBD0651	Timer lever calking ass'y (B)	104	PBD1454	REW lever
44	PBD1442	Lock plate	105	PBE13863	Tension coil spring
45	PBE14295	Washer	106	PBD1456	REC lever
46	PBE13965	Lock plate spring	107	KGE14396	REC plate
47	KGE102748	Link	108	PBE13954	REV lever (B)
48	KGE102869	Shaft	109	MSW1105	Leaf switch (S541)
49	PBE13992	Timer lever spring	110	PBE14351	REV plate
50	KGE102755	Twist coil spring	111	PBD1516	Sensor (B)
51	KGE102747	Timer lever	112	PBE14117	Washer
52	KGE014755	Fitting plate calking ass'y	113	PBE01248	Idler ass'y (B)
53	KGD102795	Leaf switch (S531)	114	PBE14013	Latch lever spring
54	KGE102743	Button shaft bearing	115	PBE13953	CUE lever (B)
55	PBD1495	Cylinder	116	PBD1439	Latch lever
56	PBE13925	Cylinder fitting plate	117	PBE13646	FF collar
57	PBE01149	Piston ass'y	118	PBD1503	PAUSE plate
57-1	PBE13933	Coupling rod	119	PBD1455	FF lever
57-2	PBE13932	Piston	120	PBD1452	SE lever
57-3	PBE14011	O-ring	121	PBD1498	PAUSE lever (A)
58	KGE102742	Fitting plate B	122	PBE14263	Reinforce plate

PARTS LIST (Electrical)

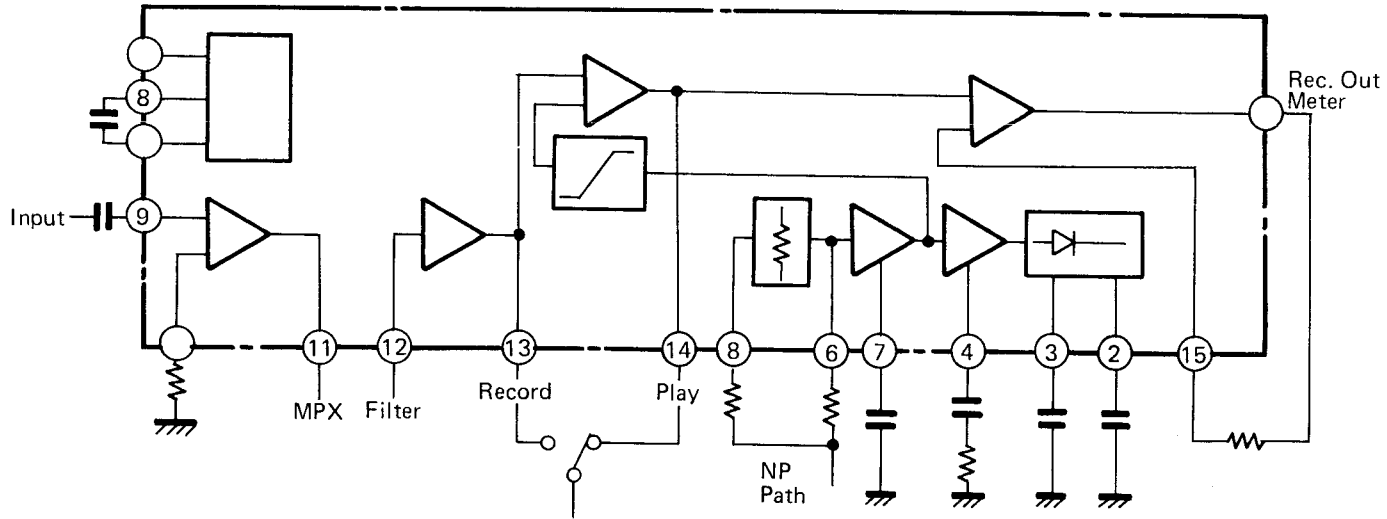
Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
Capacitors			R106,110,123, 136,131,206, 210,223,231, 236,527,530, 531	KGE25768	Carbon film 1/4W 2.2KΩ
C101,106,116, 117,118,128, 129,133,201, 206,216,217, 218,228,229, 233,526	KGE35794	Electrolytic 16V 10μF	R107,207,502, 503,512,522	KGE25766	Carbon film 1/4W 1.8KΩ
C102,103,125, 127,202,203, 225,227	KGE33413	Ceramic 50V 330pF	R111,211	KGE25758	Carbon film 1/4W 820Ω
C104,204	KGE35772	Electrolytic 6.3V 100μF	R112,137,138, 212,237,238	KGE25776	Carbon film 1/4W 4.7KΩ
C105,205	KGE6264	Mylar 50V 0.033μF	R113,213	KGE25769	Carbon film 1/4W 2.4KΩ
C107,207,507	KGE35731	Electrolytic 50V 1μF	R114,127,214, 227	KGE25778	Carbon film 1/4W 5.6KΩ
C108,113,208, 213	KGE35782	Electrolytic 10V 22μF	R115,215,507	KGE25772	Carbon film 1/4W 3.3KΩ
C109,115,209, 215	KGE35529	Mylar 50V 0.033μF	R116,118,216, 218	KGE25818	Carbon film 1/4W 270KΩ
C110,210	KGE35508	Mylar 50V 0.0047μF	R117,122,217, 222	KGE25800	Carbon film 1/4W 47KΩ
C111,211	KGE35727	Electrolytic 50V 0.1μF	R119,219	KGE25779	Carbon film 1/4W 6.2KΩ
C112,212	KGE35729	Electrolytic 50V 0.33μF	R120,121,134, 142,220,221, 234,242,523, 524~526	KGE25792	Carbon film 1/4W 22KΩ
C114,214,506, 509,521,522	KGE35831	Electrolytic 50V 1μF	R124,224	KGE25790	Carbon film 1/4W 18KΩ
C119,219	KGE31126	Mylar 50V 0.012μF	R126,226	KGE25753	Carbon film 1/4W 510Ω
C120,220	KGE10133	Mylar 50V 0.039μF	R128,228	KGE25767	Carbon film 1/4W 2KΩ
C121,122,221, 222	KGE3224	Mylar 50V 0.022μF	R129,140,229, 240,504	KGE25764	Carbon film 1/4W 1.5KΩ
C123,223	KGE35710	Electrolytic 16V 10μF	R130,230	KGE25771	Carbon film 1/4W 3KΩ
C124,224	KGE33484	Ceramic 50V 560pF	R132,232	KGE25796	Carbon film 1/4W 33KΩ
C126,130,226, 230,520	KGE35807	Electrolytic 25V 4.7μF	R133,233	KGE25774	Carbon film 1/4W 3.9KΩ
C131,231,511	KGE33466	Ceramic 50V 100pF	R135,235	KGE25736	Carbon film 1/4W 100Ω
C132,232	KGE35785	Electrolytic 10V 100μF	R139,145,239, 245	KGE25784	Carbon film 1/4W 10KΩ
C501,527	KGE35797	Electrolytic 16V 47μF	R141,241	KGE25744	Carbon film 1/4W 220Ω
C502	KGE35828	Electrolytic 35V 1000μF	R143,243	KGE25722	Carbon film 1/4W 27Ω
C503	KGE35802	Electrolytic 16V 1000μF	R144,244	KGE25794	Carbon film 1/4W 27KΩ
C504	KGE35815	Electrolytic 25V 470μF	R501	KGE25752	Carbon film 1/4W 470Ω
C505	KGE35812	Electrolytic 25V 100μF	R505,518,519	KGE25812	Carbon film 1/4W 150KΩ
C508	KGE33563	Ceramic 25V 0.01μF	R506,533	KGE25804	Carbon film 1/4W 68KΩ
C510	KGE35832	Electrolytic 50V 2.2μF	R508,511	KGE25760	Carbon film 1/4W 1KΩ
C512	KGE35817	Electrolytic 25V 2200μF	R513	KGE25754	Carbon film 1/4W 560Ω
C513	KGE1181	Mylar 50V 0.01μF	△ R514	KGE26557	Fuse resistor 1/4W 10Ω
C514,515	KGE10125	Mylar 50V 0.0022μF	R515	KGE25755	Carbon film 1/4W 620Ω
C516	KGE5071	Mylar 50V 0.0033μF	R516	KGE25768	Carbon film 1/4W 2.2KΩ
C517	KGE10577	Mylar 50V 0.047μF	R517	KGE25728	Carbon film 1/4W 47Ω
C518	KGE35808	Electrolytic 25V 10μF	△ R521	KGE26567	Fuse resistor 1/4W 68Ω
C519	KGE36187	Non-inductive mylar 600V 0.0012μF	VR101,103, 104,201, 203,204	KGE20559	Semi-fixed variable 50KΩ (B)
C523	KGE35798	Electrolytic 16V 100μF	VR106,206	KGE20558	Semi-fixed variable 20KΩ (B)
C524	KGE35816	Electrolytic 25V 1000μF	Inductors		
C525	KGE35786	Electrolytic 10V 220μF	L101,201	KGE40148	Micro inductor 8.2mH
Resistors			L102,202	KGE47294	Micro inductor 10mH
R101,109,201, 209	KGE25780	Carbon film 1/4W 6.8KΩ	FB101,201	KGE47398	Filter brock
R102,108,132, 202,208,232	KGE25796	Carbon film 1/4W 33KΩ	T101	KGE47386	Bias Oscillator Coil
R103,203	KGE25726	Carbon film 1/4W 39Ω			
R104,125,204, 225,528,529, 532	KGE25808	Carbon film 1/4W 100KΩ			
R105,205,520	KGE25762	Carbon film 1/4W 1.2KΩ			

Ref. No.	Part No.	Description	
Semiconductors			
IC1	KGE46799	IC	LA3160
IC2	KGE46849	IC	AN6552
IC3	KGE46850	IC	BA336
IC101,201	KGE46523	IC	μ A7300
IC102,202	KGE46851	IC	BA683
Q101,102,103 201,202,203	KGE46147	Transistor	2SC945 (K)
Q501	KGE46452	Transistor	2SC1173 (O)
Q503	KGE46717	Transistor	2SC2001 (K)
Q504,505	KGE46803	Transistor	2SC2274 (F)
D101,201,504 508,509,510	KGE46465	Diode	1SS53
D102~108 202~208 502,503,506 511	KGE46847	LED (green)	SG235D
D109~111 209~211 507	KGE46848	LED (Red)	SR535D
D501	KGE46313	Zener diode	RD22EB
D505	KGE46096	Diode	1N4001
D512	KGE46487	Rectifier	W005

C800 INTEGRATED CIRCUIT INTERCONNECTION

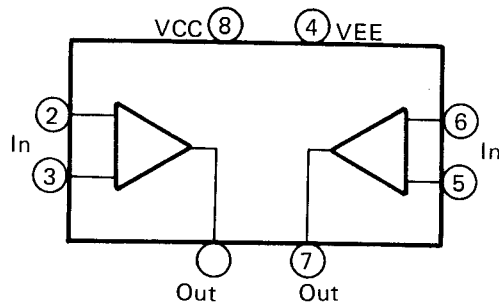


μ A 7300

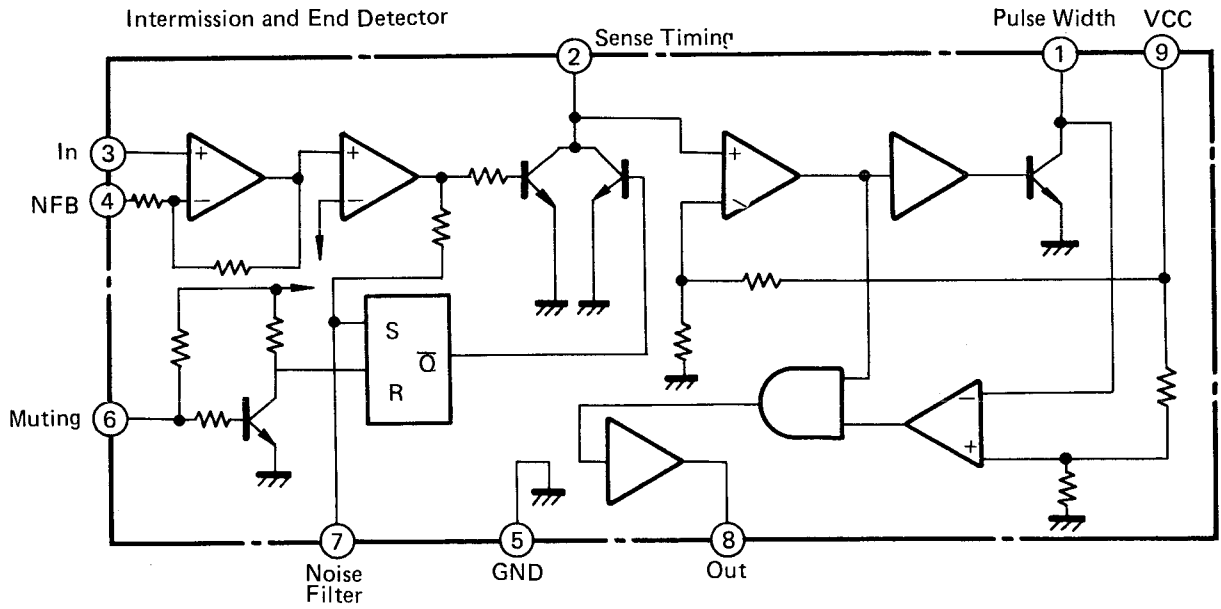


AN 6552

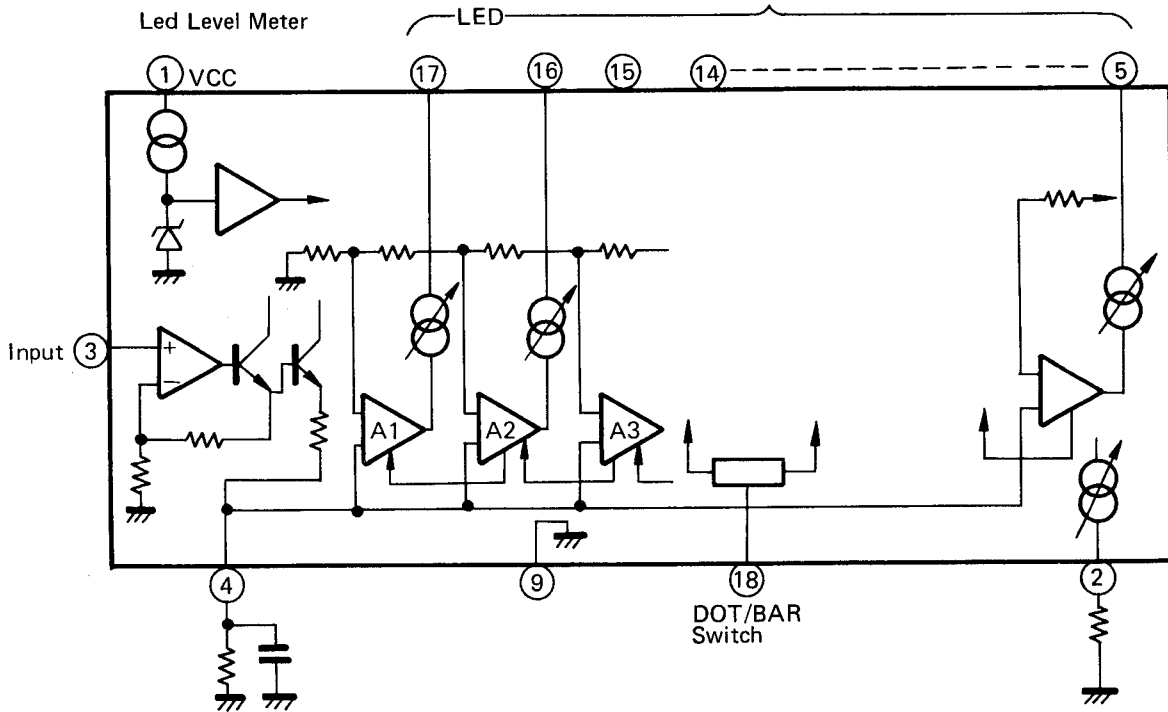
Dual Operational Amplifier



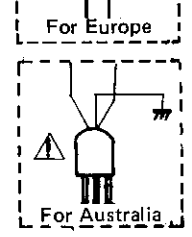
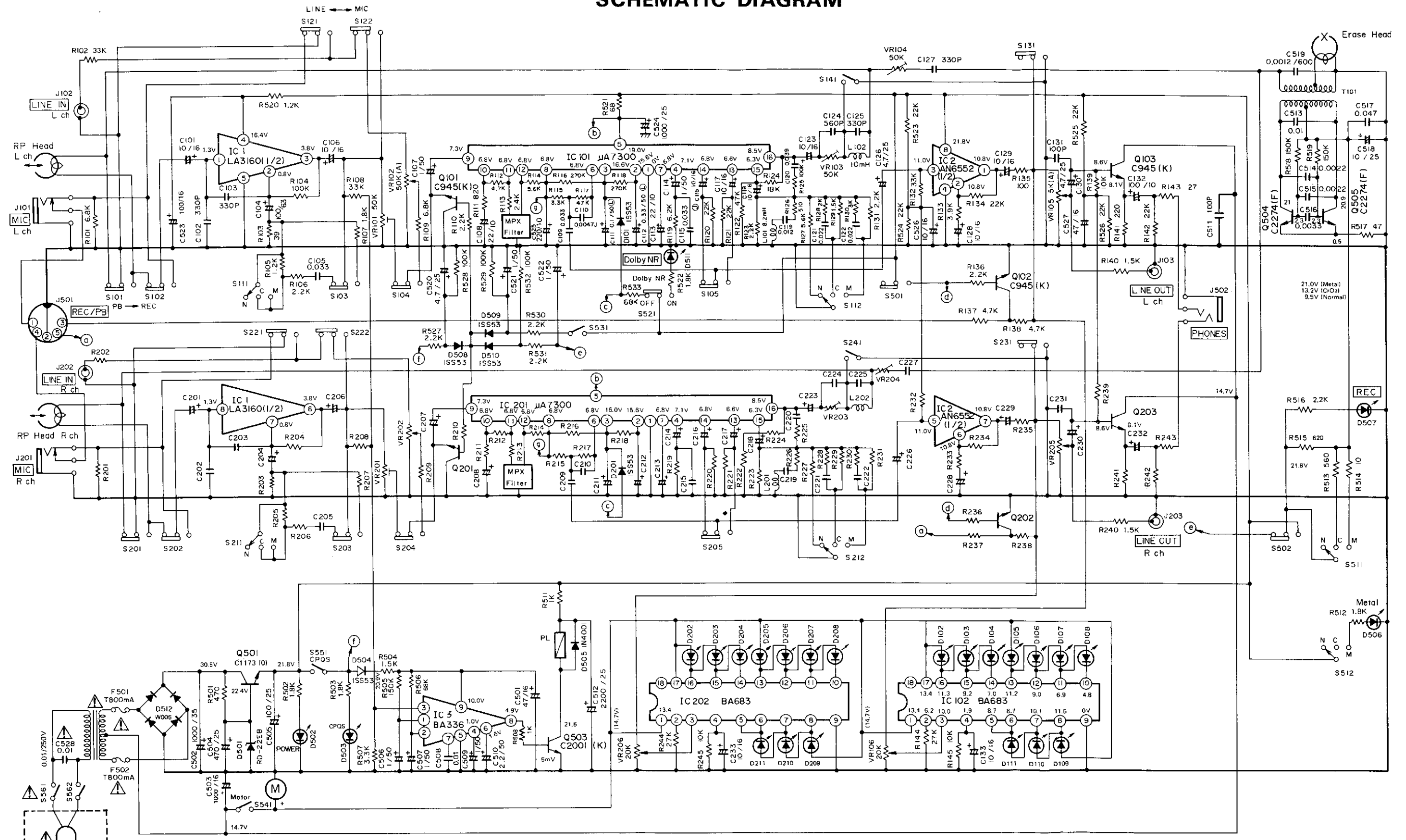
BA 336



BA 683A



SCHEMATIC DIAGRAM



- | | | | |
|------------|------------|------------|--------------------------------------|
| S101 ~ 105 | S201 ~ 205 | S501 ~ 502 | PB - REC SW (PB - REC) |
| S111 ~ 112 | S211 ~ 212 | S511 ~ 512 | TAPE Select SW (Norm - CrO2 - Metal) |
| S121 ~ 122 | S221 ~ 222 | | INPUT Select SW (LINE - MIC / DIN) |
| | | S521 | Dolby NR SW (ON - OFF) |
| | | S531 | FF (MUTE) SW (ON - OFF) |
| S131 | S231 | | FWD (MUTE) SW (ON - OFF) |
| | | S541 ~ 542 | TAPE RUN SW (ON - OFF) |
| | | S551 ~ 552 | CPQS SW (ON - OFF) |
| S141 | S241 | | REC MUTE SW (ON - OFF) |
| | | S561 ~ 562 | POWER SW (ON - OFF) |