

SERVICE MANUAL



FISHER

CR-9030 (EUROPE)

Stereo Cassette Deck



142 528 00

SPECIFICATIONS

Track System 4-track, 2-channel
Recording System High Bias (210 kHz) Dolby* HX PRO
Noise Reduction Dolby* B NR, Dolby* C NR
Mechanism Full Logic Control
Tape Counter Pulse Counter
Tape Selector Switch Automatic (Normal, CrO₂, Metal)
Record Level Control 1 Input Level Control
1 Balance Control
Level Indicator FL Meter (16 x 2)
Frequency Response ± 3 dB (MPX Filter OFF)
Normal Tape 20 Hz ~ 17 kHz
CrO₂ Tape 20 Hz ~ 18 kHz
Metal Tape 20 Hz ~ 20 kHz
Wow and Flutter 0.06 % WRMS
Total Harmonic Distortion 1.2 %
Signal-to-Noise Ratio (CCIR Weighted)
Noise Reduction OFF 52 dB
Dolby* B NR 62 dB
Dolby* C NR 72 dB
Erase Ratio 70 dB

Channel Separation 40 dB
Signal Crosstalk 70 dB
Line Input (Level/Impedance) 100 mV/50 k Ω
Line Output (Level/Impedance) 500 mV/1.5 k Ω
Motors 1 DC Governor Motor
1 DC Motor

Heads

Record/Play Amorphous OFC Head
Erase Ferrite Head
Fast Forward/Rewind Time Approximate 110 sec.
(C-60 Tape)

GENERAL

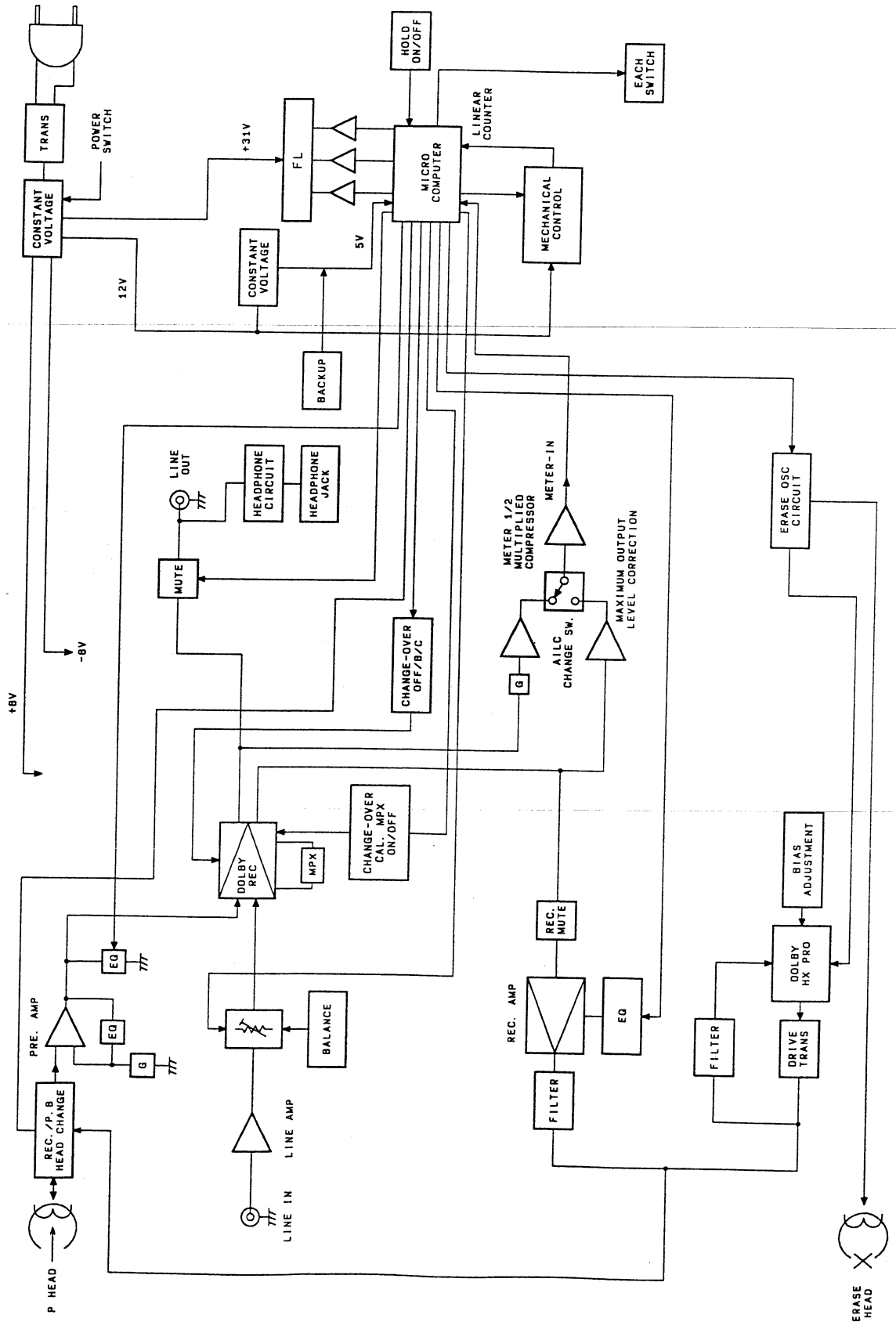
Power Requirements (50 Hz) AC 220V
30 Watts
Dimensions (W x H x D) 440 x 135 x 280 mm
Weight (Approximate) 5.2 kg

* "Dolby" and "HX PRO" are trademarks of Dolby Laboratories Licensing Corporation.

— Specifications and design are subject to change without notice. —

REFERENCE No. WM-570611

CIRCUIT BLOCK DIAGRAM



SERVICE MANUAL



FISHER

STEREO CASSETTE DECK

CR-9030

(EUROPE)

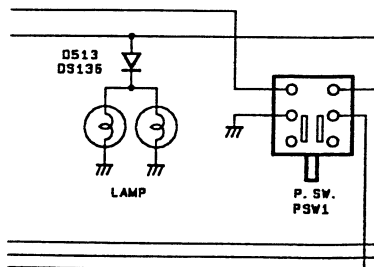
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The original service manual of model CR-9030 reflects the Black version only. This supplement is intended to add the Titan Gray version to the original service manual of CR-9030 (WM-570611).

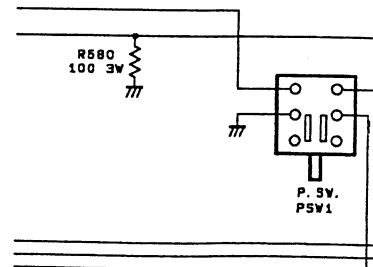
Ref.No.	CR-9030 (Black)	CR-9030 (Titan Gray)	Description	Q'ty
	PACKAGE			
	620 211 2503	620 212 3974	Inner Carton	1
	ACCESSORIES			
	620 211 8109	620 212 5268	Label,Barcode	1
	CABINET			
2	620 211 2466	620 212 3950	Assy,Cabinet,Front	1
4	620 211 2480	620 212 3967	Assy,Panel,Lid	1
5	620 198 6969	620 212 3943	Assy,Foot	1
10	620 198 4873	620 212 3578	Knob,Rotary,Volume	1
11	620 208 4176	620 212 3561	Knob,Rotary,Volume	1
12	620 208 7481	620 212 3608	Knob,Rotary	1
14	620 203 6489	620 212 3585	Button,Power	1
15	620 208 4220	620 212 3547	Button,Play	1
16	620 208 4275	620 212 3554	Button,Rec	1
24	620 208 4459	620 212 9167	Filter	1
25	620 210 2597	- - - -	Filter,Clear	1
40	620 185 6156	620 212 3622	Cover,Top	1
76	620 211 5948	620 212 9716	Assy,PCB,Control	1
78	620 211 5962	- - - -	Assy,PCB,Lamp	1
78	- - - -	620 212 9723	Assy,PCB,Connect	1
95	411 021 0809	- - - -	SCR S-TPG BIN 2X6	2
	ASSY,PCB,CONTROL			
D513	407 005 1306	- - - -	DIODE DS135C	1
R580	- - - -	401 097 3507	OXIDE-MT 100 JB	1
	ASSY,PCB,LAMP			
LAMP	620 209 4373	ASSY,PCB,CONNECT - - - -	Lamp,12V,80MA	2

Add this sheet Model CR-9030 Service Manual (WM-570611).

CR-9030 (Black)



CR-9030 (Titan Gray)



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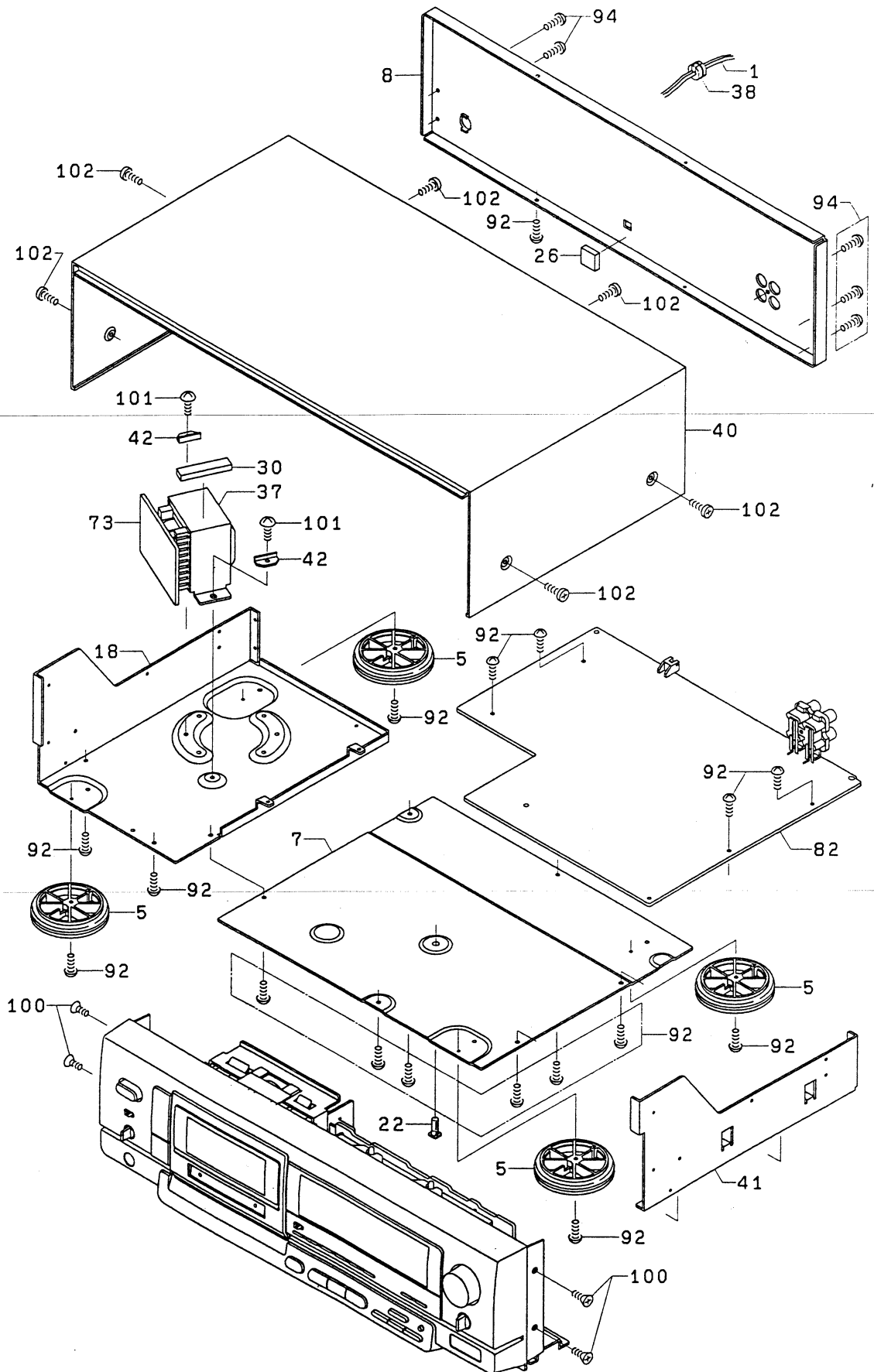
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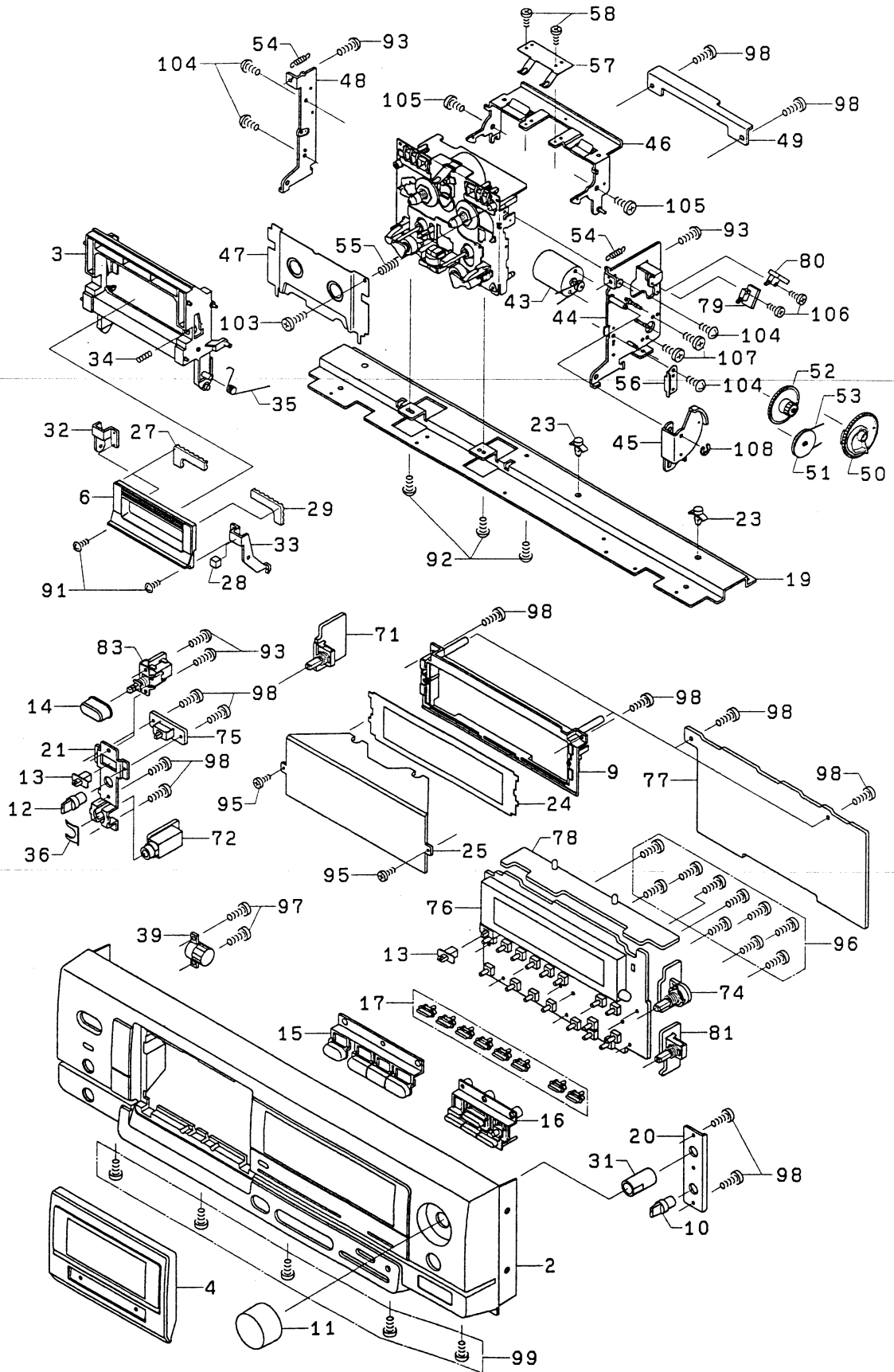
Printed in Japan

REFERENCE No. WM-570676

CABINET EXPLODED VIEW (1)



CABINET EXPLODED VIEW (2)



CABINET PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
PACKAGE				56	620 208 8518	Spring,Plate,Stabilizer	1
	620 211 2503	Inner Carton	1	57	620 208 8525	Spring,Plate,Cassette	1
	620 209 8210	Pad,Right	1	58	620 122 6133	Screw + M2.0X2.0	2
	620 209 8227	Pad,Left	1				
	620 059 6596	Patching Sheet	1	71	620 209 4380	Assy,PCB,Headphone,Circ.	1
	620 148 8012	Sheet Polyethylene	1	72	620 209 4397	Assy,PCB,Headphone Jack	1
ACCESSORIES				73	620 209 4410	Assy,PCB,Power Trans	1
	620 211 8093	Assy,Poly Cover	1	74	620 209 4441	Assy,PCB,Volume	1
	620 037 3500	RCA Cord 1000mm Black	1	75	620 209 4489	Assy,PCB,TIM.Switch	1
	620 037 3517	RCA Cord 1000mm Gray	1	76	620 211 5948	Assy,PCB,Control	1
	620 057 8783	Bag Fan	1	77	620 211 5955	Assy,PCB,Switch,FL	1
	620 152 7452	Serial No. Sheet	1	78	620 211 5962	Assy,PCB,Lamp	1
	620 152 2624	Certificate Card	1	79	620 211 5979	Assy,PCB,Open Switch	1
	620 211 8086	Instruction Manual	1	80	620 211 5986	Assy,PCB,Close Switch	1
	620 190 0316	Connector 2P Assy	1	81	620 211 5993	Assy,PCB,Balance	1
	620 211 8109	Label,Barcode	1	82	620 211 6006	Assy,PCB,Main	1
				83	620 211 6013	Assy,PCB,Power Switch	1
CABINET				91	411 018 2700	SCR PAN PCS 1.7X3	2
	620 125 8424	Wire Band	5	92	411 020 7700	SCR S-TPG BRZ 3X6	20
	620 152 7452	Serial No. Sheet	2	93	411 020 8004	SCR S-TPG BRZ 3X8	4
	620 020 9625	Connector 1P Assy	1	94	411 099 9803	SCR S-TPG BRZ 3X8	5
	620 209 6773	Assy,Connector-P,2P [CN13]	1	95	411 021 0809	SCR S-TPG BIN 2X6	2
1	△ 620 023 7550	Power Cord	1	96	411 021 1806	SCR S-TPG BIN 2.6X10	10
2	620 211 2466	Assy,Cabinet,Front	1	97	411 099 2606	SCR S-TPG BIN 2.6X12	2
3	620 209 8098	Assy,Lid,Cassette	1	98	411 021 3107	SCR S-TPG BIN 2.6X8	12
4	620 211 2480	Assy,Panel,Lid	1	99	411 021 5903	SCR S-TPG BIN 3X6	5
5	620 198 6969	Assy,Foot	4	100	411 022 1904	SCR S-TPG FLT 2.6X6	4
6	620 211 2589	Assy,Plate,Stabilizer	1	101	411 024 8406	SCR S-TPG TRS 4X8	2
7	620 198 5344	Plate,Bottom	1	102	411 130 4507	SCR S-TPG BIN 3X8	6
8	620 211 2435	Panel,Rear	1	103	411 021 1905	SCR S-TPG BIN 2.6X10	1
9	620 208 4336	Panel,Meter	1	104	411 021 2407	SCR S-TPG BIN 2.6X4	4
10	620 198 4873	Knob,Rotary,Volume	1	105	412 040 2904	SPECIAL SCREW	2
11	620 208 4176	Knob,Rotary,Volume	1	106	411 030 7202	SCR BIN 2X6	2
12	620 208 7481	Knob,Rotary	1	107	411 001 8405	SCR BIN 3X3	2
13	620 198 1506	Knob,Slide	2	108	411 015 9009	RING E 2	1
14	620 203 6489	Button,Power	1				
15	620 208 4220	Button,Play	1				
16	620 208 4275	Button,REC	1				
17	620 208 4299	Button,Push,B	8				
18	620 198 1520	Chassis,Left	1				
19	620 208 4343	Bracket-M,Front	1				
20	620 208 4428	Bracket-M,Volume	1				
21	620 208 4435	Bracket-M,Headphone	1				
22	620 199 8924	Post,Support,PCB	1				
23	620 209 7992	Post,Support,PCB	2				
24	620 208 4459	Filter	1				
25	620 210 2597	Filter,Clear	1				
26	620 200 1678	Cushion,Rubber	1				
27	620 209 8104	Cushion,Rubber,Right	1				
28	620 210 1019	Cushion,Rubber	1				
29	620 210 1880	Cushion,Rubber,Left	1				
30	620 210 5505	Cushion,Rubber	1				
31	620 209 0399	Holder,Knob	1				
32	620 208 4398	Arm,Stabilizer,Left	1				
33	620 208 4404	Arm,Stabilizer,Right	1				
34	620 210 2955	Spring,Comp	1				
35	620 208 9669	Spring,Tors,Lid	1				
36	620 209 8791	Spring,Plate,Clip	1				
37	△ 620 208 8488	Power Trans,SEV 25VA	1				
38	620 053 2136	Bushing (Power Cord)	1				
or	620 053 2129	Bushing (Power Cord)	1				
39	620 083 1789	Gear Eject Assy	1				
40	620 185 6156	Cover Top	1				
41	620 185 6675	Chassis Right	1				
42	620 120 7514	Fix Trans	2				
43	620 209 8166	Assy,Motor [M1]	1				
44	620 209 8135	Assy,Bracket-M,Mecha,Right	1				
45	620 209 8142	Assy,Arm,Lid	1				
46	620 211 2442	Assy,Arm,Lock	1				
47	620 208 4442	Cover,Mecha	1				
48	620 208 4374	Bracket-M,Mecha,Left	1				
49	620 212 2465	Shield,Wire	1				
50	620 208 4305	Gear,Cam	1				
51	620 208 4329	Gear,Pulley	1				
52	620 208 4312	Idler	1				
53	620 208 9683	Belt,Square	1				
54	620 209 8197	Spring,Tens	2				
55	620 212 5152	Spring,Comp,Earth	1				

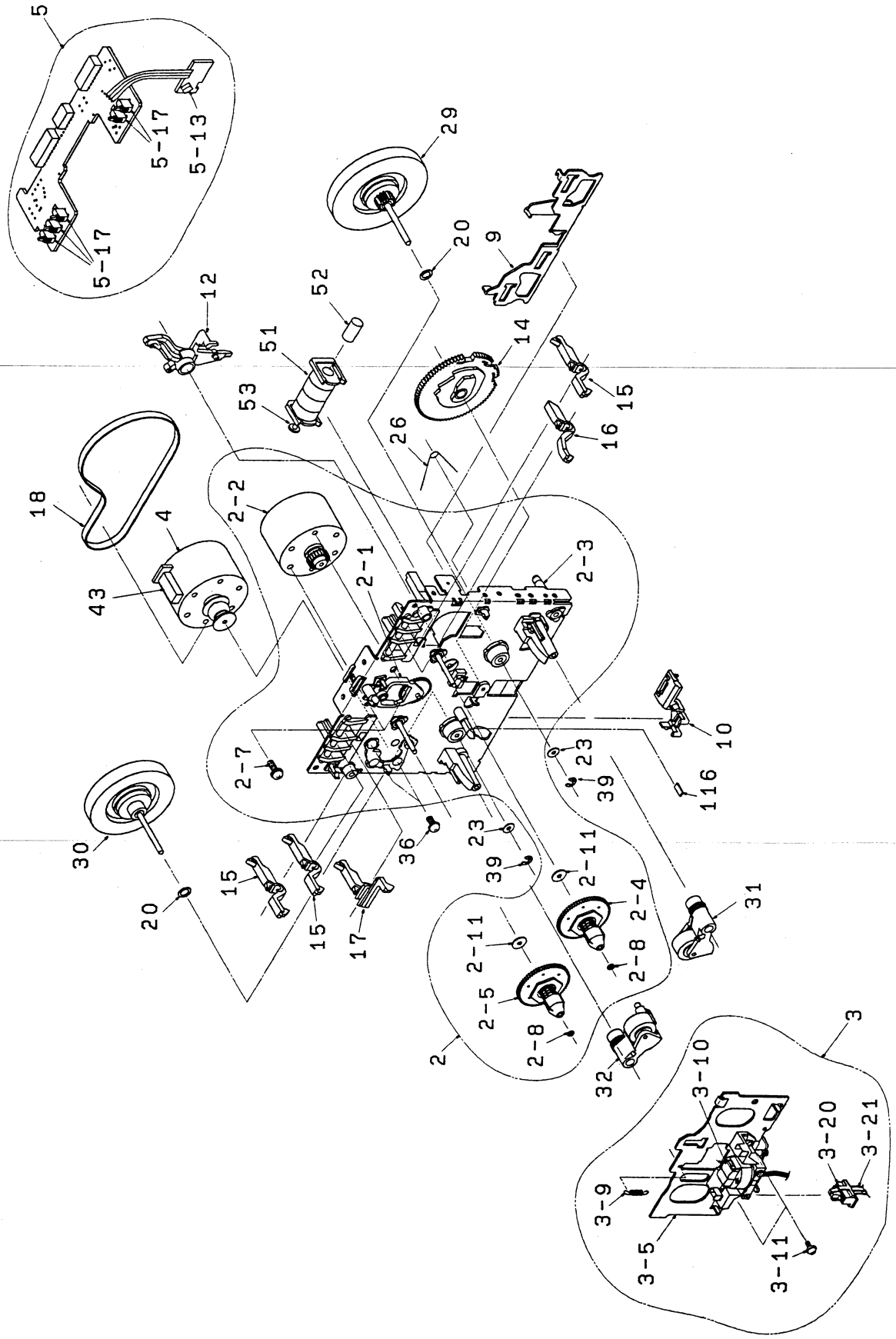
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

MECHANISM EXPLODED VIEW



MECHANISM PARTS LIST

Ref. No.	Part No.	Description	Q'ty
MECHANISM			
2	620 211 3517	Block Chassis	1
2-1	620 201 5248	Block Idler	1
2-2	620 201 5262	Block Motor Reel	1
2-3	620 211 3524	Block Base Chassis	1
2-4	620 209 7589	Reel Base BLK	1
2-5	620 201 5330	Block Base Reel	1
2-7	620 201 5347	Screw	2
2-8	620 201 5354	Washer	2
2-11	620 201 5361	Polyslider	2
3	620 211 3531	Block Plate Head	1
3-5	620 201 5392	Base Head	1
3-9	620 201 5422	Spring Base Head	1
3-10	620 211 3548	Head HADKH5725B [HD1]	1
3-11	620 201 5453	Screw	2
3-20	620 211 3555	Sensor SPI-320BC	1
3-21	620 211 3562	Wire	1
4	620 211 3579	Block Motor Main	1
5	620 211 3586	Block P.C.B. Control	1
5-13	620 211 3593	Sensor SPI-335-34-FG	2
5-17	620 201 5491	Push Switch	5
9	620 201 5514	Slide Plate	1
10	620 201 5521	Lead Holder	1
12	620 201 5538	Arm Play	1
14	620 201 5545	Gear, Cam	1
15	620 201 5552	Lever (REC SW)	3
16	620 201 5583	Lever (L) (Pack SW)	1
17	620 211 3722	Lever (Metal SW)	1
18	620 201 5613	Belt Main	1
20	620 201 5620	Polyslider	2
23	620 201 5637	Polyslider	2
26	620 201 5644	Spring Slide	1
29	620 201 5651	ASS'Y Flywheel	1
30	620 201 5668	ASS'Y Flywheel	1
31	620 201 5675	ASS'Y Pinch Roller (R)	1
32	620 201 5682	ASS'Y Pinch Roller (L)	1
36	620 201 5699	Screw	2
39	620 201 5705	E-Ring	2
43	620 209 0283	Cushion Holder	1
51	620 201 5712	Block Solenoid	1
52	620 201 5729	Iron Core	1
53	620 201 5736	Plunger [PL1]	1

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

CASSETTE DECK ADJUSTMENT

BEFORE ADJUSTMENT

If the tape surface which contacts the head, the capstan, the pinch roller, etc., is stained, it will cause unstable running of the tape, wow and flutter, imperfect recording and erasing, deterioration of tonal quality, and even tape jam around the capstan, etc. Occasionally clean each part as follows;

1. Cut off power.
2. Open the cassette lid.
3. Wipe the head, the capstan, and the pinch roller with a cotton swab. If they are excessively stained, clean them with a swab soaked in absolute alcohol or cleaning liquid available on the market.

MEASURING INSTRUMENTS REQUIRED

- Dualtrace Oscilloscope
- AC VTVM (AC voltmeter with high impedance)
- Dummy Load (47k Ω)
- Frequency Counter
- Signal Oscillator
- Test Tapes
 - ‡ 12.5kHz Test Tape (Example: A.BEX TCC-154) for Azimuth Adjustment
 - ‡ 3kHz Test Tape (Example: TEAC MTT-111) for Tape Speed Adjustment
 - ‡ 400Hz Test Tape (Example: TEAC MTT-150) for Playback sensitivity Adjustment
- Test Tape for Recording and Playback Operations
 - ‡ Metal Tape (Example: TDK AC 712)
 - ‡ CrO₂ Tape (Example: TDK AC 513)
 - ‡ Normal Tape (Example: TDK AC 223)

SWITCH POSITIONS

Unless especially indicated, set each switch as follows;

BALANCE CENTER
INPUT LEVEL MAX
MPX FILTER Switch OFF
DOLBY NR Switch OFF
HX PRO Switch ON

TAPE SPEED ADJUSTMENT

1. Connect the dummy load (47k Ω) and the frequency counter to the LINE OUT terminal L.
2. Load a test tape (Example: TEAC MTT-111) and set it in the playback mode.
3. Adjust potentiometer in the capstan motor so that the output becomes 3000Hz \pm 5Hz.

HEAD AZIMUTH ADJUSTMENT

1. Connect the dummy load (47k Ω) and the dualtrace oscilloscope to the LINE OUT terminals L and R.
2. Load a test tape (Example: A.BEX TCC-154) and set it in the playback mode.
3. Adjust the head azimuth adjustment screw, so that the waveforms become maximum on the oscilloscope and the right wave form overlaps with the left one.

PLAYBACK SENSITIVITY ADJUSTMENT

1. Connect the AC VTVM to the test terminal PB OUT (L) to GND and PB OUT (R) to GND.
2. Load a test tape (Example: TEAC MTT-150) and set it in the playback mode.

3. Adjust P101, so that the output of test terminal (775MV, L) becomes 775mV.
4. Adjust P102, so that the output of test terminal (775MV, R) becomes 775mV.

HX PRO DRIVE TRANS ADJUSTMENT

1. Load a METAL tape (Example: TDK AC 712) and set it in the Rec. mode.
2. Connect AC VTVM to the test terminal DTS AJT (L) to GND and DTS AJT (R) to GND.
3. Adjust L101, so that the output voltage of DTS AJT (L) becomes minimum level.
4. Adjust L102, so that the output voltage of DTS ADT (R) becomes minimum level.

RECORD BIAS ADJUSTMENT

1. Connect the low frequency oscillator to the L side of the LINE IN terminal, and the dummy load (47k Ω) and AC VTVM to the L side of the LINE OUT terminal.
2. Load a CrO₂ tape (Example: TDK AC 513) and set it in the recording mode.
3. Set the input level volume control to the maximum position and set the record balance volume control to the center position.
4. Feed the signals of 1kHz and 14kHz at 7mV (-43 dBs) from the frequency generator into the unit. Then, record the signals on the tape.
5. Play back the recorded signals and adjust P107, so that the difference between output of the 1kHz and 14kHz signals reaches ± 0.5 dB.
6. Adjust P108 for the R side by following the same procedures as described for the L side.
7. Load a METAL tape (Example: TDK AC 712) and set it in the recording mode.
8. Adjust P103 (L) and P104 (R) following the same procedures as for CrO₂ tape adjustment.
9. Load a NORMAL tape (Example: TDK AC 223) and set it in the recording mode.
10. Adjust P301 (P301 is common adjustment of L and R.) following the same procedures as for CrO₂ tape adjustment.

METER SENSITIVITY ADJUSTMENT

1. Connect the low frequency oscillator to the L side of the LINE IN terminal.
2. Feed a signal of 1kHz at 100mV (-20 dBs) from the frequency generator into the unit. Then, adjust INPUT LEVEL volume so that test terminal (775MV) becomes 775mV.
3. Connect the AC VTVM to the test terminal METER (L) to GND and METER (R) to GND.
4. Adjust P105, so that the output of METER (L) becomes 2.4V.
5. Adjust P106, so that the output of METER (R) becomes 2.4V.

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
ASSY,PCB,HEADPHONE,CIRC.				Q507	405 019 3903	TR 2SC536-G-SPA-AC	1
71	620 209 4380	Assy,PCB,Headphone,Circ.	1	or	405 019 2807	TR 2SC536-F-SPA-AC	1
CS1	620 200 2576	Socket,Holder,5P	1	Q508	405 019 3903	TR 2SC536-G-SPA-AC	1
CS2	620 201 0373	Socket,Holder,3P	1	or	405 019 2807	TR 2SC536-F-SPA-AC	1
VR601	620 209 3352	VR,Rotary,2X50KA	1	Q509	405 105 0601	TR 2SD734-G-AA	1
WR1	620 209 4786	Wire,5P,2.0	1	or	405 105 0502	TR 2SD734-F-AA	1
IC601	409 069 4705	IC M5218L-R	1	Q511	405 004 5103	TR 2SA608-G-SPA-AC	1
C601	403 048 3208	ELECT 0.22U M 50V	1	or	405 004 4601	TR 2SA608-F-SPA-AC	1
C602	403 048 3208	ELECT 0.22U M 50V	1	Q513	405 105 0007	TR 2SB698-G-AA	1
C603	403 023 1700	CERAMIC 33P K 50V	1	or	405 104 9902	TR 2SB698-F-AA	1
C604	403 023 1700	CERAMIC 33P K 50V	1	Q514	405 105 0007	TR 2SB698-G-AA	1
C605	403 073 1606	CERAMIC 0.033U Z 50V	1	or	405 104 9902	TR 2SB698-F-AA	1
C606	403 073 1606	CERAMIC 0.033U Z 50V	1	Q515	405 105 0601	TR 2SD734-G-AA	1
C607	403 039 7901	ELECT 100U M 10V	1	or	405 105 0502	TR 2SD734-F-AA	1
C608	403 039 7901	ELECT 100U M 10V	1	Q516	405 105 0601	TR 2SD734-G-AA	1
R601	401 026 1307	CARBON 27K JA 1/6W	1	or	405 105 0502	TR 2SD734-F-AA	1
R602	401 026 1307	CARBON 27K JA 1/6W	1	Q517	405 018 2808	TR 2SC3402-AC	1
R603	401 025 6709	CARBON 200K JA 1/6W	1	Q518	405 105 0601	TR 2SD734-G-AA	1
R604	401 025 6709	CARBON 200K JA 1/6W	1	or	405 105 0502	TR 2SD734-F-AA	1
R605	401 027 5007	CARBON 68 JA 1/6W	1	Q519	405 105 0601	TR 2SD734-G-AA	1
R606	401 027 5007	CARBON 68 JA 1/6W	1	or	405 105 0502	TR 2SD734-F-AA	1
R607	401 027 5007	CARBON 68 JA 1/6W	1	Q520	405 018 2808	TR 2SC3402-AC	1
R608	401 027 5007	CARBON 68 JA 1/6W	1	Q521	405 018 2808	TR 2SC3402-AC	1
ASSY,PCB,HEADPHONE JACK				Q522	405 003 7702	TR 2SA1346-AC	1
72	620 209 4397	Assy,PCB,Headphone Jack	1	D504	407 008 0405	DIODE GMB01-BT	1
CS2	620 201 0373	Socket,Holder,3P	1	or	407 061 2200	DIODE 1SS254-TA	1
JK1	620 209 3406	Jack,H/P,6.3D,Gold	1	D506	407 136 4405	ZENER DIODE GZE6.8B-BT	1
WR2	620 209 4779	Wire,3P,2.0	1	D508	407 008 0405	DIODE GMB01-BT	1
ASSY,PCB,POWER TRANS				or	407 061 2200	DIODE 1SS254-TA	1
73	620 209 4410	Assy,PCB,Power Trans	1	D510	407 136 2807	ZENER DIODE GZE4.3A-BT	1
CS4	620 205 5114	Socket,Holder,7P	1	D511	407 136 4603	ZENER DIODE GZE7.5A-BT	1
EC1	620 022 2587	EC Terminal 1P	2	D512	407 005 8602	DIODE ERA15-02-V5	1
WR3	620 209 4755	Wire,7P,2.5	1	D513	407 005 1306	DIODE DS135C	1
ASSY,PCB,VOLUME				D514	407 008 0405	DIODE GMB01-BT	1
74	620 209 4441	Assy,PCB,Volume	1	or	407 061 2200	DIODE 1SS254-TA	1
VOL1	620 209 3345	Switch,Rotary Encoder	1	C501	403 044 0300	ELECT 47U M 16V	1
ASSY,PCB,TIM.SWITCH				C503	403 057 8003	POLYESTER 0.012U K 50V	1
75	620 209 4489	Assy,PCB,TIM.Switch	1	C504	404 032 2207	ELECT 2200U M 10V	1
CON12	620 209 4670	Assy,Connector-P,2P	1	or	404 039 4303	ELECT 2200U M 10V	1
TSW1	620 205 2724	Switch,Slide,1-1-3	1	C505	403 041 5704	ELECT 470U M 10V	1
or	620 201 3206	Switch,Slide,1-1-3	1	C507	403 039 7901	ELECT 100U M 10V	1
R568	401 024 7400	CARBON 10K JA 1/6W	1	C508	403 040 2704	ELECT 22U M 10V	1
R569	401 025 4606	CARBON 18K JA 1/6W	1	C509	403 040 2704	ELECT 22U M 10V	1
ASSY,PCB,CONTROL				C510	403 044 0300	ELECT 47U M 16V	1
76	620 211 5948	Assy,PCB,Control	1	C512	403 069 8404	CERAMIC 0.01U Z 50V	1
	620 031 4763	Wire Wrap Terminal	9	C513	403 002 3602	CERAMIC 0.1U K 25V	1
CN4	620 209 6551	Socket,52257,7P	1	C514	403 074 2701	CERAMIC 0.047U Z 50V	1
CN5	620 209 6551	Socket,52257,7P	1	C516	403 048 5509	ELECT 0.33U M 50V	1
CN6	620 209 6568	Socket,52257,9P	1	C518	403 048 3208	ELECT 0.22U M 50V	1
CN11	620 021 8597	Plug 4P,PH,V	1	R501	401 012 7009	CARBON 10K JA 1/4W	1
CN12	620 021 8306	Plug 2P	1	R502	401 027 0309	CARBON 47K JA 1/6W	1
CN13	620 021 1970	Plug 2P	1	R503	401 024 7004	CARBON 1K JA 1/6W	1
CON14	620 017 7597	Connector 6P Assy	1	R504	401 025 8208	CARBON 22K JA 1/6W	1
CON15	620 017 7580	Connector 4P Assy	1	R505	401 027 0309	CARBON 47K JA 1/6W	1
CON16	620 017 9355	Connector 5P Assy	1	R506	401 027 0309	CARBON 47K JA 1/6W	1
CO501	620 007 3424	FARC4LA-08000	1	R527	401 024 7400	CARBON 10K JA 1/6W	1
CS6	620 202 9122	Socket,Holder,9P	1	R528	401 025 1902	CARBON 15K JA 1/6W	1
CS7	620 202 9115	Socket,Holder,8P	3	R529	401 027 0309	CARBON 47K JA 1/6W	1
RA501	620 191 8106	Resistor 5X22K	1	R530	401 024 7400	CARBON 10K JA 1/6W	1
IC501	410 124 6107	IC M37450M4-533FP	1	R531	401 025 1902	CARBON 15K JA 1/6W	1
IC502	409 085 7100	IC LB1291	1	R532	401 024 8001	CARBON 1M JA 1/6W	1
IC503	409 085 7100	IC LB1291	1	R533	401 024 7004	CARBON 1K JA 1/6W	1
IC504	409 085 7100	IC LB1291	1	R534	401 025 7805	CARBON 2.2K JA 1/6W	1
IC505	409 114 4803	IC LB1641	1	R535	401 025 4200	CARBON 1.8K JA 1/6W	1
IC506	409 108 6004	IC NJM431L	1	R536	401 026 9600	CARBON 470 JA 1/6W	1
Q501	405 018 2808	TR 2SC3402-AC	1	R537	401 026 4308	CARBON 3.3K JA 1/6W	1
Q502	405 019 2807	TR 2SC536-F-SPA-AC	1	R538	401 025 7805	CARBON 2.2K JA 1/6W	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1	R539	401 027 0309	CARBON 47K JA 1/6W	1
Q503	405 019 2807	TR 2SC536-F-SPA-AC	1	R540	401 025 0004	CARBON 120K JA 1/6W	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1	R541	401 024 7004	CARBON 1K JA 1/6W	1
Q504	405 018 2501	TR 2SC3399-AC	1	R542	401 025 0004	CARBON 120K JA 1/6W	1
Q505	405 018 0200	TR 2SC3331-U-AA	1	R545	401 012 5708	CARBON 1K JA 1/4W	1
Q506	405 004 5103	TR 2SA608-G-SPA-AC	1	R546	401 027 6103	CARBON 680K JA 1/6W	1
or	405 004 4601	TR 2SA608-F-SPA-AC	1	R548	401 083 8301	MT-FILM 1.2K FA 1/6W	1
				R549	401 053 0403	MT-FILM 2K FA 1/6W	1
				R550	401 024 7400	CARBON 10K JA 1/6W	1
				R551	401 027 0309	CARBON 47K JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R552	402 032 7703	FUSIBLE RES 22 JA 1/2W	1		620 208 2936	Heat Sink	1
R553	401 025 7805	CARBON 2.2K JA 1/6W	1		620 053 7247	Plate Heat Sink	3
R554	401 025 7805	CARBON 2.2K JA 1/6W	1	CN3	620 021 6548	Plug 2P	1
R555	401 026 4308	CARBON 3.3K JA 1/6W	1	CN4	620 209 6520	Plug,53178,7P	1
R556	401 026 4308	CARBON 3.3K JA 1/6W	1	CN5	620 209 6520	Plug,53178,7P	1
R557	401 027 0309	CARBON 47K JA 1/6W	1	CN6	620 209 6537	Plug,53178,9P	1
R558	401 025 1605	CARBON 1.5K JA 1/6W	1	CN7	620 020 3753	Socket Jumper 7P	1
R559	402 059 7106	FUSIBLE RES 12 J- 1/2W	1	CN8	620 017 5289	Socket Jumper 4P	1
R560	402 059 7106	FUSIBLE RES 12 J- 1/2W	1	CN9	620 201 6467	Socket,Jumper,5P	1
R561	401 027 5908	CARBON 68K JA 1/6W	1	CON1	620 211 5931	Assy,Connector-P,8P	1
R562	401 027 5908	CARBON 68K JA 1/6W	1	FC1P	620 207 9158	Fuse Holder,Taping	6
R563	401 025 7805	CARBON 2.2K JA 1/6W	1	F101	△ 423 003 4101	FUSE 250V T0.4A	1
R564	401 025 7805	CARBON 2.2K JA 1/6W	1	F102	△ 423 003 4101	FUSE 250V T0.4A	1
R565	401 027 5908	CARBON 68K JA 1/6W	1	F103	△ 423 005 0507	FUSE 250V T1A	1
R566	401 027 5908	CARBON 68K JA 1/6W	1	L101	620 211 6235	Trans,OSC,Hxpro,105K	1
R567	401 020 2904	CARBON 47K JA 1/4W	1	L102	620 211 6235	Trans,OSC,Hxpro,105K	1
R570	401 024 7400	CARBON 10K JA 1/6W	1	L105	620 026 4648	Bias Trap 2700 Shield	1
R571	401 024 7707	CARBON 100K JA 1/6W	1	L106	620 026 4648	Bias Trap 2700 Shield	1
R572	401 025 1308	CARBON 150 JA 1/6W	1	LF107	620 209 3383	Filter,LC,MPX	1
R573	401 024 7004	CARBON 1K JA 1/6W	1	LF108	620 209 3383	Filter,LC,MPX	1
R574	401 024 7004	CARBON 1K JA 1/6W	1	L301	620 211 6228	Trans,OSC	1
R575	401 025 8208	CARBON 22K JA 1/6W	1	PJ1	620 017 2455	Pin Jack 4P	1
R577	401 027 0309	CARBON 47K JA 1/6W	1		620 195 1363	Jack,Pin, 4P	1
ASSY,PCB,SWITCH,FL							
77	620 211 5955	Assy,PCB,Switch,FL	1	P101	620 211 6587	Potentiometer,330B,TP	1
	620 209 8128	Cushion,Rubber	2	or	620 182 6753	Potentiometer 330B	1
FLT1	620 209 3413	Fluorescent Tube	1	P102	620 211 6587	Potentiometer,330B,TP	1
KBSW	620 202 6725	Switch,Tact,Taping (S501-S517)	17	or	620 182 6753	Potentiometer 330B	1
or	620 197 4683	Switch,Tact (S501-S517)	17	P103	620 207 9127	Potentiometer,22KB,TP	1
TSW2	620 205 2724	Switch,Slide,1-1-3	1	or	620 006 1360	Potentiometer 22KB	1
or	620 201 3206	Switch,Slide,1-1-3	1	P104	620 207 9127	Potentiometer,22KB,TP	1
R507	401 025 4200	CARBON 1.8K JA 1/6W	1	or	620 006 1360	Potentiometer 22KB	1
R508	401 025 4200	CARBON 1.8K JA 1/6W	1	P105	620 211 6594	Potentiometer,33KB,TP	1
R509	401 025 9809	CARBON 2.4K JA 1/6W	1	or	620 006 1339	Potentiometer,33KB	1
R510	401 025 9809	CARBON 2.4K JA 1/6W	1	P106	620 211 6594	Potentiometer,33KB,TP	1
R511	401 026 1000	CARBON 2.7K JA 1/6W	1	or	620 006 1339	Potentiometer 33KB	1
R512	401 026 1000	CARBON 2.7K JA 1/6W	1	P107	620 202 2079	Potentiometer,10KB,TP	1
R513	401 026 4308	CARBON 3.3K JA 1/6W	1	or	620 006 1377	Potentiometer 10KB	1
R514	401 026 4308	CARBON 3.3K JA 1/6W	1	P108	620 202 2079	Potentiometer,10KB,TP	1
R515	401 026 9907	CARBON 4.7K JA 1/6W	1	or	620 006 1377	Potentiometer 10KB	1
R516	401 026 9907	CARBON 4.7K JA 1/6W	1	P301	620 204 9120	Potentiometer,4.7KB,TP	1
R517	401 027 2600	CARBON 5.6K JA 1/6W	1	or	620 006 1391	Potentiometer 4.7KB	1
R518	401 027 2600	CARBON 5.6K JA 1/6W	1	IC301	409 070 4800	IC NJM2068DD	1
R519	401 027 7209	CARBON 7.5K JA 1/6W	1	IC302	409 232 6901	IC CXA1330S	1
R520	401 027 7209	CARBON 7.5K JA 1/6W	1	IC303	409 146 5403	IC CXA1198AP	1
R521	401 024 8605	CARBON 11K JA 1/6W	1	IC304	409 110 4302	IC M51131L	1
R522	401 024 8605	CARBON 11K JA 1/6W	1	IC306	409 145 8405	IC UPC1330HA	1
R523	401 025 4606	CARBON 18K JA 1/6W	1	IC307	409 057 4601	IC UPC4570HA	1
R524	401 025 4606	CARBON 18K JA 1/6W	1	IC308	409 003 9407	IC BU4052B	1
R525	401 026 3202	CARBON 30K JA 1/6W	1	or	409 051 2801	IC TC4052BP	1
R526	401 026 3202	CARBON 30K JA 1/6W	1	IC309	409 198 9206	IC BA4558N	1
R576	401 024 7400	CARBON 10K JA 1/6W	1	IC310	409 003 0404	IC BA6138	1
ASSY,PCB,LAMP							
78	620 211 5962	Assy,PCB,Lamp	1	IC317	409 198 9206	IC BA4558N	1
CS6	620 202 9122	Socket,Holder,8P	1	IC318	409 183 8603	IC UPC1297CA	1
CS7	620 202 9115	Socket,Holder,8P	3	Q101	405 018 0200	TR 2SC3331-U-AA	1
LAMP	620 209 4373	Lamp,12V,80MA	2	or	405 018 0101	TR 2SC3331-T-AA	1
WR6	620 211 5924	Wire,Jumper,09S	1	Q102	405 018 0200	TR 2SC3331-U-AA	1
WR7	620 209 4793	Wire,8P,2.0	3	or	405 018 0101	TR 2SC3331-T-AA	1
ASSY,PCB,OPEN SWITCH							
79	620 211 5979	Assy,PCB,Open Switch	1	Q103	405 018 0200	TR 2SC3331-U-AA	1
CON11	620 209 4717	Assy,Connector-P,4P	1	or	405 018 0101	TR 2SC3331-T-AA	1
SW1	620 209 3314	Switch,Lever,1-1-2	1	Q104	405 018 0200	TR 2SC3331-U-AA	1
ASSY,PCB,CLOSE SWITCH							
80	620 211 5986	Assy,PCB,Close Switch	1	or	405 018 0101	TR 2SC3331-T-AA	1
SW2	620 209 3314	Switch,Lever,1-1-2	1	Q105	405 018 0200	TR 2SC3331-U-AA	1
ASSY,PCB,BALANCE							
81	620 211 5993	Assy,PCB,Balance	1	or	405 021 0600	TR 2SD1012-G-SPA-AC	1
BAL1	620 211 6266	VR,Rotary,1X50KB	1	or	405 021 0204	TR 2SD1012-F-SPA-AC	1
ASSY,PCB,MAIN							
82	620 211 6006	Assy,PCB,Main	1	Q106	405 105 0403	TR 2SD2144S-V	1
	411 020 8004	SCR S-TPG BRZ 3X8	4	or	405 105 0304	TR 2SD2144S-U	1
	620 031 4763	Wire Wrap Terminal	7	or	405 021 0600	TR 2SD1012-G-SPA-AC	1
				or	405 021 0204	TR 2SD1012-F-SPA-AC	1
				Q107	405 018 0200	TR 2SC3331-U-AA	1
				or	405 018 0101	TR 2SC3331-T-AA	1
				Q108	405 018 0200	TR 2SC3331-U-AA	1
				or	405 018 0101	TR 2SC3331-T-AA	1
				Q109	405 018 0200	TR 2SC3331-U-AA	1
				or	405 018 0101	TR 2SC3331-T-AA	1
				Q110	405 018 0200	TR 2SC3331-U-AA	1
				or	405 018 0101	TR 2SC3331-T-AA	1
				Q111	405 105 0403	TR 2SD2144S-V	1
				or	405 105 0304	TR 2SD2144S-U	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
or	405 021 0600	TR 2SD1012-G-SPA-AC	1	D307	407 008 0405	DIODE GMB01-BT	1
or	405 021 0204	TR 2SD1012-F-SPA-AC	1	or	407 061 2200	DIODE 1SS254-TA	1
Q112	405 105 0403	TR 2SD2144S-V	1	D310	407 008 0405	DIODE GMB01-BT	1
or	405 105 0304	TR 2SD2144S-U	1	or	407 061 2200	DIODE 1SS254-TA	1
or	405 021 0600	TR 2SD1012-G-SPA-AC	1	D311	407 008 0405	DIODE GMB01-BT	1
or	405 021 0204	TR 2SD1012-F-SPA-AC	1	or	407 061 2200	DIODE 1SS254-TA	1
Q113	405 018 2808	TR 2SC3402-AC	1	D312	407 008 0405	DIODE GMB01-BT	1
Q114	405 018 2808	TR 2SC3402-AC	1	or	407 061 2200	DIODE 1SS254-TA	1
Q301	405 018 2808	TR 2SC3402-AC	1	D313	407 008 0405	DIODE GMB01-BT	1
Q302	405 003 7900	TR 2SA1348-AC	1	or	407 061 2200	DIODE 1SS254-TA	1
Q303	405 018 2808	TR 2SC3402-AC	1	D314	407 008 0405	DIODE GMB01-BT	1
Q304	405 003 7900	TR 2SA1348-AC	1	or	407 061 2200	DIODE 1SS254-TA	1
Q305	405 018 2808	TR 2SC3402-AC	1	D315	407 008 0405	DIODE GMB01-BT	1
Q306	405 018 2808	TR 2SC3402-AC	1	or	407 061 2200	DIODE 1SS254-TA	1
Q307	405 018 0200	TR 2SC3331-U-AA	1	D316	407 008 0405	DIODE GMB01-BT	1
or	405 018 0101	TR 2SC3331-T-AA	1	or	407 061 2200	DIODE 1SS254-TA	1
Q308	405 003 7900	TR 2SA1348-AC	1	D317	407 008 0405	DIODE GMB01-BT	1
Q309	405 018 2808	TR 2SC3402-AC	1	or	407 061 2200	DIODE 1SS254-TA	1
Q310	405 018 2808	TR 2SC3402-AC	1	D318	407 005 8602	DIODE ERA15-02-V5	1
Q311	405 003 7900	TR 2SA1348-AC	1	D319	407 005 8602	DIODE ERA15-02-V5	1
Q312	405 018 0200	TR 2SC3331-U-AA	1	D320	407 005 8602	DIODE ERA15-02-V5	1
or	405 018 0101	TR 2SC3331-T-AA	1	D321	407 005 8602	DIODE ERA15-02-V5	1
Q313	405 018 0200	TR 2SC3331-U-AA	1	D322	407 005 8602	DIODE ERA15-02-V5	1
or	405 018 0101	TR 2SC3331-T-AA	1	D323	407 005 8602	DIODE ERA15-02-V5	1
Q314	405 036 3504	TR 2SA1524-AC	1	D324	407 005 8602	DIODE ERA15-02-V5	1
Q315	405 018 2808	TR 2SC3402-AC	1	D325	407 005 8602	DIODE ERA15-02-V5	1
Q316	405 018 0200	TR 2SC3331-U-AA	1	D326	407 005 8602	DIODE ERA15-02-V5	1
Q317	405 018 0200	TR 2SC3331-U-AA	1	D327	407 005 8602	DIODE ERA15-02-V5	1
Q318	405 018 0200	TR 2SC3331-U-AA	1	D328	407 136 3705	ZENER DIODE GZE5.6A-BT	1
or	405 018 0101	TR 2SC3331-T-AA	1	D329	407 136 6607	ZENER DIODE GZE13C-BT	1
Q321	405 018 0200	TR 2SC3331-U-AA	1	D330	407 050 2402	ZENER DIODE GZA33X-BT	1
or	405 018 0101	TR 2SC3331-T-AA	1	D331	407 136 4603	ZENER DIODE GZE7.5A-BT	1
Q322	405 018 0200	TR 2SC3331-U-AA	1	D333	407 008 0405	DIODE GMB01-BT	1
or	405 018 0101	TR 2SC3331-T-AA	1	or	407 061 2200	DIODE 1SS254-TA	1
Q323	405 018 0200	TR 2SC3331-U-AA	1	D334	407 008 0405	DIODE GMB01-BT	1
or	405 018 0101	TR 2SC3331-T-AA	1	or	407 061 2200	DIODE 1SS254-TA	1
Q324	405 032 8305	TR 2SC1846-R	1	C101	403 071 5903	CERAMIC 220P K 50V	1
or	405 032 8404	TR 2SC1846-S	1	C102	403 071 5903	CERAMIC 220P K 50V	1
Q325	405 104 9605	TR 2SA885-R	1	C103	403 049 5508	ELECT 10U M 50V	1
or	405 104 9704	TR 2SA885-S	1	C104	403 049 5508	ELECT 10U M 50V	1
Q326	405 004 5004	TR 2SA608-G-NP-AA	1	C105	403 068 9105	CERAMIC 100P K 50V	1
or	405 004 4502	TR 2SA608-F-NP-AA	1	C106	403 068 9105	CERAMIC 100P K 50V	1
Q327	405 004 5004	TR 2SA608-G-NP-AA	1	C107	403 058 9603	POLYESTER 0.018U J 50V	1
or	405 004 4502	TR 2SA608-F-NP-AA	1	C108	403 058 9603	POLYESTER 0.018U J 50V	1
Q328	405 095 1701	TR 2SD2061-F	1	C109	403 003 8705	CERAMIC 0.039U K 25V	1
or	405 095 1602	TR 2SD2061-E	1	C110	403 003 8705	CERAMIC 0.039U K 25V	1
Q329	405 018 0200	TR 2SC3331-U-AA	1	C111	403 059 6601	POLYESTER 0.022U K 50V	1
or	405 018 0101	TR 2SC3331-T-AA	1	C112	403 059 6601	POLYESTER 0.022U K 50V	1
Q330	405 018 0200	TR 2SC3331-U-AA	1	C113	403 082 5107	POLYPRO 820P J 100V	1
or	405 018 0101	TR 2SC3331-T-AA	1	C114	403 082 5107	POLYPRO 820P J 100V	1
Q331	405 017 2304	TR 2SC3116-T	1	C119	403 040 4807	ELECT 220U M 10V	1
or	405 041 7108	TR 2SC3116-S	1	C120	403 040 4807	ELECT 220U M 10V	1
Q332	405 105 0205	TR 2SC3708-U-AA	1	C121	403 050 3708	ELECT 22U M 50V	1
or	405 105 0106	TR 2SC3708-S-AA	1	C122	403 050 3708	ELECT 22U M 50V	1
Q333	405 105 0205	TR 2SC3708-U-AA	1	C125	403 049 5508	ELECT 10U M 50V	1
or	405 105 0106	TR 2SC3708-S-AA	1	C126	403 049 5508	ELECT 10U M 50V	1
Q334	405 018 0200	TR 2SC3331-U-AA	1	C129	403 059 3303	POLYESTER 2200P J 50V	1
or	405 018 0101	TR 2SC3331-T-AA	1	C130	403 059 3303	POLYESTER 2200P J 50V	1
Q335	405 018 2808	TR 2SC3402-AC	1	C131	403 059 3303	POLYESTER 2200P J 50V	1
Q336	405 018 0200	TR 2SC3331-U-AA	1	C132	403 059 3303	POLYESTER 2200P J 50V	1
or	405 018 0101	TR 2SC3331-T-AA	1	C133	403 222 4700	ELECT 0.56U K 50V	1
Q337	405 003 7702	TR 2SA1346-AC	1	C134	403 222 4700	ELECT 0.56U K 50V	1
Q338	405 003 7702	TR 2SA1346-AC	1	C135	403 048 5509	ELECT 0.33U M 50V	1
Q339	405 004 5004	TR 2SA608-G-NP-AA	1	C136	403 048 5509	ELECT 0.33U M 50V	1
or	405 004 4502	TR 2SA608-F-NP-AA	1	C137	403 049 5508	ELECT 10U M 50V	1
Q340	405 018 0200	TR 2SC3331-U-AA	1	C138	403 049 5508	ELECT 10U M 50V	1
or	405 018 0101	TR 2SC3331-T-AA	1	C139	403 049 5508	ELECT 10U M 50V	1
D301	407 008 0405	DIODE GMB01-BT	1	C140	403 049 5508	ELECT 10U M 50V	1
or	407 061 2200	DIODE 1SS254-TA	1	C141	403 071 5903	CERAMIC 220P K 50V	1
D302	407 008 0405	DIODE GMB01-BT	1	C142	403 071 5903	CERAMIC 220P K 50V	1
or	407 061 2200	DIODE 1SS254-TA	1	C143	403 073 6502	CERAMIC 470P K 50V	1
D303	407 008 0405	DIODE GMB01-BT	1	C144	403 073 6502	CERAMIC 470P K 50V	1
or	407 061 2200	DIODE 1SS254-TA	1	C145	403 070 8608	CERAMIC 1500P K 50V	1
D304	407 008 0405	DIODE GMB01-BT	1	C146	403 070 8608	CERAMIC 1500P K 50V	1
or	407 061 2200	DIODE 1SS254-TA	1	C147	403 070 4709	CERAMIC 1200P K 50V	1
D305	407 008 0405	DIODE GMB01-BT	1	C148	403 070 4709	CERAMIC 1200P K 50V	1
or	407 061 2200	DIODE 1SS254-TA	1	C149	403 072 7906	CERAMIC 330P K 50V	1
D306	407 008 0405	DIODE GMB01-BT	1	C150	403 072 7906	CERAMIC 330P K 50V	1
or	407 061 2200	DIODE 1SS254-TA	1	C151	403 049 1708	ELECT 1U M 50V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
C152	403 049 1708	ELECT 1U M 50V	1	R115	401 012 5708	CARBON 1K JA 1/4W	1
C153	403 050 1308	ELECT 2.2U M 50V	1	R116	401 012 5708	CARBON 1K JA 1/4W	1
C154	403 050 1308	ELECT 2.2U M 50V	1	R117	401 018 4903	CARBON 33K JA 1/4W	1
C155	403 073 6502	CERAMIC 470P K 50V	1	R118	401 018 4903	CARBON 33K JA 1/4W	1
C156	403 073 6502	CERAMIC 470P K 50V	1	R119	401 020 2904	CARBON 47K JA 1/4W	1
C157	403 073 6502	CERAMIC 470P K 50V	1	R120	401 020 2904	CARBON 47K JA 1/4W	1
C158	403 073 6502	CERAMIC 470P K 50V	1	R121	401 016 4806	CARBON 22K JA 1/4W	1
C159	403 074 5801	CERAMIC 560P K 50V	1	R122	401 016 4806	CARBON 22K JA 1/4W	1
C160	403 074 5801	CERAMIC 560P K 50V	1	R123	401 012 5708	CARBON 1K JA 1/4W	1
C161	403 057 0908	POLYESTER 0.01U K 50V	1	R124	401 012 5708	CARBON 1K JA 1/4W	1
C162	403 057 0908	POLYESTER 0.01U K 50V	1	R125	401 012 5708	CARBON 1K JA 1/4W	1
C163	403 003 2802	CERAMIC 0.022U K 25V	1	R126	401 012 5708	CARBON 1K JA 1/4W	1
C164	403 003 2802	CERAMIC 0.022U K 25V	1	R127	401 021 3009	CARBON 5.6K JA 1/4W	1
C165	403 004 0500	CERAMIC 0.047U K 25V	1	R128	401 021 3009	CARBON 5.6K JA 1/4W	1
C166	403 004 0500	CERAMIC 0.047U K 25V	1	R129	401 021 3009	CARBON 5.6K JA 1/4W	1
C167	403 212 6103	POLYPRO 470P J 250V	1	R130	401 021 3009	CARBON 5.6K JA 1/4W	1
C168	403 212 6103	POLYPRO 470P J 250V	1	R131	401 020 2003	CARBON 4.7K JA 1/4W	1
C169	403 217 9307	POLYPRO 120P J 250V	1	R132	401 020 2003	CARBON 4.7K JA 1/4W	1
C170	403 217 9307	POLYPRO 120P J 250V	1	R133	401 016 0105	CARBON 20K JA 1/4W	1
C171	403 050 7805	ELECT 3.3U M 50V	1	R134	401 016 0105	CARBON 20K JA 1/4W	1
C172	403 050 7805	ELECT 3.3U M 50V	1	R135	401 016 4806	CARBON 22K JA 1/4W	1
C173	403 051 2106	ELECT 4.7U M 50V	1	R136	401 016 4806	CARBON 22K JA 1/4W	1
C174	403 051 2106	ELECT 4.7U M 50V	1	R137	401 012 7009	CARBON 10K JA 1/4W	1
C175	403 049 1708	ELECT 1U M 50V	1	R138	401 012 7009	CARBON 10K JA 1/4W	1
C176	403 049 1708	ELECT 1U M 50V	1	R139	401 023 2802	CARBON 8.2K JA 1/4W	1
C177	403 072 2703	CERAMIC 0.022U Z 50V	1	R140	401 023 2802	CARBON 8.2K JA 1/4W	1
C178	403 072 2703	CERAMIC 0.022U Z 50V	1	R141	401 012 7009	CARBON 10K JA 1/4W	1
C301	403 042 9107	ELECT 22U M 16V	1	R142	401 012 7009	CARBON 10K JA 1/4W	1
C302	403 050 7805	ELECT 3.3U M 50V	1	R143	401 018 3807	CARBON 3.3K JA 1/4W	1
C303	403 039 7901	ELECT 100U M 10V	1	R144	401 018 3807	CARBON 3.3K JA 1/4W	1
C304	403 039 7901	ELECT 100U M 10V	1	R145	401 020 2904	CARBON 47K JA 1/4W	1
C305	403 042 3600	ELECT 100U M 16V	1	R146	401 020 2904	CARBON 47K JA 1/4W	1
C306	403 042 9107	ELECT 22U M 16V	1	R147	401 018 3807	CARBON 3.3K JA 1/4W	1
C307	403 042 9107	ELECT 22U M 16V	1	R148	401 018 3807	CARBON 3.3K JA 1/4W	1
C308	403 043 1100	ELECT 220U M 16V	1	R149	401 022 3107	CARBON 6.8K JA 1/4W	1
C314	403 068 9105	CERAMIC 100P K 50V	1	R150	401 022 3107	CARBON 6.8K JA 1/4W	1
C316	403 060 6300	POLYESTER 3300P K 50V	1	R151	401 016 8309	CARBON 24K GA 1/4W	1
C317	403 060 6300	POLYESTER 3300P K 50V	1	R152	401 016 8309	CARBON 24K GA 1/4W	1
C318	403 057 0601	POLYESTER 0.01U K 50V	1	R153	401 021 1401	CARBON 560 GA 1/4W	1
C319	403 216 0701	POLYESTER 0.022U K 200V	1	R154	401 021 1401	CARBON 560 GA 1/4W	1
C320	403 217 9406	POLYPRO 3300P J 400V	1	R155	401 020 2904	CARBON 47K JA 1/4W	1
C321	403 045 0606	ELECT 100U M 25V	1	R156	401 020 2904	CARBON 47K JA 1/4W	1
C327	403 049 5508	ELECT 10U M 50V	1	R157	401 018 3807	CARBON 3.3K JA 1/4W	1
C328	403 069 8404	CERAMIC 0.01U Z 50V	1	R158	401 018 3807	CARBON 3.3K JA 1/4W	1
C329	403 069 8404	CERAMIC 0.01U Z 50V	1	R159	401 024 7400	CARBON 10K JA 1/6W	1
C330	403 069 8404	CERAMIC 0.01U Z 50V	1	R160	401 024 7400	CARBON 10K JA 1/6W	1
C331	403 069 8404	CERAMIC 0.01U Z 50V	1	R161	401 023 7906	CARBON 91K JA 1/4W	1
C332	403 045 2907	ELECT 1000U M 25V	1	R162	401 023 7906	CARBON 91K JA 1/4W	1
C333	403 045 2907	ELECT 1000U M 25V	1	R163	401 015 9505	CARBON 2K JA 1/4W	1
C334	403 042 3600	ELECT 100U M 16V	1	R164	401 015 9505	CARBON 2K JA 1/4W	1
C335	403 042 3600	ELECT 100U M 16V	1	R165	401 027 3003	CARBON 56K JA 1/6W	1
C336	403 042 3600	ELECT 100U M 16V	1	R166	401 027 3003	CARBON 56K JA 1/6W	1
C337	403 040 0403	ELECT 1000U M 10V	1	R167	401 018 3807	CARBON 3.3K JA 1/4W	1
C338	403 040 0403	ELECT 1000U M 10V	1	R168	401 018 3807	CARBON 3.3K JA 1/4W	1
C339	403 052 9609	ELECT 1000U M 35V	1	R169	401 018 4903	CARBON 33K JA 1/4W	1
C340	403 121 0704	ELECT 100U M 63V	1	R170	401 018 4903	CARBON 33K JA 1/4W	1
C341	403 121 0704	ELECT 100U M 63V	1	R171	401 018 4903	CARBON 33K JA 1/4W	1
C342	403 044 3004	ELECT 470U M 16V	1	R172	401 018 4903	CARBON 33K JA 1/4W	1
C343	403 052 8107	ELECT 100U M 35V	1	R173	401 024 7400	CARBON 10K JA 1/6W	1
C344	403 044 3004	ELECT 470U M 16V	1	R174	401 024 7400	CARBON 10K JA 1/6W	1
C345	403 046 4603	ELECT 33U M 25V	1	R175	401 024 7400	CARBON 10K JA 1/6W	1
C346	403 046 4603	ELECT 33U M 25V	1	R176	401 024 7400	CARBON 10K JA 1/6W	1
C348	403 042 0401	ELECT 10U M 16V	1	R177	401 024 8001	CARBON 1M JA 1/6W	1
C350	403 074 2701	CERAMIC 0.047U Z 50V	1	R178	401 024 8001	CARBON 1M JA 1/6W	1
C360	403 069 8404	CERAMIC 0.01U Z 50V	1	R181	401 019 1901	CARBON 3.9K JA 1/4W	1
R101	401 020 2904	CARBON 47K JA 1/4W	1	R182	401 019 1901	CARBON 3.9K JA 1/4W	1
R102	401 020 2904	CARBON 47K JA 1/4W	1	R183	401 018 3807	CARBON 3.3K JA 1/4W	1
R103	401 012 4503	CARBON 100 JA 1/4W	1	R184	401 018 3807	CARBON 3.3K JA 1/4W	1
R104	401 012 4503	CARBON 100 JA 1/4W	1	R185	401 027 0309	CARBON 47K JA 1/6W	1
R105	401 022 3107	CARBON 6.8K JA 1/4W	1	R186	401 027 0309	CARBON 47K JA 1/6W	1
R106	401 022 3107	CARBON 6.8K JA 1/4W	1	R187	401 027 5205	CARBON 680 JA 1/6W	1
R107	401 016 8002	CARBON 2.4K JA 1/4W	1	R188	401 027 5205	CARBON 680 JA 1/6W	1
R108	401 016 8002	CARBON 2.4K JA 1/4W	1	R189	401 026 4902	CARBON 330K JA 1/6W	1
R109	401 018 3807	CARBON 3.3K JA 1/4W	1	R190	401 026 4902	CARBON 330K JA 1/6W	1
R110	401 018 3807	CARBON 3.3K JA 1/4W	1	R193	401 025 7102	CARBON 22 JA 1/6W	1
R111	401 024 7400	CARBON 10K JA 1/6W	1	R194	401 025 7102	CARBON 22 JA 1/6W	1
R112	401 024 7400	CARBON 10K JA 1/6W	1	R195	401 026 4902	CARBON 330K JA 1/6W	1
R113	401 018 4903	CARBON 33K JA 1/4W	1	R196	401 026 4902	CARBON 330K JA 1/6W	1
R114	401 018 4903	CARBON 33K JA 1/4W	1	R197	401 024 7400	CARBON 10K JA 1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty	Ref. No.	Part No.	Description	Q'ty
R198	401 024 7400	CARBON 10K JA 1/6W	1	R392	401 027 1801	CARBON 51K JA 1/6W	1
R199	401 025 2305	CARBON 150K JA 1/6W	1	R393	401 027 1801	CARBON 51K JA 1/6W	1
R200	401 025 2305	CARBON 150K JA 1/6W	1	R394	401 025 0004	CARBON 120K JA 1/6W	1
R201	401 026 4605	CARBON 33K JA 1/6W	1	R395	401 027 4604	CARBON 62K JA 1/6W	1
R202	401 026 4605	CARBON 33K JA 1/6W	1	R396	401 028 0308	CARBON 91K JA 1/6W	1
R207	401 014 5201	CARBON 15K JA 1/4W	1	R397	401 027 3003	CARBON 56K JA 1/6W	1
R208	401 014 5201	CARBON 15K JA 1/4W	1	R398	401 026 4605	CARBON 33K JA 1/6W	1
R209	401 012 4503	CARBON 100 JA 1/4W	1	R399	401 026 4605	CARBON 33K JA 1/6W	1
R210	401 012 4503	CARBON 100 JA 1/4W	1	R400	401 026 4902	CARBON 330K JA 1/6W	1
R211	401 017 2504	CARBON 27K GA 1/4W	1	R401	401 027 4604	CARBON 62K JA 1/6W	1
R212	401 012 5708	CARBON 1K JA 1/4W	1	R402	401 024 7707	CARBON 100K JA 1/6W	1
R213	401 015 4708	CARBON 180K JA 1/4W	1	R403	401 027 5908	CARBON 68K JA 1/6W	1
R214	401 015 4708	CARBON 180K JA 1/4W	1	R404	401 026 7408	CARBON 39K JA 1/6W	1
R215	401 024 7707	CARBON 100K JA 1/6W	1	R405	401 027 1801	CARBON 51K JA 1/6W	1
R216	401 024 7707	CARBON 100K JA 1/6W	1	R409	401 011 8908	CARBON 1 JA 1/4W	1
R217	401 024 7707	CARBON 100K JA 1/6W	1				
R218	401 024 7707	CARBON 100K JA 1/6W	1				
R219	401 012 9300	CARBON 1M JA 1/4W	1				
R220	401 012 9300	CARBON 1M JA 1/4W	1				
R221	401 024 7707	CARBON 100K JA 1/6W	1				
R222	401 024 7707	CARBON 100K JA 1/6W	1				
R301	401 012 9300	CARBON 1M JA 1/4W	1				
R302	401 012 5708	CARBON 1K JA 1/4W	1				
R303	402 060 9205	FUSIBLE RES 56 JA 1/4W	1				
R304	401 027 5908	CARBON 68K JA 1/6W	1				
R305	402 061 0805	FUSIBLE RES 10 JA 1/4W	1				
or	402 039 2800	FUSIBLE RES 10 JA 1/4W	1				
R306	402 061 0805	FUSIBLE RES 10 JA 1/4W	1				
or	402 039 2800	FUSIBLE RES 10 JA 1/4W	1				
R309	401 016 8507	CARBON 24K JA 1/4W	1				
R310	401 020 2003	CARBON 4.7K JA 1/4W	1				
R311	401 012 5708	CARBON 1K JA 1/4W	1				
R312	401 012 7009	CARBON 10K JA 1/4W	1				
R313	401 012 5708	CARBON 1K JA 1/4W	1				
R314	401 012 7009	CARBON 10K JA 1/4W	1				
R315	401 020 2003	CARBON 4.7K JA 1/4W	1				
R316	401 024 7400	CARBON 10K JA 1/6W	1				
R317	401 024 7400	CARBON 10K JA 1/6W	1				
R318	401 012 7009	CARBON 10K JA 1/4W	1				
R322	401 024 7400	CARBON 10K JA 1/6W	1				
R323	401 024 7400	CARBON 10K JA 1/6W	1				
R324	401 024 7400	CARBON 10K JA 1/6W	1				
R326	401 012 7009	CARBON 10K JA 1/4W	1				
R327	401 012 8105	CARBON 100K JA 1/4W	1				
R328	401 020 2904	CARBON 47K JA 1/4W	1				
R330	401 016 2604	CARBON 220 JA 1/4W	1				
R334	401 012 5708	CARBON 1K JA 1/4W	1				
R335	401 025 7805	CARBON 2.2K JA 1/6W	1				
R341	401 016 8002	CARBON 2.4K JA 1/4W	1				
R343	401 022 1905	CARBON 680 JA 1/4W	1				
R347	401 012 7009	CARBON 10K JA 1/4W	1				
R361	401 027 0309	CARBON 47K JA 1/6W	1				
R362	401 027 0309	CARBON 47K JA 1/6W	1				
R363	401 024 6403	CARBON 10 JA 1/6W	1				
R364	401 024 6403	CARBON 10 JA 1/6W	1				
R366	402 061 0805	FUSIBLE RES 10 JA 1/4W	1				
or	402 039 2800	FUSIBLE RES 10 JA 1/4W	1				
R367	401 016 3809	CARBON 2.2K JA 1/4W	1				
R368	401 016 3809	CARBON 2.2K JA 1/4W	1				
R369	401 016 3809	CARBON 2.2K JA 1/4W	1				
R370	401 016 3809	CARBON 2.2K JA 1/4W	1				
R371	401 012 5708	CARBON 1K JA 1/4W	1				
R372	401 017 1804	CARBON 2.7K JA 1/4W	1				
R373	401 014 8301	CARBON 160 JA 1/4W	1				
R374	401 012 5708	CARBON 1K JA 1/4W	1				
R375	401 012 5708	CARBON 1K JA 1/4W	1				
R376	401 016 3809	CARBON 2.2K JA 1/4W	1				
R377	401 022 3107	CARBON 6.8K JA 1/4W	1				
R378	401 019 1901	CARBON 3.9K JA 1/4W	1				
R379	401 016 3809	CARBON 2.2K JA 1/4W	1				
R380	401 018 3807	CARBON 3.3K JA 1/4W	1				
R381	401 018 3807	CARBON 3.3K JA 1/4W	1				
R382	401 016 3809	CARBON 2.2K JA 1/4W	1				
R383	401 012 7009	CARBON 10K JA 1/4W	1				
R386	401 021 4105	CARBON 56K JA 1/4W	1				
R388	401 027 7407	CARBON 75K JA 1/6W	1				
R389	401 027 7407	CARBON 75K JA 1/6W	1				
R390	401 027 7407	CARBON 75K JA 1/6W	1				
R391	401 025 6501	CARBON 20K JA 1/6W	1				

ASSY,PCB,POWER SWITCH

83	620 211 6013	Assy,PCB,Power Switch	1
CS3	620 201 6566	Socket,Holder,4P	1
PSW1	620 015 3546	Push Switch 1 Key	1
WR4	620 211 5900	Wire,Jumper,04S	1

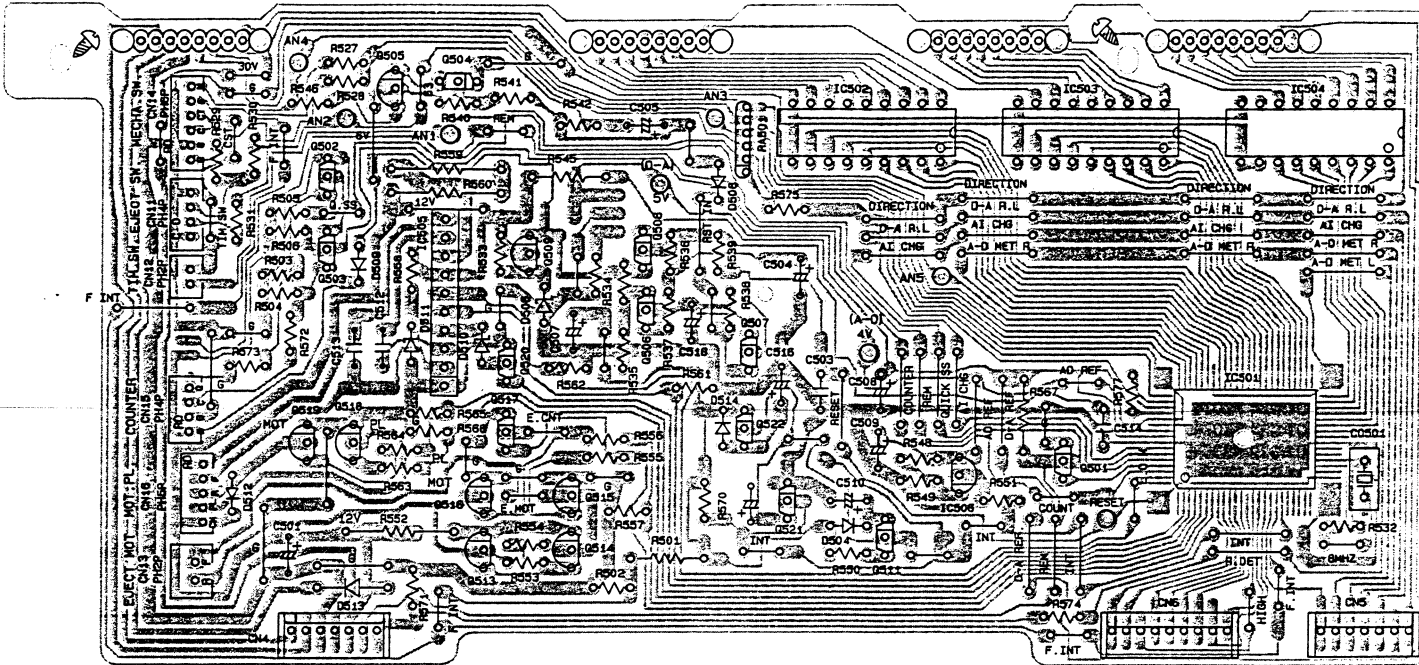
NOTES:

- Parts order must contain Model Number, Part Number and Description.
- Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol Δ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with Δ , use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

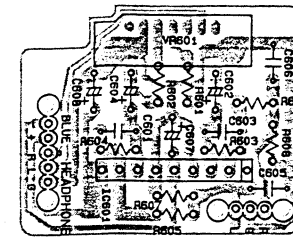
CONTROL P.C.BOARD (BOTTOM VIEW)



Voltage Table of Control P.C.Board

		IC PIN NUMBERS DC VOLTAGES																	
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IC502	LB1291	2.2V	2.2V	1.5V	3.0V	2.2V	3.0V	2.2V	2.2V	0V	31.1V	13.1V	13.1V	17.3V	13.2V	17.3V	8.8V	13.1V	13.0V
IC503	LB1291	1.5V	1.5V	1.5V	2.3V	1.5V	1.5V	1.5V	2.2V	0V	31.1V	13.0V	8.8V	8.9V	8.6V	13.1V	8.6V	8.6V	8.8V
IC504	LB1291	0.7V	0.7V	0.7V	0.7V	0.7V	0.7V	0.7V	0V	0V	31.1V	0V	4.1V	4.2V	4.2V	4.2V	4.1V	4.1V	4.2V
IC505	LB1641	0V	0.5V	0.7V	7.0V	0V	0V	11.9V	11.9V	0.7V	0.5V	-	-	-	-	-	-	-	-
IC506	NJM431L	2.4V	0V	4.0V	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

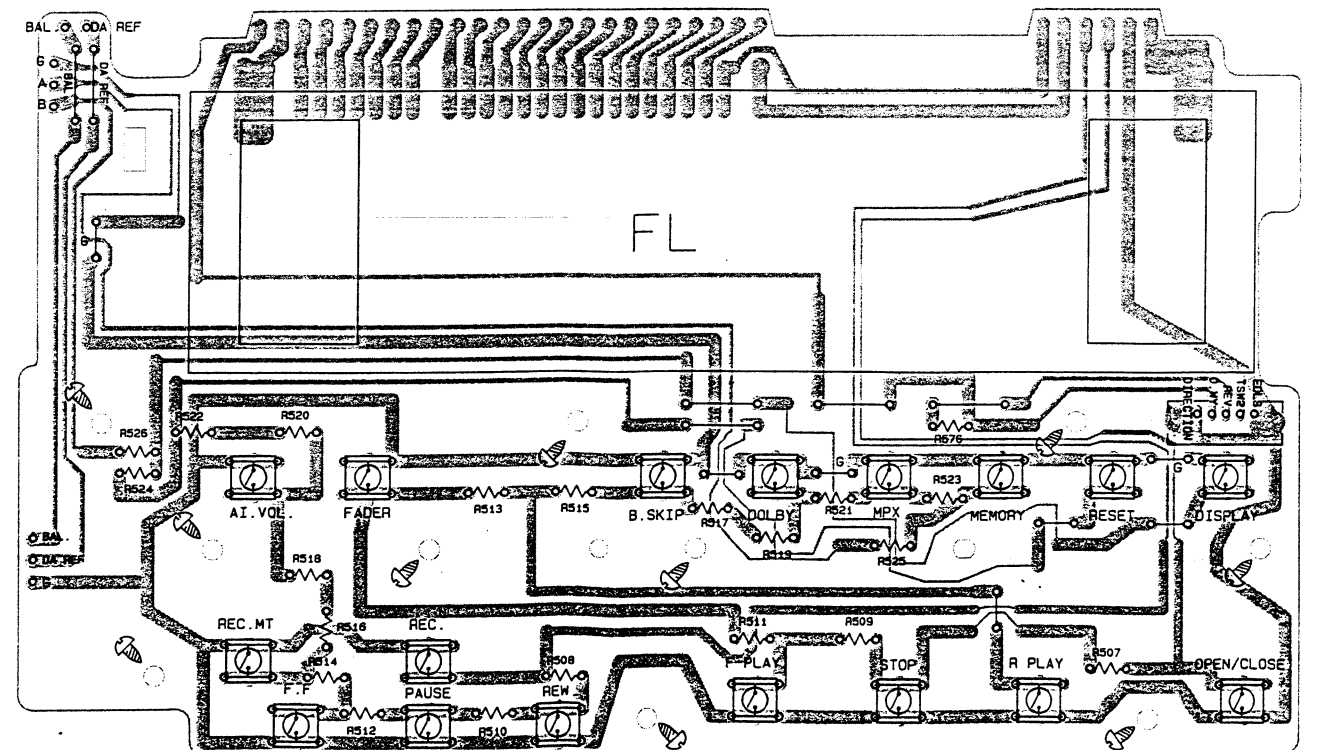
**HEADPHONE CIRCUIT P.C.BOARD
(BOTTOM VIEW)**



Voltage Table of Headphone Circuit P.C.Board

IC PIN NUMBERS DC VOLTAGES									
Ref. No.	DEVICE	1	2	3	4	5	6	7	8
IC601	M5218L	0V	0V	0V	-8.1V	0V	0V	0V	7.8V

**SWITCH FL P.C.BOARD
(BOTTOM VIEW)**



Voltage Table of Main P.C.Board

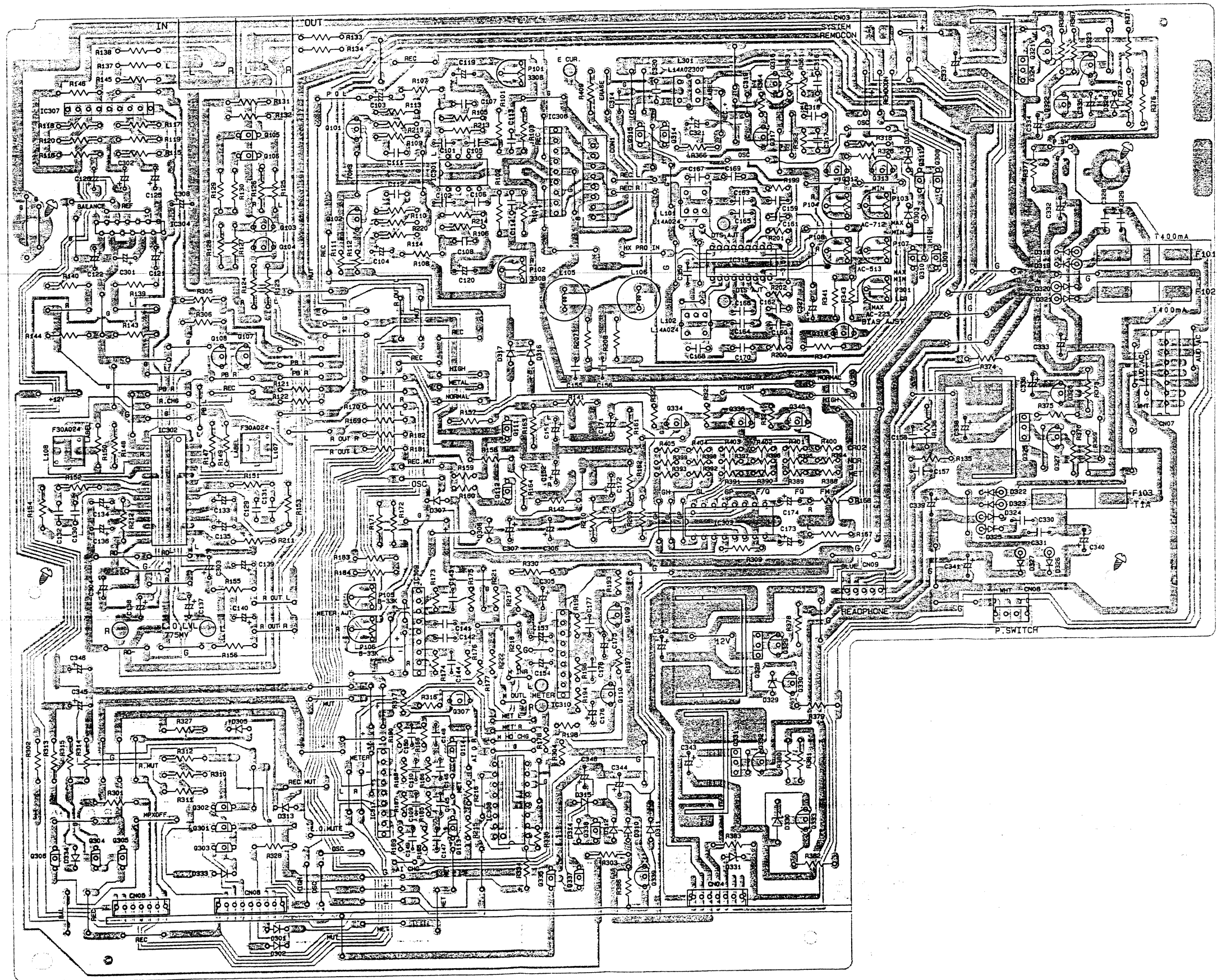
IC PIN NUMBERS DC VOLTAGES									
Ref. No.	DEVICE	1	2	3	4	5	6	7	8
IC301	NJM2068DD	0V	0V	0V	-8.2V	0V	0V	0V	8.0V

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC302	CXA1330S	0V	0V	0V	0V	-6.1V	0V	0V	0V	0V	0V	-7.4V	-7.4V	0V	-6.7V	-8.0V	7.8V	0V	0V	-7.4V	-7.4V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		0V	0V	0V	0V	0V	-6.1V	0V	0V	0V	0V	0V	-	-	-	-	-	-	-	-	-

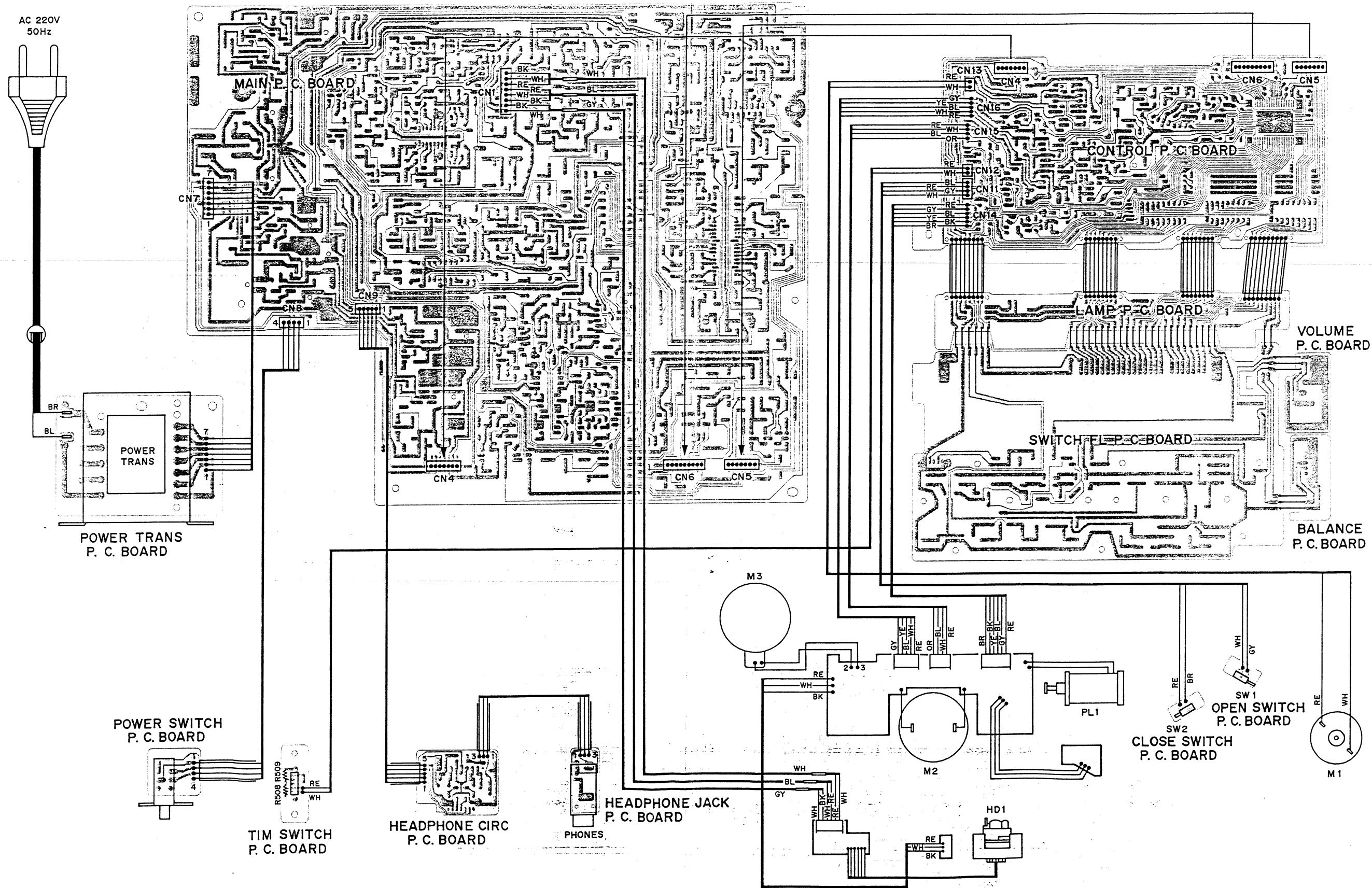
IC PIN NUMBERS DC VOLTAGES																			
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
IC303	CXA1198AP	1.2V	1.2V	1.2V	0V	-7.4V	0V	0V	0.3V	0.3V	0V	0V	7.2V	1.2V	1.2V	1.2V	1.2V	-	-
IC304	M51131L	10.8V	4.7V	4.2V	5.3V	10.7V	0V	0V	2.9V	0V	2.6V	0V	5.3V	4.2V	4.8V	-	-	-	-
IC306	UPC1330HA	0V	0V	0V	0V	0V	7.9V	0V	0V	0V	-	-	-	-	-	-	-	-	-
IC307	UPC4570HA	7.8V	0V	0V	0V	-8.0V	0V	0V	0V	7.8V	-	-	-	-	-	-	-	-	-
IC308	BU4052B	0V	0V	0V	0V	0V	0V	-8.2V	0V	0V	0V	0V	0V	0V	0V	0V	5.4V	-	-
IC309	BA4558N	0V	0V	0V	-8.2V	0V	0V	0V	7.9V	-	-	-	-	-	-	-	-	-	-
IC310	BA6138	0.5V	0.2V	0.8V	2.0V	0V	2.0V	0.8V	0.2V	10.9V	-	-	-	-	-	-	-	-	-
IC317	BA4558N	0V	0V	0V	8.2V	0V	0V	0V	7.9V	-	-	-	-	-	-	-	-	-	-
IC318	UPC1297CA	-8.2V	-8.2V	-8.2V	-7.8V	-8.2V	-8.2V	-8.0V	-8.0V	-8.2V	-8.2V	-8.0V	-8.0V	-8.1V	-8.1V	-7.8V	-8.1V	-8.2V	-7.9V

TRANSISTOR DC VOLTAGES (* = REC Mode)														
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
*Q316	2SC3331	-8.3V	7.2V	-7.8V	Q324	2SC1846	10.1V	15.6V	7.9V	Q329	2SC3331	13.1V	10.2V	12.5V
*Q317	2SC3331	-8.0V	7.2V	-7.9V	Q325	2SA885	-8.7V	-15.9V	-8.1V	Q330	2SC3331	0V	13.1V	0V
Q321	2SC3331	9.2V	15.5V	8.6V	Q326	2SA608	-0.6V	-9.3V	0V	Q331	2SC3116	31.7V	36.6V	31.1V
Q322	2SC3331	5.8V	9.2V	5.1V	Q327	2SA608	-9.3V	-15.8V	-8.8V	Q332	2SC3708	32.2V	36.6V	31.7V
Q323	2SC3331	0V	9.2V	0.5V	Q328	2SD2061	12.5V	20.3V	11.9V	Q333	2SC3708	0V	32.2V	0V

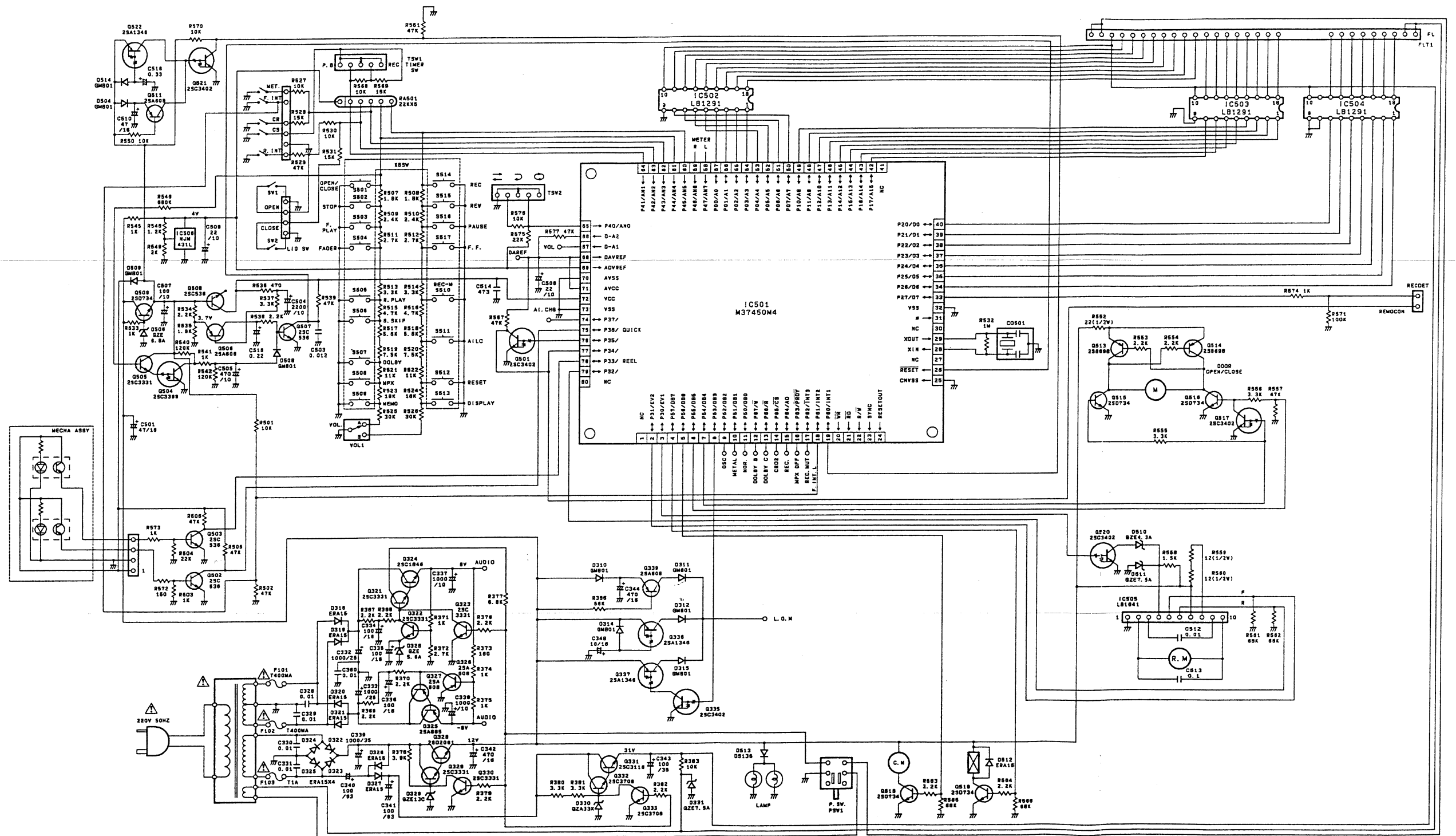
MAIN P.C. BOARD
(BOTTOM VIEW)



WIRING DIAGRAM



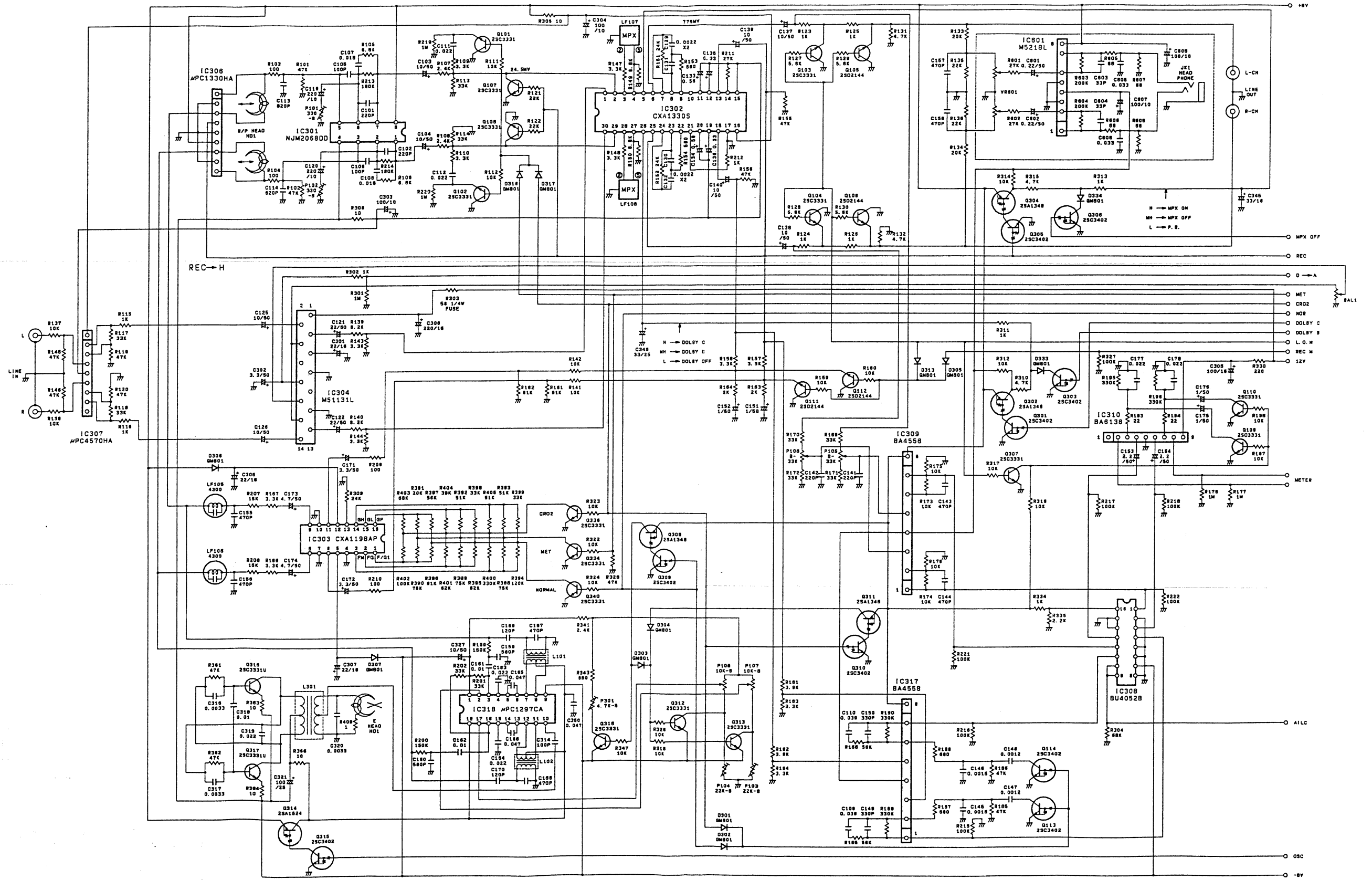
SCHEMATIC DIAGRAM (Control)



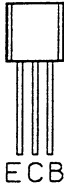

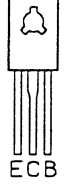

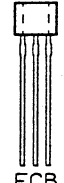
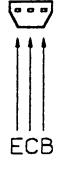
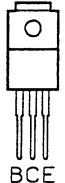
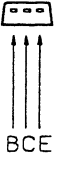
NOTES:

1. All resistors are 1/4 watt or 1/6 watt 5% unless marked. Otherwise Resistor values are in ohms (K=1000 ohms, M=1000k ohms).
2. All capacitor values are in microfarads. (P=picofarads).
3. Δ is Safety Part. Use only replacement parts recommended by the manufacturer.
4. This is a basic schematic diagram.

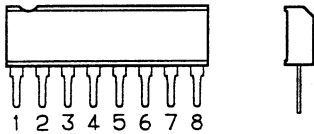
SCHEMATIC DIAGRAM (Amplifier 1)



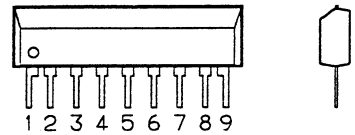
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SB698 2SC3331 2SC3708 2SD734	 ECB	 ECB	2SA885 2SC1846 2SC3116	 ECB	 ECB
2SA1346 2SA1348 2SA1524 2SA608 2SC3399 2SC3402 2SC536 2SD2144S	 ECB	 ECB	2SD2061	 BCE	 BCE
TERMINAL NAME					
B → BASE C → COLLECTOR E → EMITTER					

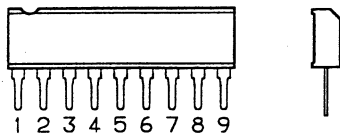
BA4558N FRONT/SIDE VIEWS



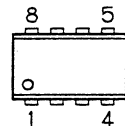
UPC4570HA FRONT/SIDE VIEWS



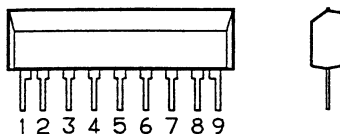
BA6138 FRONT/SIDE VIEWS



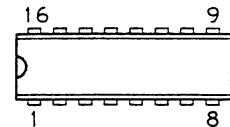
NJM2068DD TOP VIEW



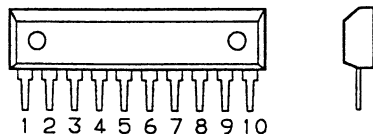
UPC1330HA FRONT/SIDE VIEWS



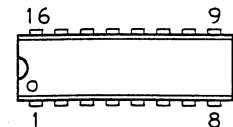
BU4052B TOP VIEW



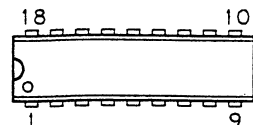
LB1641 FRONT/SIDE VIEWS



CXA1198AP TOP VIEW

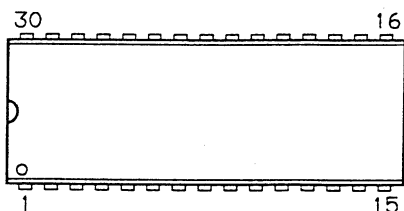


LB1291 TOP VIEW

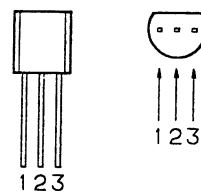


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

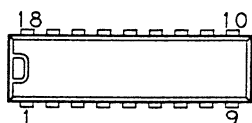
CXA1330S TOP VIEW



NJM431L TOP/SIDE VIEWS

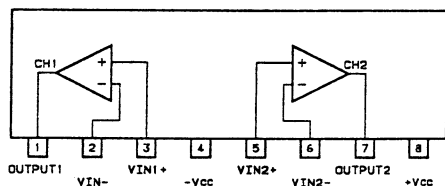


UPC1297CA TOP VIEW

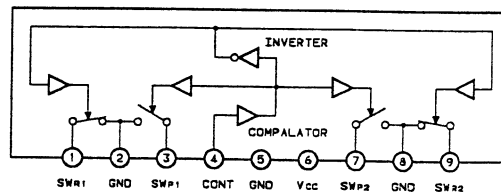


IC BLOCK DIAGRAM

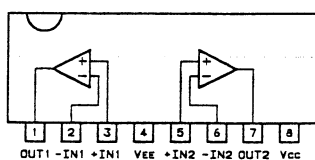
**IC601 M5218L-R BLOCK DIAGRAM
(Dual Operation Amp.)**



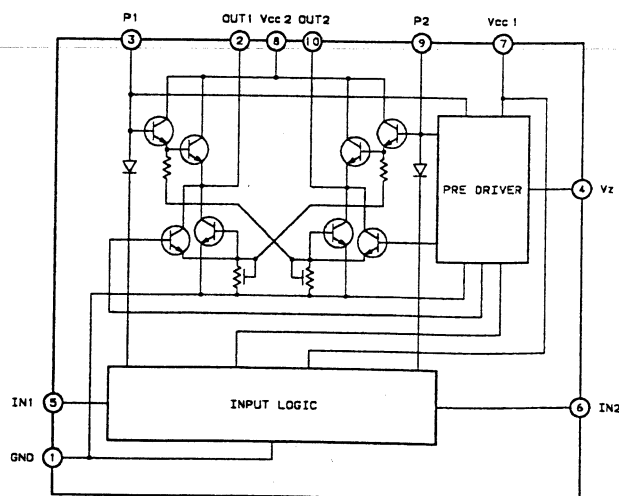
**IC306 UPC1330HA BLOCK DIAGRAM
(Tape 1/2 Selector)**



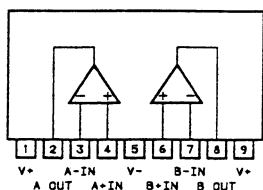
**IC309 BA4558N BLOCK DIAGRAM
(Dual Operation Amp.)**



**IC505 LB1641 BLOCK DIAGRAM
(Motor Control)**

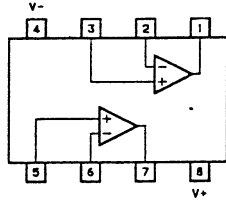


**IC307 UPC4570HA BLOCK DIAGRAM
(Dual Operation Amp.)**

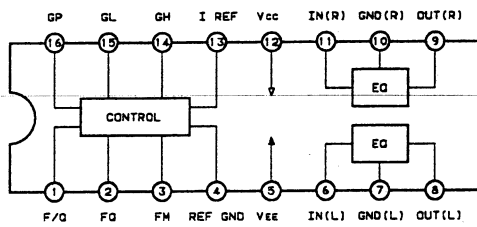


IC BLOCK DIAGRAM (Continued)

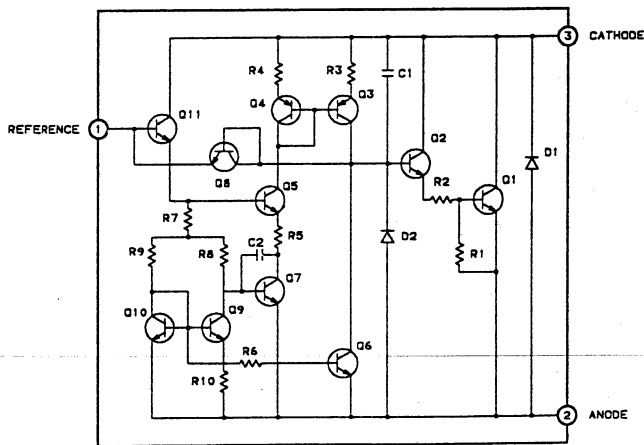
IC301 NJM2068DD BLOCK DIAGRAM
(Dual Operation Amp.)



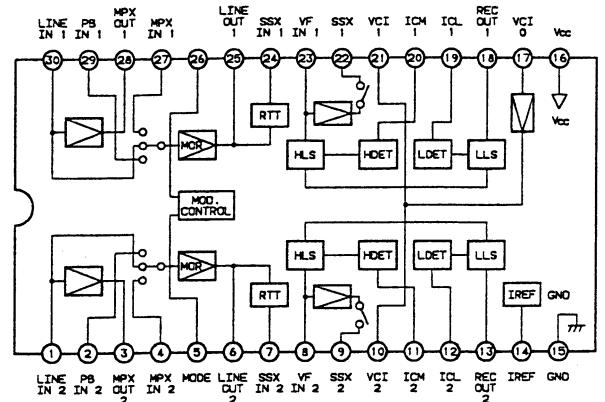
IC303 CXA1198AP BLOCK DIAGRAM
(EQ. Control Amp.)



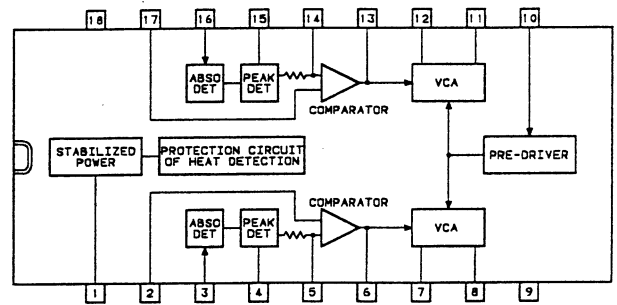
IC506 NJM431L BLOCK DIAGRAM
(Constant Voltage)



IC302 CXA1330S BLOCK DIAGRAM
(Dolby B/C Noise Reduction)

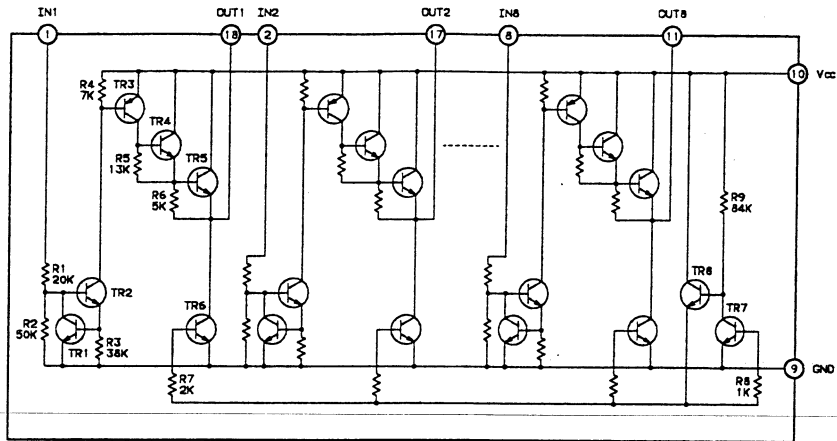


IC318 UPC1297CA BLOCK DIAGRAM
(Dolby HX PRO)



IC BLOCK DIAGRAM (Continued)

IC502 LB1291 BLOCK DIAGRAM (FL Driver)



IC310 BA6138 BLOCK DIAGRAM (Meter Control)

