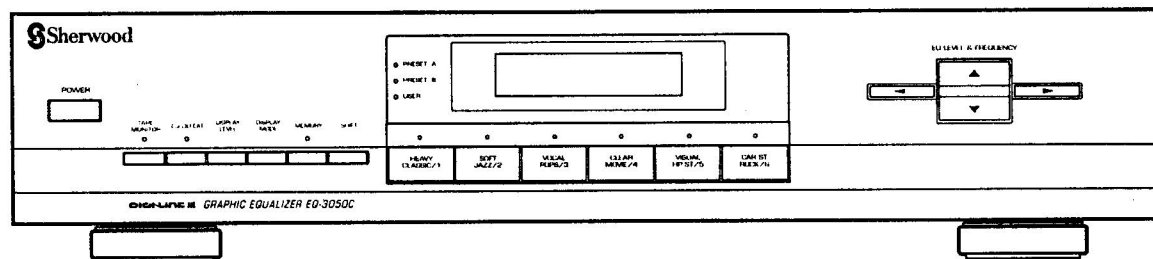


SERVICE MANUAL

EQ-3050C

STEREO GRAPHIC EQUALIZER



■ CONTENTS ■

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SAFETY PRECAUTIONS

WARNING

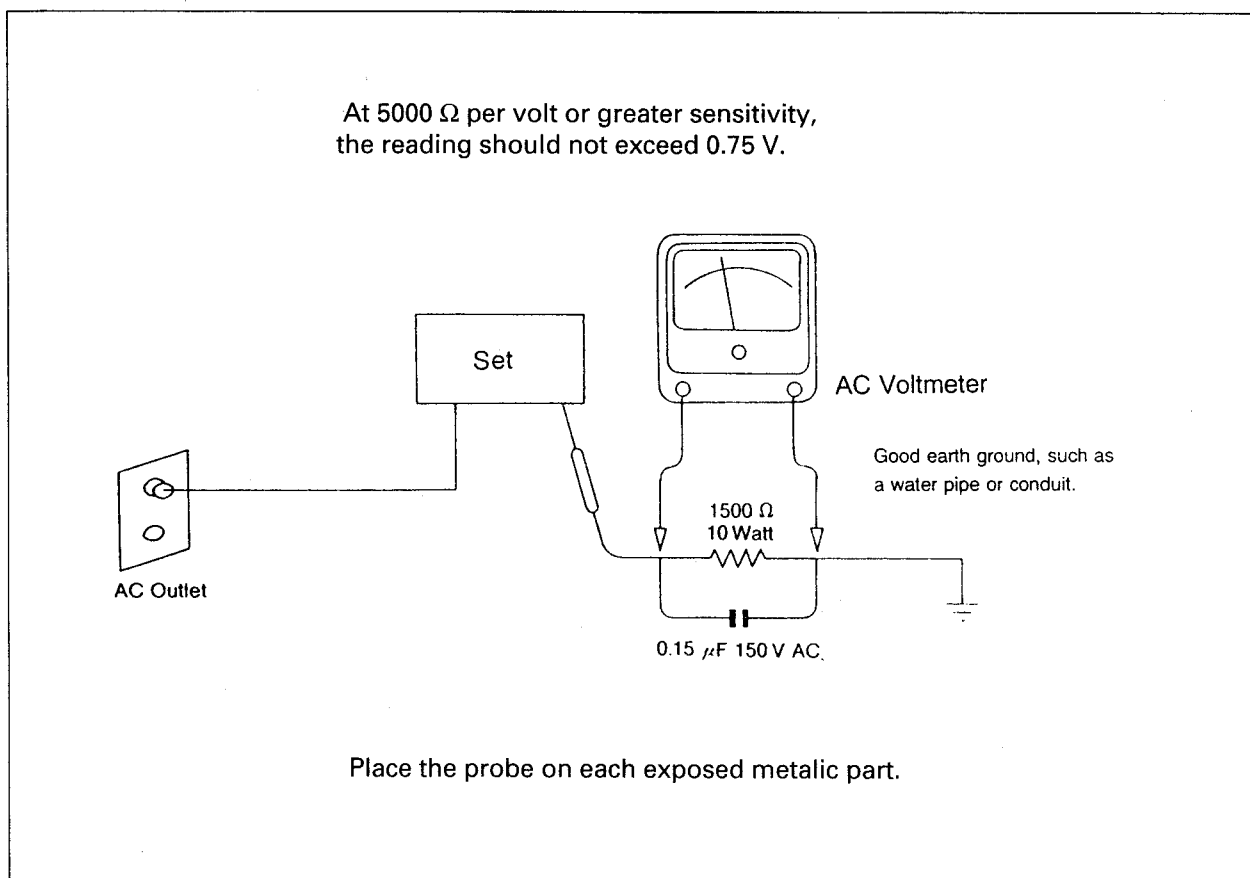
Before servicing this unit, familiarize yourself with the following precautions:

1. Many electrical and mechanical parts in this chassis have special safety characteristics that often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements: electrical components having such features are identified by ⚠ in the schematic diagram and the parts list.

Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

2. Before returning the set to the customer, always do an AC leakage current check on the

exposed metal parts of the cabinet, such as terminals, screw heads, and metal overlays, to be sure the set is safe to operate danger of electrical shock. Plug the AC line cord directly into a 120 V AC outlet (120 V AC version only). (Do not use a line isolation transformer during this check.) Be sure your AC voltmeter has a sensitivity of $5000\ \Omega$ per volt or greater. Then connect a $1500\ \Omega$ 10 watt resistor, paralleled by a $0.15\ \mu\text{F}$ 150 V AC capacitor, between a known good earth ground (such as a water pipe, or conduit) and the exposed metallic parts, one at a time. Measure the AC voltage across the combination of a $1500\ \Omega$ resistor and a $0.15\ \mu\text{F}$ capacitor. Reverse the AC plug at the AC outlet and repeat AC voltage measurements for each exposed metallic part. Voltage measured must not exceed 0.75V RMS. This corresponds to 0.2 mA AC. Any value exceeding this limit constitutes a potential shock hazard and must be corrected immediately.



SPECIFICATIONS

Description	Unit	Normal	Limit
Equalizer range (7 bands $\times$ 2) at 60 Hz, 150 Hz, 400 Hz, 1 kHz, 2.4 kHz, 6 kHz, 15 kHz	dB	8	8 ± 2
Center frequency (Fo)	%	Fo	$Fo \pm 2$
Total harmonic distortion at 1 kHz, all controls flat, output 1 V.	%	0.01	0.02
at 1 kHz, all controls max, input 200 mV.	%	0.07	0.09
at 1 kHz, all controls flat, output 2 V.	%	0.005	0.01
at 1 kHz, all controls min., output 0.2 V	%	0.07	0.1
Insertion loss, controls flat	dB	-0.5	-0.5 ± 2
Maximum output voltage at 1 kHz, THD 0.5%, R/L 47 kohm	V	≥ 6	≥ 5
Frequency response at -3 dB	Hz	20 - 80000	40 - 50000
Signal to noise ratio (IHF "A" WTD/UNWEIGHTED)	dB	$\geq 95/90$	$\geq 90/85$

General

Power consumptions 19W

Dimensions (W $\times$ H $\times$ D) 440 $\times$ 80 $\times$ 245 mm
(17.3 $\times$ 3.1 $\times$ 9.6 inch)

Weight (Net) 3.1 kg (6.8 lbs)

Power requirements :

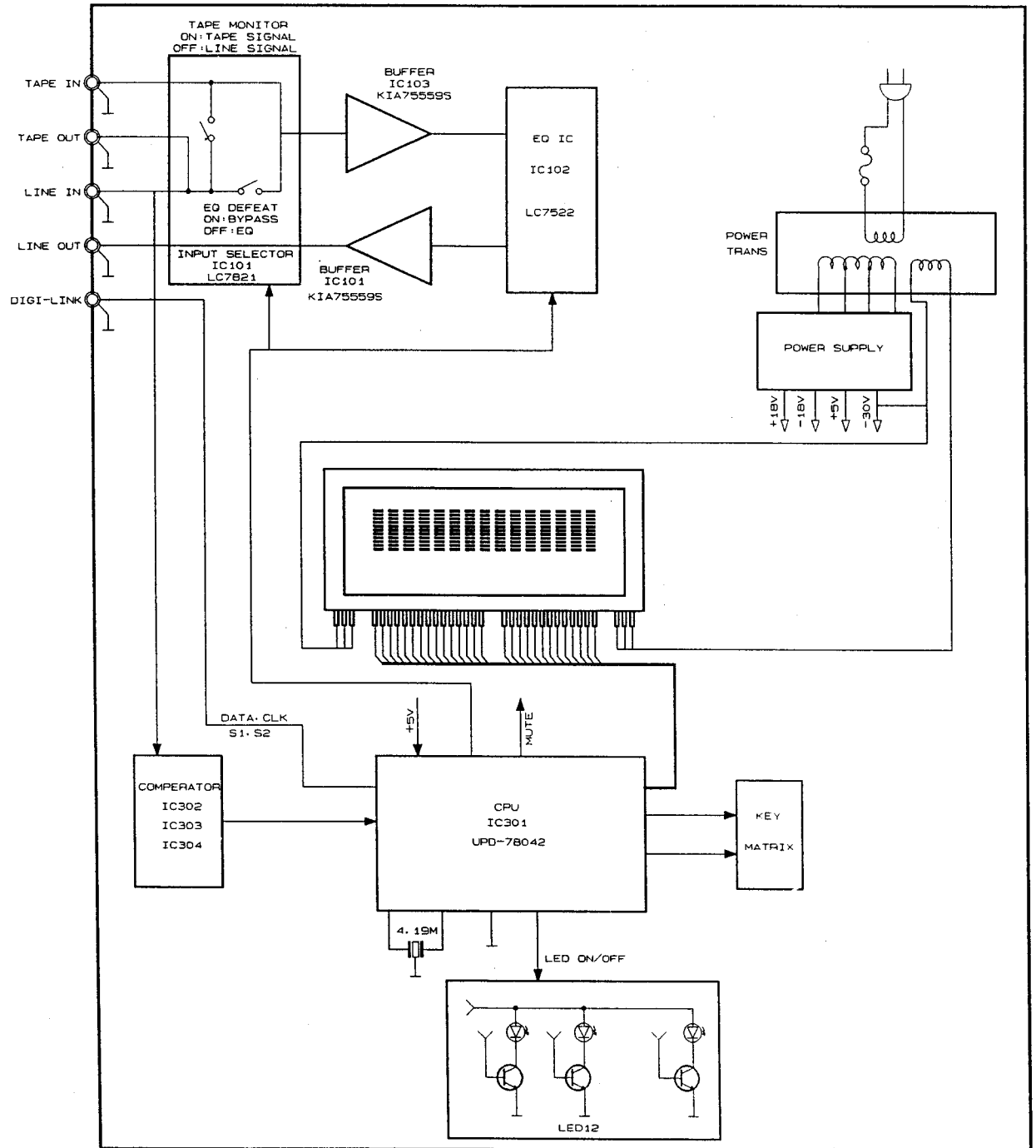
- A : 120 V 60 Hz for American/Canadian version
- B : 120/220 V 60/50 Hz multy voltage version (switchable)
- D : 230 V 50 Hz German/Gerneral European version
- E : 240 V 50 Hz for UK/Australian version
- G : 220 V 50 Hz for Other Area

Notes :

- Nominal specs represent the design specs. All units should be able to apprcximate these some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable : in no case should a unit fail to meet limit specs.
- This manual is based on the European (D) standard, and provides information on regional circuit modification throught the use of altemate schematic diagram or wiring diagram, and information on regional component variations throught the use of poarts lists. Design and specifications subject to change without notice.

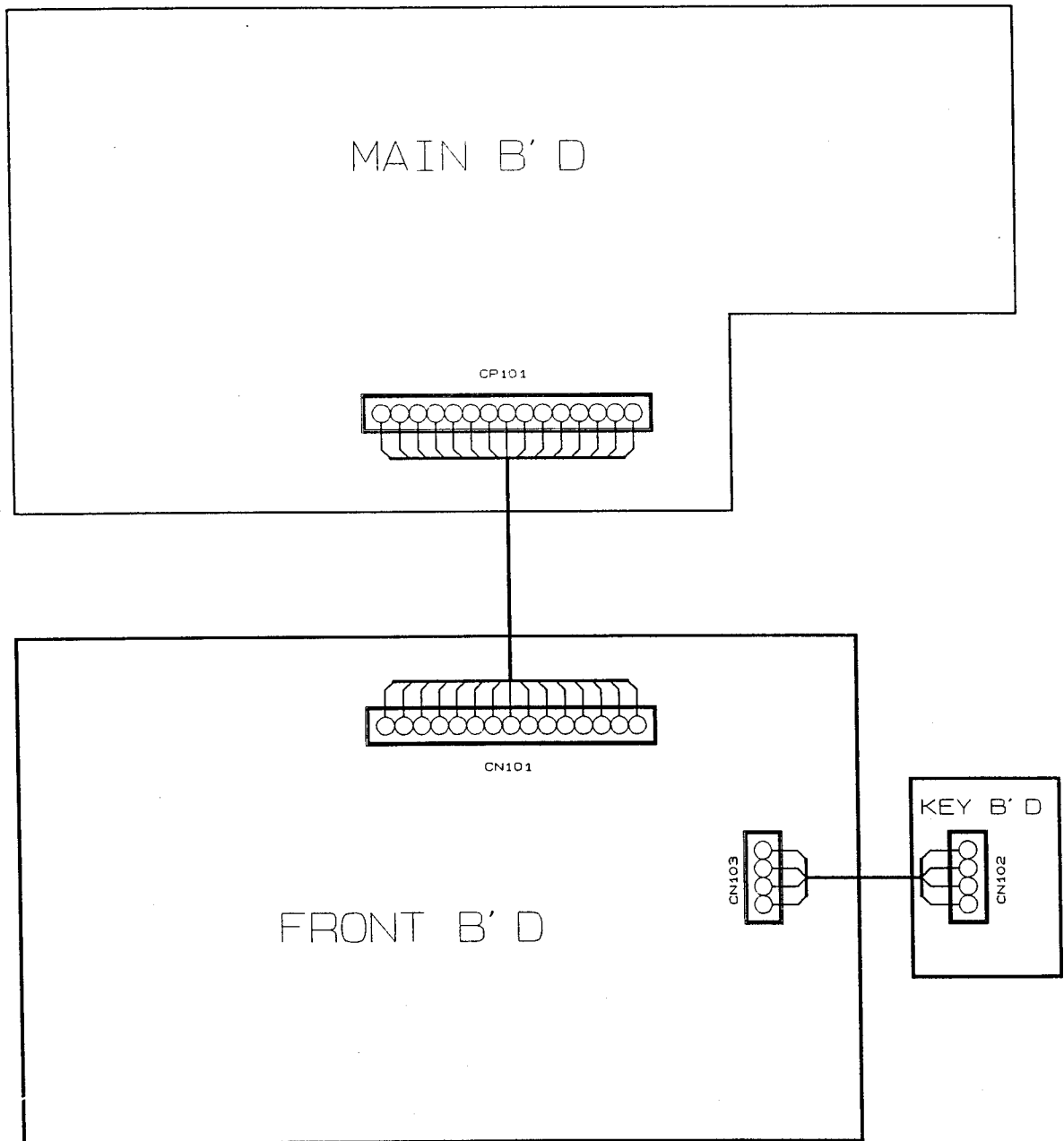
BLOCK DIAGRAM

Model No.: EQ-3050C



WIRING DIAGRAM

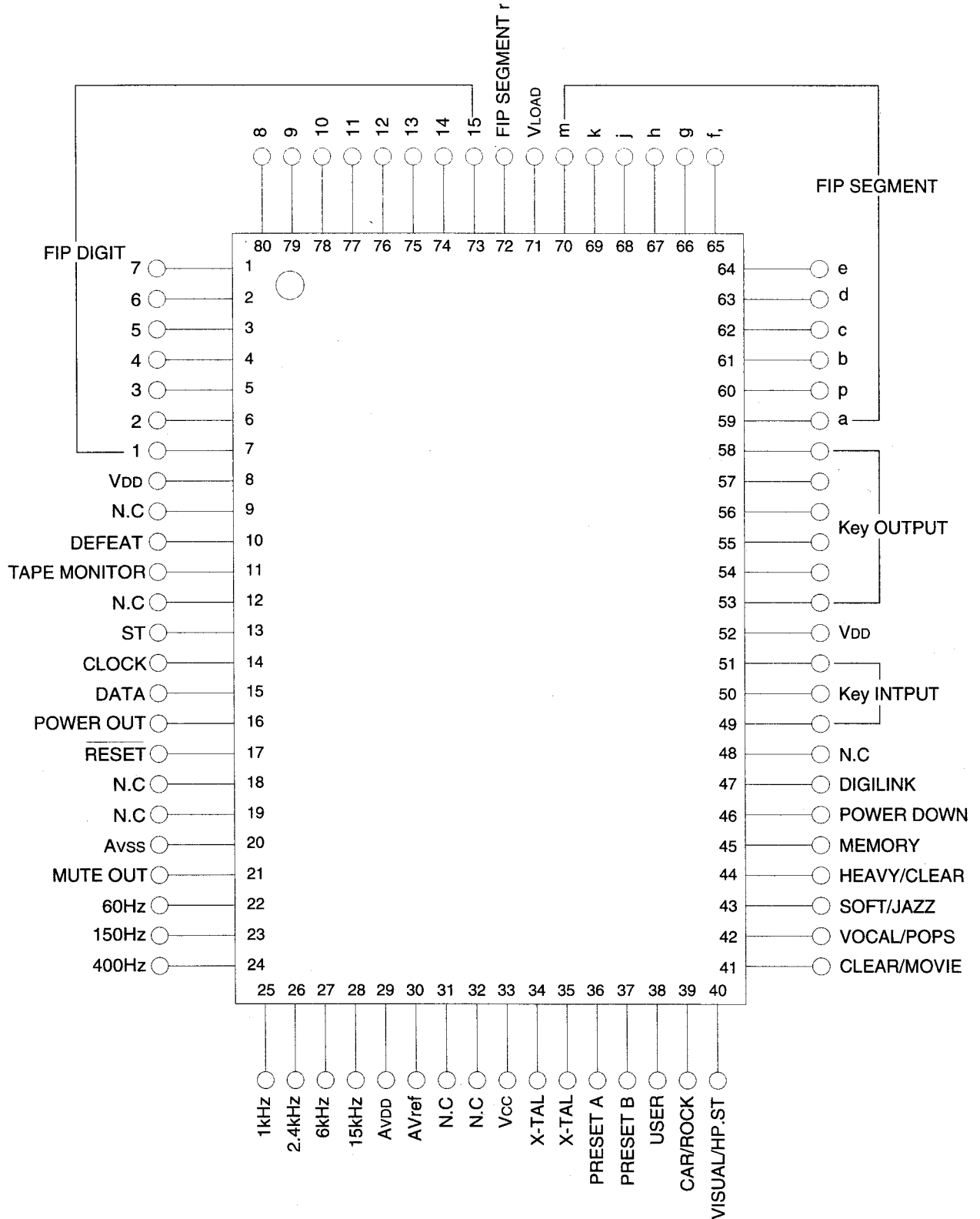
Model No.: EQ-3050C



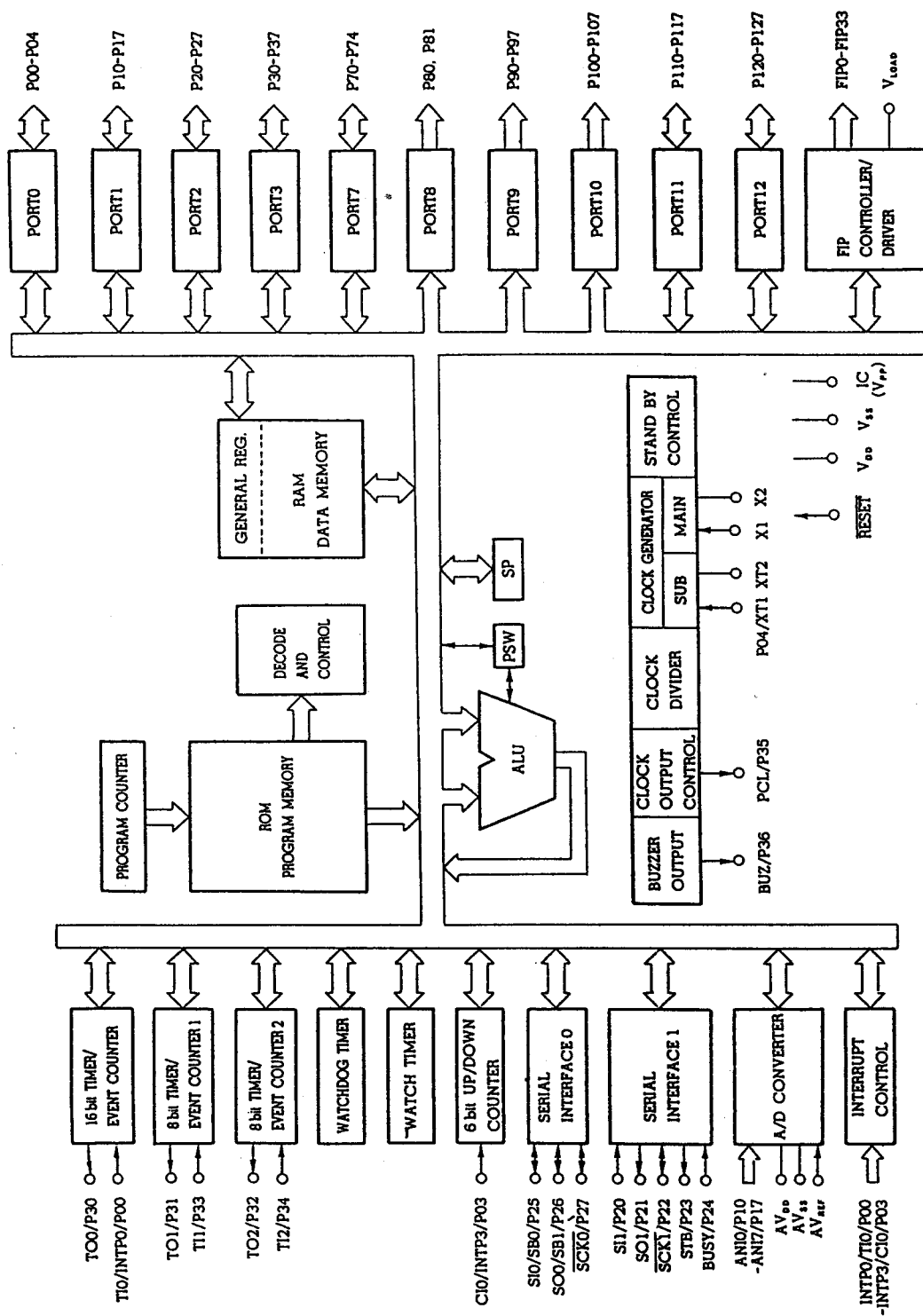
CIRCUIT DESCRIPTION

IC301 : μ PD 78042

1. Pin Configuration



2. Block Diagram



3. Pin Funtion

Pin No.	Symbol	Description
1~7	FIP0~FIP6	Gride signal output for FIP
8	Vdd	+5 V Power supply
9	GND	Ground
10	DEPEAT	Output for driving DEFEAT LED. (At "H", it is active.)
11	TAPE MON.	Output for driving TAPE MONITOR LED. (At "H", it is active.)
12	GND	Ground
13	ST1	Chip enable output to LC7821 for DEFEAT and TAPE MONITOR.
14	SCK	Clock output to LC7821 and LC7522.
15	SO	Data output to LC7821 and LC7522.
16	STAND BY	When the power is turned on, "H" is output. When the power is turned off, "L" is output.
17	RESET	When the power is supplied, "L" is output for a moment and is changed to "H".
18~19	NC	Not used ! (These pins should be left open circuit).
20	AVss	Analog ground
21	MUTE	When the power is turned on or off and each function starts to perform, "L" is output. In other cases, "H" is output.
22	ANI6	60 Hz input from A/D converter.
23	ANI5	150 Hz input from A/D converter.
24	ANI4	400 Hz input from A/D converter.
25	ANI3	1 kHz input from A.D converter.
26	ANI2	2.4 kHz input from A/D converter.
27	ANI1	6 kHz input from A/D converter.
28	ANI0	15 kHz input from A/D converter.
29	AVdd	Analog +5 V power supply.
30	Vref	Reference voltage supply of +5 V.
31	GND	Ground
32	NC	Not used! (These pins should be left open circuit.)
33	Vss	Ground
34~35	X-TAL	Pins for 4.7 MHz crystal oscillator.
36	RESET A	Output for driving RESET A LED. (At "H", it is active.)
37	RESET B	Output for driving RESET B LED. (At "H", it is active.)
38	USER	Output for driving USER LED. (At "H", it is active.)
39	CAR/ROCK	Output for driving CAR/ROCK/USER 1 LED. (At "H", it is active.)
40	VISUAL/HP. ST	Output for driving VISUAL/HP. ST/USER 2 LED. (At "H", it is active.)
41	CLEAR/MOVIE	Output for driving CLEAR/MOVIE/USER 3 LED. (At "H", it is active.)
42	VOCAL/POPS	Output for driving VOCAL/POPS/USER 4 LED. (At "H", it is active.)
43	SOFT/JAZZ	Output for driving SOFT/JAZZ/USER 5 LED. (At "H", it is active.)
44	HEAVY/CLASSIC	Output for driving HEAVY/CLASSIC/USER 6 LED. (At "H", it is active.)
45	MEMORY	Output for driving MEMORY LED. ("H" and "L" is output for 500 ms alternately.)
46	PWR. DN.	Power down input. (At "H", it is active.)
47	DIGI LINK	Input for controlling DIGI LINK.
48	Vpp	Ground
49~51	KEY IN	Data input for KEY SCAN.
52	Vdd	+5 V power supply.
53~58	KEY OUT	Data output for KEY SCAN.
59~70	FIP16~FIP27	Segment signal output for FIP.
71	Vload	-30 V power supply.
72	FIP15	Segment signal output for FIP.
73~80	FIP7~FIP14	Grid signal output for FIP.

NOTES

MECHANICAL PARTS LIST

Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version
PACKAGE					SW301	Switch Tact, Carstereo/Rock	4658003710	1	
	Cushion Poly	9722027310	1		SW302	Switch Tact, Visval/Headphone	4658003710	1	
	Film Soft PE	9715000120	1		SW303	Switch Tact, Clear/Movie	4658003710	1	
	Box Carton	049605172121	1		SW304	Switch Tact, Vocal/Pops	4658003710	1	
ACCESSORIES					SW305	Switch Tact, Soft/Jazz	4658003710	1	
	Cord RCA 2P	4328200510	1		SW306	Switch Tact, Heavy/Classic	4658003710	1	
	Cord RCA 1P	4328204510	1		SW307	Switch Tact, Memory	4658003710	1	
	Manual Instruction	9007018090	1	KS	SW308	Switch Tact, EQ Defeat	4658003710	1	
	Manual Instruction	9007018092	1	B	SW309	Switch Tact, Display Level	4658003710	1	
	Manual Instruction	9007018091	1	D	SW310	Switch Tact, Display Mode	4658003710	1	
CABINET&CHASSIS					SW311	Switch Tact, Shift	4658003710	1	
1	Window Fluorescent, Acryl, Win Color	048553020611	1	KS	SW312	Switch Tact, Tape Monitor	4658003710	1	
	Window Fluorescent, Acryl, Win Color	048553020612	1	A,B,D,E,G	SW313	Switch Tact, Power	4658003710	1	
2	Button Function, ABS, Black	048543062211	1	KS	SW314	Switch Tact, ▲, Level Up	4658004410	1	
	Button Function, ABS, Black	048543062212	1	A,B,D,E,G	SW315	Switch Tact, ◀, Frequency "L"	4658003710	1	
3	Decoration Cap "R", ABS, Black	8583005710	1		SW316	Switch Tact, ▼, Level Down	4658004410	1	
4	Indicator "B", ABS, White	8553021020	1		SW317	Switch Tact, ▶, Frequency "R"	4658003710	1	
5	Panel Front, ABS, Black	048501034311	1	KS	Screw Extenal				
	Panel Front, ABS, Black	048501034312	1	A,B,D,E,G	S1	#2BTC 3x8B	8109230083	16	
6	Button Level "A", ABS, Black	048543062111	1		S3	BSAM 4x8B	8109440083	6	
7	Button Level "B", ABS, Black	048543063011	1		S6	#1PT3x10B	8119130103	7	
8	Badge Inkel, ABS, Black	048535038511	1	KS	Screw Internal				
	Badge Sherwood, ABS, Black	048535042011	1	A,B,D,E,G	S1	#2BTC 3x8B	8109230083	12	
9	Indicator "A" ABS, White	8553021010	1		S2	#2BTC 3x8Y	8109230081	2	
10	Button Select, ABS, Black	8543062310	1		S4	#2WPTC 3x8Y	8159230081	1	
11	Indicator "C", ABS, White	8553021030	1		S5	#2WPTC 3x14Y	8159230141	1	
12	Button Power, ABS, Black	8543062910	1		P.C.Board Main				
13	Cover Top, SECC, 0.8t	046122021011	1				4001500200	1	
14	Space Supprot, ABS, White	6705004220	1		P.C.Board Front				
15	Chassis Main, SECC, 0.8t	6121612110	1				4001500210	1	
16	Foot, Gold Ring, ABS, Black	046033102611	2	KS	P.C.Board Front-1				
	Foot, Hat Stamping, ABS, Black	046033102511	2	A,B,D,E,G			4001500220	1	
17	Foot, ABS, Black	6033102510	2						
18	Heat Sink, Regulator TR., Aluminum	7505202410	2						
19	Outlet, ABS, Black	4448105510	1	KS					
	Outlet, ABS, Black	4448103210	1	A					
	Outlet, ABS, Black	4448103610	1	D					
20	Switch Selector, ABS, Black	4618006610	1	B(PT INDO)					
21	Jack RCA, 2P, ABS, Black	4438105010	1						
22	Jack RCA, 4P, ABS, Black	4438103110	1						
23	Chassis Back, SECC, 0.8t	046102042111	1	KS					
	Chassis Back, SECC, 0.8t	046102042121	1	A					
	Chassis Back, SECC, 0.8t	046102042151	1	D					
	Chassis Back, SECC, 0.8t	046102042161	1	E					
	Chassis Back, SECC, 0.8t	046102042191	1	B(PT INDO)					
24	Cord Holder, ABS, Black	6518002310	1						
25	Cord AC Power, ABS, Black	4308007310	1	KS					
	Cord AC Power, ABS, Black	4308001410	1	A					
	Cord AC Power, ABS, Black	4308000430	1	D					
26	Adapter AC, ABS, Black	4428300410	1	B(PT INDO)					

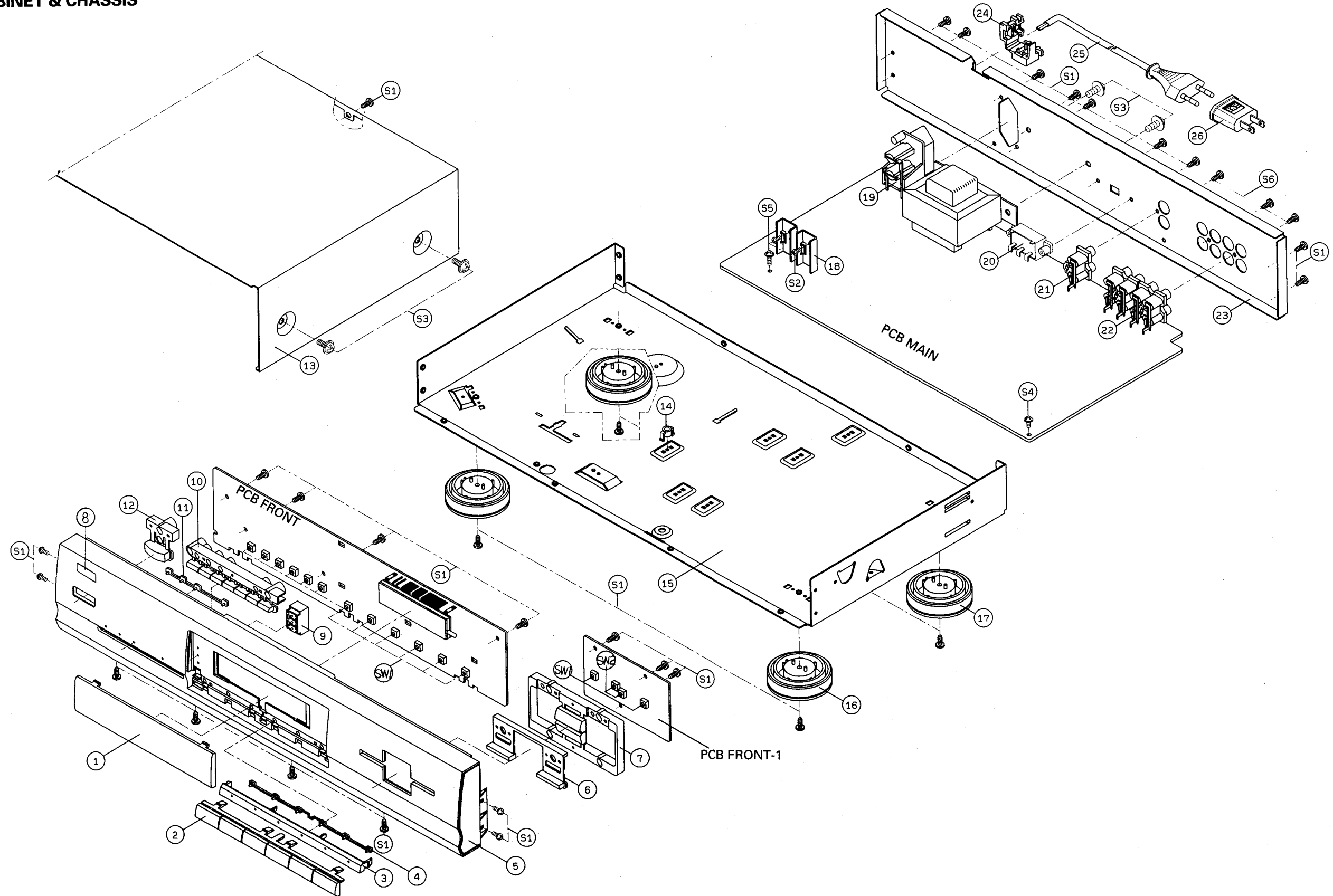
PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  in the parts list and the safety can be of special significance. When replacing a component identified with , 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 retuning the product to the customer.

CABINET & CHASSIS

EXPLODED VIEW

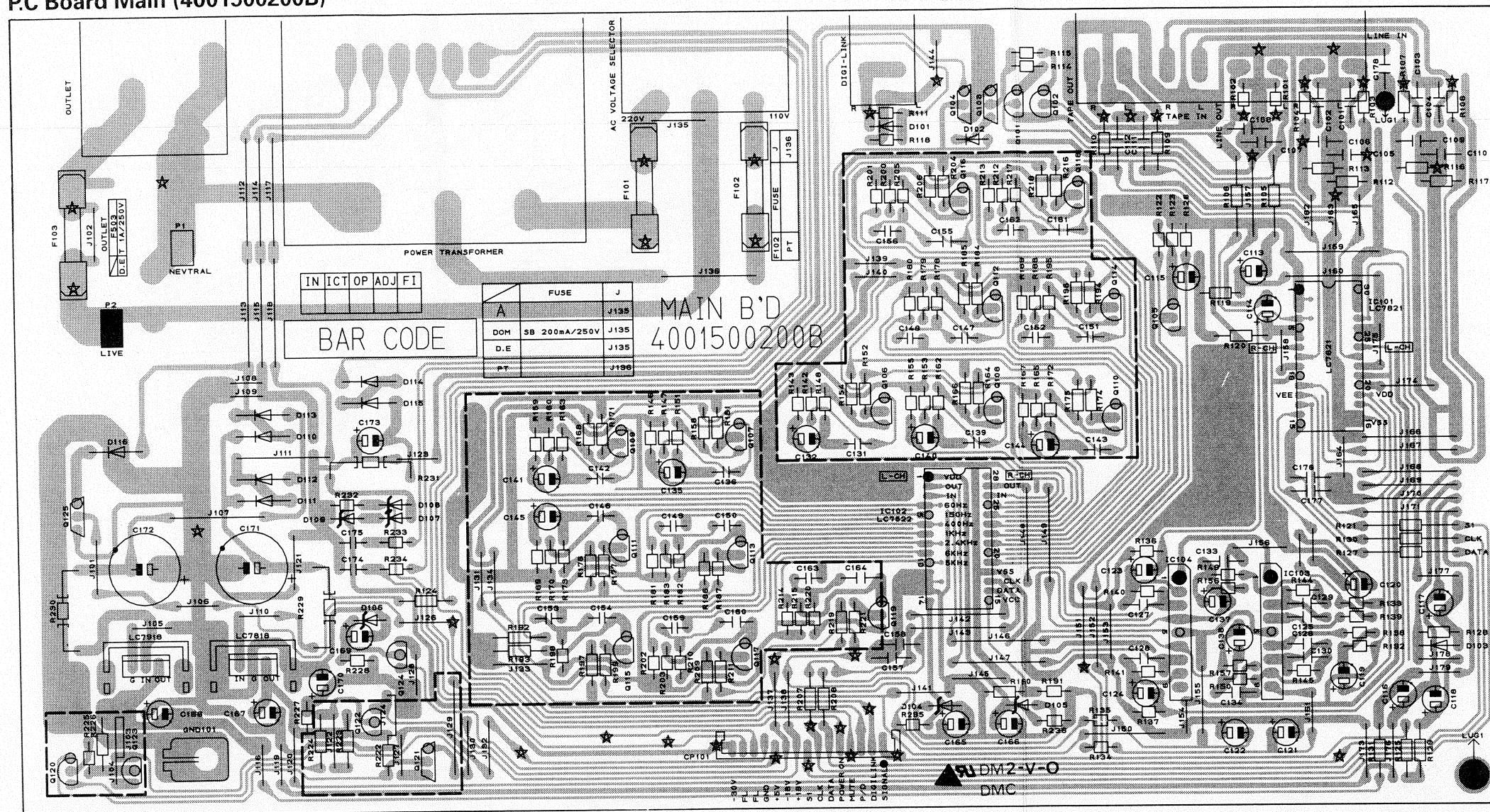
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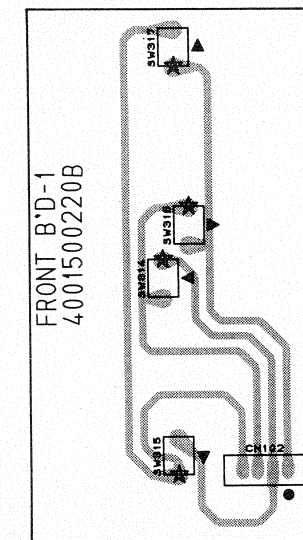
PRINTED CIRCUIT BOARDS

Model No.: EQ-3050C

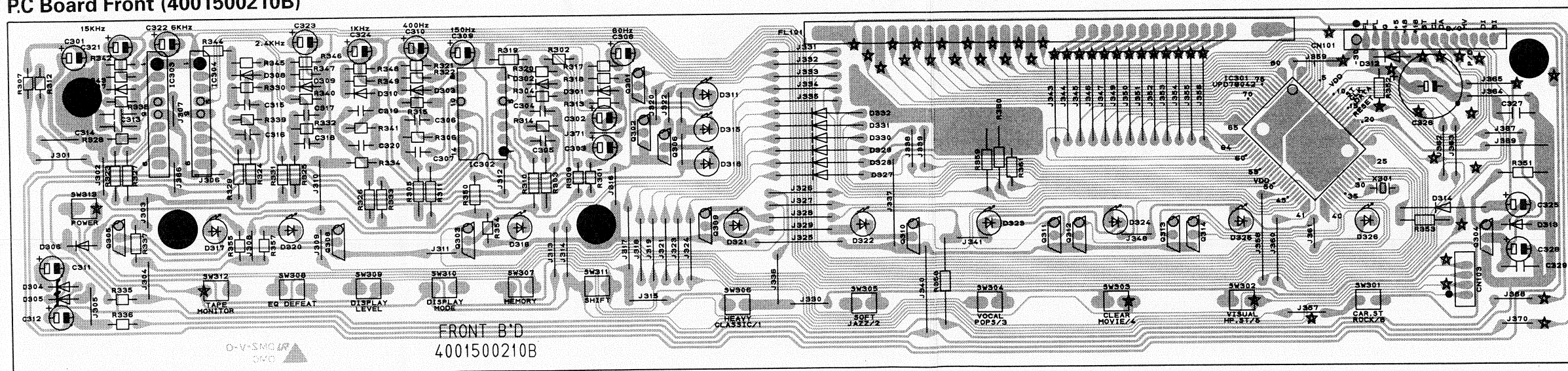
P.C Board Main (4001500200B)



P.C Board Front -1 (4001500220B)



P.C Board Front (4001500210B)



ELECTTRICAL PARTS LIST

PRODUCT SAFETY NOTICE: Products marked with Δ have special characteristics important to safety. If you replace of these components read carefully the product safety notice in the manual.
Resistor/Capacitor Tolerance, D:($\pm 0.5\%$), J:($\pm 5\%$), K:($\pm 10\%$), M:($\pm 20\%$), Z:(+80, -20%).

Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version
Ass'y P.C.Board Main					F101	SB 200 mA, 250 V	5508101130	1	KS
Capacitors					IC's				
C101-C112	Ceramic Tubular	100 μF 50 V K	3519101935	11	IC101	LC7821	2168017132	1	
C113/C114	Electrolytic SG	1 μF 50 V M	3479310971	2	IC102	LC7522	2168017122	1	
C115	Electrolytic SA	4.7 μF 50 V M	3479247971	1	IC103/104	KIA75559S/KIA4559S, OP AMP	2168206103	2	
C116	Electrolytic SG	47 μF 25 V M	3479347041	1	IC105	KA7818, Regulator	2168602110	1	
C117	Electrolytic SG	1 μF 50 V M	3479310971	1	IC106	KA7918, Regulator	2168602115	1	
C118	Electrolytic SG	47 μF 25 V M	3479347041	1	Transistors				
C119/C120	Electrolytic SG	1 μF 50 V M	3479310971	2	Q101/D102	2SD1302S, NPN, Silicon	2008610102	2	
C121/C122	Electrolytic SG	47 μF 25 V M	3479347041	2	Q103	DTA114YS/KRA107M	2238006103	1	
C123/C124	Electrolytic SG	2.2 μF 50 V M	3479322971	2	Q104	DTC114YS	2208622106	1	
C125/C126	Ceramic Tubular	330 μF 50 V K	3519331935	2	Q105-Q119	KTC1815Y/KTC3198, NPN, Silicon	2208606104	15	
C127/C128	Ceramic Tubular	47 μF 50 V J	3519470935	2	Q120	KTA1015Y/KTA1266, PNP, Silicon	2208206105	1	D(Only)
C129/C130	Ceramic Tubular	330 μF 50 V K	3519331935	2	Q121	DTC114YS	2208622106	1	D(Only)
C131	Mylar	0.1 μF 100 V J	3679104120	1	Q122	MPSA56Y, PNP, Silicon	2208206113	1	D(Only)
C132	Electrolytic SG	0.68 μF 50 V M	3479368871	1	Q123	MPSA06Y	2208606114	1	D(Only)
C133/C134	Ceramic Tubular	47 μF 50 V J	3519470935	2	Q124	MPSA06Y	2208606114	1	
C135	Electrolytic SG	0.68 μF 50 V M	3479368871	1	Q125	DTC114YS	2208622106	1	
C136	Mylar	0.1 μF 100 V J	3679104120	1	Resistors				
C137/C138	Electrolytic SG	2.2 μF 50 V M	3479322971	2	R101/R102	Carbon Film 220 koh 1/5 W J	3069224970	2	
C139	Mylar	0.047 μF 100 V J	3679473120	1	R103-R110	Carbon Film 1 koh 1/5 W J	3069102970	8	
C140/C141	Electrolytic SG	0.22 μF 50 V M	3479322871	2	R111	Carbon Film 22 koh 1/5 W J	3069223970	1	
C142	Mylar	0.047 μF 100 V J	3679473120	1	R112/R113	Carbon Film 220 koh 1/5 W J	3069224970	2	
C143	Mylar	0.015 μF 100 V J	3679153120	1	R114/R115	Carbon Film 3 koh 1/5 W J	3069302970	2	
C144/C145	Electrolytic SG	0.1 μF 50 V M	3479310871	2	R116-R118	Carbon Film 220 koh 1/5 W J	3069224970	3	
C146	Mylar	0.015 μF 100 V J	3679153120	1	R119/R120	Carbon Film 330 koh 1/5 W J	3069334970	2	
C147	Mylar	0.005 μF 100 V J	3679472120	1	R121	Carbon Film 1 koh 1/5 W J	3069102970	1	
C148/C149	Mylar	0.047 μF 100 V J	3679473120	2	R122	Carbon Film 150 koh 1/5 W J	3069154970	1	
C150	Mylar	0.005 μF 100 V J	3679472120	1	R123	Carbon Film 100 koh 1/5 W J	3069104970	1	
C151	Mylar	0.002 μF 100 V J	3679222120	1	R124	Carbon Film 10 koh 1/5 W J	3069103970	1	
C152/C153	Mylar	0.02 μF 100 V J	3679203120	2	R125	Carbon Film 100 ohm 1/5 W J	3069101970	1	
C154	Mylar	0.002 μF 100 V J	3679222120	1	R126	Carbon Film 10 koh 1/5 W J	3069103970	1	
C155	Ceramic Tubular	820 μF 50 V K	3519821935	1	R127	Carbon Film 1 koh 1/5 W J	3069102970	1	
C156	Mylar	0.008 μF 100 V J	3679822120	1	R128/R129	Carbon Film 100 koh 1/5 W J	3069104970	2	
C157/C158	Ceramic Tubular	100 μF 50 V K	3519101935	2	R129	Carbon Film 100 ohm 1/5 W J	3069101970	1	
C159	Mylar	0.008 μF 100 V J	3679822120	1	R130	Carbon Film 1 koh 1/5 W J	3069102970	1	
C160	Ceramic Tubular	820 μF 50 V K	3519821935	1	R131	Carbon Film 100 ohm 1/5 W J	3069101970	1	
C161	Ceramic Tubular	330 μF 50 V K	3519331935	1	R132/R133	Carbon Film 100 koh 1/5 W J	3069104970	2	
C162/C163	Mylar	0.003 μF 100 V J	3679332120	2	R134/R135	Carbon Film 100 ohm 1/5 W J	3069101970	2	
C164	Ceramic Tubular	330 μF 50 V K	3519331935	1	R136/R137	Carbon Film 100 koh 1/5 W J	3069104970	2	
C165/C166	Electrolytic SG	33 μF 25 V M	3479333041	2	R138/R139	Carbon Film 1 koh 1/5 W J	3069102970	2	
C167/C168	Electrolytic SG	0.33 μF 50 V M	3479333871	2	R140/R141	Carbon Film 8.2 koh 1/5 W J	3069822970	2	
C169	Electrolytic SA	10 μF 50 V M	3479210071	1	R142	Carbon Film 100 koh 1/5 W J	3069104970	1	
C170	Electrolytic SG	0.1 μF 50 V M	3479310871	1	R143	Carbon Film 820 koh 1/5 W J	3069824970	1	
C171/C172	Electrolytic SA	470 μF 35 V M	3409247169	2	R144/R145	Carbon Film 1 koh 1/5 W J	3069102970	2	
C173	Electrolytic SG	47 μF 50 V M	3479347071	1	R146	Carbon Film 820 koh 1/5 W J	3069824970	1	
C174/C175	Mylar	0.022 μF 100 V J	3679223120	2	R147	Carbon Film 100 koh 1/5 W J	3069104970	1	
C176/C177	Ceramic Tubular	100 μF 50 V K	3519101935	2	R148	Carbon Film 1 koh 1/5 W J	3069102970	1	
C178	Ceramic Tubular	0.1 μF 50 V Z	3519104935	1	R149/R150	Carbon Film 8.2 koh 1/5 W J	3069822970	2	
Connector					R151	Carbon Film 1 koh 1/5 W J	3069102970	1	
CP101	Wafer 15P	4420517410	1		R152	Carbon Film 390 ohm 1/5 W J	3069391970	1	
Diodes					R153	Carbon Film 100 koh 1/5 W J	3069104970	1	
D101-D103	1N4148M, Switching	2058322101	3		R154	Carbon Film 15 koh 1/5 W J	3069153970	1	
D104/D105	Zener, UZ 7.5BSC	2258599130	2		R155	Carbon Film 820 koh 1/5 W J	3069824970	1	
D106	Zener, UZ 6.2BSB	2258599105	1		R156/R157	Carbon Film 220 koh 1/5 W J	3069224970	2	
D107	Zener, UZ 15.0BSC	2258599109	1		R158	Carbon Film 15 koh 1/5 W J	3069153970	1	
D108	Zener, UZ 7.5BSC	2258599130	1		R159	Carbon Film 820 koh 1/5 W J	3069824970	1	
D109	Zener, UZ 15.0BSC	2258599109	1		R160	Carbon Film 100 koh 1/5 W J	3069104970	1	
D110-D115	1N4002, Rectifier	2258100135	6		R161	Carbon Film 390 ohm 1/5 W J	3069391970	1	
D116	1N4148M, Switching	2058322101	1		R162/R163	Carbon Film 1 koh 1/5 W J	3069102970	2	
Fuse					R164	Carbon Film 390 ohm 1/5 W J	3069391970	1	
					R165	Carbon Film 100 koh 1/5 W J	3069104970	1	

Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version	
R166	Carbon Film	15 koh	1/5 W	J	3069153970	1	Pin Solder	4228001410	2	
R167	Carbon Film	820 koh	1/5 W	J	3069824970	1	Terminal Ground	4235007310	1	
R168	Carbon Film	15 koh	1/5 W	J	3069153970	1	Clip Fuse	4255001010	2	
R169	Carbon Film	820 koh	1/5 W	J	3069824970	1				
R170	Carbon Film	100 koh	1/5 W	J	3069104970	1	Ass'y P.C.Board Front			
R171	Carbon Film	390 ohm	1/5 W	J	3069391970	1	Capacitors			
R172/R173	Carbon Film	1 koh	1/5 W	J	3069102970	2	C301 Electrolytic SA	4.7 μF 50 V M	3479247971	1
R174	Carbon Film	390 ohm	1/5 W	J	3069391970	1	C302/C303 Electrolytic SG	0.22 μF 50 V M	3479322871	2
R175/R176	Carbon Film	15 koh	1/5 W	J	3069153970	2	C304/C305 Mylar	0.1 μF 100 V J	3679104120	2
R177	Carbon Film	390 ohm	1/5 W	J	3069391970	1	C306/C307 Mylar	0.033 μF 100 V J	3679333120	2
R178	Carbon Film	1 koh	1/5 W	J	3069102970	1	C308-C310 Electrolytic SA	4.7 μF 50 V M	3479247971	3
R179	Carbon Film	100 koh	1/5 W	J	3069104970	1	C311/C312 Electrolytic SG	33 μF 16 V M	3479333031	2
R180/R181	Carbon Film	820 koh	1/5 W	J	3069824970	2	C313/C314 Ceramic Tubular	820 pF 50 V K	3519821935	2
R182	Carbon Film	1 koh	1/5 W	J	3069102970	1	C315/C316 Mylar	0.002 μF 100 V J	3679222120	2
R183	Carbon Film	100 koh	1/5 W	J	3069104970	1	C317/C318 Mylar	0.006 μF 100 V J	3679562120	2
R184	Carbon Film	390 ohm	1/5 W	J	3069391970	1	C319/C320 Mylar	0.015 μF 100 V J	3679153120	2
R185/R186	Carbon Film	15 koh	1/5 W	J	3069153970	2	C321-C323 Electrolytic SA	10 μF 50 V M	3479210071	3
R187	Carbon Film	390 ohm	1/5 W	J	3069391970	1	C324/C325 Electrolytic SA	4.7 μF 50 V M	3479247971	2
R188	Carbon Film	100 koh	1/5 W	J	3069104970	1	C326 Electrolytic	0.047 μF 5.5 V M	3438247315	1
R189	Carbon Film	820 koh	1/5 W	J	3069824970	1	C327 Ceramic Tubular	0.01 μF 50 V Z	3519103935	1
R190	Carbon Film	18 koh	1/5 W	J	3069183970	1	C328 Electrolytic SG	1 μF 50 V M	3479310971	1
R191	Carbon Film	47 koh	1/5 W	J	3069473970	1	C329 Ceramic Tubular	0.1 μF 50 V Z	3519104935	1
R192	Carbon Film	820 koh	1/5 W	J	3069824970	1				
R193	Carbon Film	100 koh	1/5 W	J	3069104970	1	Diodes			
R194	Carbon Film	390 ohm	1/5 W	J	3069391970	1	D301-D303 1N4148M, Switching		2058322101	3
R195	Carbon Film	1 koh	1/5 W	J	3069102970	1	D304/D305 Zener, UZ 6.2BSB		2258599105	2
R196/R197	Carbon Film	15 koh	1/5 W	J	3069153970	2	D306-D314 1N4148M, Switching		2058322101	9
R198	Carbon Film	1 koh	1/5 W	J	3069102970	1	D327-D332 1N4148M, Switching		2058322101	6
R199	Carbon Film	390 ohm	1/5 W	J	3069391970	1				
R200	Carbon Film	100 koh	1/5 W	J	3069104970	1	LED's			
R201/R202	Carbon Film	820 koh	1/5 W	J	3069824970	2	D311 SLR-34YCD-49, Yellow		2384521201	1
R203	Carbon Film	100 koh	1/5 W	J	3069104970	1	D315/D316 SLR-34YCD-49, Yellow		2384521201	2
R204	Carbon Film	390 ohm	1/5 W	J	3069391970	1	D317 SLR-34URCF25, Red		2371124701	1
R205	Carbon Film	1 koh	1/5 W	J	3069102970	1	D318 SLR-34YCD-49, Yellow		2384521201	1
R206	Carbon Film	15 koh	1/5 W	J	3069153970	1	D320-D326 SLR-34YCD-49, Yellow		2384521201	7
R207/R208	Carbon Film	1 koh	1/5 W	J	3069102970	2				
R209	Carbon Film	15 koh	1/5 W	J	3069153970	1	IC's			
R210	Carbon Film	1 koh	1/5 W	J	3069102970	1	IC301 uPD78042, CPU		2138313224	1
R211	Carbon Film	390 ohm	1/5 W	J	3069391970	1	IC302 KA324		2168000113	1
R212	Carbon Film	100 koh	1/5 W	J	3069104970	1	IC303/304 KIA75559S/KIA4559S, OP AMP		2168206103	2
R213/R214	Carbon Film	820 koh	1/5 W	J	3069824970	2				
R215	Carbon Film	100 koh	1/5 W	J	3069104970	1	Transistors			
R216	Carbon Film	390 ohm	1/5 W	J	3069391970	1	Q301-Q314 DTC114YS		2208622106	5
R217	Carbon Film	1 koh	1/5 W	J	3069102970	1	Q308-Q314 DTC114YS		2208622106	7
R218/R219	Carbon Film	15 koh	1/5 W	J	3069153970	2				
R220	Carbon Film	1 koh	1/5 W	J	3069102970	1	Resistors			
R221	Carbon Film	390 ohm	1/5 W	J	3069391970	1	R301 Carbon Film	20 koh 1/5 W J	3069203970	1
R222/R223	Carbon Film	47 koh	1/5 W	J	3069473970	2	D(Only) R302 Carbon Film	2.2 koh 1/5 W J	3069222970	1
R224/R225	Carbon Film	1.5 koh	1/5 W	J	3069152970	2	D(Only) R303 Carbon Film	20 koh 1/5 W J	3069203970	1
R226	Carbon Film	47 koh	1/5 W	J	3069473970	1	D(Only) R304 Carbon Film	2.2 koh 1/5 W J	3069222970	1
R227	Carbon Film	220 ohm	1/5 W	J	3069221970	1	R305 Carbon Film	20 koh 1/5 W J	3069203970	1
R228	Carbon Film	470 ohm	1/5 W	J	3069471970	1	R306 Carbon Film	2.2 koh 1/5 W J	3069222970	1
R229/R230	Metal Film	15 ohm	1 W	J	3029150470	2	R307 Carbon Film	15 koh 1/5 W J	3069153970	1
R231	Metal Film	330 ohm	1 W	J	3029331472	1	R309-R311 Carbon Film	62 koh 1/5 W J	3069623970	3
R232	Carbon Film	100 koh	1/5 W	J	3069104970	1	R312 Carbon Film	820 koh 1/5 W J	3069824970	1
R233/R234	Carbon Film	3.3 ohm	1/5 W	J	3069339970	2	R313-R315 Carbon Film	62 koh 1/5 W J	3069623970	3
R235/R236	Carbon Film	910 ohm	1/5 W	J	3069911970	2	R317 Carbon Film	100 ohm 1/5 W J	3069101970	1
	Others						R318 Carbon Film	51 koh 1/5 W J	3069513970	1
18	Heat Sink, Regulator TR., Aluminum	7505202410	2				R319 Carbon Film	100 ohm 1/5 W J	3069101970	1
19	Outlet, ABS, Black	4448105510	1	KS	R320 Carbon Film	33 koh 1/5 W J	3069333970	1		
	Outlet, ABS, Black	4448103210	1	A	R321 Carbon Film	100 ohm 1/5 W J	3069101970	1		
	Outlet, ABS, Black	4448103610	1	D	R322 Carbon Film	27 koh 1/5 W J	3069273970	1		
20	Switch Selector, ABS, Black	4618006610	1	B(PT INDO)	R323 Carbon Film	15 koh 1/5 W J	3069153970	1		
21	Jack RCA, 2P, ABS, Black	4438105010	1		R324-R326 Carbon Film	20 koh 1/5 W J	3069203970	3		
22	Jack RCA, 4P, ABS, Black	4438103110	1		R327 Carbon Film	51 koh 1/5 W J	3069513970	1		
LUG1	Lug Wire HI-WRAP #22, 200mm	152622102058	1		R328 Carbon Film	1.2 koh 1/5 W J	3069122970	1		
	Power Transformer, 220 V 60 Hz	2828100187	1	KS	R329 Carbon Film	62 koh 1/5 W J	3069623970	1		
					R330 Carbon Film	2.2 koh 1/5 W J	3069222970	1		

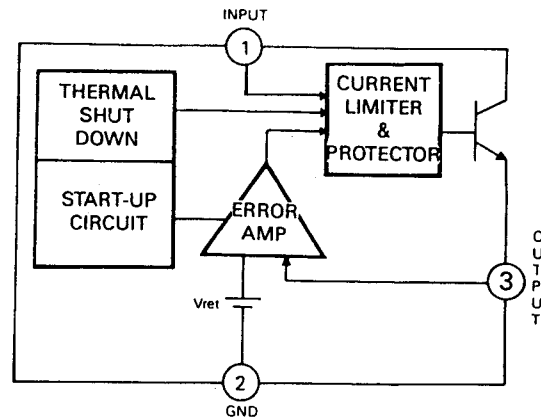
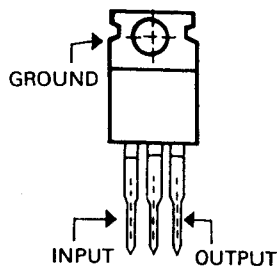
Ref. No.	Description	Parts No.	Q'ty	Version	Ref. No.	Description	Parts No.	Q'ty	Version
R331	Carbon Film	62 koh 1/5 W J	3069623970	1		Resonator			
R332	Carbon Film	2.2 koh 1/5 W J	3069222970	1	X301	CST4.19MGW-TF01	3938124006	1	
R333	Carbon Film	62 koh 1/5 W J	3069623970	1		Fluorescent			
R334	Carbon Film	2.2 koh 1/5 W J	3069222970	1	FL101	FIP15AW16Y, FL Display	2328130927	1	
R335/R336	Carbon Film	1 koh 1/5 W J	3069102970	2		Ass'y P.C.Board Front-1			
R337	Carbon Film	20 koh 1/5 W J	3069203970	1		Connector			
R338	Carbon Film	91 koh 1/5 W J	3069913970	1	CN102	Lead Ass'y 15P, 160mm	436215163132	1	
R339-R341	Carbon Film	62 koh 1/5 W J	3069623970	3		Switches			
R342	Carbon Film	100 ohm 1/5 W J	3069101970	1	SW314	Switch Tact, ▲, Level Up	4658003710	1	
R343	Carbon Film	18 koh 1/5 W J	3069183970	1	SW315	Switch Tact, ◀, Frequency "L"	4658003710	1	
R344	Carbon Film	100 ohm 1/5 W J	3069101970	1	SW316	Switch Tact, ▼, Level Down	4658003710	1	
R345	Carbon Film	12 koh 1/5 W J	3069123970	1	SW317	Switch Tact, ▶, Frequency "R"	4658003710	1	
R346	Carbon Film	100 ohm 1/5 W J	3069101970	1					
R347	Carbon Film	12 koh 1/5 W J	3069123970	1					
R348	Carbon Film	100 ohm 1/5 W J	3069101970	1					
R349	Carbon Film	27 koh 1/5 W J	3069273970	1					
R350	Carbon Film	1 koh 1/5 W J	3069102970	1					
R351	Carbon Film	10 koh 1/5 W J	3069103970	1					
R352/R353	Carbon Film	100 koh 1/5 W J	3069104970	2					
R354-R358	Carbon Film	1 koh 1/5 W J	3069102970	5					
R359-R361	Carbon Film	10 koh 1/5 W J	3069103970	3					
Switches									
SW301	Switch Tact, Car/Rock		4658003710	1					
SW302	Switch Tact, Visval HP.ST		4658003710	1					
SW303	Switch Tact, Clear Movie		4658003710	1					
SW304	Switch Tact, Vocal Pops		4658003710	1					
SW305	Switch Tact, Soft Jazz		4658003710	1					
SW306	Switch Tact, Heavy/Classic		4658003710	1					
SW307	Switch Tact, Memory		4658003710	1					
SW308	Switch Tact, EQ Defeat		4658003710	1					
SW309	Switch Tact, Display Level		4658003710	1					
SW310	Switch Tact, Display Mode		4658003710	1					
SW311	Switch Tact, Shift		4658003710	1					
SW312	Switch Tact, Tape Monitor		4658003710	1					
SW313	Switch Tact, Power		4658003710	1					

PRODUCT SAFETY NOTICE

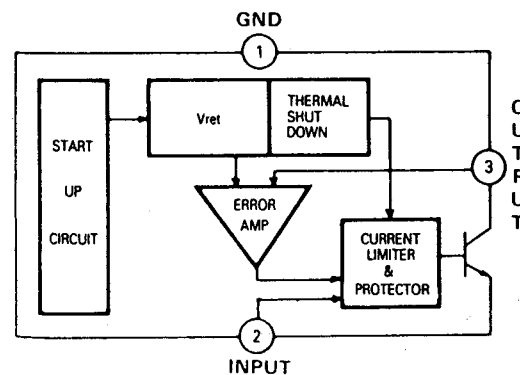
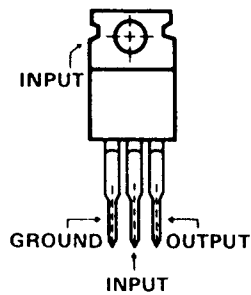
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol  in the parts list and the safety can be of special significance. When replacing a component identified with , use only the replacement parts designated, or parts with the same ratings of resistance, 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 retuning the product to the customer.

IC'S LEAD IDENTIFICATION & INTERNAL DIAGRAM

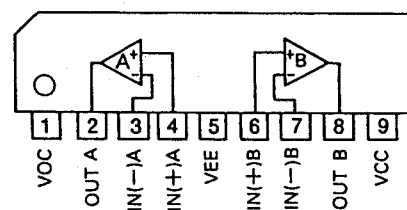
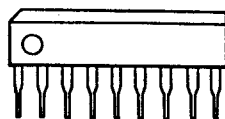
KA7818 : IC105



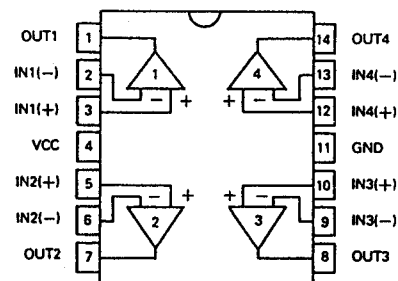
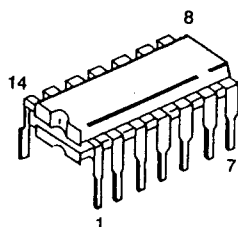
KA7918 : IC106



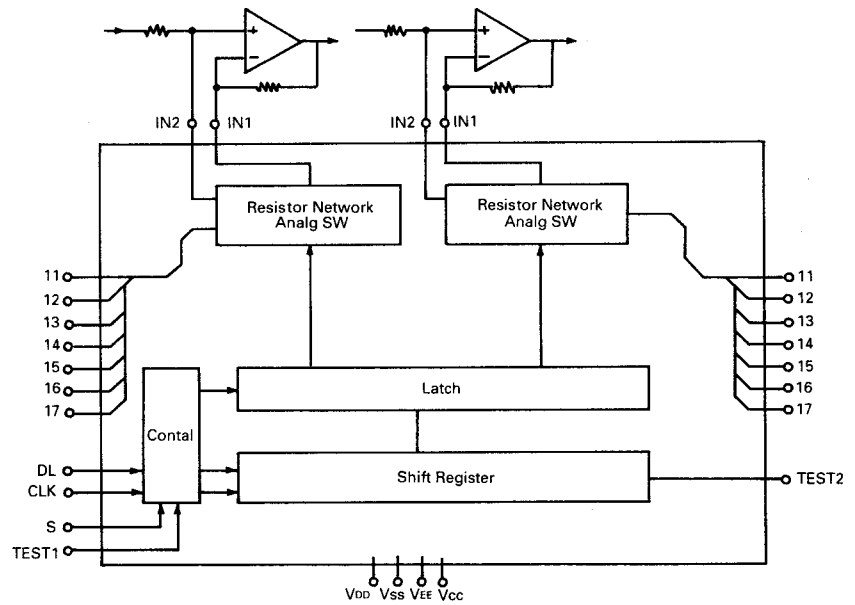
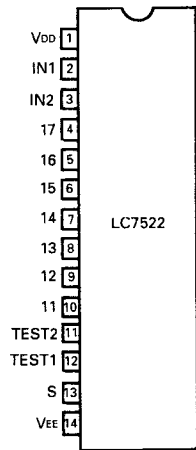
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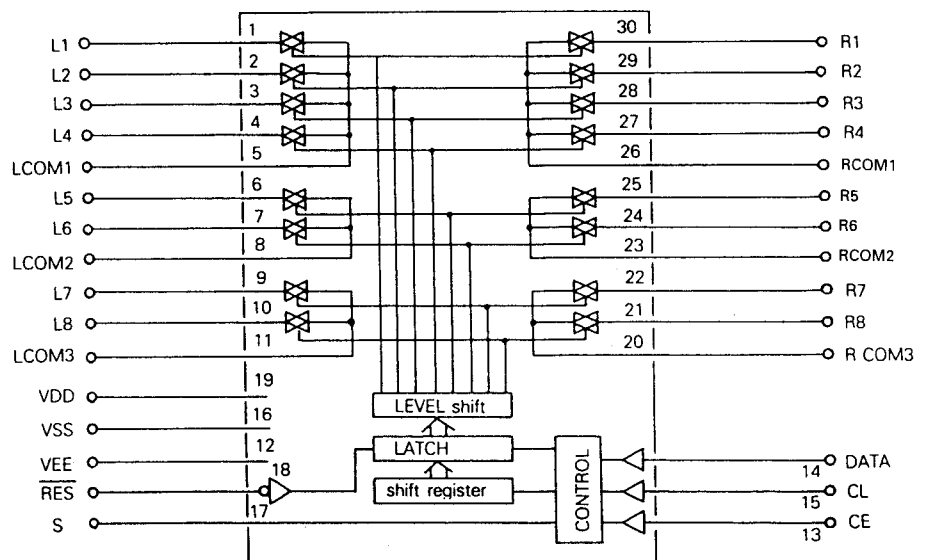
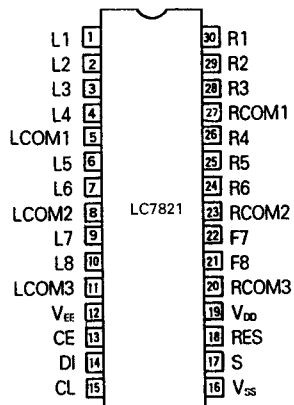
KA324 : IC302



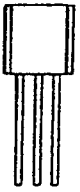
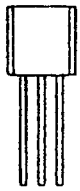
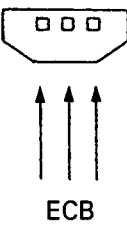
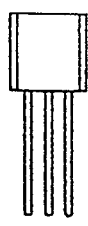
LC7522 : IC102



LC7821 : IC1011



TRANSISTORS LEAD IDENTIFICATION

DESCRIPTION	FRONT VIEW	BOTTOM VIEW
KTA1266(1015) KTC3198(1815) 2SD1302S	 ECB	 ECB
DTC114YS DTA114YS	 ECB	 ECB
MPSA06 MPSA56	 EBC	 EBC
	TERMINAL NAME	
	B→BASE C→COLLECTOR E→EMITTER	

Model No.: EQ-3050C

Model No.: EQ-3050C

