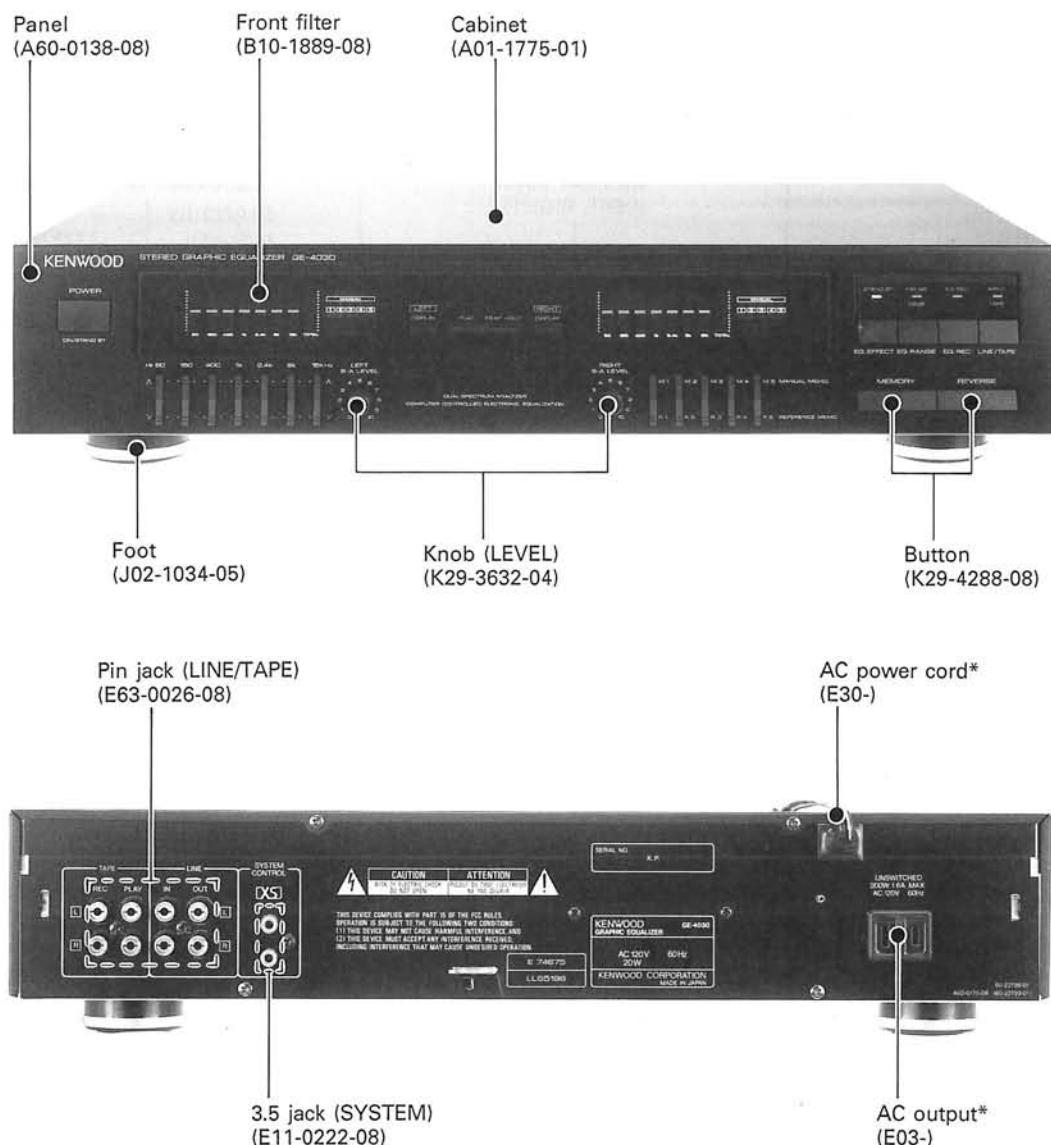


GE-891/4030

SERVICE MANUAL

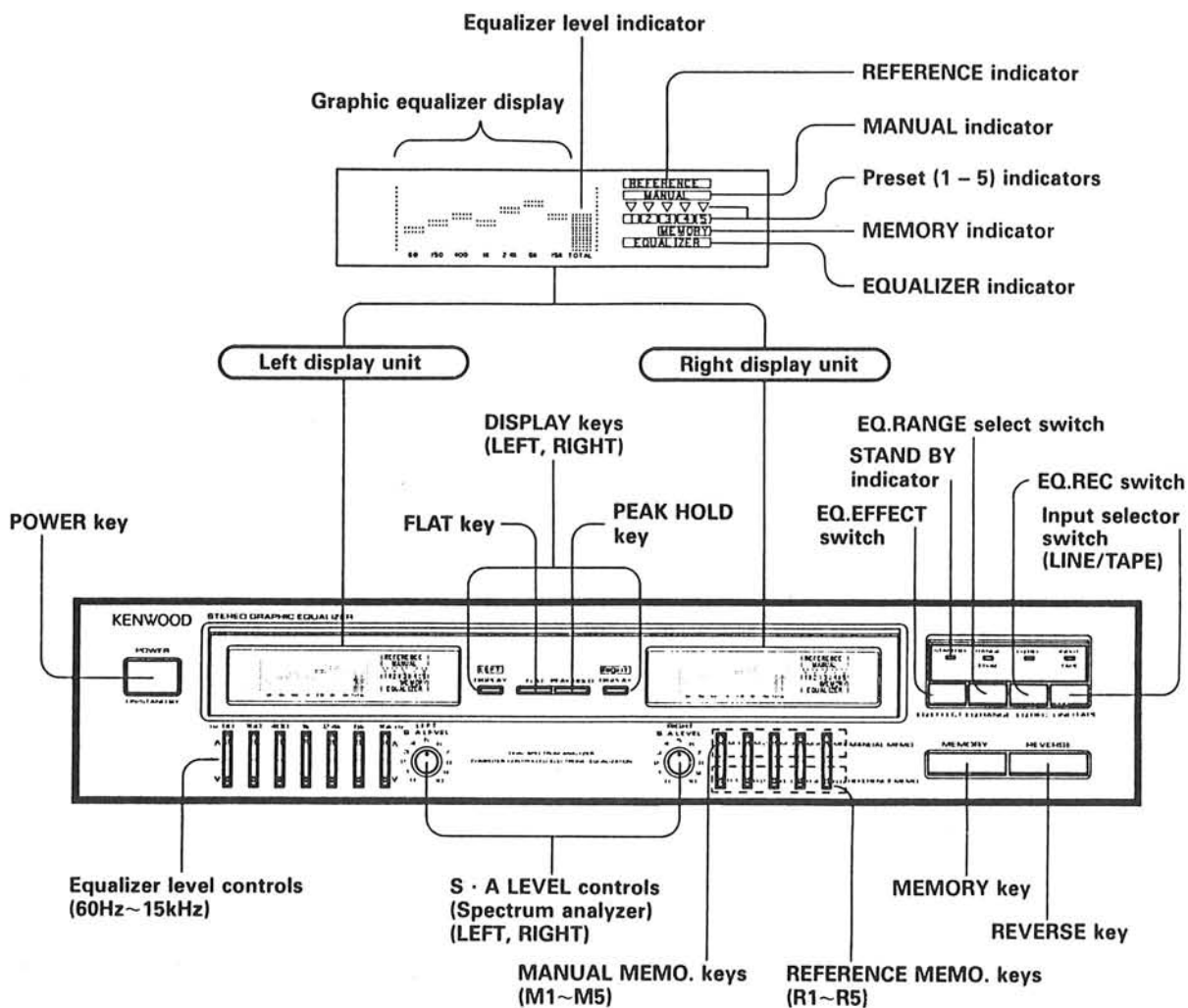
KENWOOD

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B51-4295-00 (O) 2821



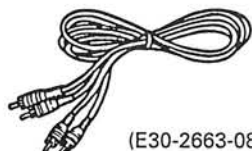
- * NO SYSTEM CONTROL JACK on the rear panel of GE-891.
- * Refer to parts list on page 14.
- * Photo is GE-4030.

CONTROLS / ACCESSORIES



Accessories

- Audio cords 2



- AC plug adapter 1
(Except for some areas)
For the unit with a European
AC plug in areas other than
Europe.

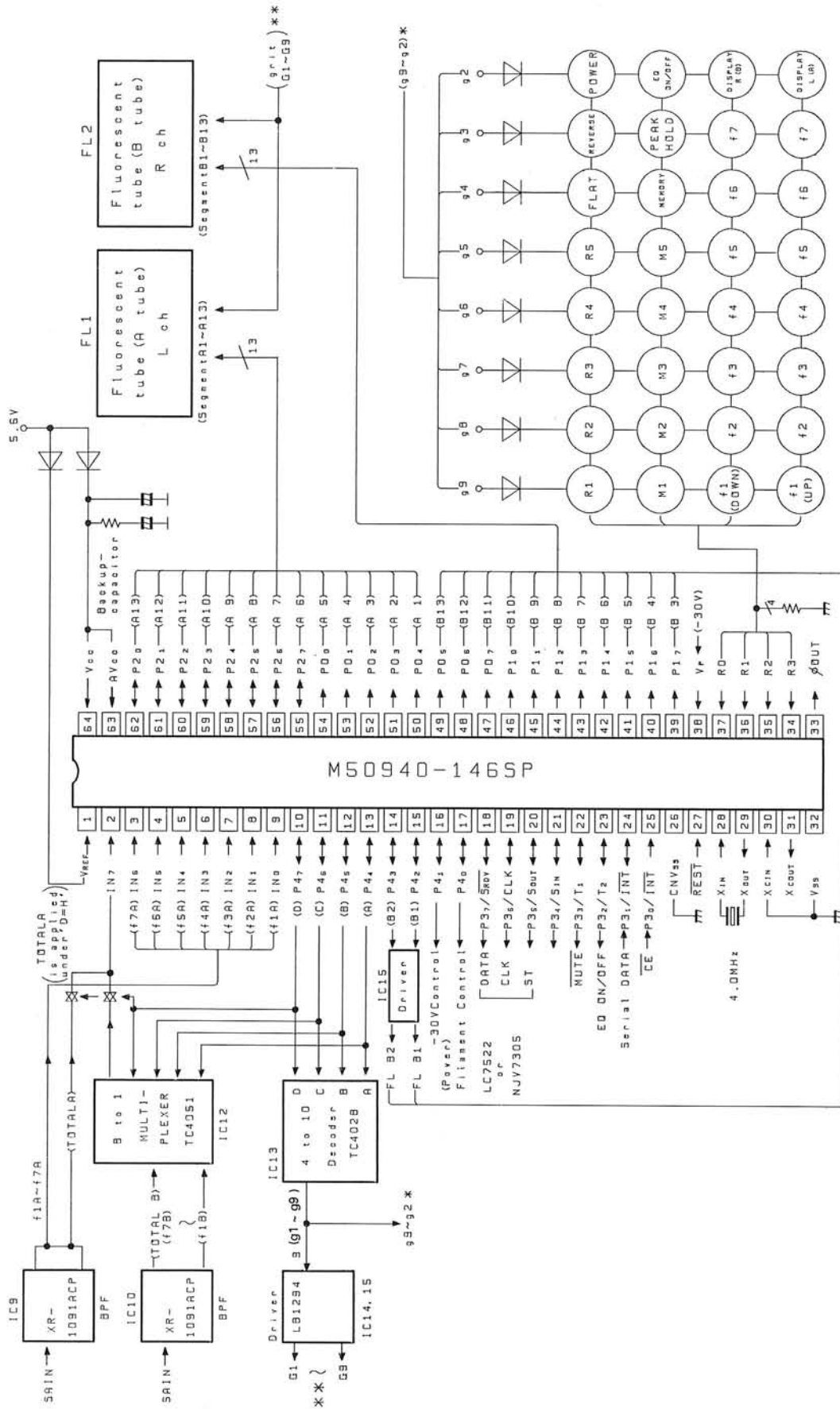


- System control cord 1



CIRCUIT DESCRIPTION

Microprocessor Block Diagram and Key Matrix



CIRCUIT DESCRIPTION

Pin Description

Pin No.	Pin name	I/O	Name	Description
1	VREF	I		Power supply for A/D converter (5V).
2	IN7	I	f7B ~ f1B TOTAL	A/D input for multiplexer and L-ch TOTAL signal.
3 ~ 9	IN6 ~ 8	I	f7A ~ f1A	A/D input L-ch.
10 ~ 13	P47 ~ 44	O	D ~ A	Control for multiplexer and 4 to 10 decoder.
14, 15	P43, 42	O	B2, B1	Drive for R-ch segments.
16	P41	O		Control power supply for indicator (-30V) L : ON, H : OFF.
17	P40	O		Control power supply for filament of indicator L : OFF, H : ON.
18	P37	O	DATA	Data terminal for LC722.
19	P36	O	CLK	Clock terminal for LC722.
20	P35	O	ST	ST terminal for LC722.
21	P34	O	S. BUSY	SYNCRO DATA
22	P33	O	MUTE	Control EQ circuit L : OFF, H : ON.
23	P32	O	EQ ON / OFF	Control EQ circuit L : OFF, H : ON.
24	P31	I	S. DATA	Synchro-data input.
25	P30	I	CE	Detection of Backup L : BACKUP.
26	CNVSS			Mode change in microprocessor (GND).
27	RESET			Reset terminal L : RESET.
28, 29	XIN, XOUT			System clock terminal (4MHz)
30, 31	XCIN, Xcout			No used.
32	Vss			GND of power supply.
33	Ø	O		1/4-divider of system clock (no used).
34 ~ 37	R3 ~ R0	I		Key inputs.
38	Vp			Pull-down power supply (-30V).
39 ~ 49	P17 ~ 05	O	B3 ~ B13	Drive segments (3 ~ 13) of R-ch.
50 ~ 62	P04 ~ 20	O	A1 ~ A13	Drive segments (3 ~ 13) of L-ch.
63	AVcc			Power supply for A/D converter (5V).
64	Vcc			Power supply for microprocessor (5V).

<TEST MODE>

1. Insert AC plug to the power supply under pressing FLAT key.

2. Confirm the following checks.

2-1. At first, all of segments turn on.

2-2. MAX segments (+12dB) of all frequency turn on when pressing M-2 key.

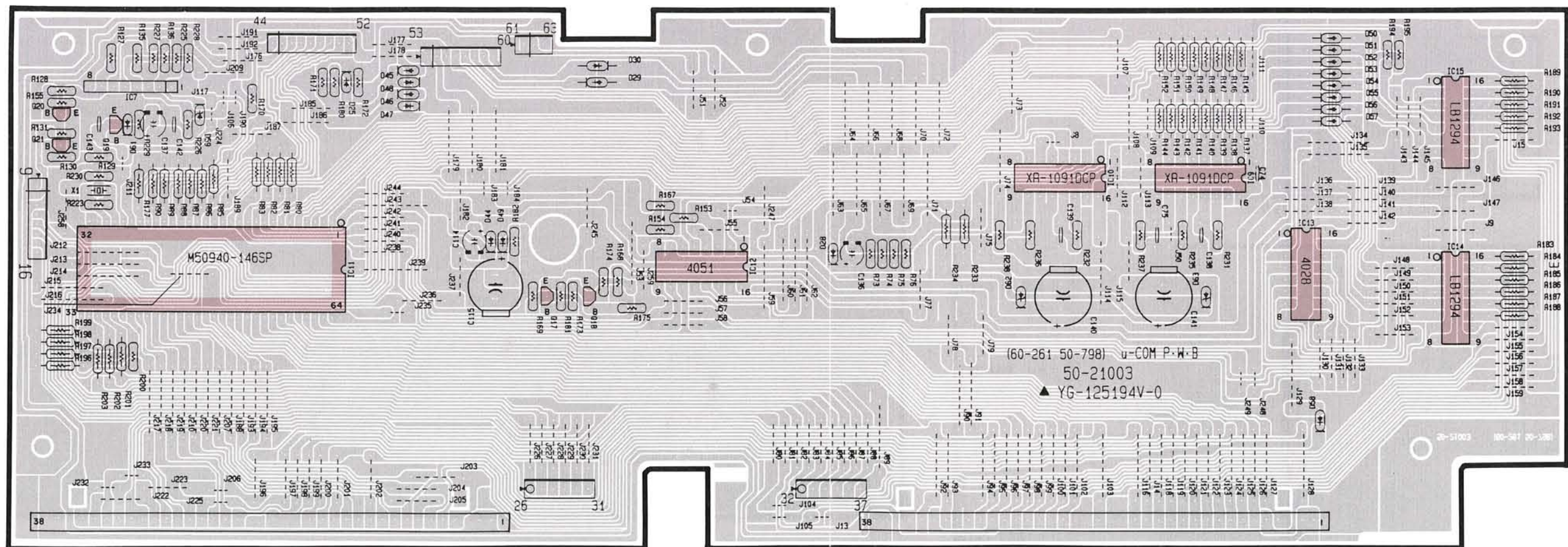
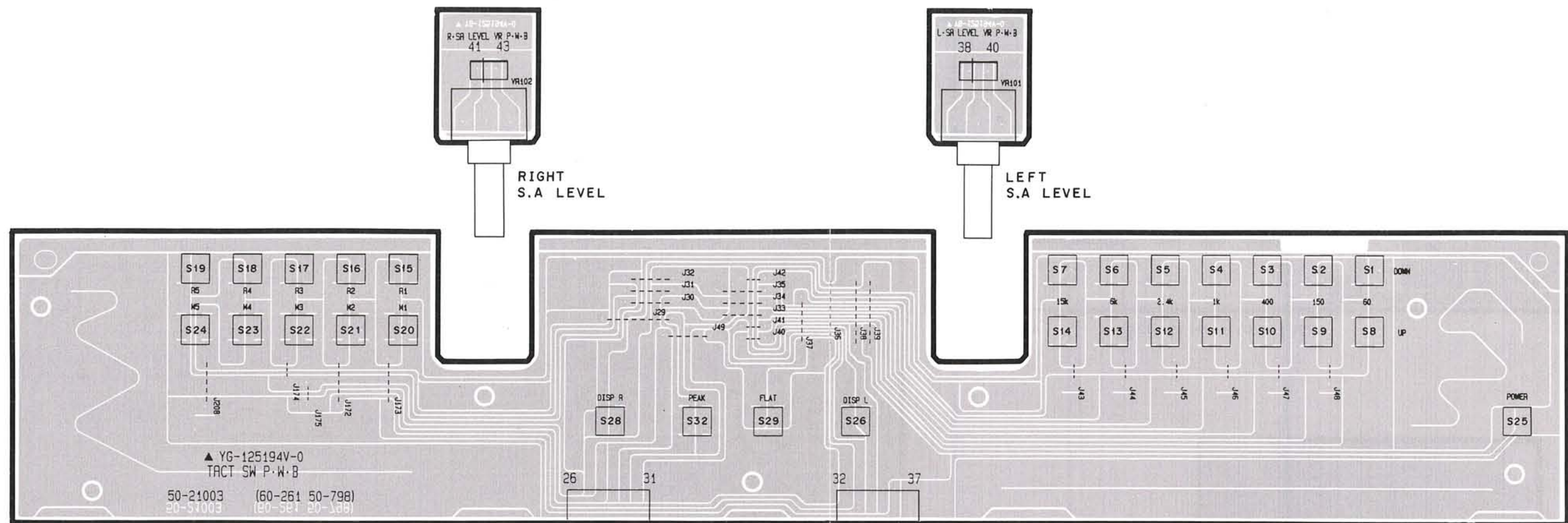
2-3. Min segments (-12dB) of all frequency turn on when pressing M-3 key.

2-4. 3 points (+12dB, 0dB, -12dB) of segments turn on in all frequency when UP or DOWN key is pressed.

<RESET>

Pull the AC plug out when unit is in TEST MODE.

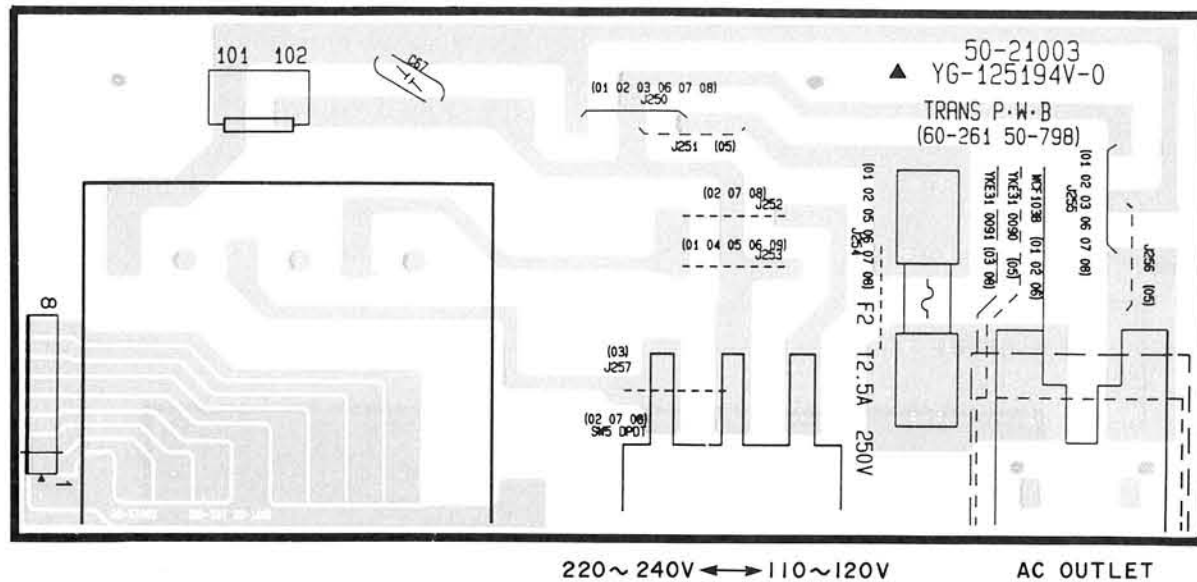
PC BOARD (COMPONENT SIDE VIEW)



R ch

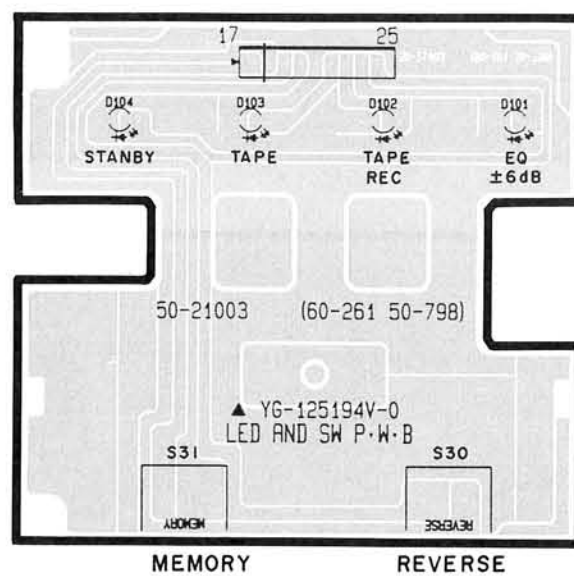
L ch

PC BOARD (COMPONENT SIDE VIEW)



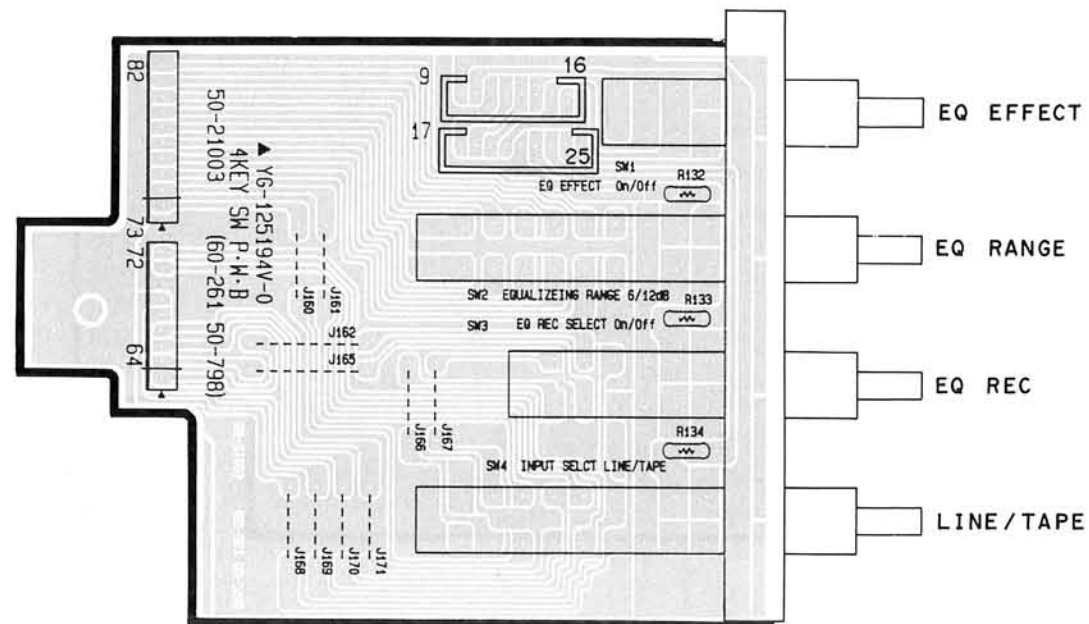
220~240V ↔ 110~120V

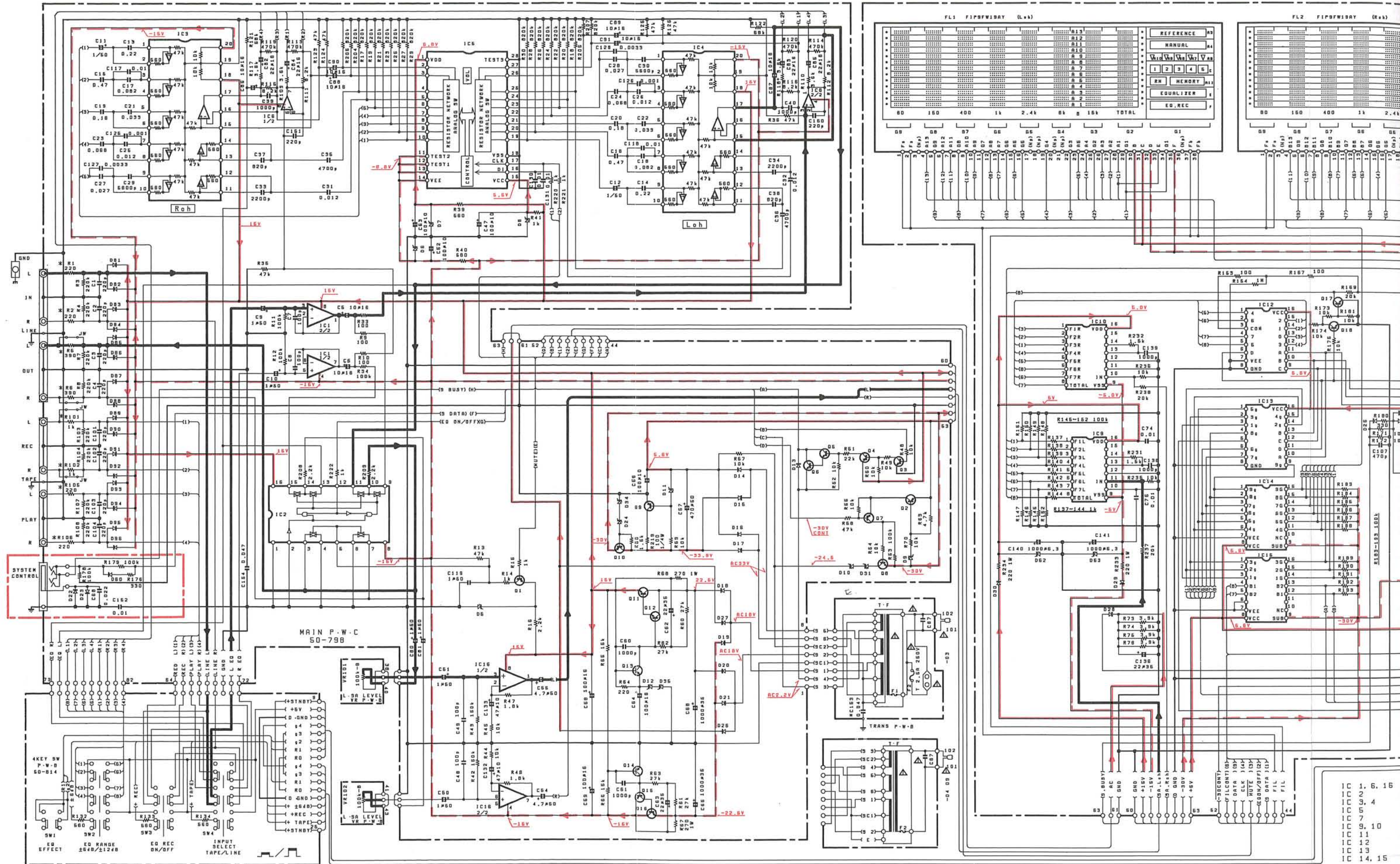
AC OUTLET



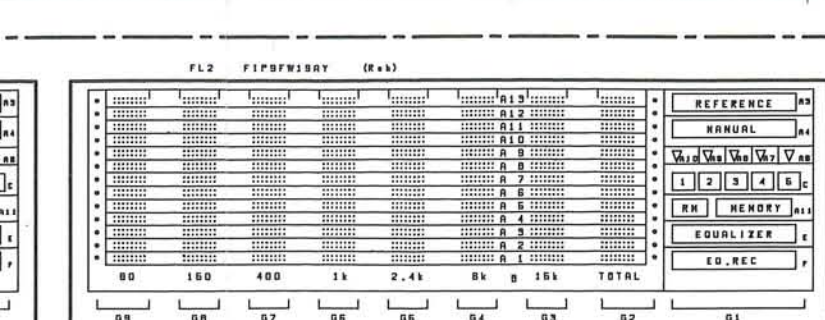
MEMORY

REVERSE

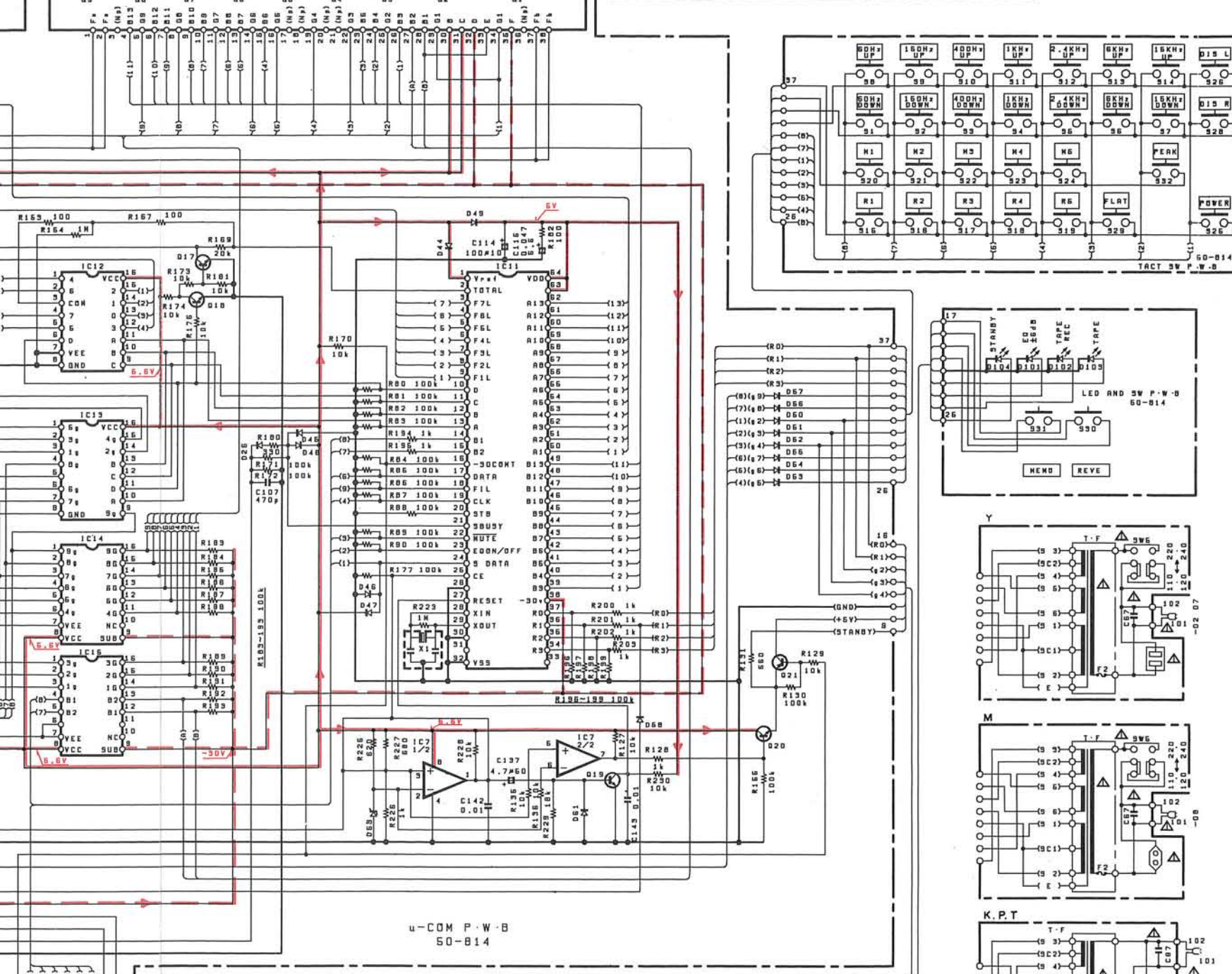




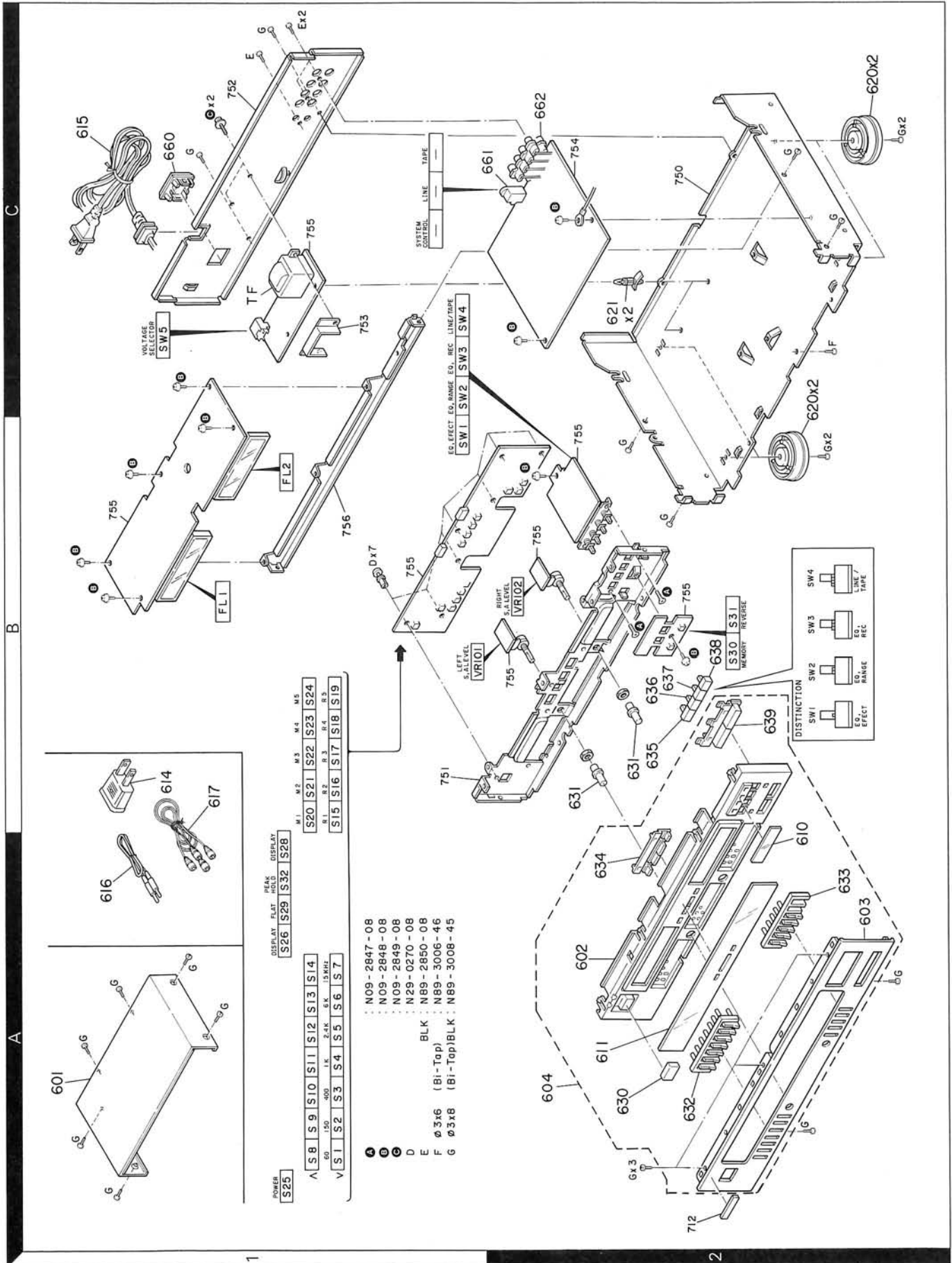
IC 1, 6, 16
IC 2, 4
IC 7, 9, 10
IC 11
IC 12
IC 13
IC 14, 15



GE-4030							GE-891		
DESTINATION		C153	R5. 6	R101 R102	R1. 2 R105 R106	SYSTEM CONTROL P. J	DESTINATION		SYSTEM CONTROL P. J
COUNTRY	ABB						COUNTRY	ABB	
U.S.A	K	X	X	X	X	○	CANADA	P	X
CANADA	P	X	X	X	X	○	PX	Y	X
PX	Y	X	X	X	X	○	AUSTRALIA	X	X
EUROPE	E	0.047	390	1K	1K	○	GENERAL MARKET	M	X
AUSTRALIA	X	X	X	X	X	○			
ENGLAND	T	X	X	X	X	○			



EXPLODED VIEW (UNIT)



PARTS LIST

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Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
GE-891 / GE-4030						
601	1A	*	A01-1775-01	CABINET		
602	2A	*	A22-0520-08	GUIDE PANEL		
603	2A	*	A60-0138-08	FRONT PANEL ASSY		4
603	2A	*	A60-0140-08	FRONT PANEL ASSY		8
604	2A	*	A60-0139-08	FRONT PANEL		4
604	2A	*	A60-0141-08	FRONT PANEL		8
610	2A	*	B03-2746-08	LED FILTER		
611	2A	*	B10-1889-08	FRONT FILTER		
△ 614	1B	*	E03-0115-05	AC ADAPTER	M	8
△ 615	1C	*	E30-2658-08	AC CORD	KP	
△ 615	1C	*	E30-2659-08	AC CORD	Y	
△ 615	1C	*	E30-2660-08	AC CORD	X	
△ 615	1C	*	E30-2661-08	AC CORD	TE	
△ 615	1C	*	E30-2662-08	AC CORD	M	
616	1A	*	E30-2663-08	AUDIO CORD		
617	1B	*	E30-2664-08	SYSTEM CONTROL CORD		
620	2B, 2C	*	J02-0366-15	FOOT		8
620	2B, 2C	*	J02-1034-05	FOOT		4
621	2C	*	J19-3440-08	P.C SUPPORT		
630	2A	*	K27-2004-04	KNOB (POWER)		
631	2B	*	K29-3632-04	KNOB (LEVEL)		
632	2A	*	K29-4281-08	EQ BUTTON		
633	2A	*	K29-4282-08	EQ BUTTON		
634	2A	*	K29-4283-08	MODE BUTTON		
635	2B	*	K29-4284-08	11X16 BUTTON A		
636	2B	*	K29-4285-08	11X16 BUTTON B		
637	2B	*	K29-4286-08	11X16 BUTTON C		
638	2B	*	K29-4287-08	11X16 BUTTON D		
639	2B	*	K29-4288-08	33X9 TWIN BUTTON		
-		*	B46-0092-03	WARRANTY CARD	K	
-		*	B46-0094-03	WARRANTY CARD	Y	
-		*	B46-0095-03	WARRANTY CARD	Y	
-		*	B46-0096-13	WARRANTY CARD	X	
-		*	B46-0121-03	WARRANTY CARD	P	
-		*	B46-0122-13	WARRANTY CARD	E	
-		*	B46-0143-13	WARRANTY CARD	T	
-		*	B60-0454-00	INSTRUCTION MANUAL(ENGLISH)		4
-		*	B60-0455-00	INSTRUCTION MANUAL(FRENCH)	PE	4
-		*	B60-0456-00	INSTRUCTION MANUAL(G/D/I)	E	4
-		*	B60-0457-00	INSTRUCTION MANUAL(ENGLISH)		8
-		*	B60-0458-00	INSTRUCTION MANUAL(FRENCH)	P	8
-		*	B60-0459-00	INSTRUCTION MANUAL(CHI/SPA)	M	8
-		*	H10-5207-08	PACKING		
-		*	H25-0648-08	P.E BAG 235X360		
-		*	H25-0649-08	P.E BAG 800X400		
-		*	H50-0064-08	CARTON		4
-		*	H50-0065-08	CARTON		8
-		*	J13-0079-08	FUSE CLIP	E	4
-		*	J61-0093-08	TIE		
A		*	N09-2847-08	FLAT SCREW M3X5		
B		*	N09-2848-08	FLANGE B-TITE SCREW		
C		*	N09-2849-08	SEMS S-TITE SCREW		
D		*	N29-0270-08	NYLON RIVET		

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E F G		*	N89-2850-08 N89-3006-46 N89-3008-45	B-TITE EARTH SCREW 3X8 BIND B-TITE SCREW 3X6 BIND B-TITE SCREW 3X8		
ELECTRIC PARTS						
D101-104		*	B30-2405-08	LED		
C1 -4			CK45FF1H221K	CERAMIC 220PF K		
C5 ,6			CE04KW1C100M	ELECTRØ 10UF 16WV		
C7 ,8		*	CK45FF1H101K	CERAMIC 100PF K		
C9 -12			CE04KW1H010M	ELECTRØ 1.0UF 50WV		
C13 ,14		*	CQ93FM1H224K	MYLAR 0.22UF K		
C15 ,16		*	CQ93FM1H474K	MYLAR 0.47UF K		
C17 ,18			CQ93FM1H823K	MYLAR 0.082UF K		
C19 ,20		*	CQ93FM1H184K	MYLAR 0.18UF K		
C21 ,22			CQ93FM1H333K	MYLAR 0.033UF K		
C23 ,24			CQ93FM1H683K	MYLAR 0.068UF K		
C25 ,26		*	CQ93FM1H123K	MYLAR 0.012UF K		
C27 ,28			CQ93FM1H273K	MYLAR 0.027UF K		
C29 ,30			CQ93FM1H562K	MYLAR 5600PF K		
C31 ,32		*	CQ93FM1H123K	MYLAR 0.012UF K		
C33 ,34			CQ93FM1H222K	MYLAR 2200PF K		
C35 ,36			CQ93FM1H472K	MYLAR 4700PF K		
C37 ,38		*	CQ93FM1H821K	MYLAR 820PF K		
C39 ,40			CK45FF1H102K	CERAMIC 1000PF K		
C47			CE04KW1A101M	ELECTRØ 100UF 10WV		
C48 ,49		*	CK45FF1H101K	CERAMIC 100PF K		
C50 ,51			CE04KW1H010M	ELECTRØ 1.0UF 50WV		
C52 ,53			CE04KW1A101M	ELECTRØ 100UF 10WV		
C54 ,55			CE04KW1H4R7M	ELECTRØ 4.7UF 50WV		
C56			CE04KW1A101M	ELECTRØ 100UF 10WV		
C57			CE04KW1H471M	ELECTRØ 470UF 50WV		
C58 ,59			CE04KW1C101M	ELECTRØ 100UF 16WV		
C60 ,61			CK45FF1H102K	CERAMIC 1000PF K		
C62 ,63			CE04KW1V220M	ELECTRØ 22UF 35WV		
C64			CE04KW1C101M	ELECTRØ 100UF 16WV		
C65 ,66			CE04KW1V102M	ELECTRØ 1000UF 35WV		
△ C67			AZ050-40978-01	CERAMIC 0.010UF K		
C68		*	CK45FF1H223K	CERAMIC 0.022UF K		
C74 ,75			CK45FF1H103K	CERAMIC 0.010UF K		
C80 ,81			CE04KW1H010M	ELECTRØ 1.0UF 50WV		
C82 -85			CE04KW1C220M	ELECTRØ 22UF 16WV		
C86 -91			CE04KW1C100M	ELECTRØ 10UF 16WV		
C101-104			CK45FF1H221K	CERAMIC 220PF K		
C107			CK45FF1H471K	CERAMIC 470PF K		
C114			CE04KW1A101M	ELECTRØ 100UF 10WV		
C115			C91-0789-05	BACKUP C 0.047UF		
C117,118			CQ93FM1H103K	MYLAR 0.010UF K		
C119			CE04KW1H010M	ELECTRØ 1.0UF 50WV		
C125,126			CQ93FM1H102K	MYLAR 1000PF K		
C127,128			CQ93FM1H333K	MYLAR 0.033UF K		
C130,131			CK45FF1H103K	CERAMIC 0.010UF K		
C132,133			CE04KW1A470M	ELECTRØ 47UF 10WV		
C136			CE04KW1V220M	ELECTRØ 22UF 35WV		
C137			CE04KW1H4R7M	ELECTRØ 4.7UF 50WV		
C138,139			CK45FF1H102K	CERAMIC 1000PF K		

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C140, 141 C142, 143 C150, 151 C152 C153			CE04KW0J102M CK45FF1H103K CK45FF1H221K CK45FF1H223K CK45FF1H473K	ELECTRO 1000UF 6.3WV CERAMIC 0.010UF K CERAMIC 220PF K CERAMIC 0.022UF K CERAMIC 0.047UF K	E	
△ C154 F2		*	CK45FF1H473K F50-0011-08	CERAMIC 0.047UF K FUSE (2.5A)	E	4
△ 660	1C		E03-0085-05	AC OUTPUT	T	4
△ 660	1C	*	E03-0125-08	AC OUTPUT	KPY	
△ 660	1C	*	E03-0126-08	AC OUTPUT	EM	
661	2C	*	E11-0222-08	3.5 JACK (SYSTEM)		
662	2C	*	E63-0026-08	PIN JACK (LINE/TAPE)		
△ TF	1C	*	L07-0405-08	TRANSFORMER	KP	
△ TF	1C	*	L07-0406-08	TRANSFORMER	Y	
△ TF	1C	*	L07-0407-08	TRANSFORMER	XMET	
VR101, 102	1B, 2B	*	R01-5083-08	POTENTIOMETER		
S1 -26	1A, 1B	*	S70-0003-08	TACT SWITCH		
S28 -32	1A, 1B	*	S70-0003-08	TACT SWITCH		
SW1 -4	1B, 1C	*	S68-0005-08	4KEY SWITCH SPUL		
△ SW5	1C	*	S62-0013-08	SLIDE SWITCH (VOLTAGE SELECT)	YM	
D5		*	MTZJ3.9B	DIODE		
D6 , 7			MTZJ6.8B	DIODE		
D8			MTZJ5.6B	DIODE		
D9		*	MTZJ24C	DIODE		
D10		*	MTZJ2.7B	DIODE		
D11 , 12			MTZJ6.2B	DIODE		
D13 -21			1SR139-100	DIODE		
D22 , 23			1SS131-T77	DIODE		
D24		*	MTZJ15C	DIODE		
D25			1SS131-T77	DIODE		
D26 , 27			1SR139-100	DIODE		
D28			1SS131-T77	DIODE		
D29 , 30			1SR139-100	DIODE		
D31		*	MTZJ2.7B	DIODE		
D34		*	MTZJ15C	DIODE		
D35			MTZJ8.2B	DIODE		
D44 -58			1SS131-T77	DIODE		
D59		*	MTZJ2.7B	ZENER DIODE		
D60			1SS131-T77	DIODE		
D61			1SS131-T77	DIODE		
D62 , 63			MTZJ5.1B	ZENER DIODE		
D81 -96			1SS131-T77	DIODE		
FL1 , 2	1B		FIP9FW19Y	FL		
IC1		*	M5218AP	IC		
IC2			TC9215P	IC(ANALOG SWITCH X 6)		
IC3 , 4			M5229P	IC(7CH GRAPHIC EQUALIZER)		
IC5			LC7522	IC(7CH GRAPHIC EQUALIZER)		
IC6		*	M5218AP	IC		
IC7			BA10393N	IC(DUAL COMPARATOR)		
IC9 , 10			XR-1091DCP	IC(GE DISPLAY FILTER)		
IC11			M50940-146SP	IC		
IC12			BU4051B	IC		
IC13		*	BU4028B	IC		

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IC14, 15 IC16 Q1 , 2 Q3 Q4		*	LB1294 M5218AP 2SA933S-R 2SC1740S-R 2SA933S-R	IC(6CH DARLINGTON DRIVER) IC TRANSISTOR TRANSISTOR TRANSISTOR		
Q5 Q6 Q7 Q8 Q9 , 10			2SC1740S-R 2SD1266 2SA933S-R 2SC1740S-R 2SB941	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q11 Q12 , 13 Q14 , 15 Q16 Q17 -20			2SD1266 2SC1740S-R 2SA933S-R 2SD1266 2SC1740S-R	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q21 X1		*	2SA933S-R L78-0285-08	TRANSISTOR RESONATOR (4.0MHz)		

SPECIFICATIONS

[GE-891]

Equalizer characteristics

Variable range ± 12 dB/ ± 6 dB
(L & R independently adjustable)

Center frequencies 60 Hz, 150 Hz, 400 Hz,
1 kHz, 2.4 kHz, 6 kHz, 15 kHz

Frequency response 10 Hz – 35 kHz, +0 dB, –1 dB

Total harmonic distortion Less than 0.004%
(1kHz, all controls flat output 1V)

Gain 0 ± 2.7 dB

Maximum output voltage 9 V (1 kHz, THD 0.03%)

S/N ratio 100 dB (IHF-A network, 1V)

Input impedance 47 k Ω

Output impedance 2.5 k Ω

General

Power consumption 20 W

AC outlets

For the U.S.A. and Canada

UNSWITCHED 1 (200 W, 1.6 A max.)

For other countries

UNSWITCHED 1 (200 W max.)

Dimensions W: 440 mm (17-5/16")

H: 97 mm (3-13/16")

D: 277 mm (10-7/8")

Weight 3.5 kg (7.7 lb)

[GE-4030]

Equalizer characteristics

Variable range ± 12 dB/ ± 6 dB
(L & R independently adjustable)

Center frequencies 60 Hz, 150 Hz, 400 Hz,
1 kHz, 2.4 kHz, 6 kHz, 15 kHz

Frequency response 10 Hz – 50 kHz, +0 dB, –1.5 dB

Total harmonic distortion Less than 0.006%
(1kHz, all controls flat output 1V)

Gain 0 ± 2.7 dB

Maximum output voltage 5.4 V (1 kHz, T.H.D. 0.03%)

S/N ratio 100 dB (IHF-A network, 1V)

Input impedance 50 k Ω

Output impedance 2 k Ω

General

Power consumption 20 W

AC outlets

For the U.S.A. and Canada

UNSWITCHED 1 (200 W, 1.6 A max.)

For other countries

UNSWITCHED 1 (200 W max.)

Dimensions W: 440 mm (17-5/16")

H: 97 mm (3-13/16")

D: 277 mm (10-7/8")

Weight (net) 3.5 kg (7.7 lb)

Note:

KENWOOD follows a policy of continuous advancements in development. For this reason specifications may be changed without notice.

Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

KENWOOD CORPORATION

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD U.S.A. CORPORATION

2201 East Dominguez Street, Long Beach, CA 90810;

550 Clark Drive, Mount Olive, NJ 07828, U.S.A.

KENWOOD ELECTRONICS CANADA INC.

P.O. BOX 1075, 959 Gana Court, Mississauga, Ontario, Canada L4T 4C2

TRIO-KENWOOD U.K. LTD.

KENWOOD HOUSE, Dwight Road, Watford, Herts., WD1 8EB United Kingdom

KENWOOD ELECTRONICS BENELUX N.V.

Mechelsesteenweg 418 B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrücker-Str. 15, 6056 Heusenstamm, Germany

TRIO-KENWOOD FRANCE S.A.

13 Boulevard Ney, 75018 Paris, France

KENWOOD LINEAR S.p.A.

20125, MILANO-VIA ARBE, 50, ITALY

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD. (INCORPORATED IN N.S.W.)

P.O. BOX 504, 8 FIGTREE DRIVE, AUSTRALIA CENTRE, HOMEBUSH, N.S.W. 2140, AUSTRALIA

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Wang Kee Building, 4th Floor, 34-37, Connaught Road, Central, Hong Kong