

VOLTAGE CHECK TABLE

IC1	
4	2.7V
5	0V
6	0.8V
7	2.2V
8	3.2V

IC2, 3	
7	14.7V
8	0V
10	14.7V

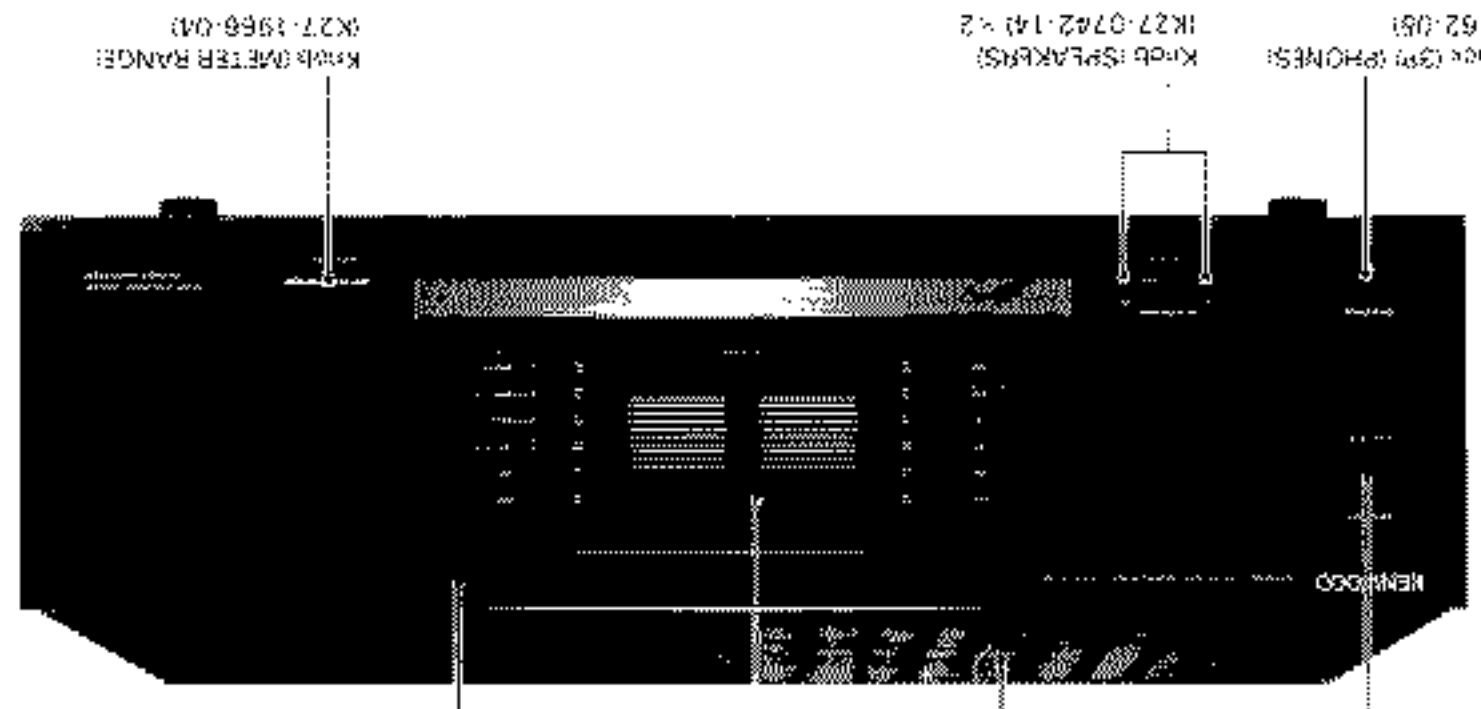
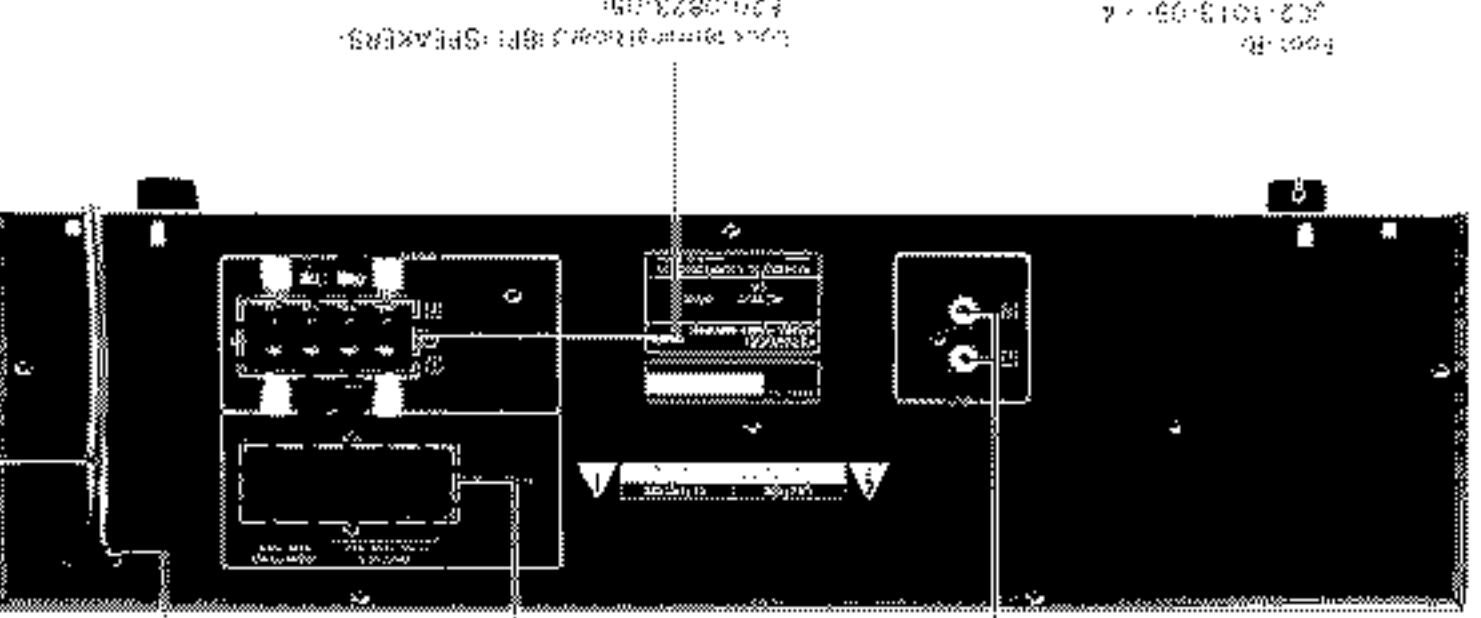
X07-2430-XX				
X07-2460-XX				
	B	C	E	
Q1 - 4	-	17.7V	-18V	
Q5, 6	17.7V	80.3V	17V	
Q7, 8	17.7V	81V	17V	
Q9, 10	80.3V	77.8V	81V	
Q11, 12	77.2V	1.2V	77.8V	
Q13, 14	-	1.2V	-1.2V	
Q15, 16	-	81V	0.6V	
Q17, 18	-	-81V	-0.6V	
Q19, 20	-	81V	-	
Q21, 22	-	-81V	-	
Q23, 24	-	-	0V	
Q27, 28	-	-	1.2V	
Q29, 30	-	-	-1.2V	
Q33	81V	-	81V	
Q34	24V	34V	23.4V	
Q35	0V	-	0V	
Q36	23V	Relay ON : -12V Relay OFF : 23V	23V	
Q37	-	-	14.7V	

Rated Power Output
150 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortion.

Both channels driven
(8 ohms, 1 kHz) 155 W + 155 W
Music Power
(8 ohms) 310 W + 310 W
Total Harmonic Distortion
20 Hz to 20,000 Hz 0.015% at 1/2 rated power
1 kHz 0.002% at 1/2 rated power
into 8 ohms
1 MHz 0.002% at 1/2 rated power
into 8 ohms
Inter Modulation Distortion
(50 Hz, 7 kHz = 4:1) 0.002% at rated power into 8 ohms
Frequency Response 5 Hz to 200 kHz, + 0 dB, -3 dB
Power Bandwidth
(0.2% T.H.D., 8 ohms) 10 Hz to 50 kHz
Signal-to-Noise Ratio (S/N) 120 dB (MAIN IN)
Damping Factor More than 35 at 50 Hz
General
8 A (USA and Canada)
350 W (Others)
AC Outlets Switched 2, Unswitched 1
Dimensions
W 420 mm (16-9/16")
H 123 mm (4-13/16")
D 269 mm (10-9/16")
Weight (Net) 8.5 kg (18.7 lb)

Note:
We follow a policy of continuous advancement in development. For this reason specifications may be changed without notice.
Component and country are subject to modification to insure best operation under different local conditions. This manual is based on the U.S.A. (N.I.) 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
Kenwood Electronics U.S.A. Corporation
200 East Commonwealth Avenue, Brea, CA 92603
Kenwood Electronics Canada Inc.
100 St. Lawrence Street East, Toronto, Ontario M5E 1B3
Kenwood Electronics Benelux NV
Middelweg 10, 2001 CA Antwerpen, Belgium
Kenwood Electronics Deutschland GmbH
Postfach 10 15 53, 53005 Bonn, Germany
Kenwood France S.A.
17 Boulevard des Freres Perrier, 92110 Nanterre, France
Kenwood U.K. Ltd.
100, Kingsway, London W2 7JF, England
Kenwood Electronics Australia Pty. Ltd.
100 Victoria Road, North Sydney, New South Wales 1585, Australia
Kenwood & KEF Electronics, Ltd.
Wood Lane, Basingstoke, Hampshire RG24 0PR, England



STEREO POWER AMPLIFIER
KM-208
SERVICE MANUAL

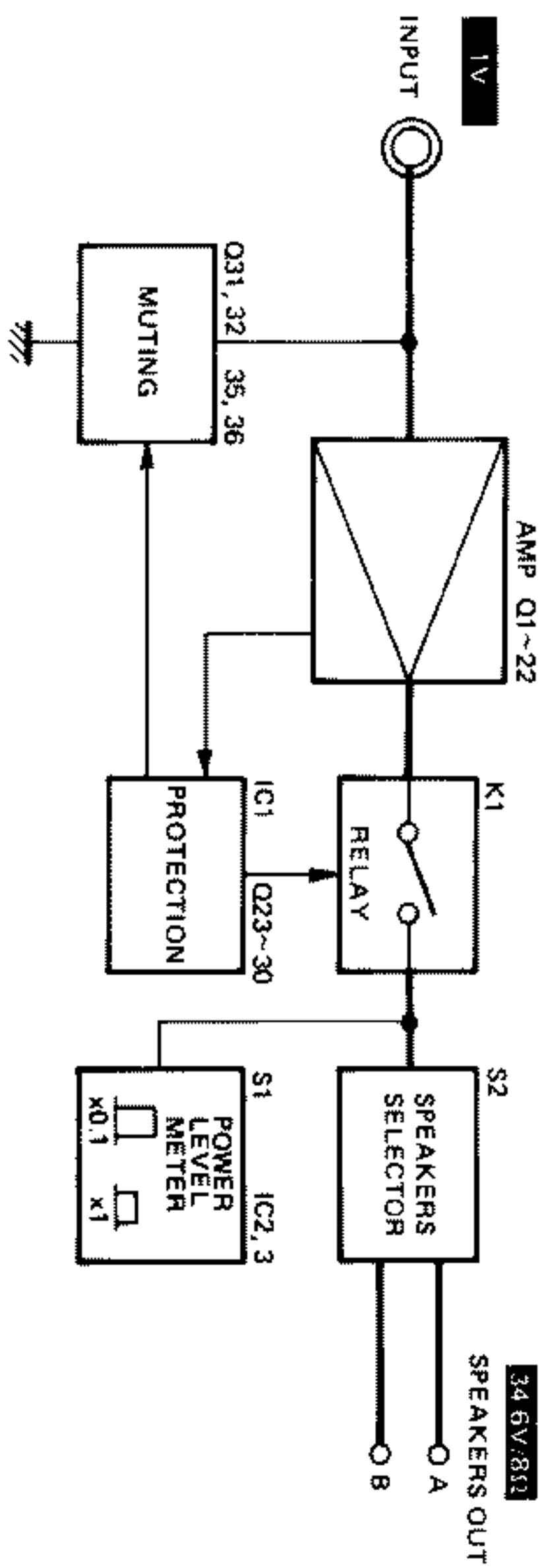
KENWOOD

C 1989-3 PRINTED IN JAPAN
851-3863-00(B)1755

Refer to parts list on page 15.

BLOCK DIAGRAM/CIRCUIT DESCRIPTION

BLOCK LEVEL DIAGRAM



CIRCUIT DESCRIPTION

Description of Components

POWER AMPLIFIER UNIT (X07-2430-XX, X07-2460-XX)

Components	Application/Function	Operation/Condition/Compatibility
Q1 ~ 4	Initial stage differential amplifier	Low noise.
Q5 ~ 8	2nd stage differential amplifier	
Q9, 10	3rd stage amplifier	Class A cascade current amplifier.
Q11, 12	3rd stage amplifier	Class A cascade voltage amplifier.
Q13, 14	Bias temperature compensation	
Q15 ~ 18	Class B driver	
Q19 ~ 22	Power amplifier	
Q23 ~ 30	Current protection	
Q31, 32	Input muting	
Q33	Driver for relay driver IC	Current protection.
Q34	Constant voltage control	
Q35, 36	Muting driver	
Q37	AVR	For meter driver.
IC1	Relay driver IC	
IC2, 3	Meter driver	

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIAS FOR	FIG.
1	IDLE CURRENT		Connect a DC voltmeter across CP1 (L) CP2 (R)	VOLUME: 0	VR1 (L) VR2 (R)	9~18mV	(a)

REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINTS D'ALIGNEMENT	ALIGNER POUR	FIG.
1	COURANT DE POLARISATION		Connecter un voltmètre de CC sur CP1 (G) CP2 (G)	VOLUME: 0	VR1 (G) VR2 (D)	9~18mV	(a)

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSSGANGS-EINSTELLUNG	VORSTÄRKER EINSTELLUNG	ABGLEICH- PUNKTE	ABGLEICHEN FÜR	ABB.
1	LEERLAUFSTROM		Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschließen.	VOLUME: 0	VR1 (L) VR2 (R)	9~18mV	(a)

PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

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	Re- marks 備考
C11, 12			CC45FSL1H03DC	CERAMIC		
C13, 14			CF92FV1H102J	MF		
C15, 16		*	CE04LW1H330M	ELECTR0		
C17, 18			C90-1394-05	ELECTR0		
C19, 20			CE04LW1E101M	ELECTR0		
C21		*	CE04LW2R220M	ELECTR0		
C22		*	CE04LW1V221M	ELECTR0		
C23, 24			CF92FV1H153J	MF		
C25, 26			CK45FE2H103P	CERAMIC		
C27			CE04LW1C220M	ELECTR0		
C28			C90-1334-05	NP-ELEC		
C29			CE04LW1V4R7M	ELECTR0		
C30			CE04LW1C330M	ELECTR0		
C31			CF92FV1H223J	MF		
C32			CC45FSL1H271J	CERAMIC		
C33, 34		*	CE04LW1V470M	ELECTR0		
C35, 38			CE04LW1V100M	ELECTR0		
C39, 40			CC45FSL1H080D	CERAMIC		
C41			CE04LW1V100M	ELECTR0		
C42, 43			CK45FF1H103Z	CERAMIC		
C44			C91-0971-05	FILM		
30			E03-0078-05	AC OUTLET		
E1	1C		E13-0229-05	PHONE JACK		
E2	1C		E23-0077-05	TERMINAL		
E2	1C		E23-0149-05	TERMINAL		
E3	1A		E11-0162-05	PHONE JACK		
E4	1C		E20-0823-05	LOCK TERMINAL BOARD(BP)		
39	1B		J13-0041-05	FUSE CLIP		
L1, 2			L39-0085-05	PHASE-COMPENSATION COIL		
CPI, 2			N09-0333-05	TAPPING SCREW (3X12)		
R19, 20			N09-1202-05	TAPPING SCREW (3X14)		
R25, 26			N09-1777-05	SEMS (TAPITTE SCREW)		
R27, 28			R90-0187-05	MULTI-COMP		
R29, 30			RD14GB2E621J	FL-PROOF RD		
R31, 32			RD14GB2E102J	FL-PROOF RD		
R33, 34			RD14GB2E132J	FL-PROOF RD		
R35-38			RD14GB2E182J	FL-PROOF RD		
R39-42			RD14GB2E22J	FL-PROOF RD		
R43-46			RD14GB2E2R2J	FL-PROOF RD		
R65		*	RS14KB3D100J	FL-PROOF RS		
R66			RS14KB3D100J	FL-PROOF RS		
R74			RS14KB3D121J	FL-PROOF RS		
R75, 76			RS14KB3A100J	FL-PROOF RS		
R77, 78			RS14KB3D561J	FL-PROOF RS		
R79, 80		*	RS14KB3D472J	FL-PROOF RS		
R81			RD14GB2E100J	FL-PROOF RD		
VR1, 2			R12-1083-05	TRIMMING PBT, (1K)		
K1	2B		S51-2078-05	MAGNETIC RELAY		

E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

△ indicates safety critical components.

PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnés dans le Parts No. ne sont pas fournis.
Teile ohne Parts No. werden nicht geliefert.

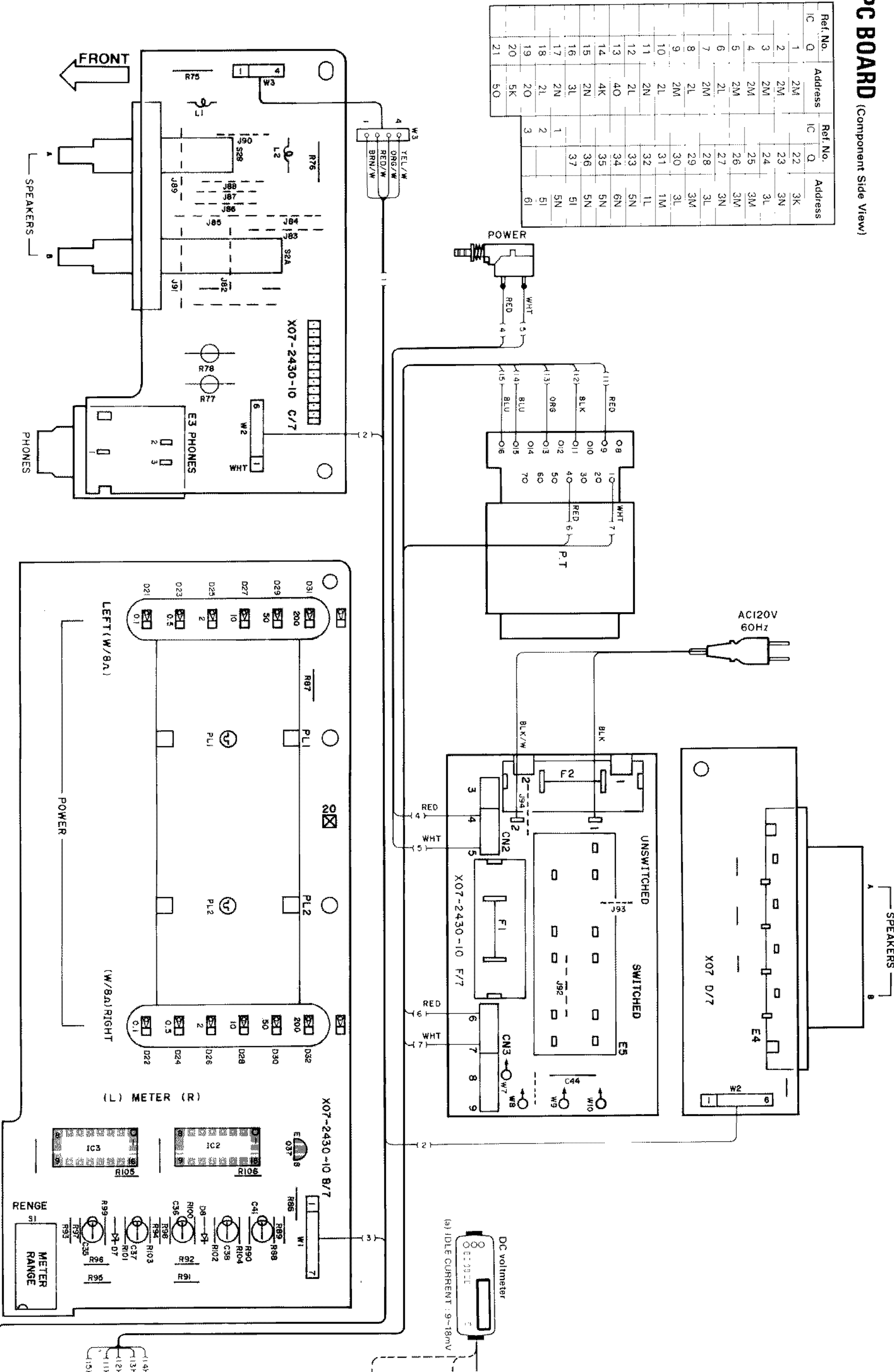
Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
S1	1B		S40-2351-05	PUSH SWITCH		
S2	1B		S42-2163-05	MULTIPLE PUSH SWITCH		
S3	2B		S31-2127-05	SLIDE SWITCH (411-8Ω)		
S4			S31-2126-05	SLIDE SWITCH (POWER TYPE)		
D1, 2			1SS133	DIODE		
D1, 2			1SS176	DIODE		
D3, 6			1SS131	DIODE		
D3, 6			1SS178	DIODE		
D7, 10			1SS133	DIODE		
D7, 10			1SS176	DIODE		
D13		*	S15V620	DIODE		
D14, 17			S55668	DIODE		
D18, 19			HZ518N(B)	ZENER DIODE		
D18, 19			RD18ES(B)	ZENER DIODE		
D20			HZ524N(B)	ZENER DIODE		
D20			RD24ES(B)	ZENER DIODE		
IC1			UPC1737HA	IC (POWER AMP)		
IC2, 3			AN6882	IC (7PT LED LEVEL METER DRIVER)		
Q1, 4			2SC1845(F,E)	TRANSISTOR		
Q5, 8			2SC945(A) (Q,P)	TRANSISTOR		
Q9, 10			2SA733(A) (Q,P)	TRANSISTOR		
Q11, 12			2SA1124(Q,R)	TRANSISTOR		
Q13, 14			2SC3419(Y)	TRANSISTOR		
Q15, 16			2SC3944A(Q,R)	TRANSISTOR		
Q17, 18			2SA1535A(Q,R)	TRANSISTOR		
Q19, 20			2SC2922LB	TRANSISTOR		
Q21, 22			2SA1216LB	TRANSISTOR		
Q23, 24			2SC945(A) (Q,P)	TRANSISTOR		
Q25, 28			2SA733(A) (Q,P)	TRANSISTOR		
Q29, 30			2SC2631(Q,R,S)	TRANSISTOR		
Q31, 32			2SD1302(S,T)	TRANSISTOR		
Q33			2SA992(F,E)	TRANSISTOR		
Q34			2SC2590(Q,R)	TRANSISTOR		
Q35			2SC945(A) (Q,P)	TRANSISTOR		
Q36			2SA733(A) (Q,P)	TRANSISTOR		
Q37			2SC2003(L,K)	TRANSISTOR		

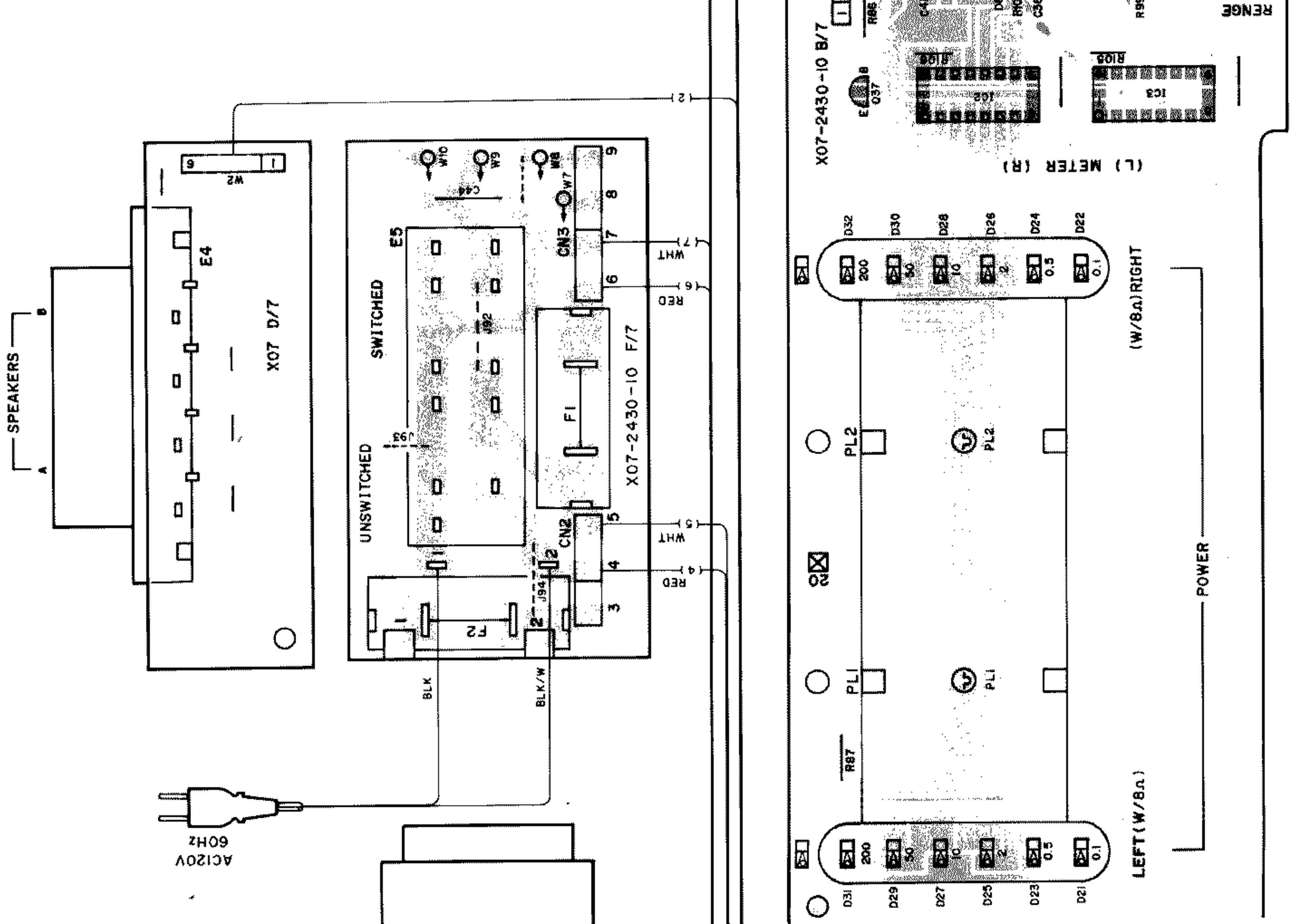
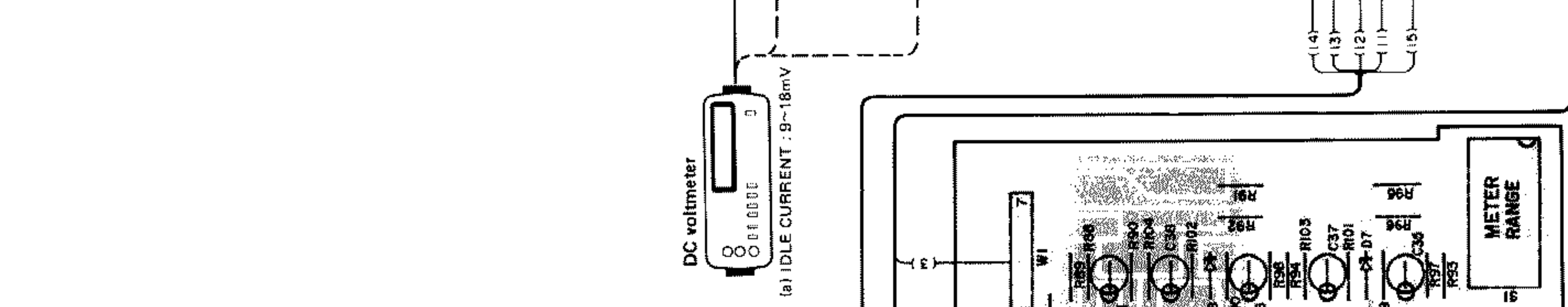
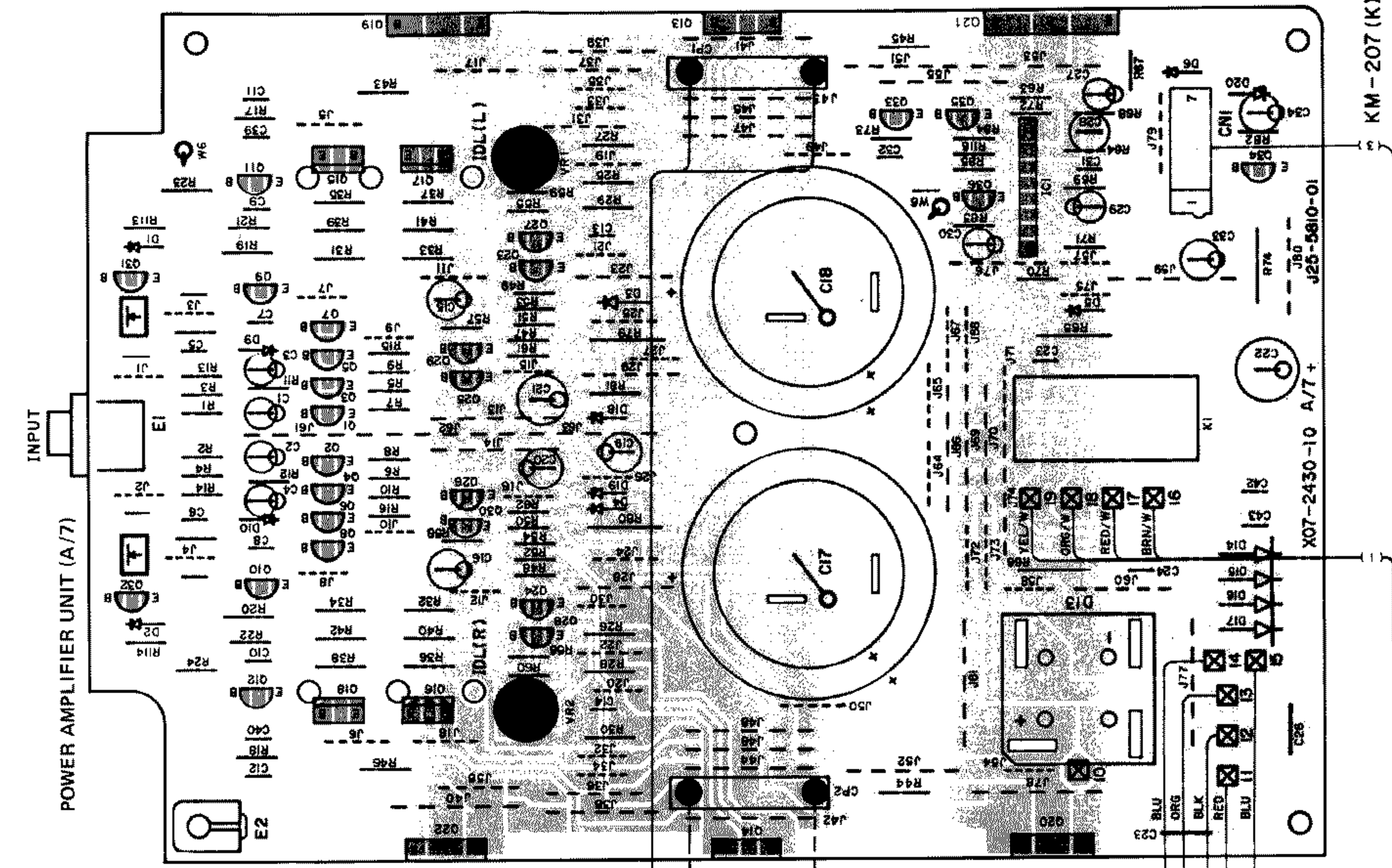
E: Scandinavia & Europe K: USA P: Canada
U: PX(Far East, Hawaii) T: England M: Other Areas
UE: AAFES(Europe) X: Australia

△ indicates safety critical components.

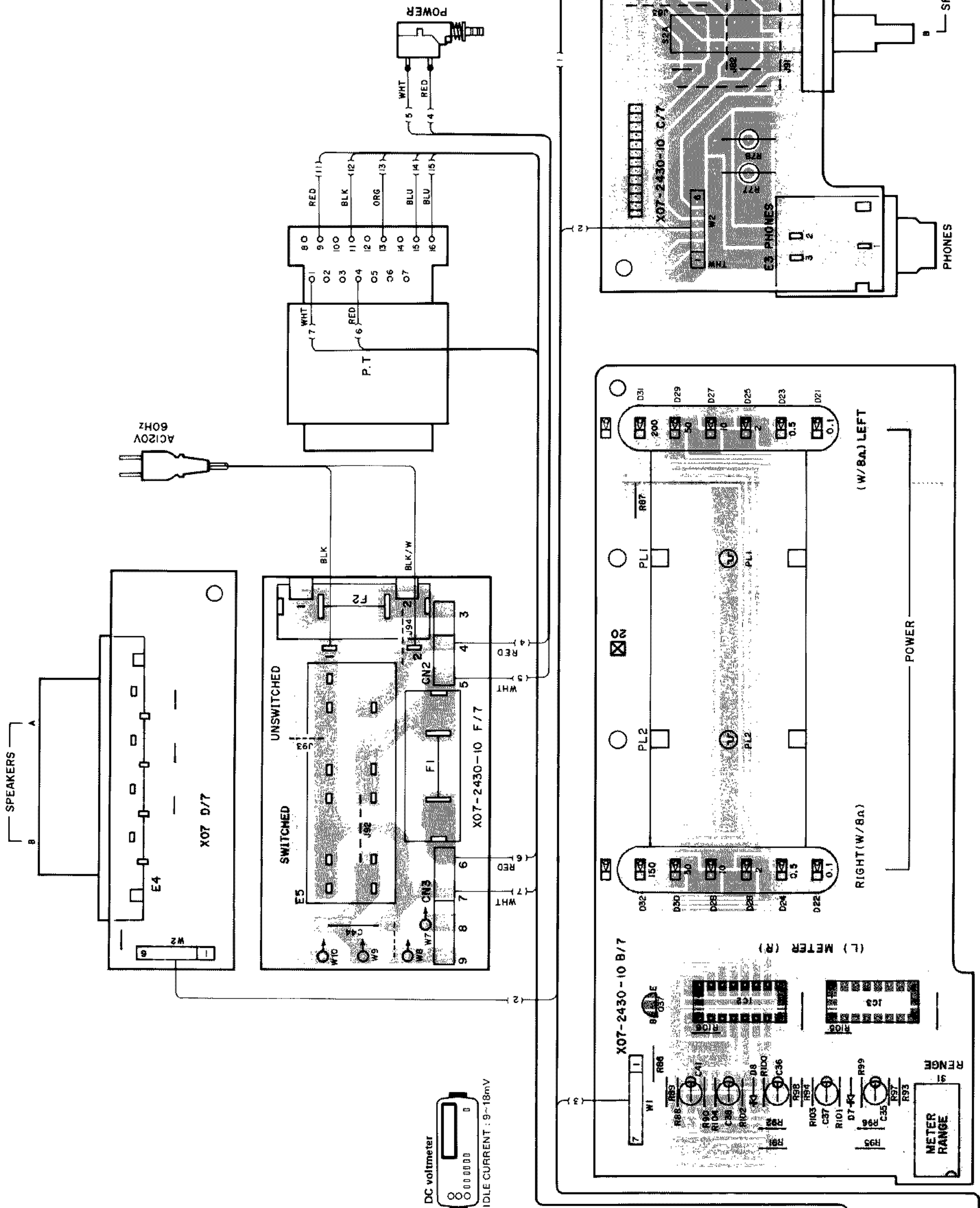
PC BOARD (Component Side View)

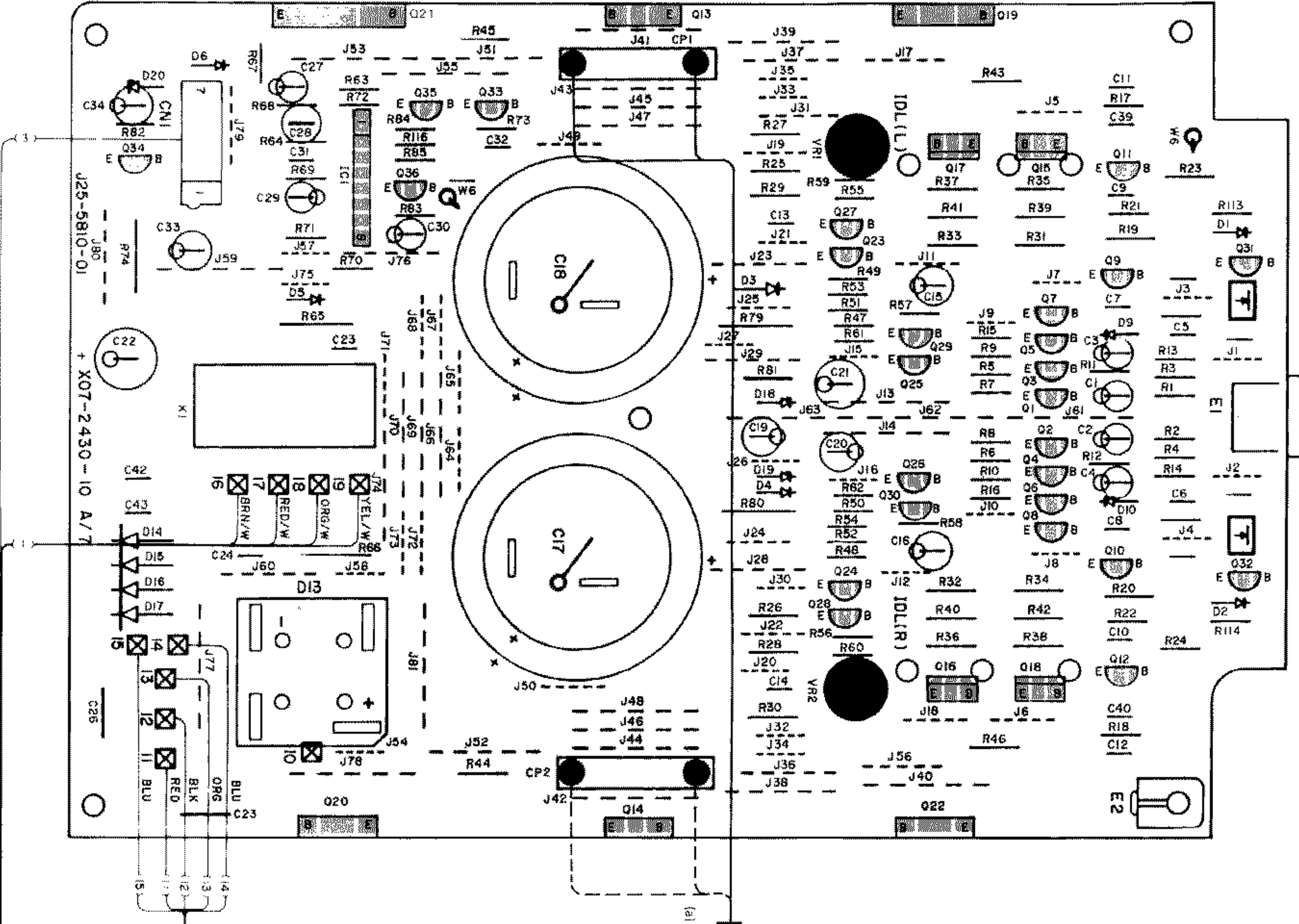
Ref. No.	IC	Q	Address	Ref. No.	IC	Q	Address
1	2M	1	3K				
2	2M	23	3N				
3	2M	24	3L				
4	2M	25	3M				
5	2M	26	3M				
6	2L	27	3N				
7	2M	28	3L				
8	2L	29	3M				
9	2M	30	3L				
10	2L	31	1M				
11	2N	32	1L				
12	2L	33	5N				
13	40	34	6N				
14	4K	35	5N				
15	2N	36	5N				
16	3L	37	5I				
17	2N	1	5N				
18	2L	2	5I				
19	20	3	6I				
20	5K						
21	50						





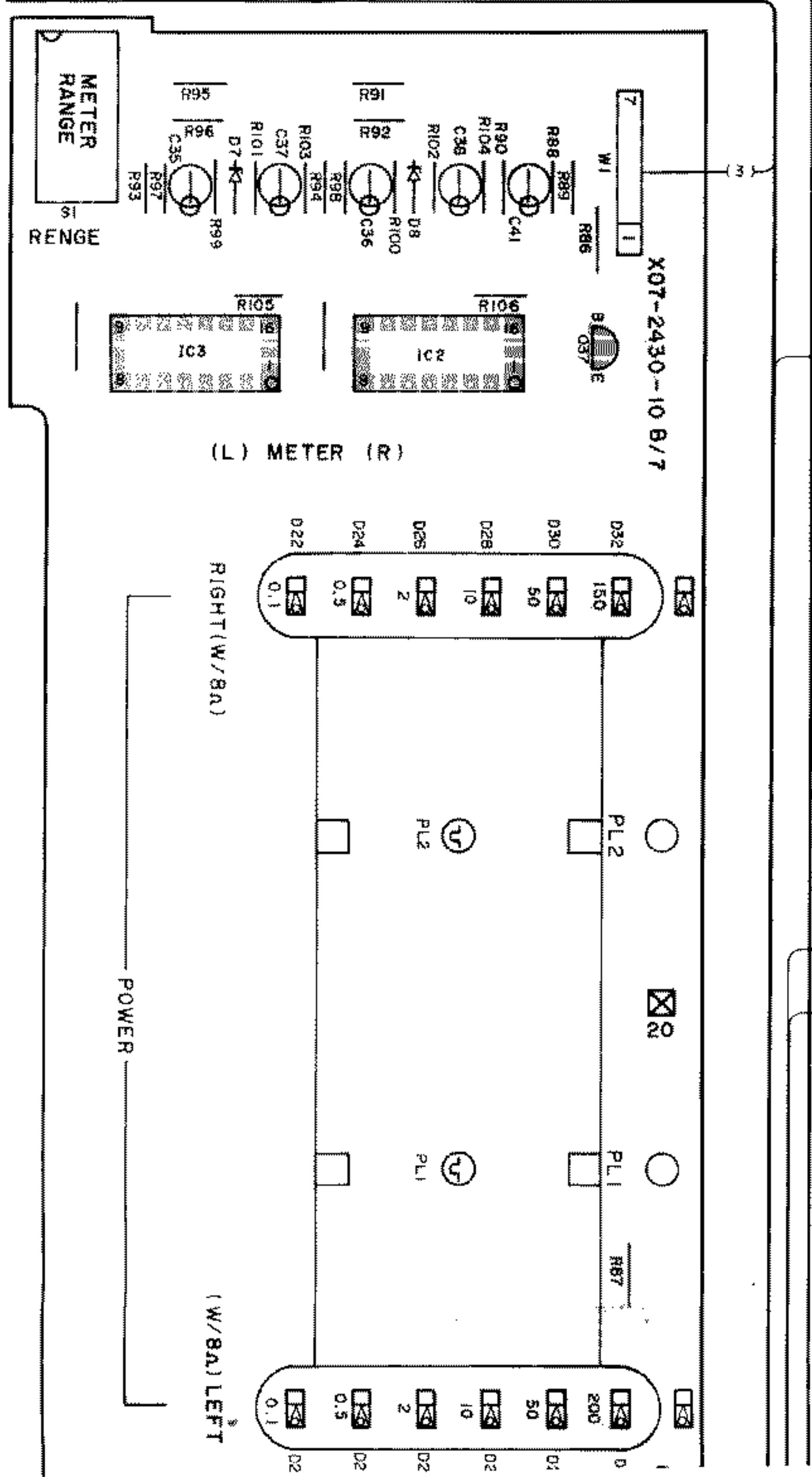
Ref. No.	IC	Address	Ref. No.	IC	Address
	1	2R		21	5P
	2	2R		22	3T
	3	2R		23	3Q
	4	2R		24	3S
	5	2R		25	3R
	6	2S		26	3R
	7	2R		27	3Q
	8	2S		28	3S
	9	2R		29	3R
	10	2S		30	3S
	11	2Q		31	1Q
	12	2S		32	1S
	13	4P		33	5Q
	14	4T		34	6Q
	15	2Q		35	5Q
	16	3S		36	5Q
	17	3Q		37	5V
	18	2S	1		5Q
	19	2P	2		5V
	20	6T	3		6V



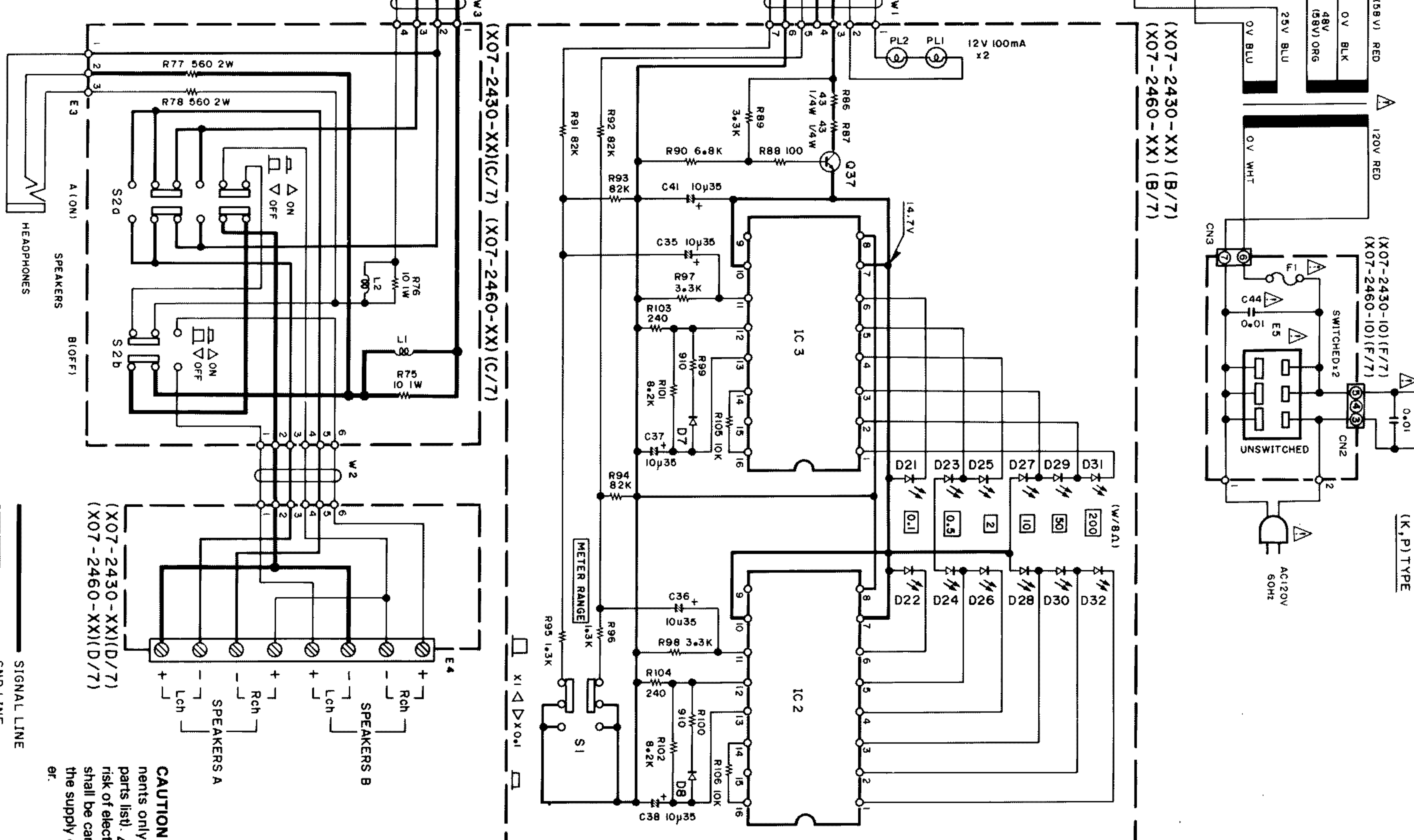
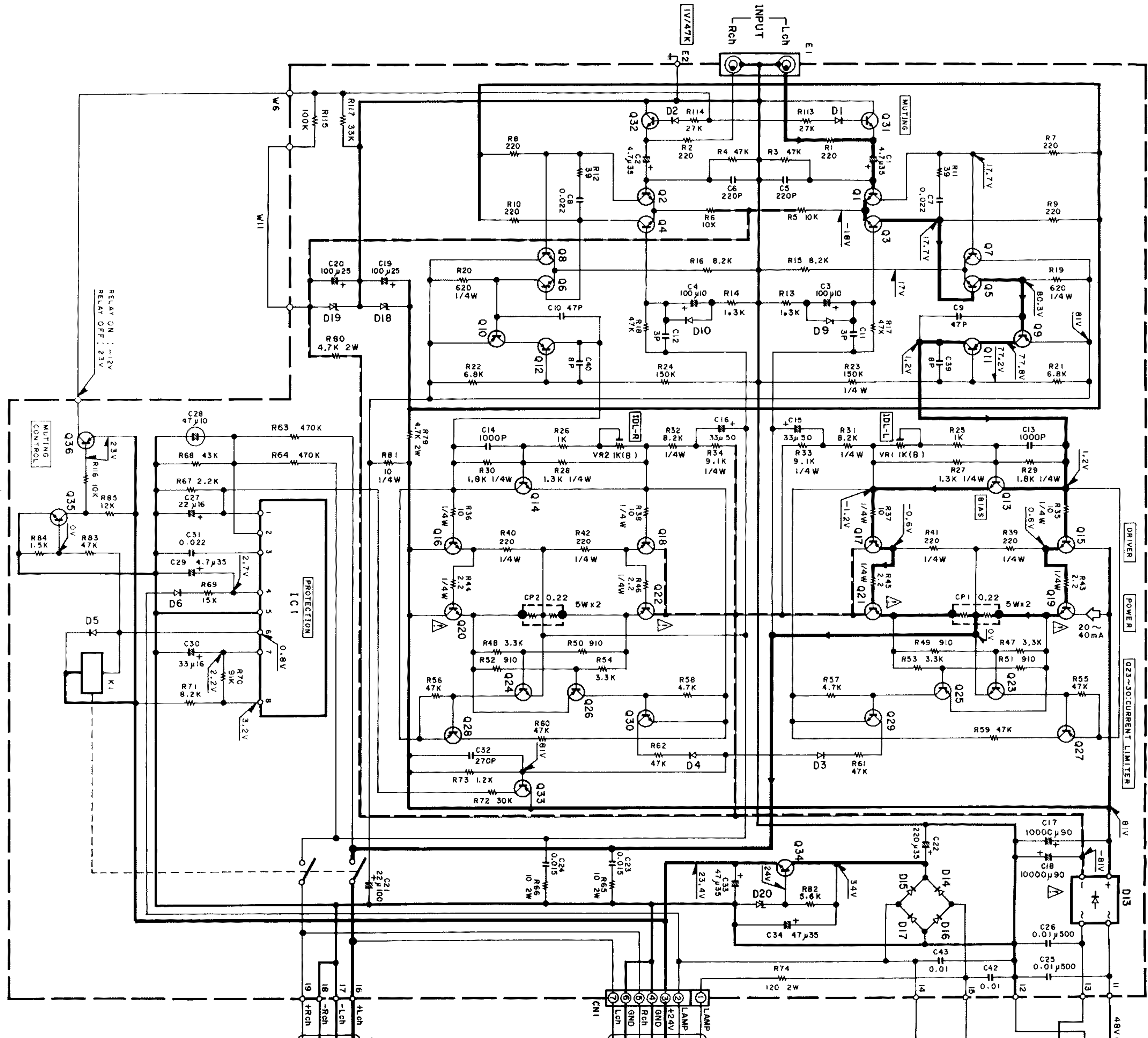


INPUT
POWER AMPLIFIER UNIT (A/7)

SPEAKERS
A B



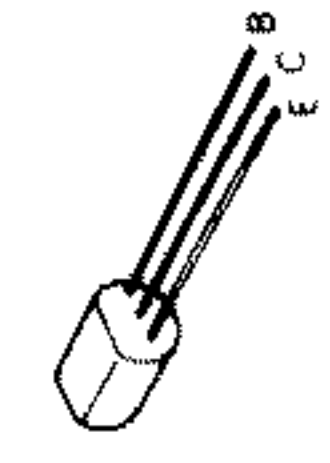
(X07-2430-XX)(A/7)
(X07-2460-XX)(A/7)



CAUTION: For continued safety, only with manufacturer's parts list. Indicates safety risk of electric shock, leakage shall be carried out (expose the supply circuit) before the or.

LEGEND:

- SIGNAL LINE
- GND LINE
- +B LINE
- B LINE



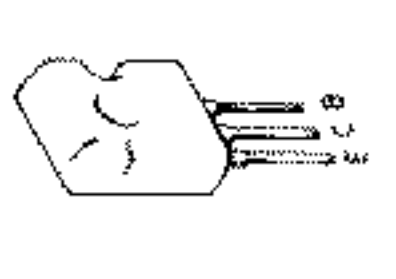
- 2SA1124
- 2SA733(A)
- 2SA992
- 2SC1845
- 2SC2003
- 2SC2631
- 2SC945(A)
- 2SD1302
- 2SC2590



2SA1216LB



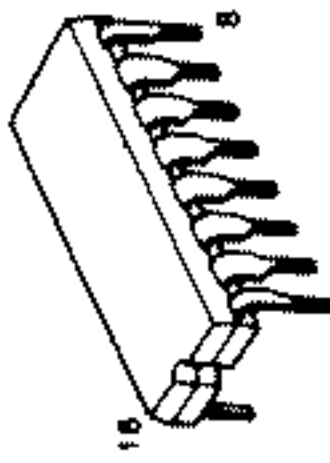
2SC3419



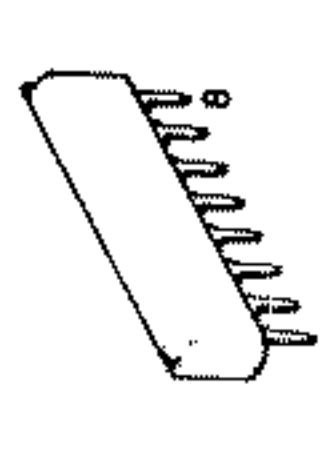
- 2SA1535A
- 2SC944A



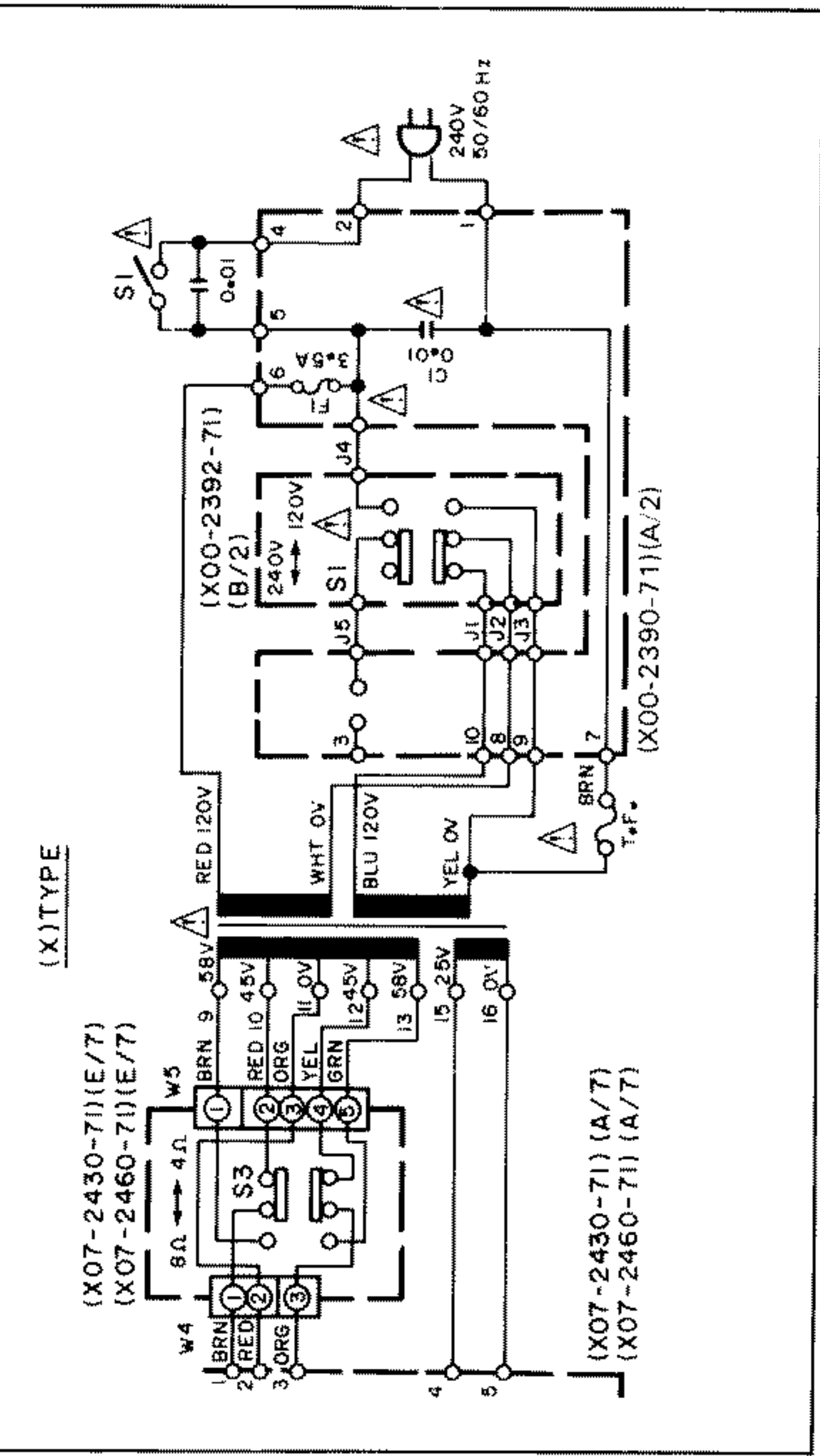
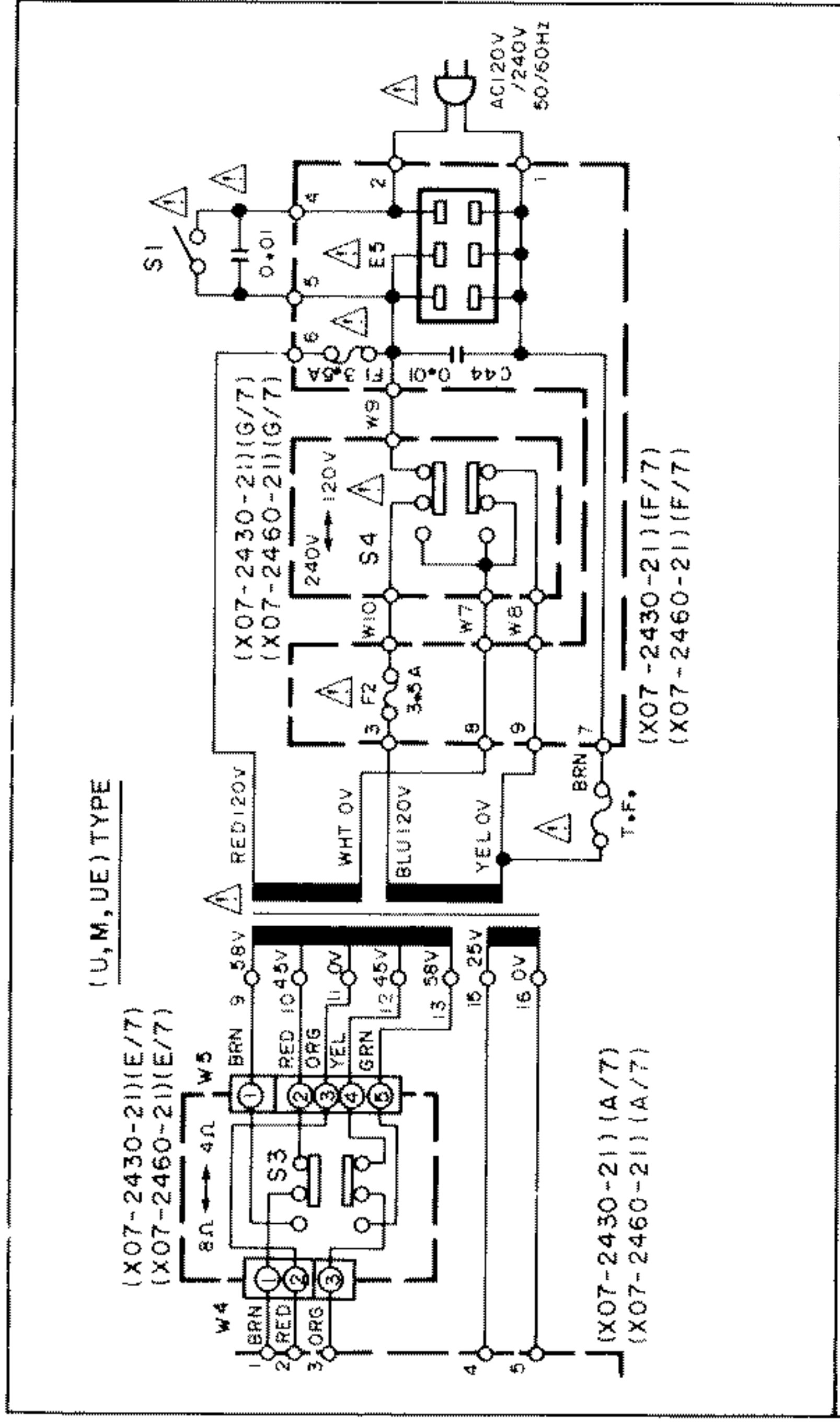
2SC2922LB



AN6882



UPC1237HA



(X07-2430-XX) JAPAN MADE
 (X07-2460-XX) SINGAPORE MADE

DESTINATION	REF. NO.	E/F	F/T	G/7	J92	J93,94
0-10	K	NO	NO	YES	NO	YES
0-21	U, M, UE	YES	YES	YES	YES	NO
0-71	X	YES	NO	NO	NO	NO

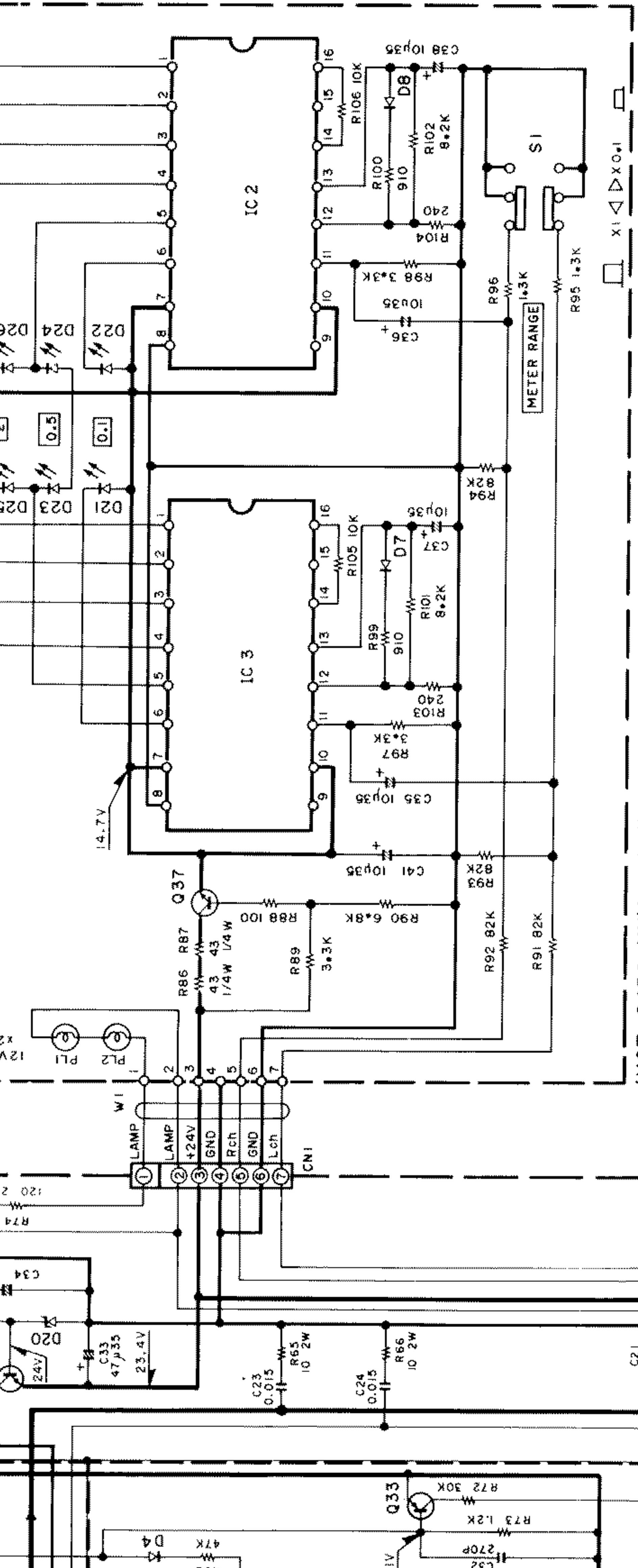
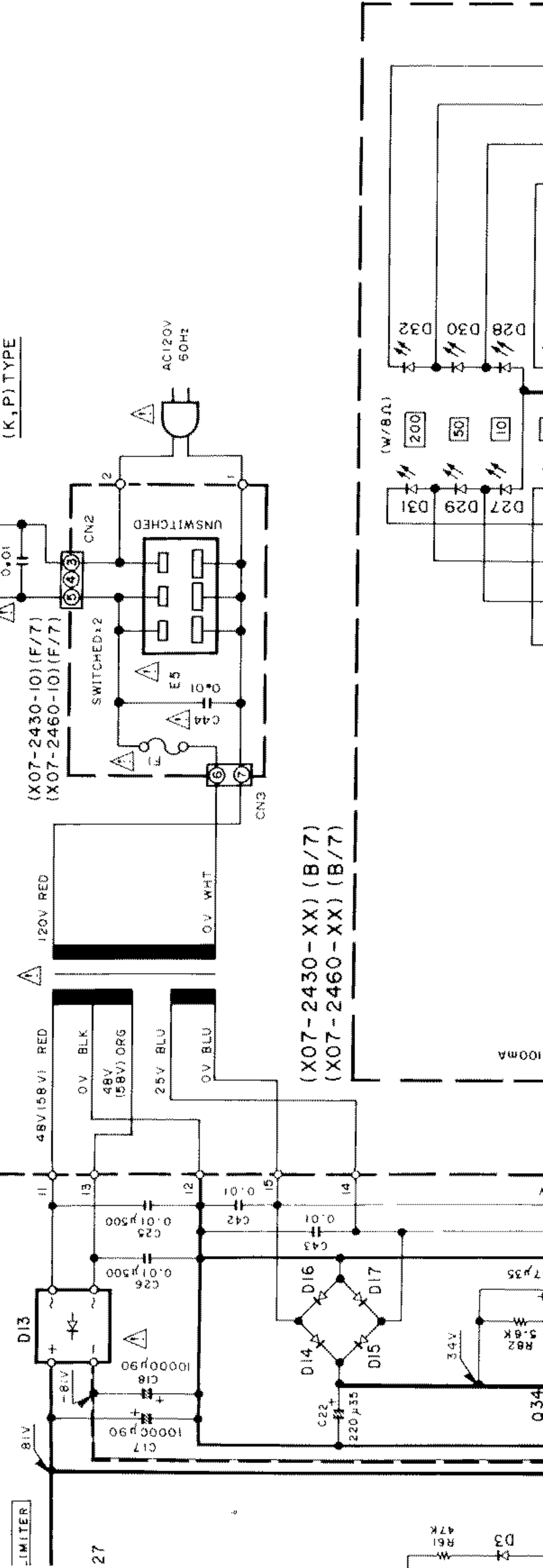
- IC1 : JPC1237HA
- IC2,3 : AN6882
- Q1~4 : 2SC1845(F, E)
- Q5~8, 23, 24, 35 : 2SC945(A)(Q, P) or 2SC1740S(Q, R)
- Q9, 10, 25~28, 36 : 2SA733(A)(Q, P) or 2SA933S(Q, R)
- Q11, 12 : 2SA1124(Q, R)
- Q13, 14 : 2SC3419(Y)
- Q15, 16 : 2SC3944(Q, R)
- Q17, 18 : 2SA1535A(Q, R)
- Q19, 20 : 2SC2922LB
- Q21, 22 : 2SA1216 LB
- Q29, 30 : 2SC2631(Q, R, S)
- Q31, 32 : 2SD1302(S, T)
- Q33 : 2SA992(F, E)
- Q34 : 2SC2590(Q, R)
- Q37 : 2SC2003(L, K)
- D1, 2, 7~10 : ISS133 or ISS176
- D3~6 : ISS131 or ISS178
- D13 : S15VB20
- D14~17 : DSM1A1 or S566B
- D18, 19 : RD18ES(B) or HZS18N(B)
- D20 : RD24ES(B) or HZS24N(B)
- D21~32 : B30-0431-06

DC voltages are as measured with a high impedance voltmeter with a cassette loaded at playback mode. Values may vary slightly due to variations between individual instruments or/and units. Bias circuit DC voltages are as measured while in the record mode.

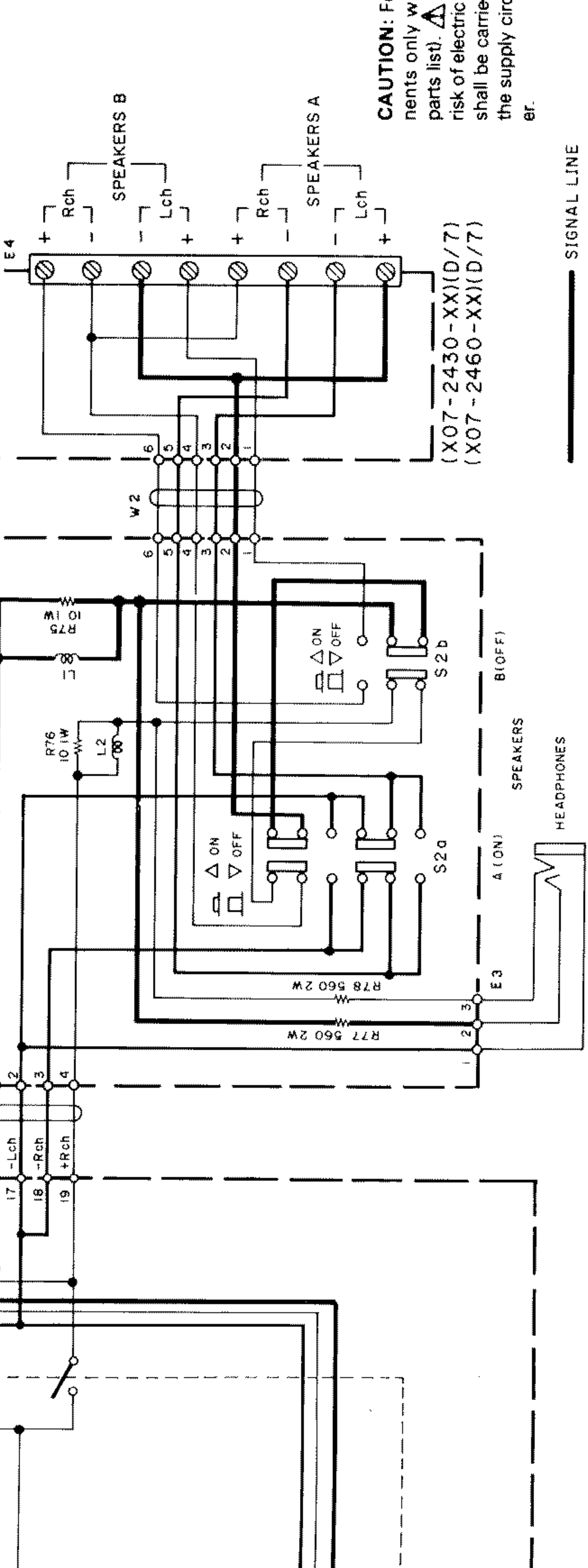
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance, une cassette étant insérée en mode de lecture. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Les tensions c.c. du circuit de polarité doivent être mesurées, l'appareil étant en mode d'enregistrement.

Die angegebenen Gleichspannungswerte wurden bei eingesetzter Cassette in der Wiedergabe mit einem hochohmigen Spannungsmesser gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig. Die angegebenen Gleichspannungswerte der Vormagnetisierungsschaltung wurden in der Aufnahme-Betriebsart gemessen.



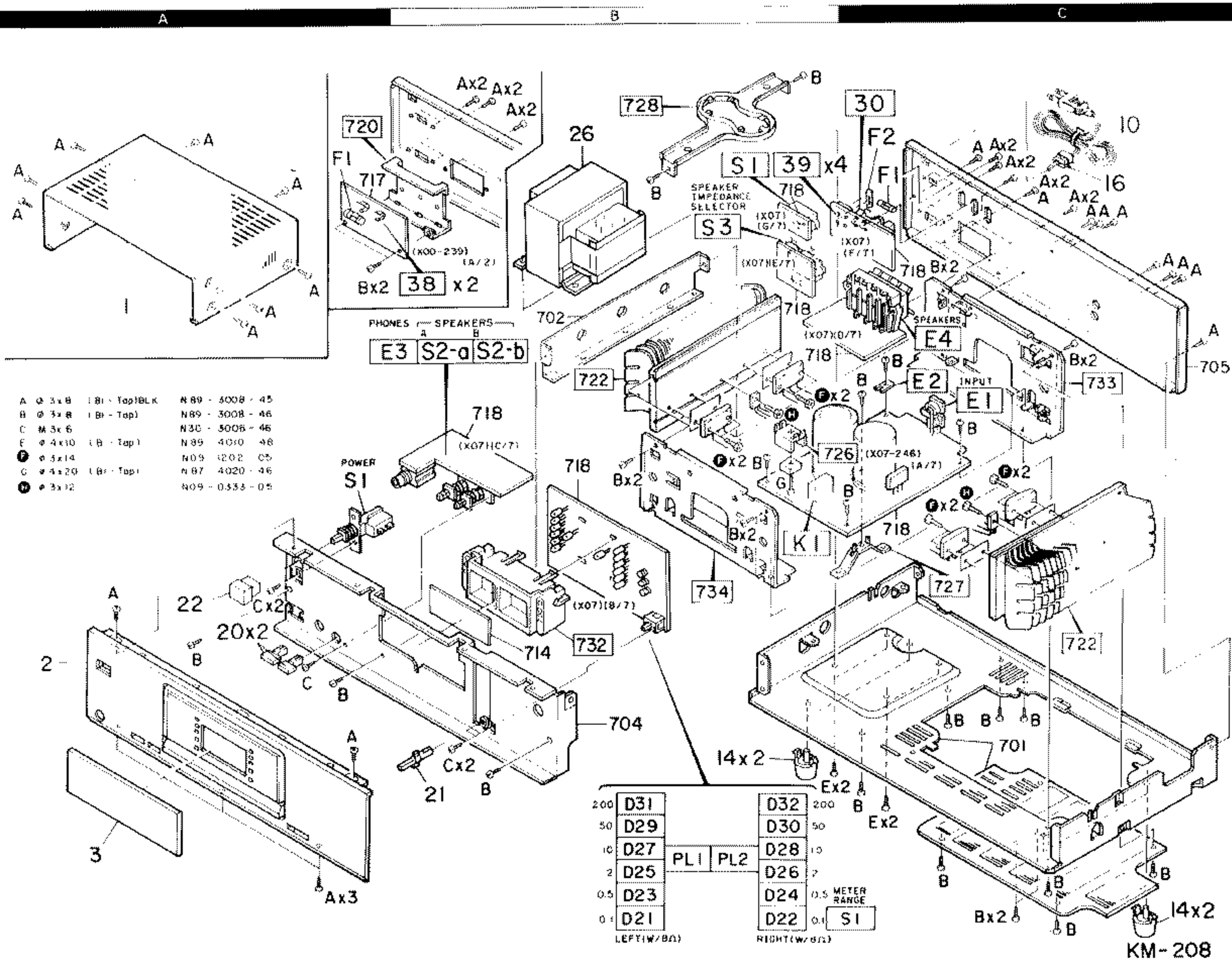
(X07-2430-XX)(C/7) (X07-2460-XX)(C/7)



CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). **Δ** indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- SIGNAL LINE
- GND LINE
- +B LINE
- B LINE

EXPLODED VIEW



A	Ø 3 x 8	(B) - Tap	BLK	N 89 - 3008 - 45
B	Ø 3 x 8	(B) - Tap		N 89 - 3008 - 46
C	M 3 x 6			N 30 - 5006 - 46
E	Ø 4 x 10	(B) - Tap		N 89 - 4010 - 48
F	Ø 5 x 14			N 09 - 1202 - 05
G	Ø 4 x 20	(B) - Tap		N 87 - 4020 - 46
H	Ø 3 x 12			N 09 - 0333 - 05

Parts with the exploded numbers larger than 700 are not supplied.

PARTS LIST

* Saw Parts
 Parts without Parts No. are not supplied.
 Les articles non mentionnés dans le Parts No. ne sont pas fournis.
 Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	Part No.	Description	Desti- Nation	Re- marks
1	1A	A01-1741-01	METALLIC CABINET		
2	2A	A20-5754-02	PANEL ASSY		
3	2A	B10-1003-03	FRONT GLASS		
		B46-0092-03	WARRANTY CARD		
		B46-0094-03	WARRANTY CARD		
		B46-0095-03	WARRANTY CARD		
		B46-0096-13	WARRANTY CARD		
		B46-0121-03	WARRANTY CARD		
		B50-9623-00	INSTRUCTION MANUAL		
		B50-9624-00	INSTRUCTION MANUAL		
		B50-9625-00	INSTRUCTION MANUAL		
		B58-0223-04	CAUTION CARD (PRE-SET 120V)		
		B58-0513-04	CAUTION CARD (PRESET 220-240)		
		E30-0812-05	AC POWER CORD		
		E30-1341-05	AC POWER CORD		
		E30-2209-05	AC POWER CORD		
		F05-3522-05	FUSE (SEMFR)		
		F05-7026-05	FUSE (UL)		
		F05-3523-05	FUSE (UL)		
		H01-8511-04	ITEM CARTON CASE		
		H10-3847-02	POLYSTYRENE FOAMED FIXTURE		
		H10-3848-02	POLYSTYRENE FOAMED FIXTURE		
		H25-0223-04	PROTECTION BAG (750X350X0.03)		
		H25-0232-04	PROTECTION BAG (235X350X0.03)		
		J02-1013-05	F88T		
		J42-0083-05	POWER CORD BUSHING		
		J61-0307-05	WIRE BAND		
		K27-0742-14	KNOB (BUTTON)		
		K27-1966-04	KNOB (BUTTON)		
		K27-1965-04	KNOB (BUTTON)		
		L01-7901-05	POWER TRANSFORMER		
		L01-7905-05	POWER TRANSFORMER		
		N30-3006-46	PAN HEAD MACHINE SCREW		
		S40-1094-05	PUSH SWITCH (POWER)		
		S31-2126-05	SLIDE SWITCH (POWER TYPE)		
		C91-0647-05	CERAMIC		
		J13-0054-05	FUSE CLIP		
		J61-0307-05	WIRE BAND		
		R30-0431-05	LED(LN21CPH)		
		R30-1140-05	LAMP (12V, 0.1A)		
		C04LW1V4R7M	ELECTRO		
		E04LW1A101M	ELECTRO		
		C045FSLH221J	CERAMIC		
		CF92FV1H223J	MP		
		0145FSL1H470J	CERAMIC		

E: Scandinavia & Europe K: USA P: Canada
 U: Pacific East Hawaii T: England M: Other Areas
 UE: AAFS(Europe) X: Australia

▲ indicates safety critical components