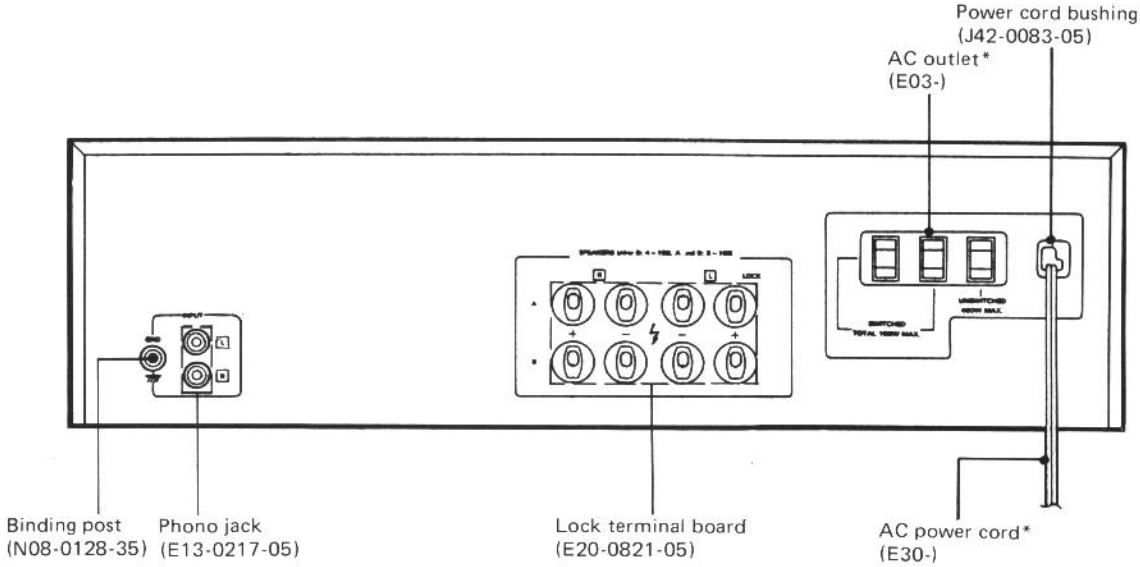
SERVICE MANUAL

KENWOOD

BASIC M1A

STEREO POWER AMPLIFIER

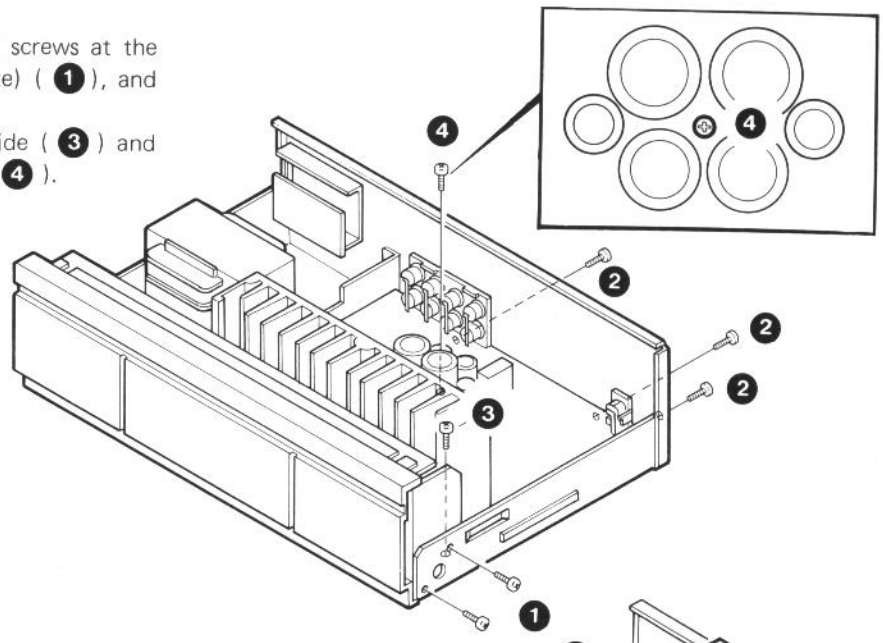


* Refer to patts list on page 6.

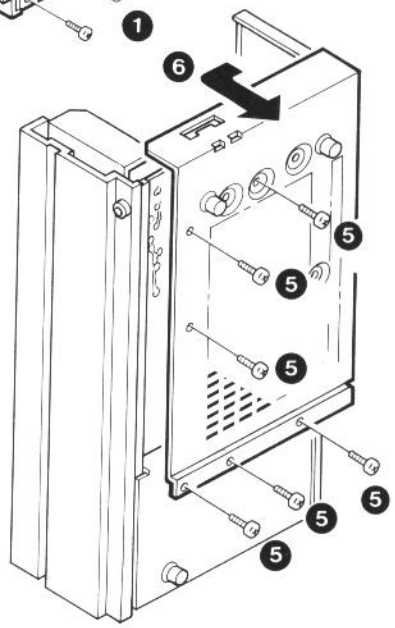
DISASSEMBLY FOR REPAIR

DISASSEMBLY FOR REPAIR

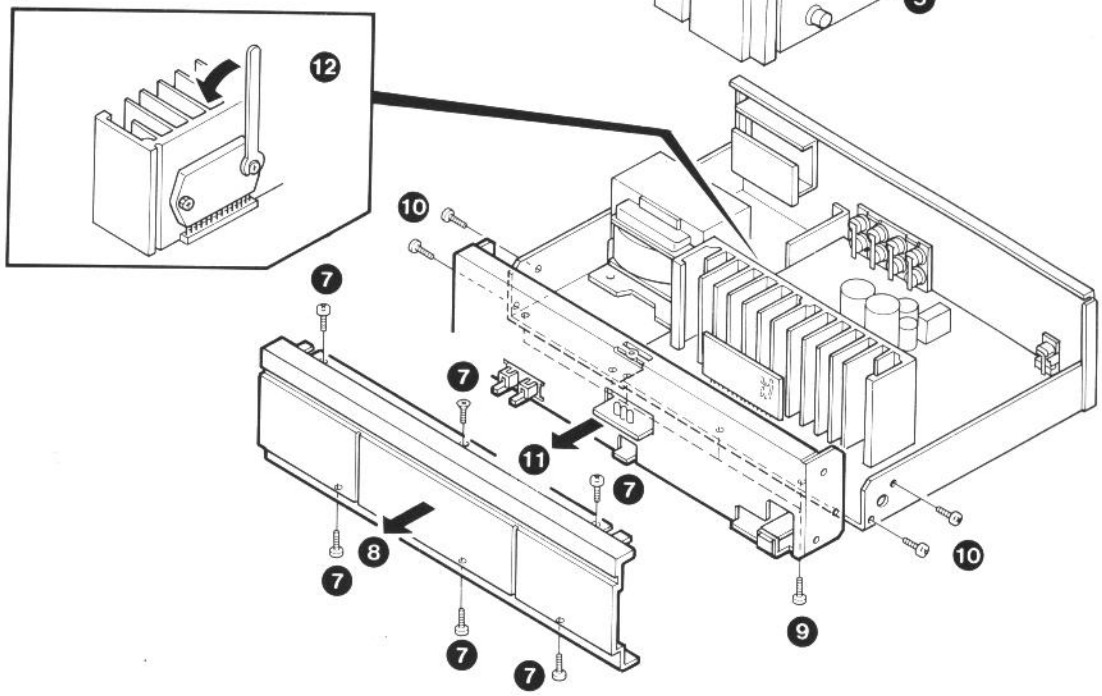
1. Remove the metallic cabinet. Remove 2 screws at the chassis R (unified with the bottom plate) (❶), and 3 screws at the rear panel (❷).
2. Remove 1 screw at the right-forehand side (❸) and 1 screw in the middle of large capacitors (❹).



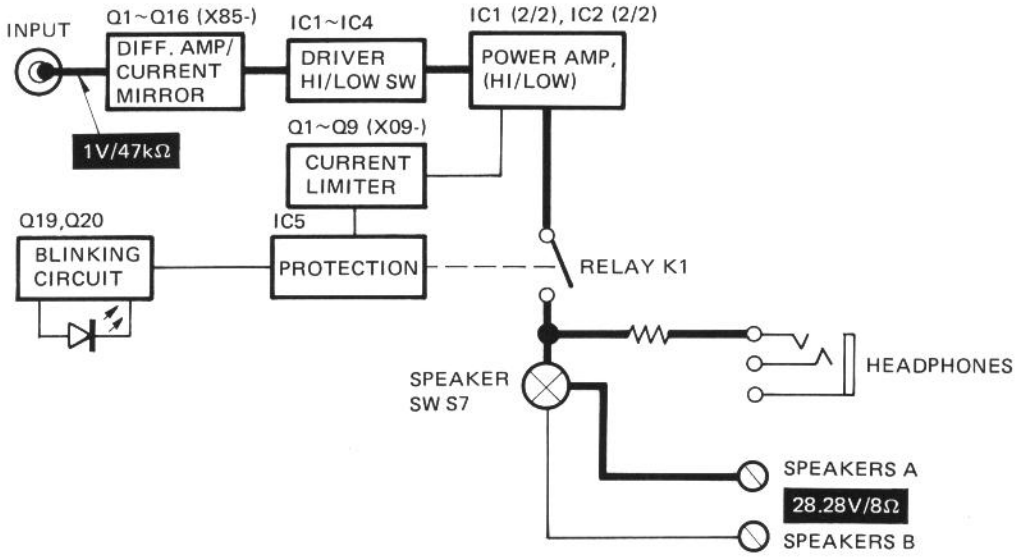
3. Remove 6 screws (❺).
   Slide and remove the bottom plate as shown by the arrow (❻).



4. Remove 6 screws (❼), remove the panel (❽). Remove 5 screws at bottom side of the sub panel (❾) and 4 screws at both sides of the sub panel (❿), remove the sub panel (⓫).
   For replacement of the driver/final IC, use a hex-wrench (W05-0022-00) (⓬).



BLOCK LEVEL DIAGRAM/CIRCUIT DESCRIPTION



Description of Components

AUDIO (X09-2120-72)

Components	Functions	Operations
Q1~Q9	Current limiter	Final protection circuit (Q7, Q9 for high voltage resistance) for over-load drive.
Q11,Q12	Current regulator circuit	Ripple elimination circuit inserted into the B line towards the class A stage.
Q19,Q20	Multivibrator	After the power is switched ON until relay is acrivated, or when the protection circuit is operating due to circuit malfunction, this circuit functions to flash the LED indicating malfunction of the amp.
IC1,IC2	Power IC	
IC3,IC4	Switching IC	High/Low switching circuit for the DLD.
IC5	Protection IC	This circuit disconnects the relay when the amp is malfunctioning.

POWER AMP (X85-1020-11)

Components	Functions	Operations
Q1,Q2	Class A 1st stage differential amp	
Q3~Q6	Class A 1st stage cascode circuit	
Q7~Q10	2nd stage differential amp	
Q11~Q14	3rd stage differential amp	
Q15,Q16	Current mirror circuit	

ADJUSTMENT/REGLAGE/ABGLEICH

ADJUSTMENT

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

REGLAGE

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

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	VORSTÄRKER EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
1	LEERLAUFSTROM	—	Einen Gleichspannungs-messer über CP1 (L) CP2 (R) anschließen.	VOLUME: 0	VR1 (L) VR2 (R)	9mV	

PC BOARD

(X85-1020-11)

	E	C	B
Q3~Q6	4.7V	–	–
Q7,Q8	11.9V	–27.7V	11.5V
Q9,Q10	–	–26.8V	11.5V
Q11,Q12	–64.4V	27.8V	–63.9V
Q13,Q14	–64.4V	–1.6V	–
Q15,Q16	–	1.7V	62.2V

(X09-2120-72)

	E	C	B
Q19	–	25.5V	–
Q20	2.2V	2.2V	–

IC1

1	1.7V
3	–1.6V
7	–65V
9	–65V
10	65V
11	34V
19	65V

IC2

1	1.7V
3	–1.6V
7	–65V
8	–65V
11	65V
19	65V

IC3

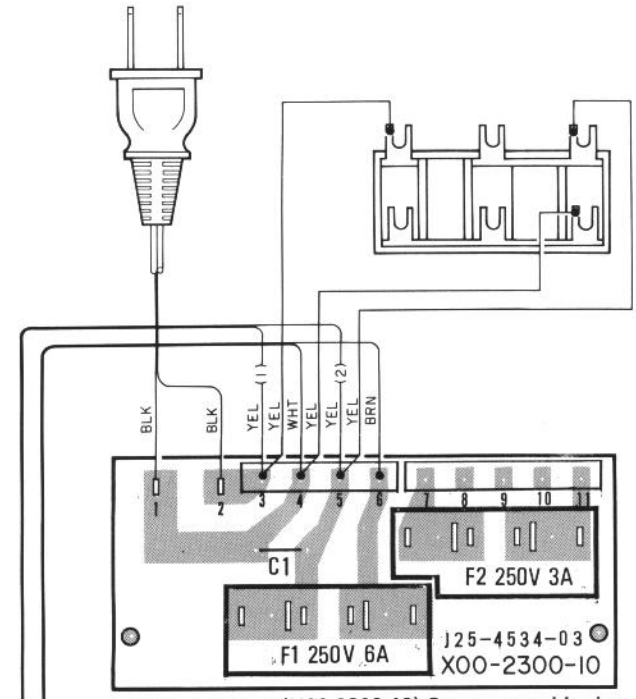
6	–34V
11	34V

IC5

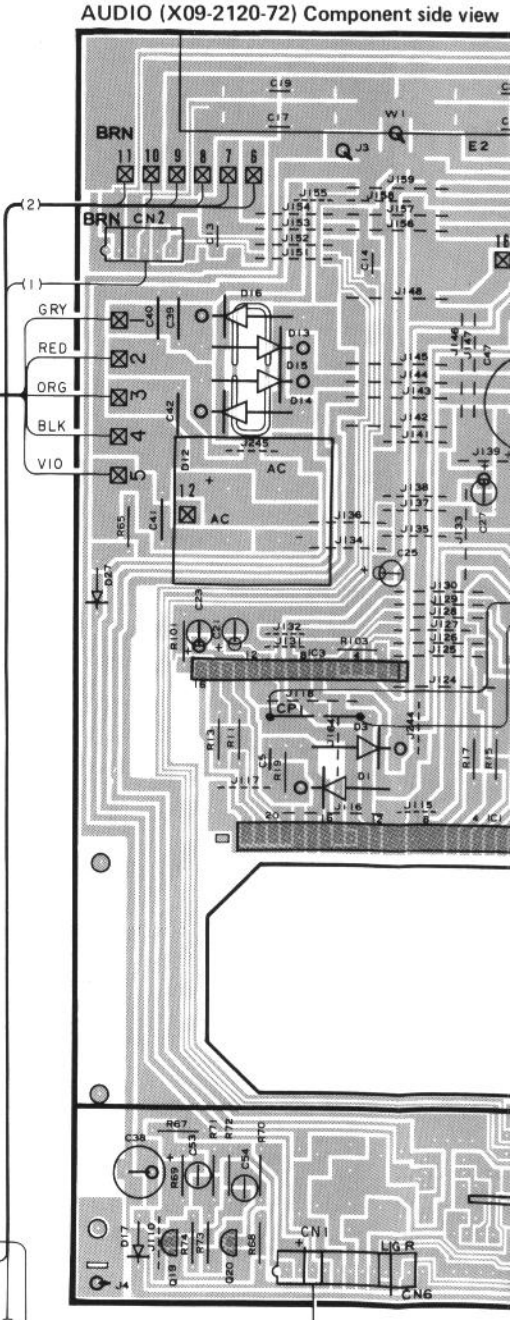
1	0V
2	0V
4	2.5V
6	0.7V
7	2V
8	3.3V

IC4

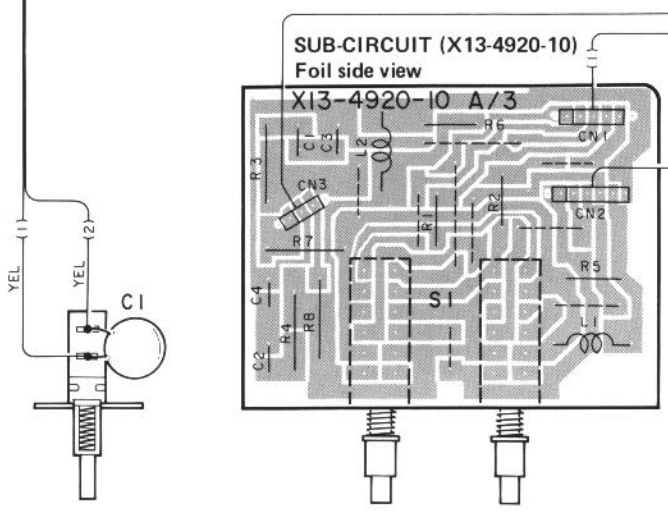
4	–65V
6	–34V
11	34V



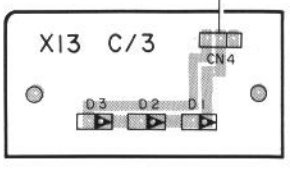
POWER SUPPLY (X00-2300-10) Component side view



AUDIO (X09-2120-72) Component side view



SUB-CIRCUIT (X13-4920-10)
Foil side view

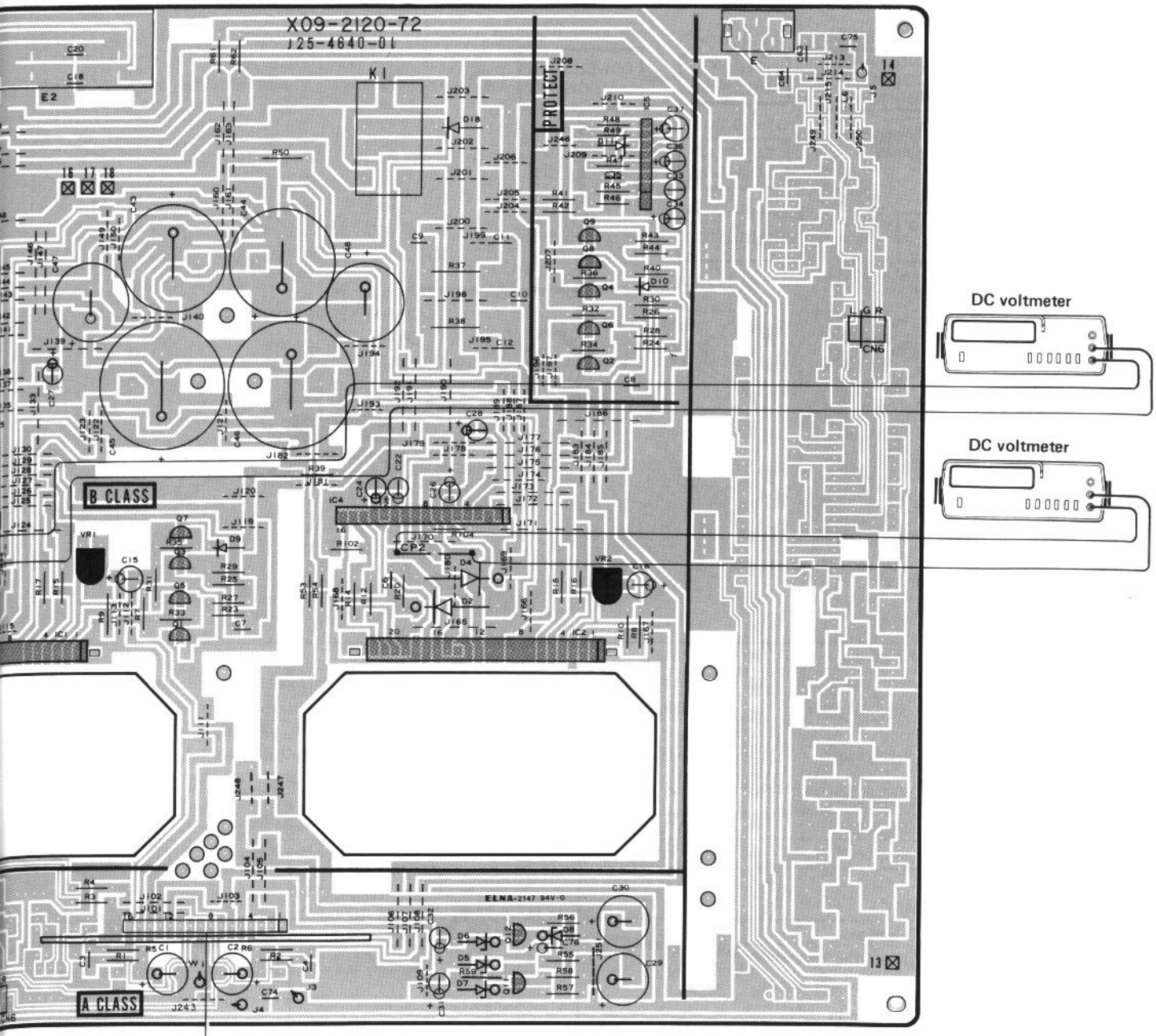


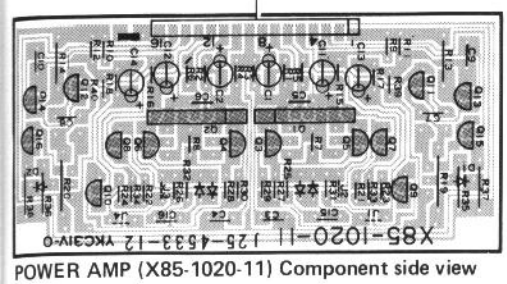
POWER A

Refer to the schematic diagram for the values of resistors and capacitors.
The PC board drawing is viewing from the side easy to check.

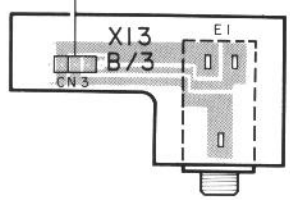
ARD

side view

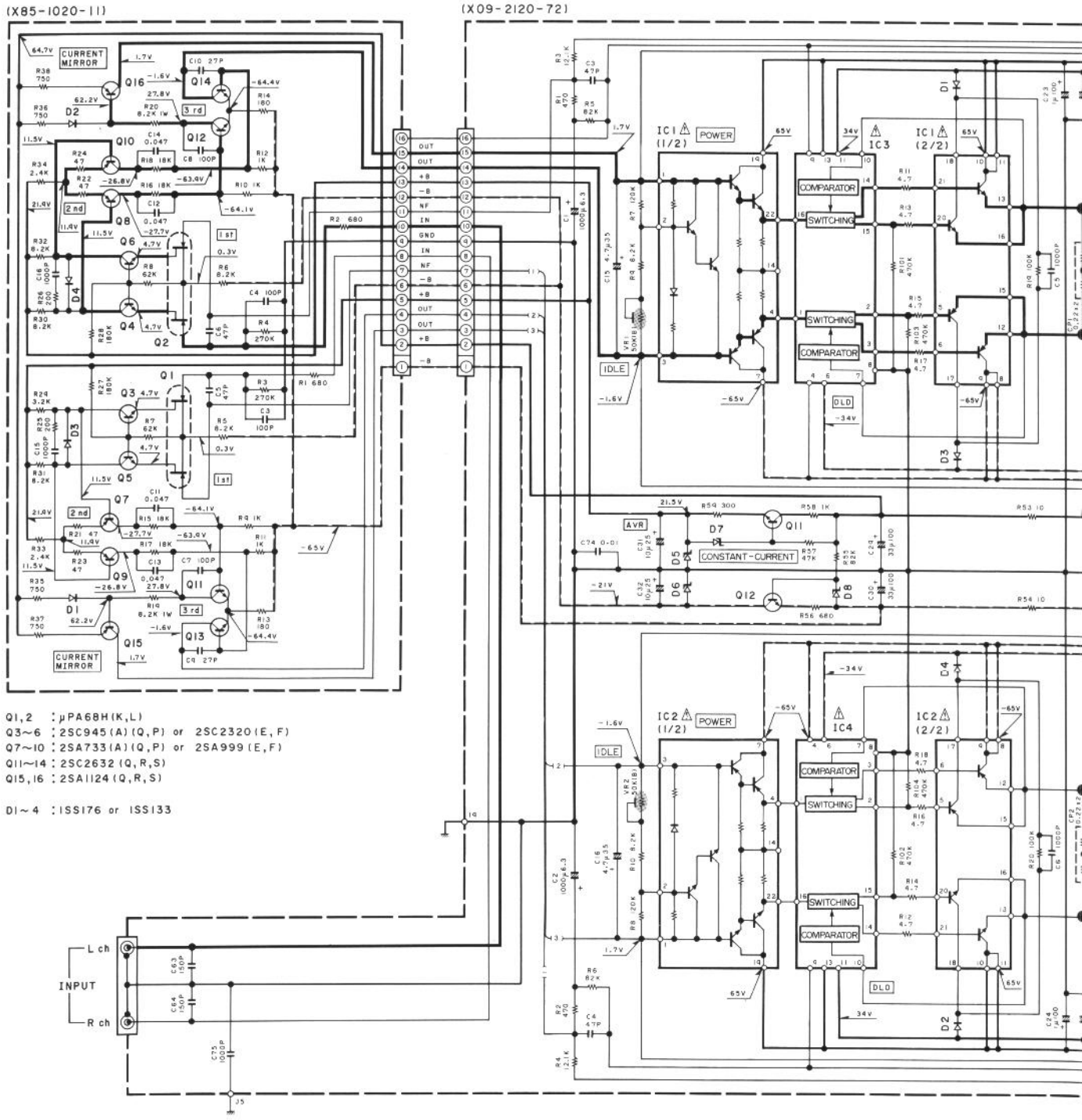




POWER AMP (X85-1020-11) Component side view



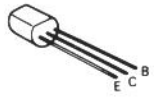
FRONT



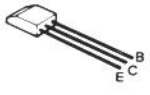
Q1,2 : μPA68H(K,L)
Q3~6 : 2SC945(A)(Q,P) or 2SC2320(E,F)
Q7~10 : 2SA733(A)(Q,P) or 2SA999(E,F)
Q11~14 : 2SC2632(Q,R,S)
Q15,16 : 2SA1124(Q,R,S)

D1~4 : 1SS176 or 1SS133

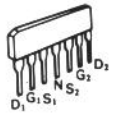
2SA1124 2SC2320
2SA733 2SC2631
2SA992 2SC2632
2SA999 2SC945



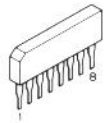
2SD571



μPA68H

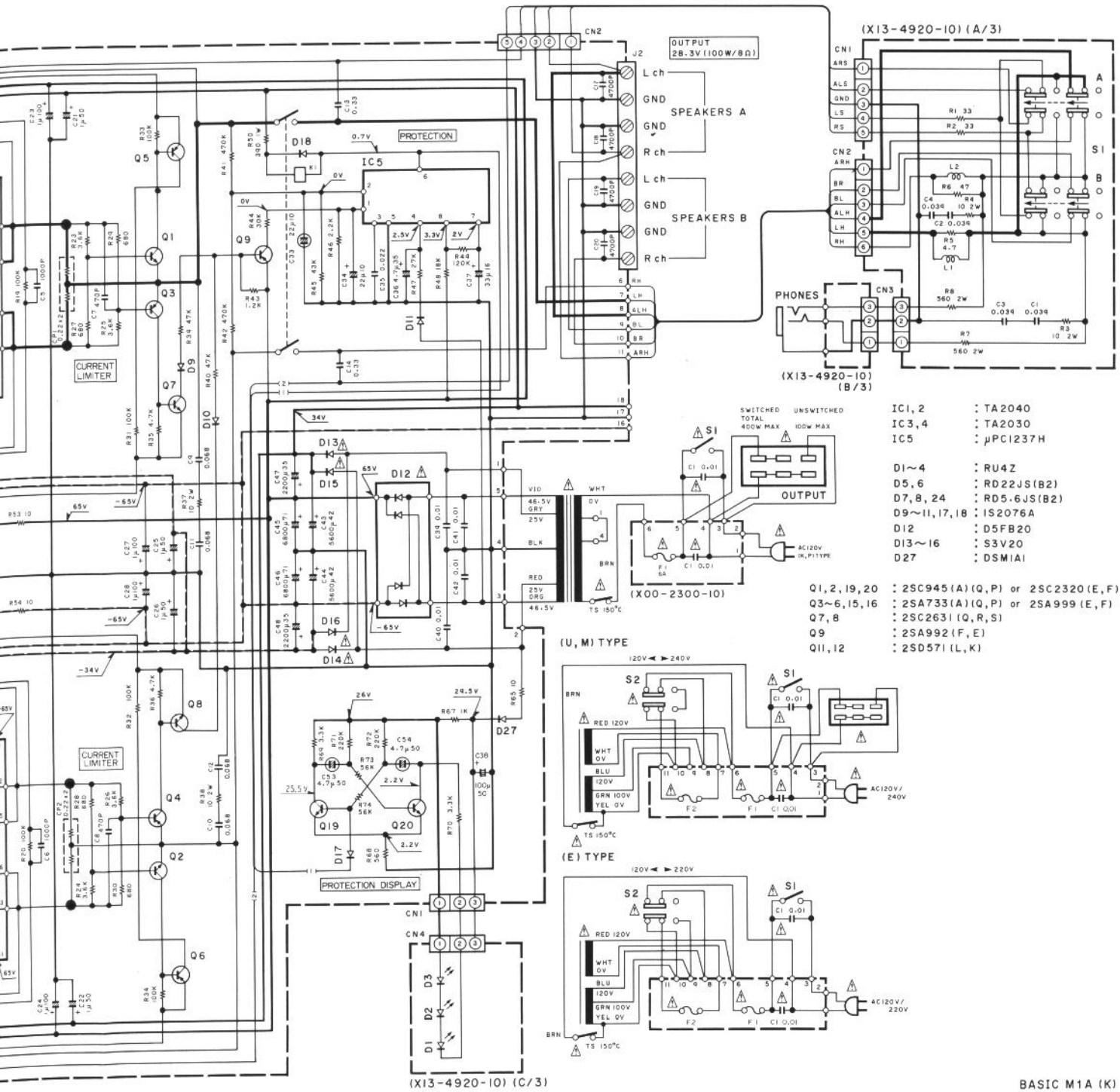


μPC1237H



TA2030

TA2040



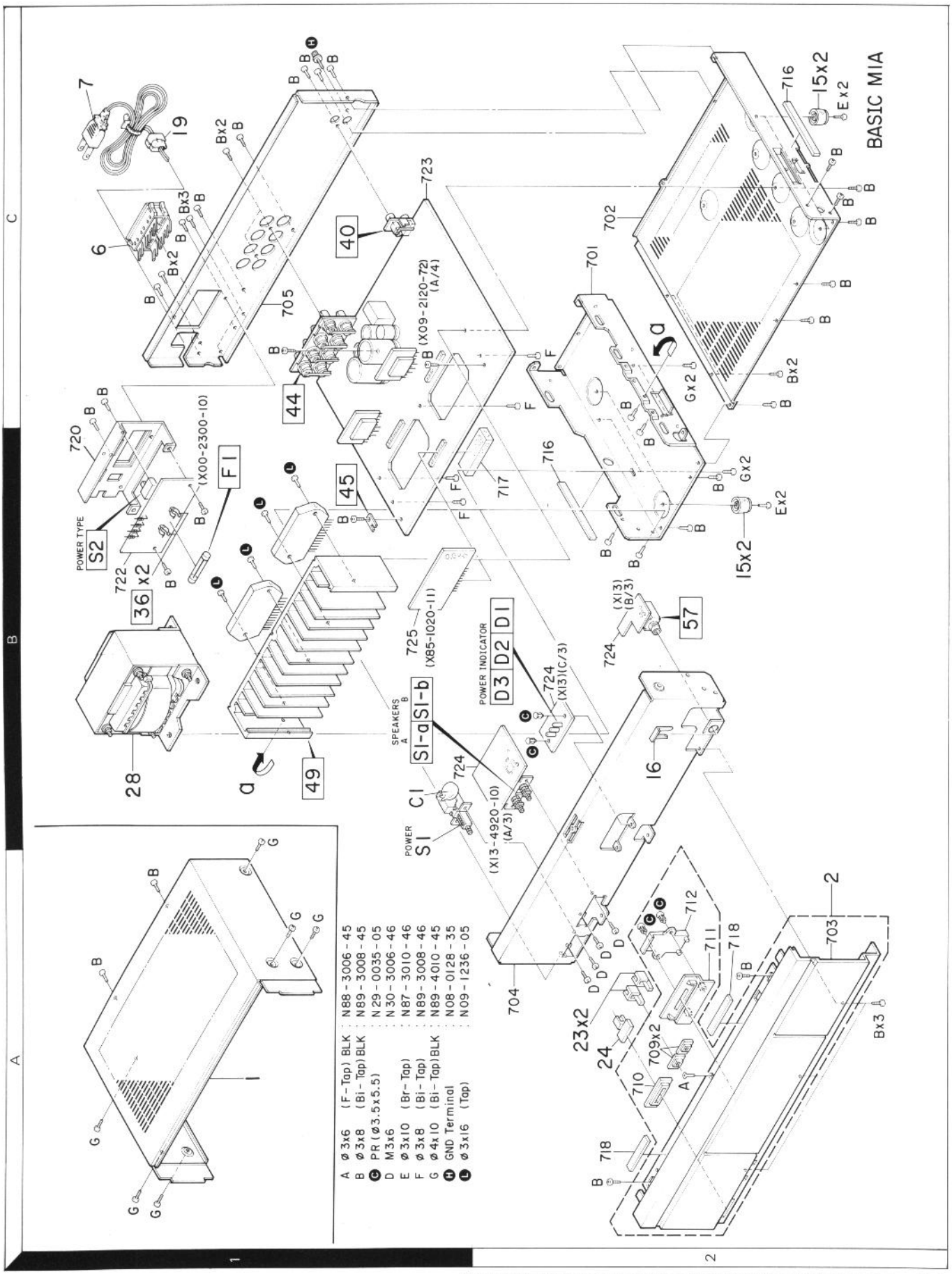
IC1, 2	: TA2040
IC3, 4	: TA2030
IC5	: μPC1237H
D1~4	: RU4Z
D5, 6	: RD22JS(B2)
D7, 8, 24	: RD5.6JS(B2)
D9~11, 17, 18	: IS2076A
D12	: D5FB20
D13~16	: S3V20
D27	: DSMIA1
Q1, 2, 19, 20	: 2SC945(A)(Q, P) or 2SC2320(E, F)
Q3~6, 15, 16	: 2SA733(A)(Q, P) or 2SA999(E, F)
Q7, 8	: 2SC2631(Q, R, S)
Q9	: 2SA992(F, E)
Q11, 12	: 2SD571(L, K)

BASIC M1A (K)

CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠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.

- DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.
- Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.
- Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Voltmeter ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

EXPLODED VIEW



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

PARTS LIST

× New Parts
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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	Destination 仕向	Remarks 備考
				BASIC M1A			
	1	1A	*	A01-1410-01	METALLIC CABINET		
	2	1B	*	A20-4380-02	PANEL ASSY	KPUM	
	2	1B	*	A20-4380-02	PANEL ASSY	UEXE	
	2	1B	*	A20-4381-02	PANEL ASSY	T	
	-			B46-0092-03	WARRANTY CARD	K	
	-			B46-0094-03	WARRANTY CARD	UUE	
	-			B46-0095-03	WARRANTY CARD	UUE	
	-			B46-0096-13	WARRANTY CARD	X	
	-			B46-0121-03	WARRANTY CARD	P	
	-			B46-0122-13	WARRANTY CARD	E	
	-			B46-0123-03	WARRANTY CARD	T	
	-		*	B50-5707-00	INSTRUCTION MANUAL (ENGLISH)	KPUM	
	-		*	B50-5707-00	INSTRUCTION MANUAL (ENGLISH)	UEXE	
	-		*	B50-5708-00	INSTRUCTION MANUAL (FRENCH)	PMXE	
	-		*	B50-5709-00	INSTRUCTION MANUAL (SPANISH)	M	
	-		*	B50-5710-00	INSTRUCTION MANUAL (ENG) TRIO	T	
	-		*	B50-5711-00	INSTRUCTION MANUAL (D,I,G)	E	
	-			B58-0222-14	CAUTION CARD (PRE-SET 220V)	UE	
	-			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
	-			B58-0245-33	CAUTION CARD (FTZ)	E	
	-			B58-0269-04	CAUTION CARD	K	
	-			B59-0092-00	SERVICE DIRECTORY	UUE	
⚠	C1	2A		C91-0023-05	CERAMIC 0.01UF AC250V	UMUE	
⚠	C1	2A		C91-0647-05	CERAMIC 0.01UF P	KPXTE	
⚠	6	3A		E03-0068-05	AC OUTLET	P	
⚠	6	3A		E03-0069-05	AC OUTLET	KUMUE	
⚠	7	3A		E30-0181-05	AC POWER CORD	K	
⚠	7	3A		E30-0459-05	AC POWER CORD	E	
⚠	7	3A		E30-0587-15	AC POWER CORD	T	
⚠	7	3A		E30-0812-05	AC POWER CORD	UMUE	
⚠	7	3A		E30-0974-05	AC POWER CORD	P	
⚠	7	3A		E30-1341-05	AC POWER CORD	X	
⚠	F1	2A		F05-3022-05	FUSE (250V 3A)	UMUE	
⚠	F1	2A		F05-3121-05	FUSE (SEMKO) (250V T3.15A)	XTE	
⚠	F1	2A		F05-6021-05	FUSE (250V 6A)	UMUE	
⚠	F1	2A		F05-6027-05	FUSE (UL) (250V 6A)	KP	
⚠	F1	2A		F05-6321-05	FUSE (SEMKO) (250V T6.3A)	E	
	-		*	H01-5486-04	ITEM CARTON CASE	KPUM	
	-		*	H01-5486-04	ITEM CARTON CASE	UEXE	
	-		*	H01-5487-04	ITEM CARTON CASE	T	
	-		*	H10-1802-02	POLYSTYRENE FOAMED FIXTURE		
	-		*	H10-1803-02	POLYSTYRENE FOAMED FIXTURE		
	-			H25-0224-04	PROTECTION BAG (800X400)		
	-			H25-0232-04	PROTECTION BAG (235X350)		
	15	2B,3B		J02-0127-05	FOOT		
	16	2B		J21-3326-05	JACK MOUNTING HARDWARE		
⚠	19	3A		J42-0083-05	POWER CORD BUSHING		
	-			J61-0307-05	WIRE BAND		
	-			J61-0307-05	WIRE BAND	E	
	23	1B		K27-0896-04	KNOB (BUTTON) SPEAKERS		
	24	1B		K27-0964-04	KNOB (BUTTON) POWER		

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

⚠ indicates safety critical components.

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⚠	28	2A		L01-2472-05	POWER TRANSFORMER	XT	
⚠	28	2A		L01-2478-05	POWER TRANSFORMER	UMUEE	
⚠	28	2A		L01-6731-05	POWER TRANSFORMER	KP	
	C			N29-0035-05	PUSH RIVET (Ø3.5X5.5)		
	H			N08-0128-35	BINDING POST (GND)		
⚠	S1	2A		S40-1073-05	PUSH SWITCH (MAIN POWER)		
⚠	S2	2A		S31-2083-05	SLIDE SWITCH (POWER TYPE)	UMUEE	
	POWER SUPPLY (X00-2300-10)						
⚠	C1			C91-0023-05	CERAMIC 0.01UF AC250V	U	
⚠	C1			C91-0647-05	CERAMIC 0.01UF P	KPXE	
	36	2A		J13-0041-05	FUSE CLIP	KPU	
	36	2A		J13-0054-05	FUSE CLIP	XE	
	AUDIO (X09-2120-72)						
	C1 ,2			CE04FW0J102MEL	ELECTRO 1000UF 6.3WV		
	C3 ,4			CC45FSL1H470J	CERAMIC 47PF J		
	C5 ,6		*	CK45FB2H102K	CERAMIC 1000PF K		
	C7 ,8			CK45FB1H471K	CERAMIC 470PF K		
	C9 -12			CF92FV1H683J	MF 0.068UF J		
	C13 ,14			CF92FV1H334J	MF 0.33UF J		
	C15 ,16			CE04FW1V4R7MEL	ELECTRO 4.7UF 35WV		
	C17 -20			CK45FF1H472Z	CERAMIC 4700PF Z		
	C21 ,22			CE04FW1H010MEL	ELECTRO 1.0UF 50WV		
	C23 ,24			CE04FW2A010MEL	ELECTRO 1.0UF 100WV		
	C25 ,26			CE04FW1H010MEL	ELECTRO 1.0UF 50WV		
	C27 ,28			CE04FW2A010MEL	ELECTRO 1.0UF 100WV		
	C29 ,30			CE04KW2A330M	ELECTRO 33UF 100WV		
	C31 ,32			CE04FW1E100MEL	ELECTRO 10UF 25WV		
	C33			CE04HW1A220MEL	NP-ELEC 22UF 10WV		
	C34			CE04FW1A220MEL	ELECTRO 22UF 10WV		
	C35			CF92FV1H223J	MF 0.022UF J		
	C36			CE04FW1V4R7MEL	ELECTRO 4.7UF 35WV		
	C37			CE04KW1C330MEL	ELECTRO 33UF 16WV		
	C38			CE04FW1H101MEL	ELECTRO 100UF 50WV		
	C39 -42			CK45FE2H103P	CERAMIC 0.010UF P		
	C43 ,44		*	C90-1315-05	ELECTRO 5600UF 56WV		
	C45 ,46		*	C90-1313-05	ELECTRO 6800UF 71WV		
	C47 ,48			CE04FW1V222MEL	ELECTRO 2200UF 35WV		
	C53 ,54			CE04HW1E4R7MEL	NP-ELEC 4.7UF 25WV		
	C63 ,64			CC45FSL1H151J	CERAMIC 150PF J		
	C69 ,70			CK45FB1H102K	CERAMIC 1000PF K		
	C74			CK45FF1H103Z	CERAMIC 0.010UF Z		
	C75			CK45FB1H102K	CERAMIC 1000PF K		
	40	3A		E13-0217-05	PHONO JACK (2P) INPUT		
	44	3A		E20-0821-05	LOCK TERMINAL BOARD(8P) SPKR		
	45	2A		E23-0125-05	TERMINAL (GND)		
	49	2A	*	F01-0637-03	HEAT SINK		
	-			J61-0307-05	WIRE BAND		
	L			N09-1236-05	TAPPING SCREW (Ø3X16)		
	CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K 5W		
	R3 ,4			RN14BK2E121FTS	RN 120 F 1/4W		

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

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R11 -18			RD14AB2E4R7JTS	FL-PROOF RD 4.7 J 1/4W		
R27 -30			RD14AB2E681JTS	FL-PROOF RD 680 J 1/4W		
R37 ,38			RS14DB3D100JTE	FL-PROOF RS 10 J 2W		
R50			RS14DB3A391JTE	FL-PROOF RS 390 J 1W		
R53 ,54			RD14AB2E100JTS	FL-PROOF RD 10 J 1/4W		
R56			RD14AB2E681JTS	FL-PROOF RD 680 J 1/4W		
R58		*	RD14AB2E102JTS	FL-PROOF RD 1.0K J 1/4W		
R59		*	RD14AB2E301JTS	FL-PROOF RD 300 J 1/4W		
R65			RD14AB2E100JTS	FL-PROOF RD 10 J 1/4W		
R67		*	RD14AB2E102JTS	FL-PROOF RD 1.0K J 1/4W		
VR1 ,2			R12-4306-05	TRIMMING POT. (50K) IDLING		
K1			S51-2045-05	MAGNETIC RELAY		
D1 -4			RU4Z	DIODE		
D5 ,6			RD22JS(B2)	ZENER DIODE		
D7 ,8			RD5.6JS(B2)	ZENER DIODE		
D9 -11			1S2076A	DIODE		
D12			D5FB20	DIODE		
D13 -16			S3V20	DIODE		
D17 ,18			1S2076A	DIODE		
D27			DSM1A1	DIODE		
⚠ IC1 ,2			TA2040	IC(DRIVER,FINAL)		
⚠ IC3 ,4			TA2030	IC(LO/HI SWITCHING)		
IC5			UPC1237H	IC(PROTECTION)		
Q1 ,2			2SC2320(E,F)	TRANSISTOR		
Q1 ,2			2SC945(A)(Q,P)	TRANSISTOR		
Q3 -6			2SA733(A)(Q,P)	TRANSISTOR		
Q3 -6			2SA999(E,F)	TRANSISTOR		
Q7 ,8			2SC2631(Q,R,S)	TRANSISTOR		
Q9			2SA992(F,E)	TRANSISTOR		
Q11 ,12			2SD571(L,K)	TRANSISTOR		
Q19 ,20			2SC2320(E,F)	TRANSISTOR		
Q19 ,20			2SC945(A)(Q,P)	TRANSISTOR		
SUB-CIRCUIT (X13-4920-10)						
D1 -3			B30-0431-05	LED(LN21CPH)		
C1 -4			CF92FV1H393J	MF 0.039UF J		
S7	2B		E11-0104-15	PHONE JACK (3P) HEADPHONE		
L1 ,2			L39-0080-15	PHASE-COMPENSATION COIL		
R1 ,2			RD14GB2E330JTS	FL-PROOF RD 33 J 1/4W		
R3 ,4			RS14KB3D100JTE	FL-PROOF RS 10 J 2W		
R5 ,6			RD14GB2E4R7JTS	FL-PROOF RD 4.7 J 1/4W		
R7 ,8		*	RS14KB3D561JTE	FL-PROOF RS 560 J 2W		
S1	2A	*	S42-2133-05	MULTIPLE PUSH SW (SPEAKERS)		
POWER AMP (X85-1020-11)						
C3 ,4			CC45FSL1H101J	CERAMIC 100PF J		
C5 ,6			CC45FSL1H470J	CERAMIC 47PF J		
C7 ,8			CC45FSL1H101J	CERAMIC 100PF J		
C9 ,10			CC45FSL1H270D	CERAMIC 27PF J		
C11 -14			CK45FF1H473Z	CERAMIC 0.047UF Z		
C15 ,16			CK45FB1H102K	CERAMIC 1000PF K		

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

⚠ indicates safety critical components.

PARTS LIST

＊ New Parts
Parts without **Parts No.** are not supplied.
Les articles non mentionnes dans le **Parts No.** ne sont pas fournis.
Telle 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	Destination 仕向	Remarks 備考
R13 ,14			RD14AB2E181JTS	FL-PRØØF RD 180 J 1/4W		
R19 ,20		＊	RS14DB3A822JTE	FL-PRØØF RS 8.2K J 1W		
R35 -38			RD14AB2E751JTS	FL-PRØØF RD 750 J 1/4W		
D1 -4			1SS133	DIØDE		
D1 -4			1SS176	DIØDE		
Q1 ,2			UPA68H(K,L)	DUAL FET		
Q3 -6			2SC2320(E,F)	TRANSISTØR		
Q3 -6			2SC945(A)(Q,P)	TRANSISTØR		
Q7 -10			2SA733(A)(Q,P)	TRANSISTØR		
Q7 -10			2SA999(E,F)	TRANSISTØR		
Q11 -14			2SC2632(Q,R,S)	TRANSISTØR		
Q15 ,16			2SA1124(Q,R,S)	TRANSISTØR		

E: Scandinavia & Europe H:Audio Club K: USA P: Canada
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UE: AAFES(Europe) X: Australia M: Other Areas

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SPECIFICATIONS

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Power output

110 watts* per channel minimum RMS, both channels driven, at 8 ohms from 20Hz to 20,000Hz with no more than 0.004% total harmonic distortion.

Clipping Power

at 8 ohms	115 watts/ch. (1kHz)
at 4 ohms	150 watts/ch. (1kHz)

Clipping Headroom

at 8 ohms	0.19dB
at 4 ohms	1dB

Dynamic Power

at 8 ohms	162 watts/ch. (1kHz)
at 4 ohms	210 watts/ch. (1kHz)

Dynamic Headroom

at 8 ohms	1.7dB
at 4 ohms	2.4dB

Total Harmonic Distortion
(20Hz to 20,000Hz)

Input to SPEAKER output	0.004% at rated power into 8 ohms 0.003% at 1/2 rated power into 8 ohms 0.001% at rated power into 8 ohms at 1kHz
Intermodulation Distortion (60Hz : 7kHz = 4 : 1)	0.004% at rated power into 8 ohms 0.004% at 1 watt into 8 ohms
Damping Factor	More than 1,000 at 50Hz
Transient Response	
Rise Time	1.6μs
Frequency Response	1Hz to 300kHz, + 0, −3dB
Signal-to-Noise Ratio (IHF-A Curve)	120dB
Speaker Impedance	Accept 4 ohms to 16 ohms
Input Sensitivity/Impedance	
INPUT	1V/47 kohms

General

Power Consumption	3.3A (Rated power at 8 ohms)
A.C. Outlets	Switched 2, Unswitched 1
Dimensions	W : 440 mm (17-5/16") H : 133mm (5-1/4") D : 318mm (12-1/2")
Net Weight	9.1kg (20.1lb)
Gross Weight	10.4kg (22.9lb)

* Measured pursuant to Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifier in U.S.A.

Note :
We follow a policy of continuous advancements in developments. 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.

TRIO-KENWOOD CORPORATION

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

KENWOOD ELECTRONICS
DIVISION OF KENWOOD U.S.A. CORPORATION
1315 E. Watsoncenter Rd., Carson, California 90745, U.S.A.
75 Seaview Drive, Secaucus, New Jersey 07094, U.S.A.

TRIO-KENWOOD CANADA INC.,
1070 Jayson Court, Mississauga, Ontario, Canada L4W 2V5

TRIO-KENWOOD ELECTRONICS, N.V.
Leuvensesteenweg 504 B-1930 Zaventem, Belgium

TRIO-KENWOOD ELECTRONICS GmbH
Rembrücker Str. 15, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.
5, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD (AUSTRALIA) PTY. LTD. (INCORPORATED IN N.S.W.)
4E Woodcock Place, Lane Cove, N.S.W. 2066, Australia

KENWOOD & LEE ELECTRONICS, LTD.
Wang Kee Building, 5th Floor, 34-37, Connaught Road, Central, Hong Kong

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