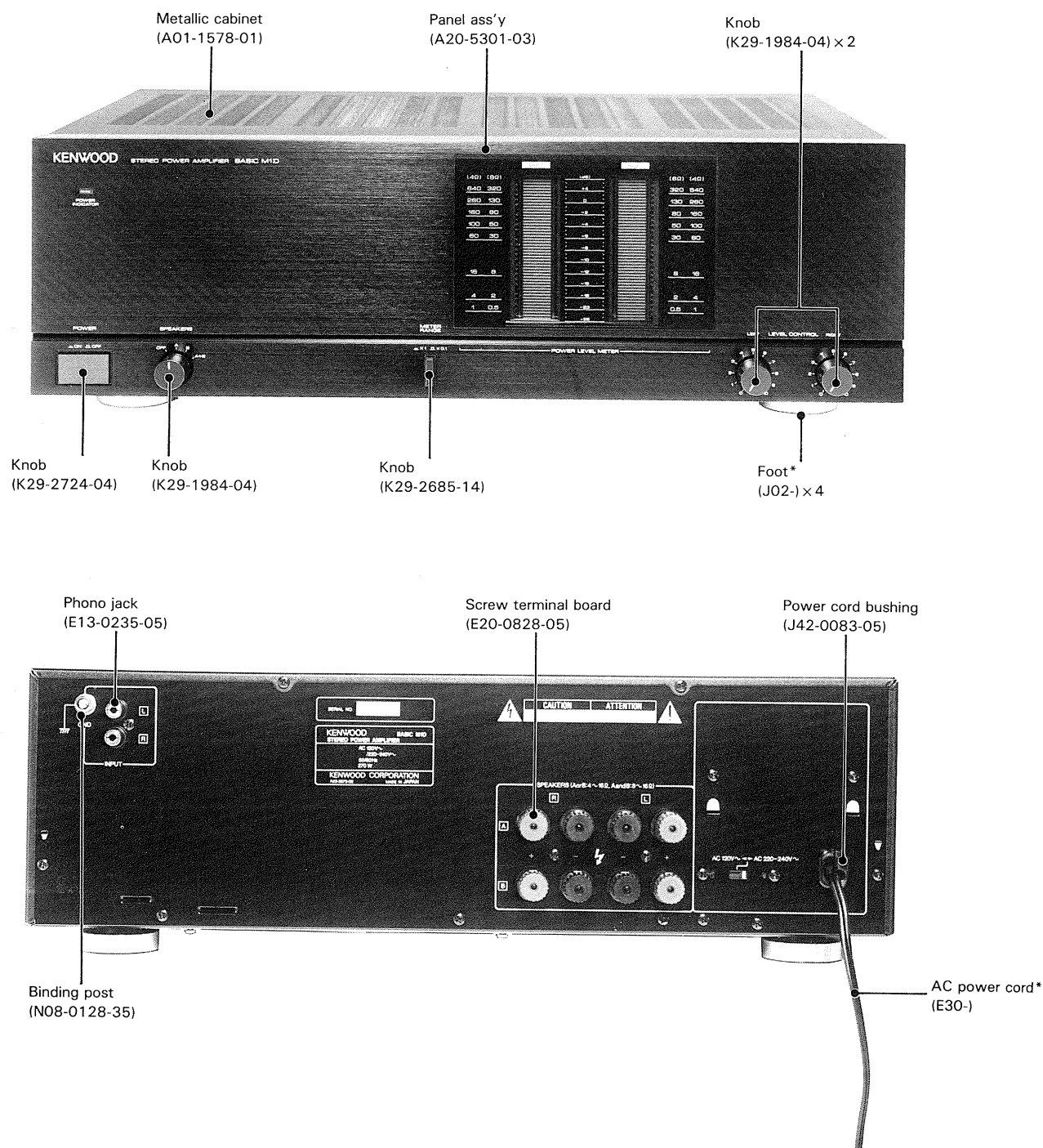


BASIC M1D

SERVICE MANUAL

KENWOOD

©1987-6 PRINTED IN JAPAN
B50-3281-00(T)1584



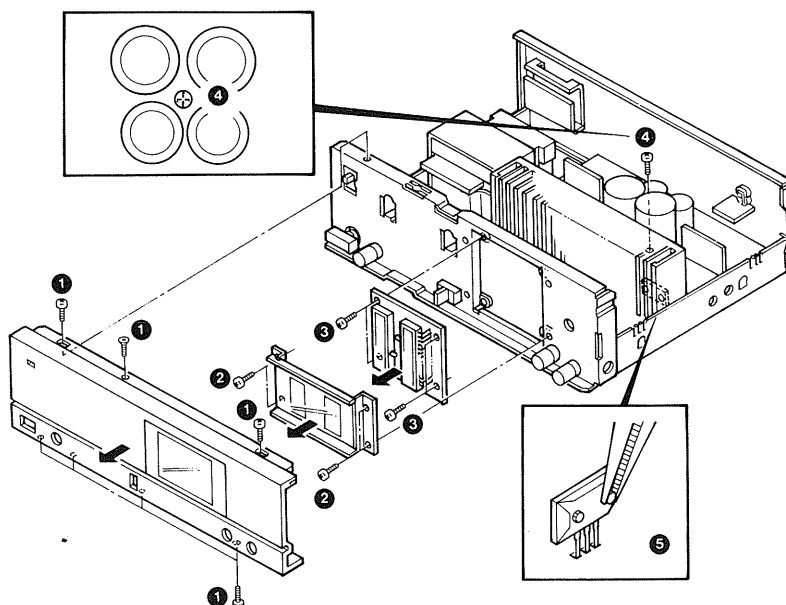
* Refer to parts list on page 22.

CONTENTS

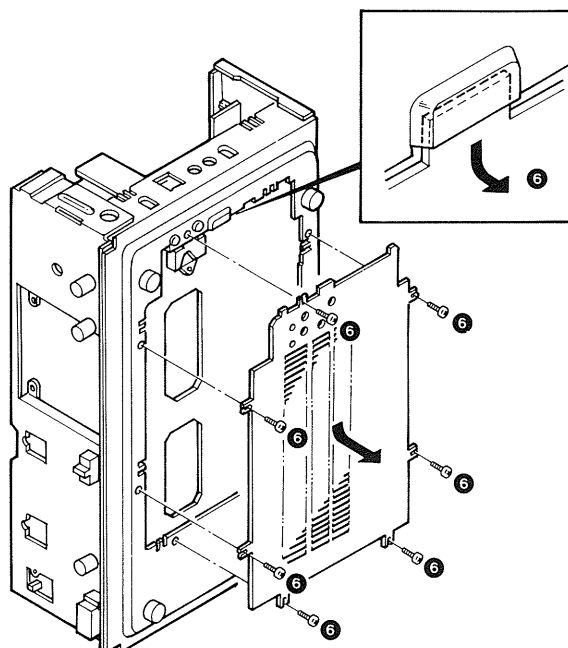
DISASSEMBLY FOR REPAIR.....	2	CIRCUIT DIAGRAM.....	17
BLOCK & LEVEL DIAGRAM.....	3	EXPLODED VIEW.....	21
CIRCUIT DESCRIPTION.....	3	PARTS LIST.....	22
ADJUSTMENT/REGLAGES/ABGLEICH.....	9	SPECIFICATIONS.....	Back cover
PC BOARD.....	11		

DISASSEMBLY FOR REPAIR

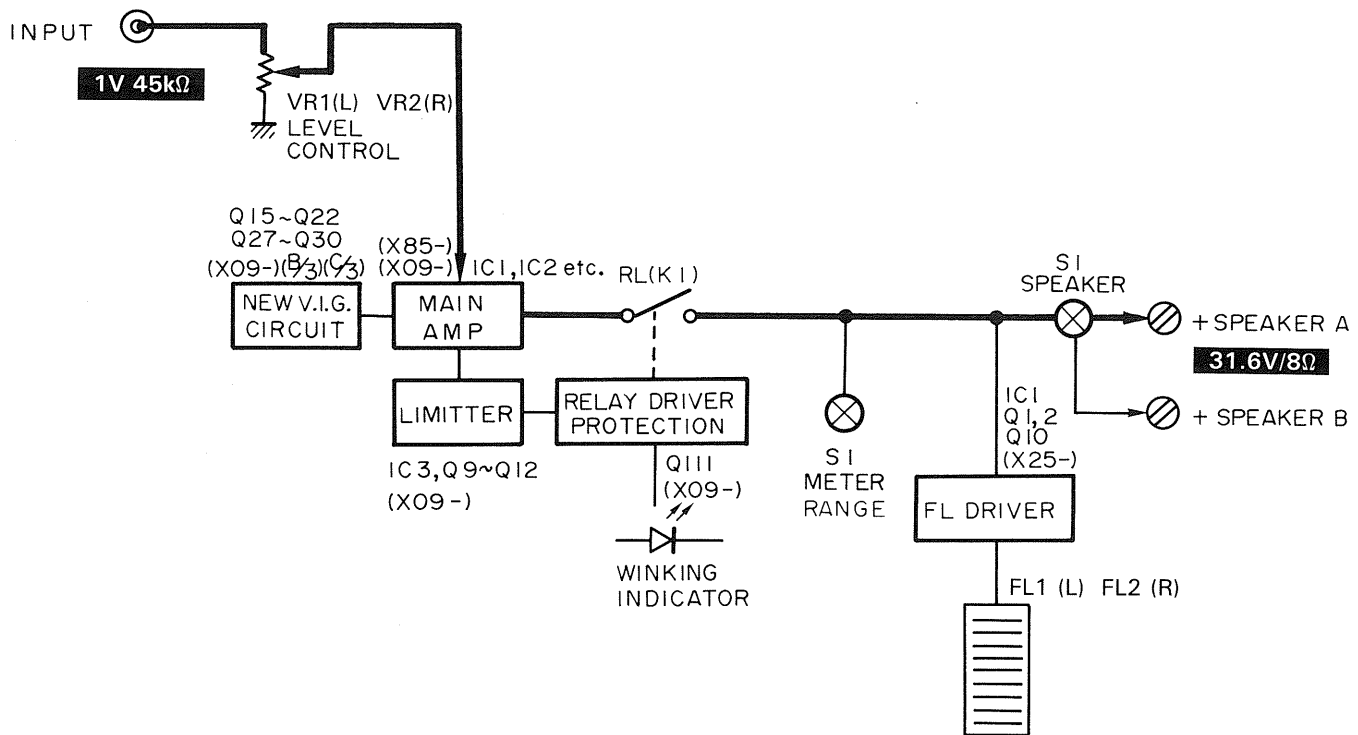
1. Remove the seven screws (①) located on the upper and edges of the front panel.
2. Remove the four screws (②) holding the FL display cover.
3. Remove the four screws (③) holding the printed circuit board (X25- A/B).
4. Remove the screw (④) located inside of the chemical capacitor.
5. Remove the screws (⑤) holding the Power transistor, using pliers.



6. Remove the seven screws (⑥) holding the bottom plate in the direction of the arrow, then remove the bottom plate in the direction of the arrow.



BLOCK & LEVEL DIAGRAM



CIRCUIT DESCRIPTION

Power amplifier unit (X09-2540-10)

Components	Use & Function	Operation, Condition & Compatibility
IC1, 2	For selection of the DLD circuit	
IC3	For protection	
Q1, 2, 3, 4	Final transistor at High side	
Q5, 6, 7, 8	Final transistor at Low side	
Q9, 10	For protection	
Q11, 12	For protection	
Q13, 14	For temperature compensation	
Q15, 16	For the VIG circuit	
Q17, 18	For the VIG circuit	
Q19, 20	For the VIG circuit	
Q21, 22	For the VIG circuit	
Q23, 24	For the driver	
Q25, 26	For the driver	
Q27, 28	For the VIG circuit	
Q29, 30	For the VIG circuit	
Q31, 32	For the driver	
Q33, 34	For the driver	
Q109, 110	For the A class power supply	
Q111	For protection	
Q112, 113	For the winking indicator	

CIRCUIT DESCRIPTION

Components	Use & Function	Operation, Condition & Compatibility
D1, 2	For temperature compensation	
D3, 4, 5, 6	For the VIG circuit	
D7, 8, 9, 10	For the VIG circuit	
D11, 12, 13, 14	For the power supply at the final low side	
D15, 16, 17, 18	For protection	
D19, 20	For the VIG circuit	
D58	For the power supply of the winking indicator	
D59	For the power supply of the protection circuit	
D60	For relay operation	
D61, 62	For the power supply of the A class constant-voltage supply	
D63, 64	For the power supply of the A class constant-current supply	
D65	For the winking indicator	
D66	For rectification (Low side)	
D67	For rectification (High side)	

Display unit (X25-3080-10)

Components	Use & Function	Operation, Condition & Compatibility
IC1	For the level meter	Wide range, 32 dB log scale indication. For indicating 12 points per channel.
Q1, 2	For the FL luminance adjustment	
Q10	For power supply	
D1, 2	For static electricity protection	
D3	For rectification	W06B
D4	For constant-voltage supply	
D5	For power supply	
D6	For the power indicator	

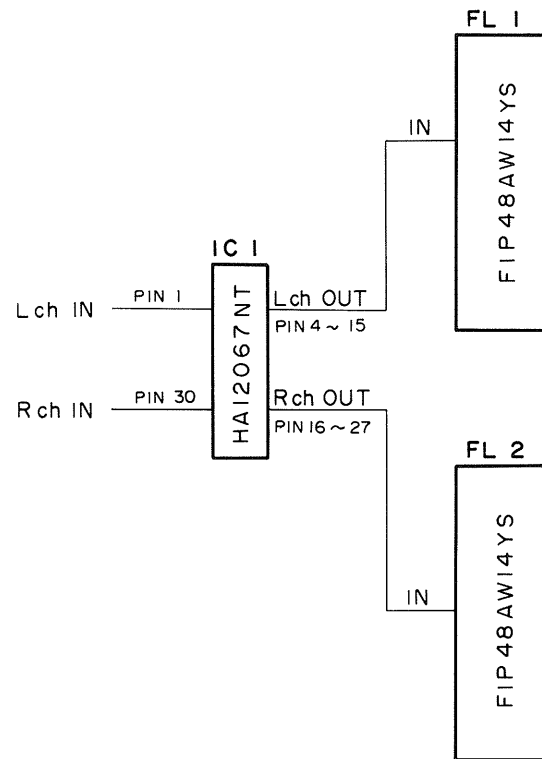
CIRCUIT DESCRIPTION

Operation description (Level Meter Circuit)

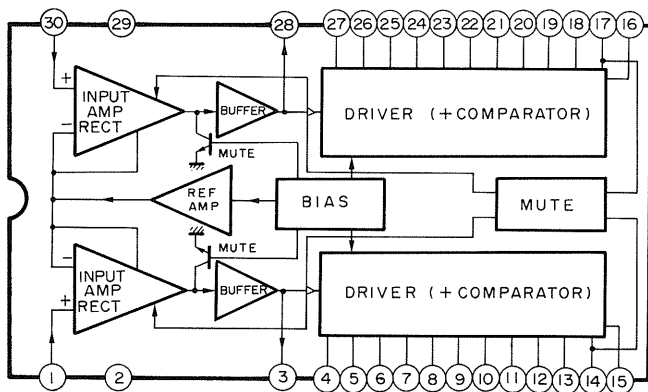
IC1 +14 V operation, wide range, 32 dB log scale display

FL1, FL2 AC 1.6 V (filament)
Grid current adjustment with the luminance adjustment VRs (VR5, VR6)

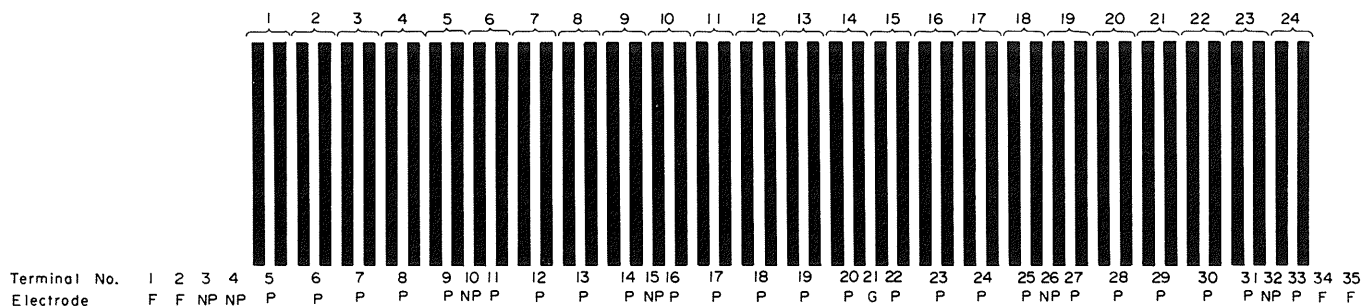
The L-ch and R-ch signals are input to IC1 from the output of power amplifier X09. These allow FL1 and FL2 to light the 0 to 12 point indicators (32 dB wide range log scale indication) according to the input level of IC1.



• Block diagram (HA12067NT)



• FL display (FIP48AW14YS)



Notes F: Filament P: Anode
G: Grid NP: No pin.

CIRCUIT DESCRIPTION

1. A New VIG DLD Circuit (X09-2540-10)

Refer to the KA-990V new-product data for an explanation of the principle on which VIG operates.

The configuration of the VIG circuit incorporated in the current KA-990V is depicted in Fig. 1.

In addition to preventing the influx of undesirable power source components (such as ripples) into the Q1 driver transistor, the VIG circuit also applies a bootstrap to the output as shown in Fig. 1 A. The output from the VIG then follows the output from the amplifier in a constant voltage shift pattern. The input signal is no longer absorbed by the power source according to the potential which exists between the input and the power, and high-frequency characteristics and distortion rates are improved.

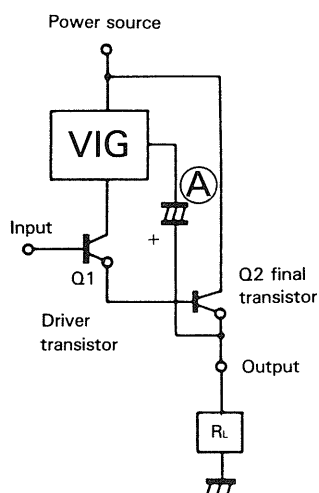


Fig. 1 Configuration of a Conventional VIG Circuit

As a result, the voltage across the output of Q1 (the emitter) and the power source (the collector) is held constant whether or not there is a signal (see Fig. 2).

This insertion of a VIG circuit in the initial stage of a Darlington connection circuit means that undesirable power source components do not undergo current amplification at Q2, the final transistor. In other words, large-capacity power sources free of ripples become the norm.

Upon further investigation, however, doubts arose concerning operation of the Q2 driver transistor at the abovementioned constant voltage. That is, the voltage across the transistor base and emitter could be thought of as normally about 0.6 volts, but the final transistor voltage shifted between 0.6 to about 2.0 volts in keeping with the output current (see Fig. 3). In the conventional configuration depicted in Fig. 1, this shift caused the voltage applied to the driver transistor Q1 to shift as well. It became clear that with the conventional configuration undesirable power source components were suppressed, but this in turn produced new voltage shift components.

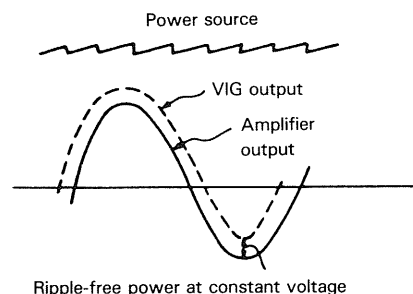


Fig. 2 VIG Output and Amplifier Output

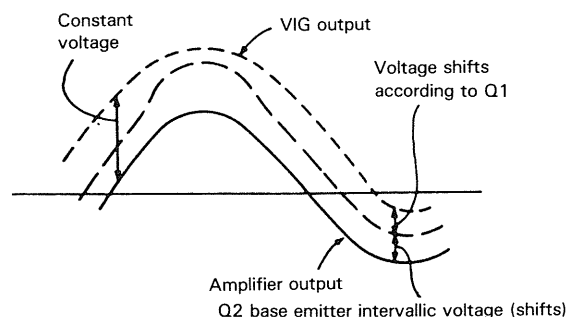


Fig. 3 VB-E and VIG Output

CIRCUIT DESCRIPTION

The new VIG circuit applies a bootstrap to the Q2 final transistor base as shown in Fig. 4. In addition, a buffer has been inserted so that any undesirable power source components which may leak through the bootstrap do not undergo current amplification at Q2.

With this configuration, the new VIG circuit permits capacities to be utilized to the fullest extent.

Undesirable power source components can be suppressed, as can the shift component produced by operation of the circuit itself, for effectiveness 25 times greater than that of conventional circuit configurations. This permits Q1 to operate at an ideal constant voltage and allows only very pure signals to be input to the final transistor, making possible "cleaner" overall amplification.

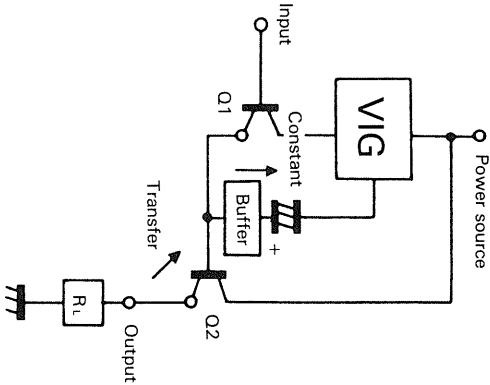


Fig. 4 Configuration of the New VIG Circuit

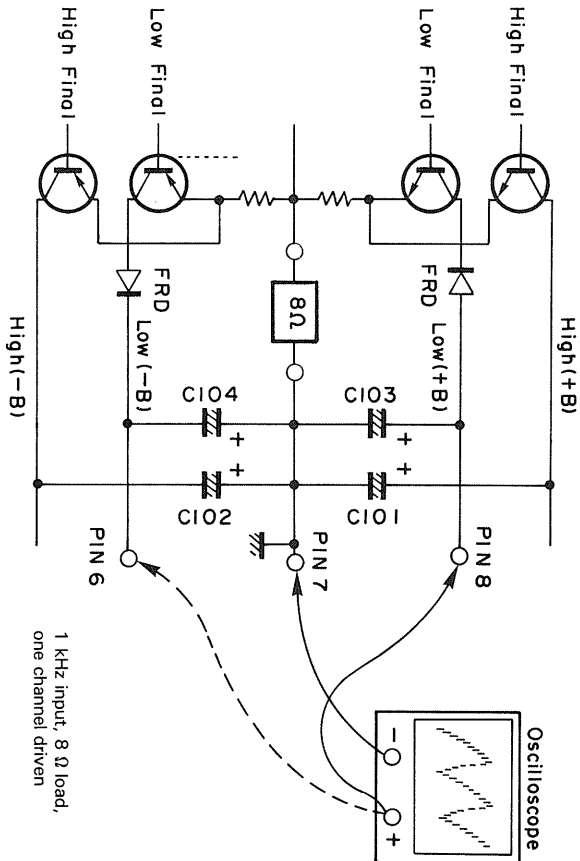
2. Effects of the New VIG Circuit

1. Effects on the amplifier of ripples and signal components caused by the power source, as well as the cross modulation distortion to which they give rise, are drastically reduced for clear, sharp audio.
2. Power can be boosted accordingly (over 10 times conventional levels) for brilliant audio.
3. Improves raw effects at the pre-negative feedback voltage amplification stage for broad band, low-distortion sound.
4. Reduces dynamic crosstalk and other power source-induced interference.

CIRCUIT DESCRIPTION

CHECKING METHOD OF SUPER DLD CIRCUIT OPERATION

1. Connect an oscilloscope to LOW (+B) and GND. Set the oscilloscope input coupling mode to AC.



2. Continuously change the output voltage and monitor the ripple waveform at high and low switching.

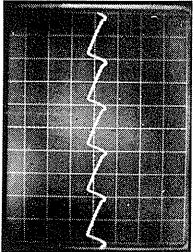


Photo 1
Volume: 0

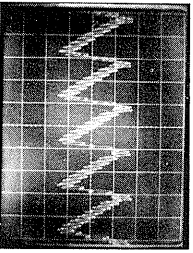


Photo 2
Just before switching

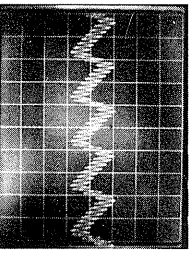


Photo 3
Just after switching

3. Connect the oscilloscope to LOW (-B) and GND. Set the oscilloscope input coupling mode to AC.

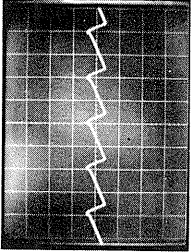


Photo 4
Volume: 0

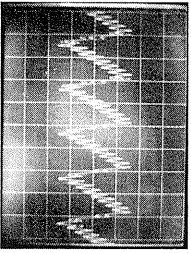


Photo 5
Just before switching

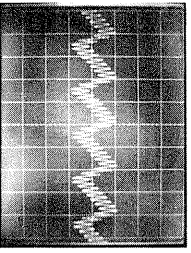


Photo 6
Just after switching

4. Check on the opposite channel's LOW (+B) and LOW (-B) line in the same way.

ADJUSTMENT/REGLAGES/ABGLEICH

ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG.
Unless otherwise specified, the individual switches should be set as follows: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
1	IDLE CURRENT	—	Connect a DC voltmeter across CP1 (L) CP2 (R)	VOLUME: 0	(X09) VR1 (L) VR2 (R)	15mV	(a)
2	FL LUMINANCE ADJUSTMENT	(A) Connect the AG output (1kHz) to the INPUT jacks (L, R)	—	LEVEL CONTROL VR MAX (L) (R)	(X25) VR5 (L) VR6 (R)	(1) Adjust so that all of the indicators in the FL level meter light, and set the luminance level for the L and R channels so that the level meter indicator of each level lights equally. (2) If the VR variable level is lowered and one channel becomes darker, adjust the brighter FL indicators before adjusting the FL luminance.	

REGLAGES

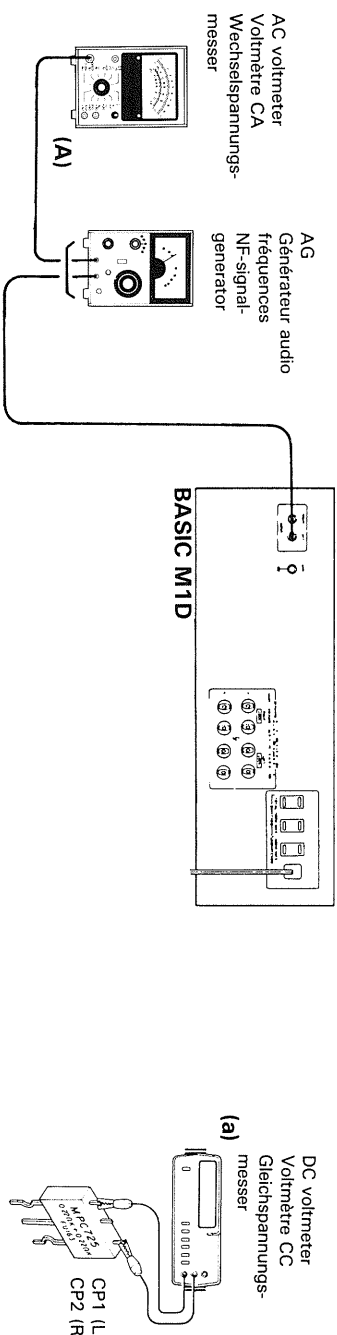
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINTS DE L'ALIGNMENT	ALIGNER POUR	FIG.
Sauf en cas d'indications spéciales, régler chaque commutateur comme suit: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
1	COURANT DE POLARISATION	—	Connecter un voltmètre de CC SUR CP1 (G) CP2 (D)	VOLUME: 0	(X09) VR1 (G) VR2 (D)	15mV	(a)
2	AJUSTEMENT D'ILLUMINATION FLUORESCENTE (1kHz) aux prises INPUT (G, D)	(A) Connecter la sortie AG INPUT (G, D)	—	LEVEL CONTROL VR MAX (G) (D)	(X25) VR5 (G) VR6 (D)	(1) Ajuster pour que tous les indicateurs dans le compteur de niveau fluorescent s'allume et régler le niveau d'illumination pour les canaux de gauche et de droite pour que l'indicateur de compteur de niveau de chaque niveau s'allume également. (2) Si le niveau variable VR est baissé et qu'un canal devienne plus sombre, ajuster les indicateurs fluorescents plus clairs avant d'ajuster l'illumination fluorescente.	

ABGLEICH

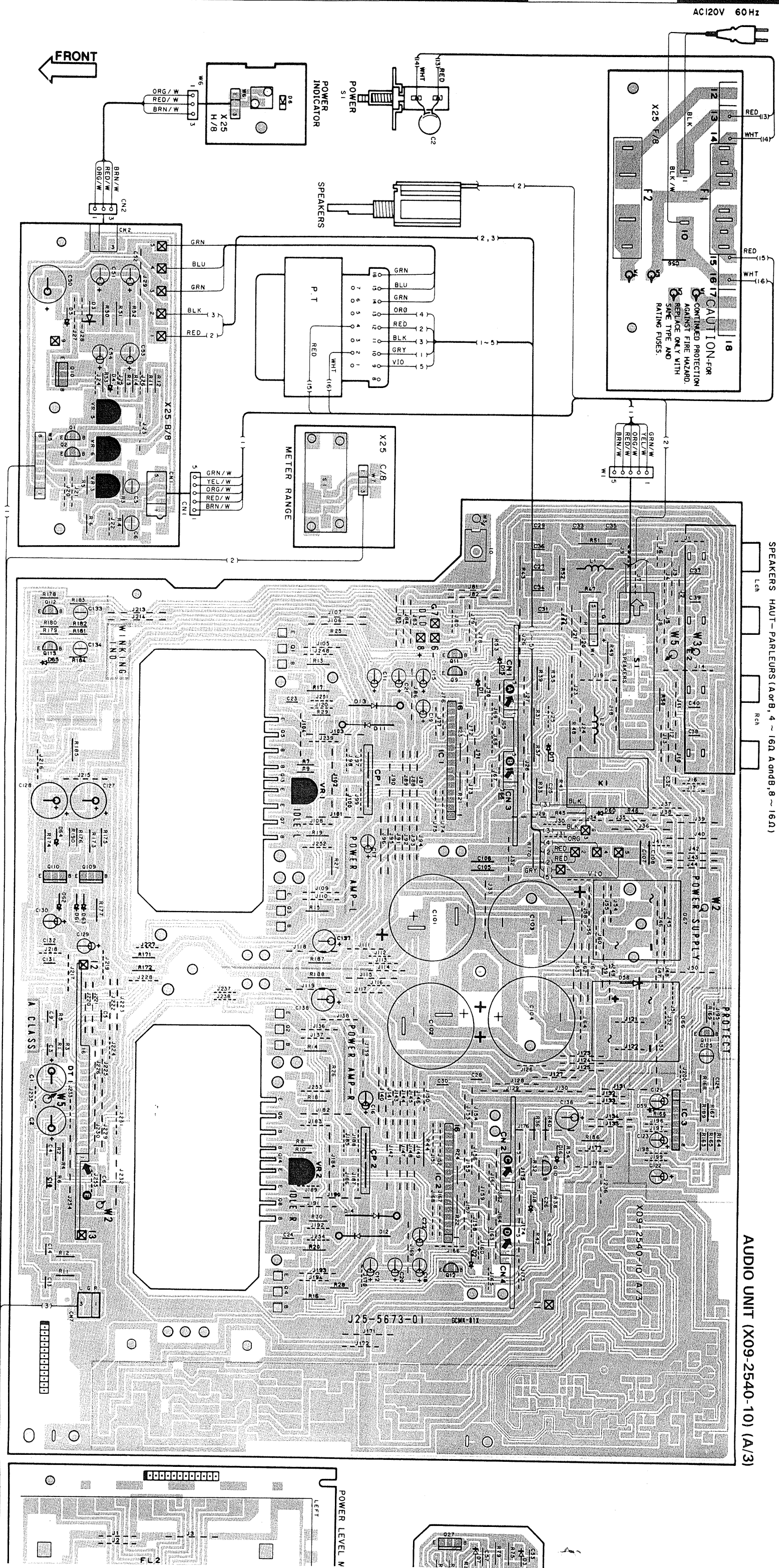
ADJUSTMENT/REGLAGES/ABGLEICH

VR.	GENGENSTAND	EINGANGS-EINSTELLUNG	AUSANG-EINSTELLUNG	VORSTÄRKER-EINSTELLUNG	ABGLEICHE-PUNKTE	ABGLEICHEN FÜR	ABB.
Äußer wenn anders angegeben, die verschiedenen Schalter wie folgt einstellen: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
1	LEBERLAUF-STROM	—	Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschließen.	VOLUME: 0	(X09) VR1 (L) VR2 (R)	15mV	(a)
2	FL-LUMINANZ-EINSTELLUNG	(A) Den AG-Ausgang (1kHz) an die INPUT-Buchsen (L, R) anschließen.	—	LEVEL CONTROL VR MAX (L) (R)	(X25) VR5 (L) VR6 (R)	(1) So einstellen, daß alle Anzeigen des FL-Pegelmeters leuchten, und den Luminanzpegel für den linken und rechten Kanal so einstellen, daß die Pegelmeter-Anzeige für jeden Pegel gleich leuchtet. (2) Wenn der einstellbare VR-Pegel gesenkt wird und ein Kanal dunkler wird, die helleren FL-Anzeigen vor Einstellung der FL-Luminanz einstellen.	

SYSTEM CONNECTION



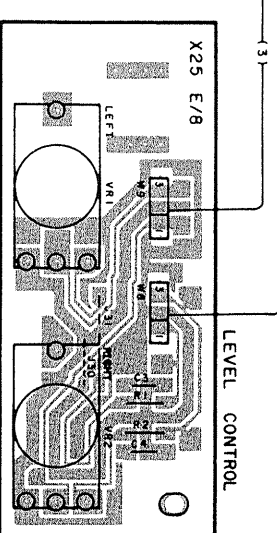
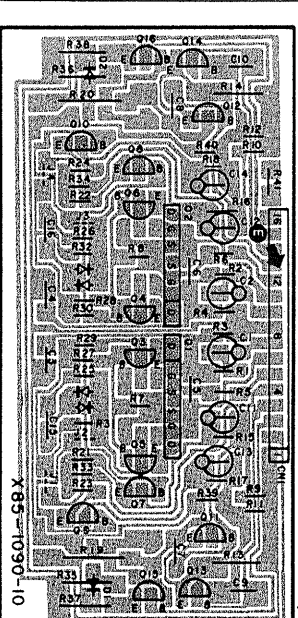
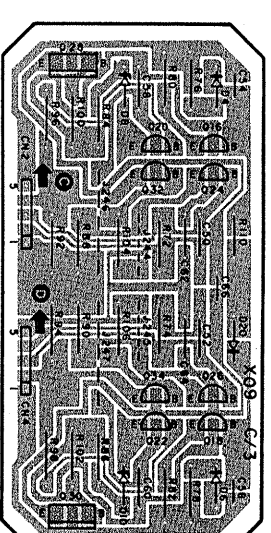
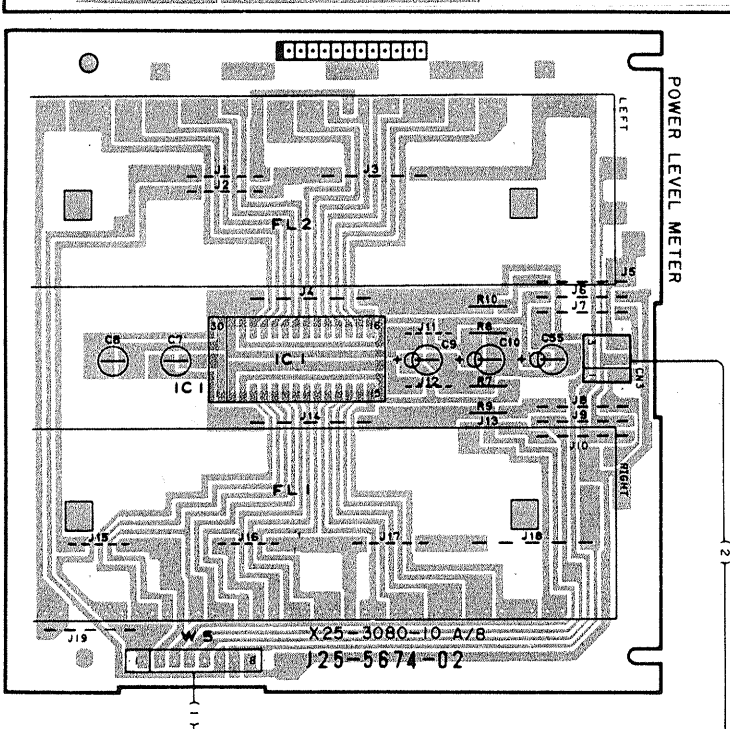
PC BOARD (Component side view)



X85-1090-10

X09-2540-10

Q16	E	—	Q14	E	—64.4V
	C	1.4V		C	1.3V
	B	62.2V		B	—63.9V
Q8	E	—	Q4	E	4.7V
	C	—		C	11.5V
	B	11.5V		B	—
Q5	E	44.7V	Q13	E	1.3V
	C	—		C	—
	B	0.6V		B	—
Q8	E	0V	Q3	E	—
	C	—		C	—69V
	B	—0.6V		B	0.7V
Q110	E	—63.6V	Q2	E	—
	C	—22.3V		C	68.9V
	B	—63.8V		B	—0.7V
Q27	E	—	Q16	E	67.7V
	C	68.9V		C	7.5V
	B	—		B	67.2V
Q28	E	7V	Q20	E	1.2V
	C	68.8V		C	—
	B	7.5V		B	0.6V
Q24	E	1.2V	Q32	E	—
	C	7V		C	7V
	B	1.8V		B	—
IC1	4	—69V	IC2	4	—69V
	6	—44.8V		6	—44.8V
	11	44.7V		7	0V
IC3	2	0V	Q10	11	44.7V
	6	0.7V		13	68.9V
	B	—		B	—
Q1	E	—	Q2	E	—
	C	—		C	—
	B	—		B	—
Q10	E	—	Q12	E	—64.4V
	C	—		C	22.8V
	B	11.5V		B	—64.1V
Q6	E	4.7V	Q4	E	0V
	C	11.5V		C	—69V
	B	—		B	0.6V
Q13	E	1.3V	Q7	E	—
	C	—		C	—
	B	—		B	—0.6V
Q109	E	0V	Q111	E	88.9V
	C	—		C	—
	B	—0.6V		B	—
Q6	E	0V	Q1	E	44.7V
	C	—		C	68.9V
	B	0.6V		B	—0.7V
Q29	E	—	Q26	E	—1.2V
	C	—69V		C	—1.8V
	B	—		B	—
Q34	E	—	Q30	E	—7V
	C	—7V		C	—69V
	B	—		B	—7.6V
Q18	E	—68V	Q22	E	—1.2V
	C	—7.6V		C	—
	B	—67.4V		B	—0.6V



Refer to the schematic diagram for the values of resistors and capacitors.

IC3	2	0V
	6	0.7V

Q1	E	11.6V
	C	14.1V
	B	—

IC1	29	14.1V
-----	----	-------

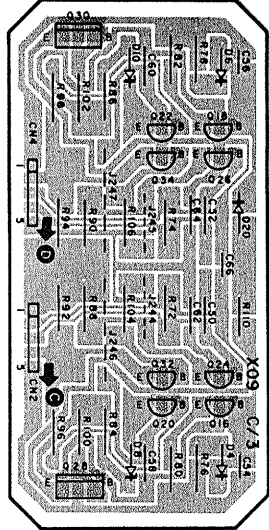
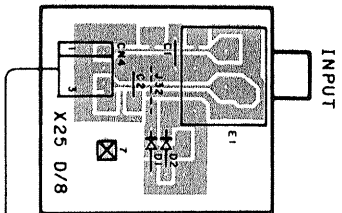
Q10

E	14.1V
C	—
B	—

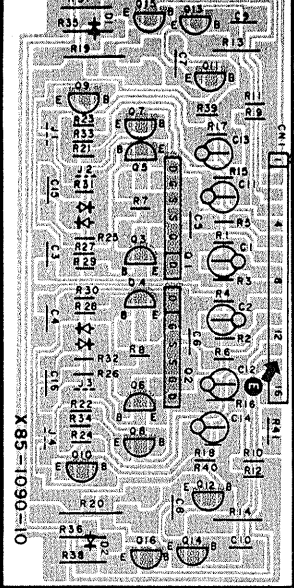
Q2

E	11.8V
C	14.1V
B	—

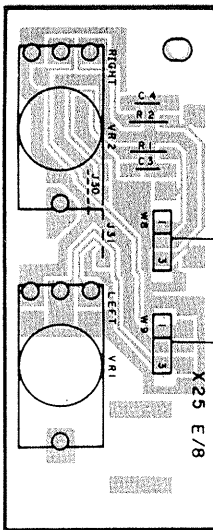
PC BOARD (Foil side view)



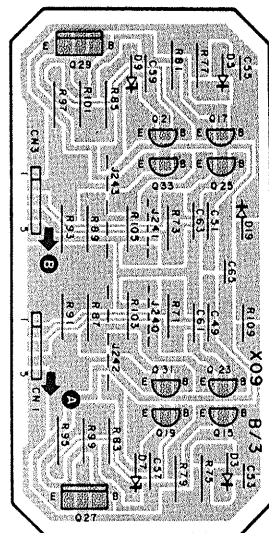
POWER AMPLIFIER UNIT (X85-1090-10)



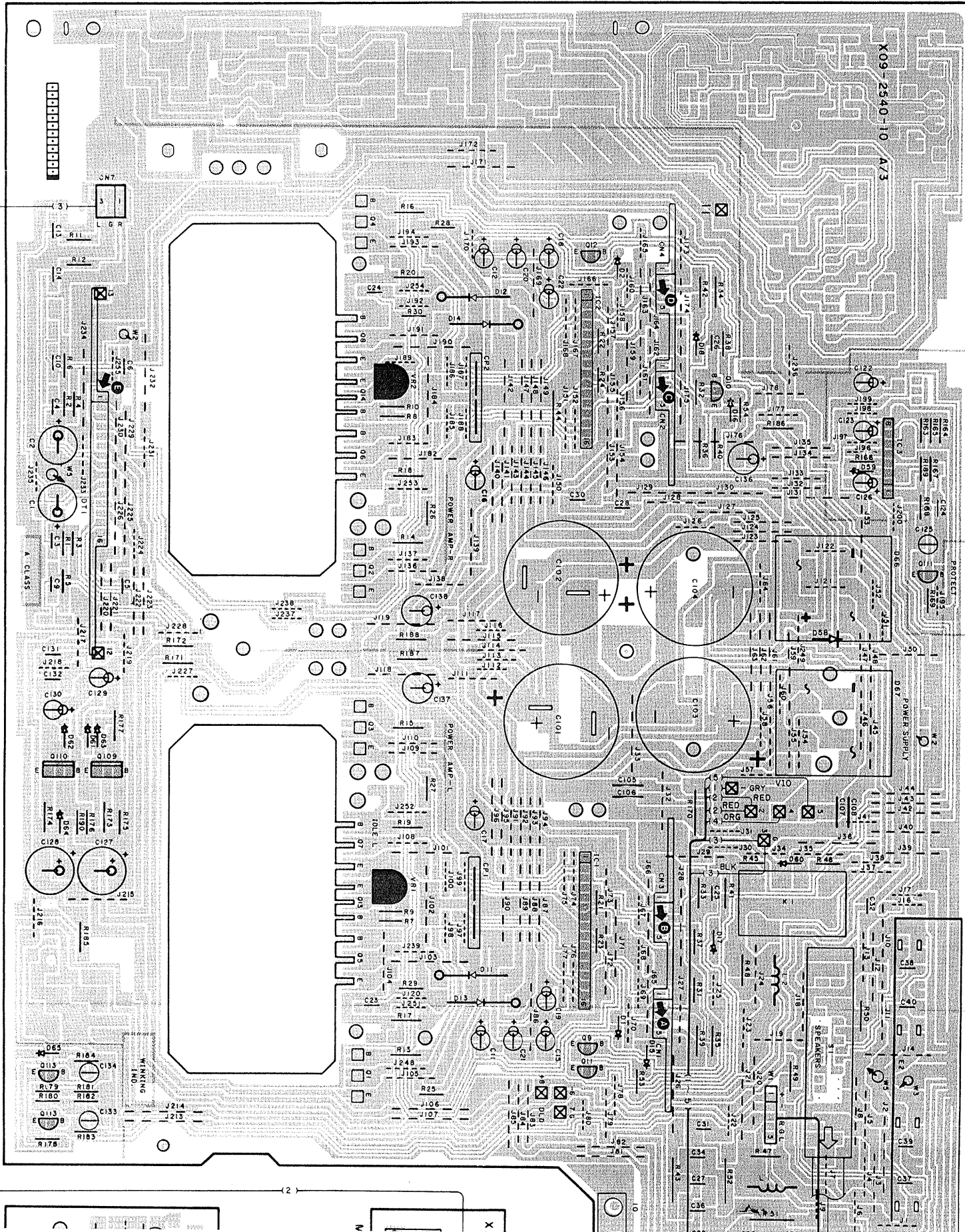
LEVEL CONTROL



DISPLAY UNIT (X25-3280-10)



AUDIO UNIT (X09-2540-10)



SPEAKERS HAUT-PARLEURS (A or B, 4 ~ 16Ω A or B)

Right Left

X85-1090-10

016	—	014	E -64.4V	08	—	04	E 4.7V
C	1.4V	C	1.3V	C	—	C	11.5V
B	62.2V	B	-63.9V	B	11.5V	B	—

010	—	012	E -64.4V	06	E 4.7V
C	—	C	27.6V	C	11.5V
B	11.5V	B	-64.1V	B	—

X09-2540-10

05	E 44.7V	013	E 1.3V	08	E 0V	03	—	0110	E -63.6V
C	—	C	—	C	—	C	-68V	C	-22.3V
B	0.6V	B	—	B	-0.6V	B	0.7V	B	-63.8V

04	E 0V	07	—	0109	E 27.2V	0111	E 68.9V	06	E 0V
C	-63V	C	—	C	51.3V	C	—	C	—
B	0.6V	B	-0.6V	B	27.6V	B	—	B	0.6V

02

027	E 0V	016	E 67.7V	028	E 7V	020	E 1.2V	024	E 1.2V	032	E —
C	68.9V	C	7.5V	C	68.8V	C	—	C	7V	C	7V
B	—	B	67.2V	B	7.5V	B	0.6V	B	1.8V	B	—

01	E 44.7V	029	E —	026	E -1.2V	034	E —	030	E -7V	018	E -68V	022	E -1.2V
C	68.9V	C	-69V	C	-7V	C	-7V	C	-69V	C	-7.6V	C	—
B	-0.7V	B	—	B	-1.8V	B	—	B	-7.6V	B	-67.4V	B	-0.6V

IC1

4	-69V	4	-69V
6	-44.8V	7	0V
11	44.7V	10	0V
13	68.9V	11	44.7V

IC2

2	0V	6	0.7V
---	----	---	------

IC3

E 14.1V

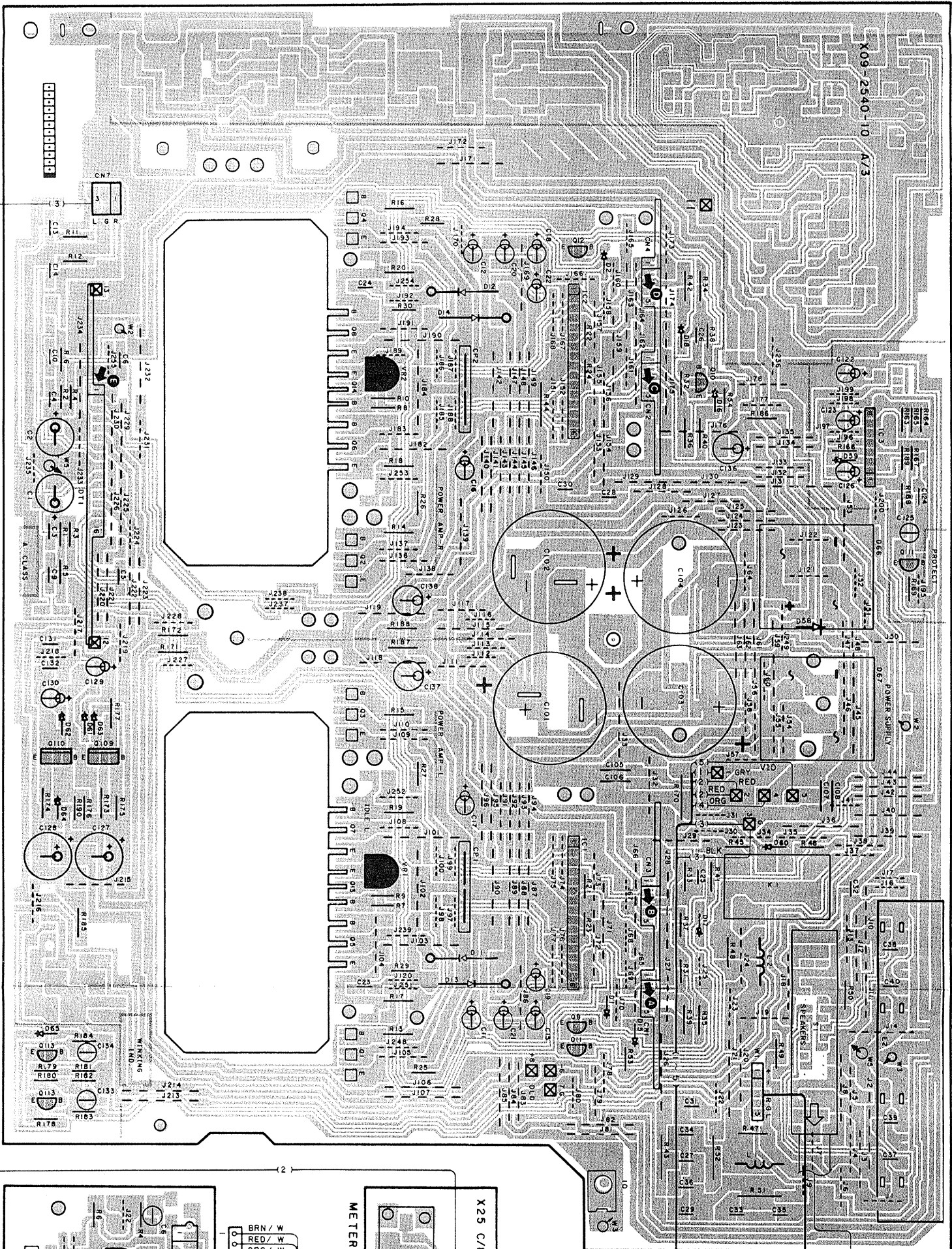
01

E 11.8V	IC1	29
---------	-----	----

02

E 11.8V	C 14.1V	B —
---------	---------	-----

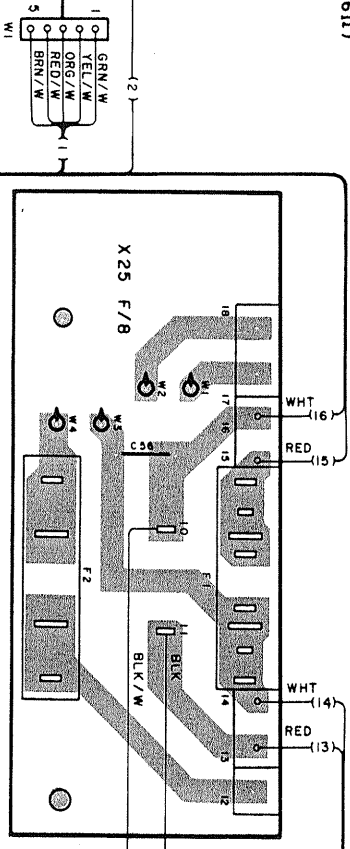
AUDIO UNIT (X09-2540-10)



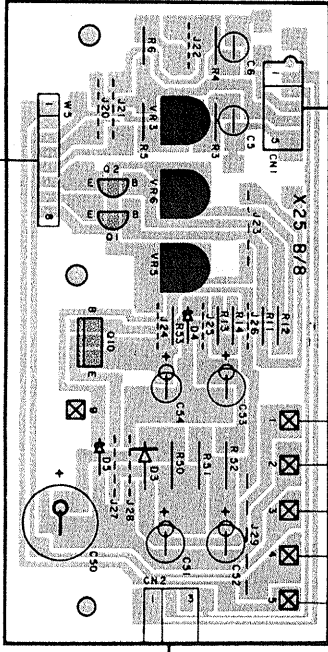
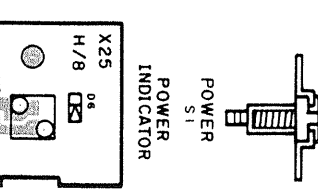
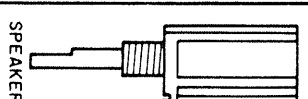
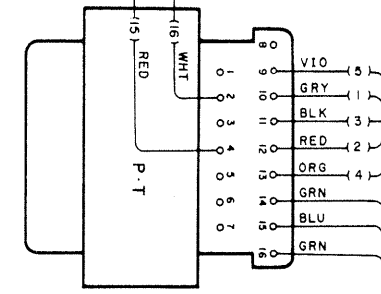
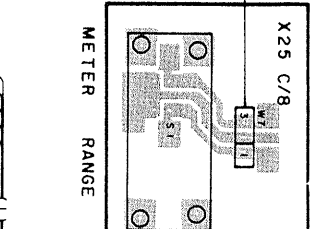
SPEAKERS HAUT-PARLEURS (A or B, 4 ~ 16Ω A and B, 8 ~ 16Ω)

Rch

Lch



AC 120V 60Hz



FRONT

BASIC MID(K)

Refer to the schematic diagram for the values of resistors and capacitors.

0V
-
0.6V

-63.6V
-22.3V
-63.8V

E 0V
C 68.9V
B -0.7V

E -
C 68.9V
B -

E 67.7V
C 7.5V
B 67.2V

E 7V
C 68.8V
B 7.5V

E 1.2V
C -
B 0.6V

E 1.2V
C 7V
B 1.8V

E -
C 7V
B -

4 -69V
6 -44.8V
11 44.7V
10 0V
13 68.9V

4 -69V
6 -44.8V
7 0V
10 0V
11 44.7V
13 68.9V

2 0V
6 0.7V

E 14.1V
C -
B -

E 11.6V
C 14.1V
B -

E 11.8V
C 14.1V
B -

E 14.1V
C -
B -

E 14.1V
C -
B -

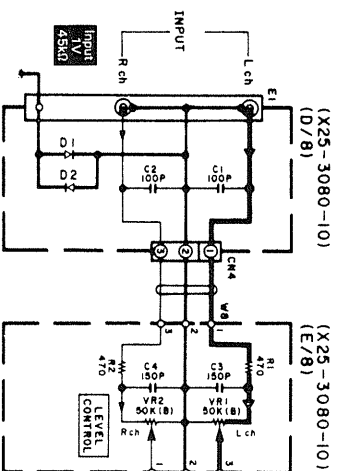
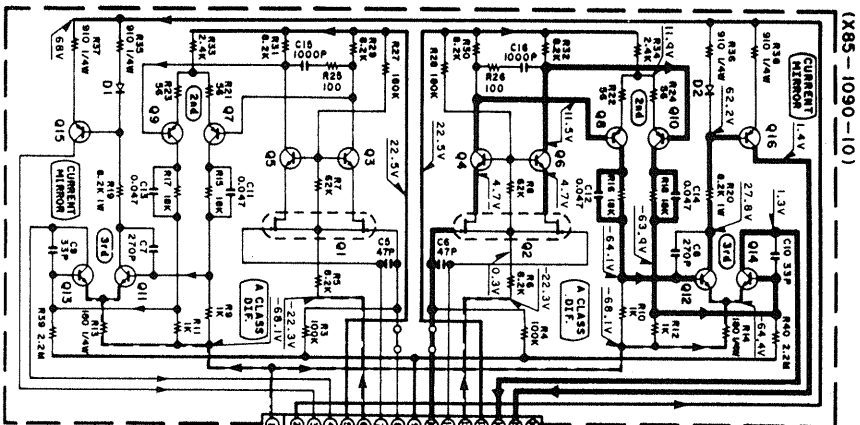
E 14.1V
C -
B -

E 14.1V
C -
B -

E 14.1V
C -
B -

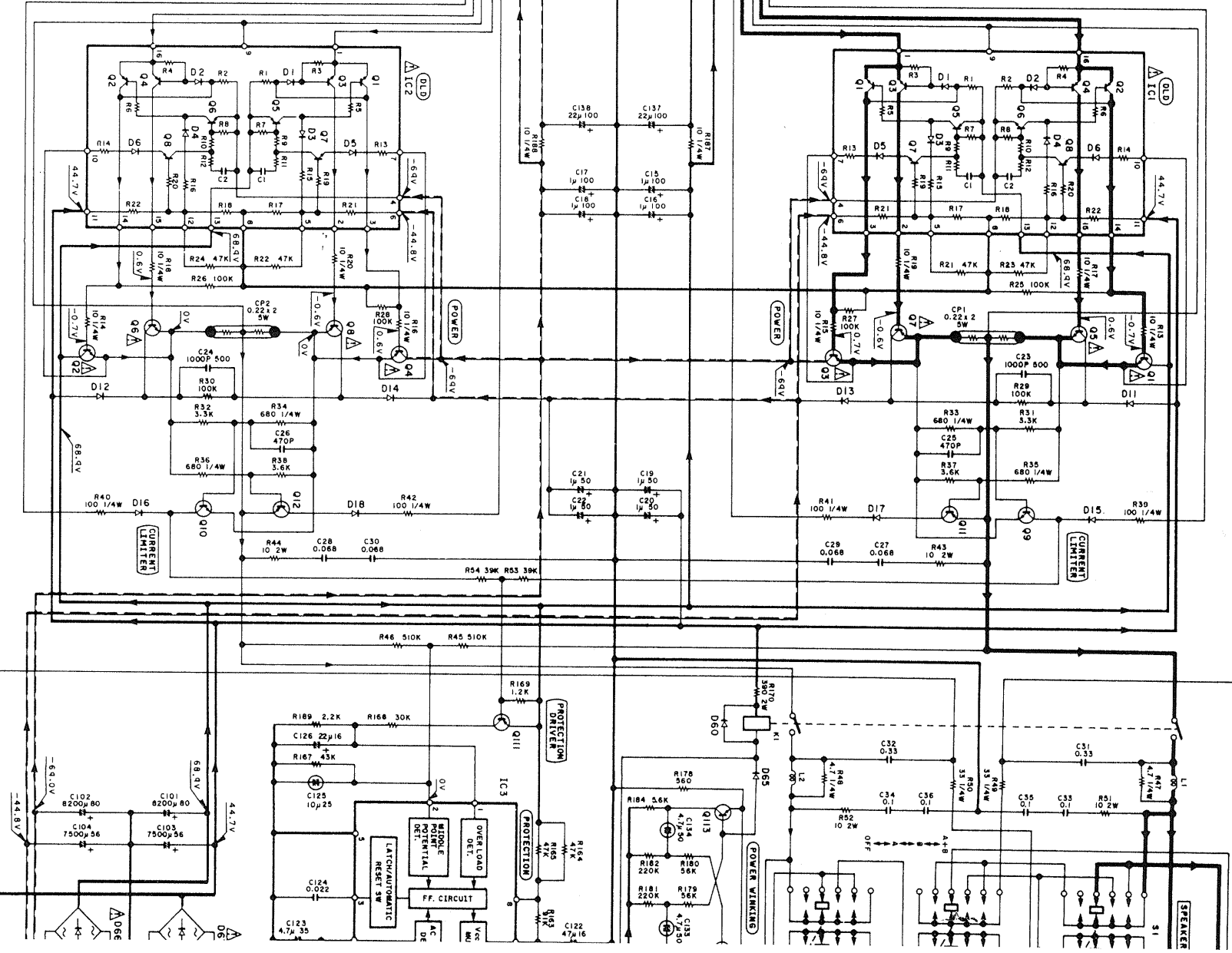
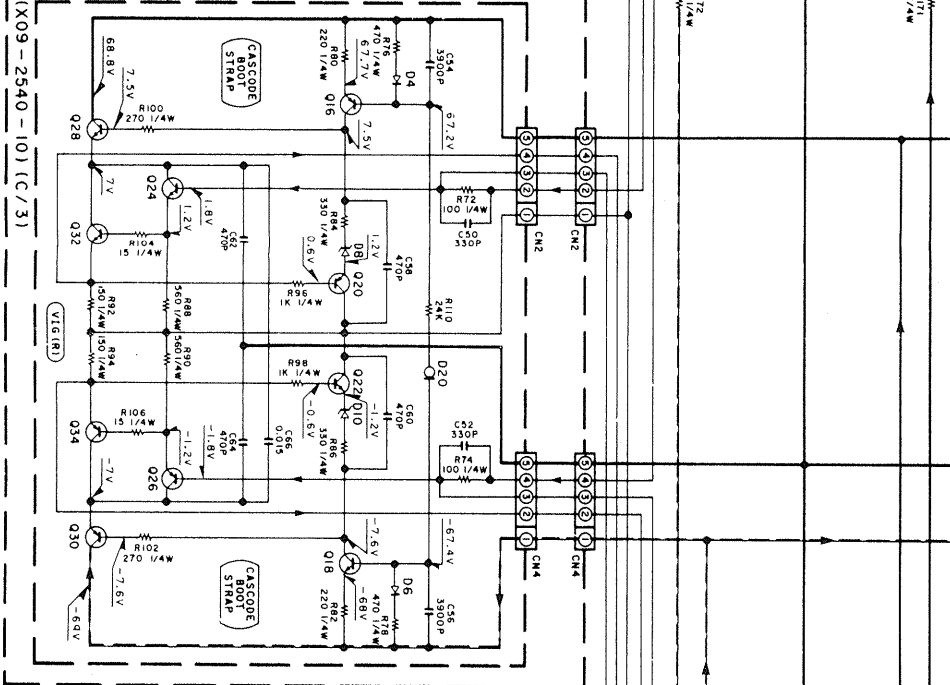
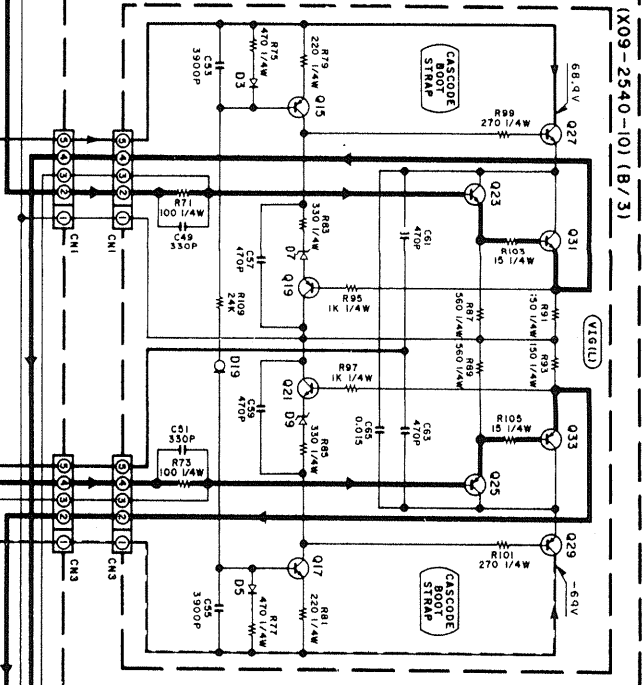
E 14.1V
C -
B -

E 14.1V
C -
B -



SIGNAL LINE
 GND LINE
 +8 LINE
 -8 LINE

(X09-2540-10) (A/3)



2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1124

2SC3944

2SC3284*5

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A

2SC945 (A)

2SA1123

2SA1535

2SC2167

2SA1303*5

TA2030

2SA1216*5

2SC3419

2SC2927

2SA1534A

2SA733 (A)

2SA999

2SC2320

2SC2631

2SC2632

2SC3940A


EXPLODED VIEW

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.	Address	New Parts	Parts No.	Description	Desti- nation 向
参照番号	位置	新	部品番号	部品名 / 規格	仕
BASIC M1D					
1	1A	*	A01-1578-01	METALLIC CABINET	
2	2A	*	A20-5301-03	PANEL ASSY	
6	2A	*	B10-0890-04	FRONT GLASS	
		*	B11-0155-04	CALNR FILTER	
		*	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	
		*	B46-0122-13	WARRANTY CARD	
		*	B50-6941-00	INSTRUCTION MANUAL (ENGLISH)	
		*	B50-6942-00	INSTRUCTION MANUAL (FRENCH)	
		*	B50-6943-00	INSTRUCTION MANUAL (SPANISH)	
		*	B50-6944-00	INSTRUCTION MANUAL (ARABIC)	
		*	B50-6945-00	INSTRUCTION MANUAL (G.D.1)	
		*	B58-0223-04	CAUTION CARD (PRE-SET 120V)	
		*	B58-0269-04	CAUTION CARD	
		*	B58-0513-04	CAUTION CARD (PRESET 220-240)	
		*	B58-0803-03	CAUTION CARD	
		*	B59-0092-00	SERVICE DIRECTORY	
		*	C91-0023-05	CERAMIC	
		*	C91-0647-05	CERAMIC	
		*	E30-0459-05	AC POWER CORD	
		*	E30-0812-05	AC POWER CORD	
		*	E30-0978-05	AC POWER CORD	
		*	E30-1341-05	AC POWER CORD	
		*	F05-3522-05	FUSE (5ENR)	
		*	F05-7026-05	FUSE (UL)	
		*	F05-3523-05	FUSE	
		*	H01-7627-04	ITEM CARTON CASE	
		*	H10-3416-02	POLYSTYRENE FRAMED FIXTURE	
		*	H10-3417-02	POLYSTYRENE FRAMED FIXTURE	
		*	H25-0225-04	PROTECTION BAG (850X450X0.03)	
		*	H25-0232-04	PROTECTION BAG (235X350X0.03)	
		*	J02-0127-05	FRONT	
		*	J02-0156-05	FRONT	
		*	J02-0156-05	FRONT	
		*	J11-0096-05	WIRE CLAMPER	
		*	J42-0083-05	POWER CORD BUSHING	
		*	J61-0307-05	WIRE BAND	
		*	K29-1984-04	KNB (SPEAKERS LEVEL CONTRL)	
		*	K29-2685-14	KNB ASSY (BUTTON) METER RANGE	
		*	K29-2724-04	KNB ASSY (BUTTON) POWER	
		*	L01-7991-05	POWER TRANSFORMER	
		*	L01-7992-05	POWER TRANSFORMER	
		*	L01-7995-05	POWER TRANSFORMER	
		*	L01-7997-05	POWER TRANSFORMER	
		*	N08-0128-35	BINDING POST (GND)	
		*	N09-1445-05	SET SCREW (M3X8)	
		*	N29-0035-05	PUSH RIVET (3.5X5.5)	

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

 indicates safety critical components

Ref. No.	参照番号
36	-
37	51
38	51
39	51
40	51
41	51
42	51
43	51
44	51
45	51
46	51
47	51
48	51
49	51
50	51
51	51
52	51
53	51
54	51
55	51
56	51
57	51
58	51
59	51
60	51
61	51
62	51
63	51
64	51
65	51
66	51
67	51
68	51
69	51
70	51
71	51
72	51
73	51
74	51
75	51
76	51
77	51
78	51
79	51
80	51
81	51
82	51
83	51
84	51
85	51
86	51
87	51
88	51
89	51
90	51
91	51
92	51
93	51
94	51
95	51
96	51
97	51
98	51
99	51
100	51

E: Scandine
U: PX(Far E
U: AAFES

PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
Les articles non mentionnes 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	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
36	1B	*	S90-0104-05 S59-1083-05 S59-1084-05 S40-1073-05 S40-1074-05	REMOTE WIRE (SPEAKERS) THERMAL SWITCH THERMAL SWITCH PUSH SWITCH (POWER) PUSH SWITCH (POWER)	UMILE KPXE XE KPIUMILE	

AUDIO UNIT (X09-2540-10)

C1 .2			CE04KWDJ102M	ELECTR0	1000UF	6.3WV		
C3 .4			CO09FS1H101JZS	POLYSTY	100PF	J		
C5 .6			CC45FSL1H050C	CERAMIC	5.0PF	C		
C9 .10			C91-0174-05	POLYSTY	47PF	K		
C11 .12			CE04KWDJ1020M	ELECTR0	22UF	16WV		
C13 .14			CO09FS1H101JZS	POLYSTY	100PF	J		
C15 -18			CE04KWD2A010M	ELECTR0	1.0UF	100WV		
C19 -22			CE04KWD1H010M	ELECTR0	1.0UF	50WV		
C23 .24			CK45FB2H102K	CERAMIC	1000PF	K		
C25 .26			CK45FB1H471K	CERAMIC	470PF	K		
C27 -30			CF92FV1H683J	MF	0.068UF	J		
C31 .32			CF92FV1H334J	MF	0.33UF	J		
C33 -36			CF92FV1H104J	MF	0.10UF	J		
C37 -40			CK45FB1H472Z	CERAMIC	4700PF	Z		
C49 -52			C91-0751-05	CERAMIC	330PF	K		
C53 -56			CF92FV1H392J	MF	3900PF	J		
C57 -64			C91-0753-05	CHIP C	470PF	K		
C65 .66			CF92FV1H153J	MF	0.015UF	J		
C101.102			C90-0572-05	ELECTR0	8200UF	80WV		
C103.104			C90-0538-05	ELECTR0	7500UF	56WV		
C105-108			CK45FE2H103P	CERAMIC	0.010UF	P		
C122			CE04KWD1C470M	ELECTR0	47UF	16WV		
C123			CE04KWD1V4R7M	ELECTR0	4.7UF	35WV		
C124			CF92FV1H223J	MF	0.022UF	J		
C125			C90-1353-05	NP-ELEC	10UF	25WV		
C126			CE04KWD1C220M	ELECTR0	22UF	16WV		
C127.128			CE04KWD2A101M	ELECTR0	100UF	100WV		
C129.130			CE04KWD1V100M	ELECTR0	10UF	35WV		
C131.132			CF92FV1H103J	MF	0.010UF	J		
C133.134			C90-1335-05	NP-ELEC	4.7UF	50WV		
C136			CE04KWD1H470M	ELECTR0	47UF	50WV		
C137.138			CE04KWD2A220M	ELECTR0	22UF	100WV		
40	1B.1B		E23-0149-05	TERMINAL				
E2	1C		E20-0828-05	SCREW TERMINAL BOARD(SPEAKERS)				
44	1B.1C		F29-0042-05	INSULATING WASHER				
L1 .2			L39-0080-15	PHASE-COMPENSATION CNIL				
6	1C		N09-0333-05	TAPPING SCREW (Ø3X12)				
H	1C		N09-1236-05	TAPPING SCREW (Ø3X16)				
CP1 .2		*	R90-0187-05	MULTI-COMP	0.22X2	K 5W		
R5 .6			RN14BK2C1472FTS	RN	14.7K	F 1/6W		
R13 -20			RD14AB2E100JTS	FL-PR00F RD	10	J 1/4W		
R33 -36			RD14AB2E681JTS	FL-PR00F RD	680	J 1/4W		
R39 -42			RD14AB2E101JTS	FL-PR00F RD	100	J 1/4W		
R43 .44			RS14DB3D100JTE	FL-PR00F RS	10	J 2W		
R47 .48			RD14AB2E4R7JTS	FL-PR00F RD	4.7	J 1/4W		
R49 .50			RD14AB2E330JTS	FL-PR00F RD	33	J 1/4W		

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

Δ 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.
Teile ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
R51 .52			RS14DB3D100JTE	FL-PR00F RS 10	J 2W	
R71 -74			RD14AB2E101JTS	FL-PR00F RD 100	J 1/4W	
R75 -78			RD14AB2E471JTS	FL-PR00F RD 470	J 1/4W	
R79 -82			RD14AB2E221JTS	FL-PR00F RD 220	J 1/4W	
R87 -96			RD14AB2E331JTS	FL-PR00F RD 330	J 1/4W	
R87 -90			RD14AB2E561JTS	FL-PR00F RD 560	J 1/4W	
R91 -94			RD14AB2E151JTS	FL-PR00F RD 150	J 1/4W	
R95 -98			RD14AB2E102JTS	FL-PR00F RD 1.0K	J 1/4W	
R99 -102			RD14AB2E271JTS	FL-PR00F RD 270	J 1/4W	
R103-106			RD14AB2E150JTS	FL-PR00F RD 15	J 1/4W	
R170			RS14DB3D391JTE	FL-PR00F RS 390	J 2W	
R171.172			RD14AB2E100JTS	FL-PR00F RD 10	J 1/4W	
R173			RD14AB2E102JTS	FL-PR00F RD 1.0K	J 1/4W	
R174			RD14AB2E621JTS	FL-PR00F RD 620	J 1/4W	
R177			RD14AB2E271JTS	FL-PR00F RD 270	J 1/4W	
R185			RD14AB2E102JTS	FL-PR00F RD 1.0K	J 1/4W	
R186			RD14AB2E4R7JTS	FL-PR00F RD 4.7	J 1/4W	
R187.188			RD14AB2E100JTS	FL-PR00F RD 10	J 1/4W	
V81 .2			R12-0108-05	TRIMMING PRT. (IDLE)		
K1			S51-2045-05	MAGNETIC RELAY		
51	1B		S90-0062-05	SLIDE SWITCH (SPEAKERS)		
D1 .2			MA270(A)	VARISTOR		
D3 -6			1SS133	DIODE		
D3 -6			1SS176	DIODE		
D7 -10			HZ55.15(B2)	ZENER DIODE		
D7 -10			RD5.15(B2)	ZENER DIODE		
D11 -14			RU4Z	DIODE		
D15 -18			1SS133	DIODE		
D15 -18			1SS176	DIODE		
D19 .20			E-202	CONSTANT CURRENT DIODE		
D58			DSM1A1	DIODE		
D59 .60			1SS131	DIODE		
D59 .60			1SS178	DIODE		
D61 .62			HZ522S(B)	ZENER DIODE		
D61 .62			RD22JS(B)	ZENER DIODE		
D63 .64			HZ55.15(B2)	ZENER DIODE		
D63 .64			RD5.15(B2)	ZENER DIODE		
D65			1SS131	DIODE		
D65			1SS178	DIODE		
D66 .67			DSFB20A1	DIODE		
IC1 .2			1A2030	IC (L/R/HI SWITCHING)		
IC3			UP01237HA	IC (POWER AMP)		
01 .2		*	2SC2922*5	TRANSISTOR		
03 .4			2SA1216*5	TRANSISTOR		
05 .6			2SC3284*5	TRANSISTOR		
07 .8			2SA1303*5	TRANSISTOR		
09 .10			2SC2631(R.S)	TRANSISTOR		
011 .12			2SA1123(R.S)	TRANSISTOR		
013 .14			2SC3419(Y)	TRANSISTOR		
015 .16			2SA1123(R.S)	TRANSISTOR		
017 .18			2SC2631(R.S)	TRANSISTOR		
019 .20			2SA733(A)(O.P)	TRANSISTOR		
021 -24			2SC945(A)(O.P)	TRANSISTOR		
025 .26			2SA733(A)(O.P)	TRANSISTOR		

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

Δ 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.

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	Desti- nation 仕向	Re- marks 備考
Q27 ,28 Q29 ,30 Q31 ,32 Q33 ,34 Q109,110			2SC3944(R,S) 2SA1535(R,S) 2SC3940A(R,S) 2SA1534A(R,S) 2SC2167	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
Q111 Q112,113 Q112,113			2SA1123(R,S) 2SC2320(E,F) 2SC945(A) (Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR		
DISPLAY UNIT (X25-3080-10)						
D6 C1 ,2 C3 ,4 C5 -8 C9 ,10 C50	1R		R30-1012-05 CC45FSL1H101J CC45FSL1H151J C90-1350-05 CE04KW1V4R7M CE04KW1H471M	LED(SLP-981C-50)POWER IND. CERAMIC 100PF J CERAMIC 150PF J NP-ELEC 2.2UF 50WV ELECTRO 4.7UF 35WV ELECTRO 470UF 50WV		
C51 C52 C53 C54 C55			CE04KW1H470M CE04KW1V470M CE04KW1E101M CE04KW1V100M CE04KW1C220M	ELECTRO 47UF 50WV ELECTRO 47UF 35WV ELECTRO 100UF 25WV ELECTRO 10UF 35WV ELECTRO 22UF 16WV		
C56 C56			C91-0023-05 C91-0647-05	CERAMIC 0.01UF AC250V CERAMIC 0.01UF P	UMUE KPXE	
E1 48 48	1C 1C 1C		E13-0235-05 J13-0041-05 J13-0054-05	PHONE JACK (2P) INPUT FUSE CLIP FUSE CLIP	KPUMUE XE	
R50 R51 ,52 VR1 ,2 VR5 ,6	2B	* *	RD14GB2E100JTS RD14GB2E122JTS R01-4036-05 R12-1089-05	FL-PROOF RD 10 J 1/4W FL-PROOF RD 1.2K J 1/4W POTENTIOMETER(50KB)LEVEL TRIMMING POT. (4.7KB)		
S1 S2	2B 1C		S40-2361-05 S31-2115-05	PUSH SWITCH (METER RANGE) SLIDE SWITCH	UMUE	
D1 ,2 D1 ,2 D3 D4 D4			1SS133 1SS176 DSM1A1 HZS16N(B2) RD16ES(B2)	DIODE DIODE DIODE ZENER DIODE ZENER DIODE		
D5 D5 FL1 ,2 IC1 Q1 ,2 Q1 Q10	2B		HZS5.6N(B2) RD5.6ES(B2) FIP48AW14YS HA12067NT 2SC2320(E,F) 2SC945(A) (Q,P) 2SC2167(Y,G)	ZENER DIODE ZENER DIODE FLUORESCENT INDICATOR TUBE IC(FL DRIVER) TRANSISTOR TRANSISTOR TRANSISTOR		
POWER AMPLIFIER UNIT (X85-1090-10)						
C5 ,6 C7 ,8 C9 ,10 C11 -14 C15 ,16			CC45FSL1H470J CC45FSL1H271J CC45FSL1H330J CK45FF1H473Z CK45FB1H102K	CERAMIC 47PF J CERAMIC 270PF J CERAMIC 33PF J CERAMIC 0.047UF Z CERAMIC 1000PF K		
R13 ,14			RD14AB2E181JTS	FL-PROOF RD 180 J 1/4W		

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.

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	Desti- nation 仕 向	Re- marks 備考
R19 ,20 R35 -38			RS14DB3A822JTE RD14AB2E911JTS	FL-PROOF RS 8.2K J 1W FL-PROOF RD 910 J 1/4W		
D1 ,2 D1 ,2 Q1 ,2 Q3 -6 Q3 -6			1SS133 1SS176 UPA68HA(K,L) 2SC2320(E,F) 2SC945(A)(Q,P)	DIODE DIODE DUAL FET TRANSISTOR TRANSISTOR		
Q7 -10 Q7 -10 Q11 -14 Q15 ,16			2SA733(A)(Q,P) 2SA999(E,F) 2SC2632(Q,R,S) 2SA1124(Q,R,S)	TRANSISTOR TRANSISTOR TRANSISTOR 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.

SPECIFICATIONS

Power Output

125 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.008% total harmonic distortion

Maximum Continuous

Power Output (DIN)

at 1 kHz into 4 ohms 150 W

Dynamic Power

at 1 kHz into 4 ohms 240 W

Damping Factor

at 50 Hz into 8 ohms 1,000

Power Bandwidth

at 0.08% T.H.D. into 8 ohms .. 10 Hz to 75 kHz

Total Harmonic Distortion

20 Hz to 20 kHz 0.008% at rated power into
8 ohms

1 kHz 0.0008% at rated power into
8 ohms

Frequency Response 10 Hz to 100 kHz,
+0, -3 dB

Signal-to-Noise Ratio 120 dB

Input Sensitivity/Impedance

LINE IN 1 V/47 kohms

General

Power Consumption 4.5 A (U.S.A. and Canada)
270 W (Others)

Dimensions W 440 mm (17-5/16")
H 143 mm (5-5/8")
D 338 mm (13-5/16")

Weight (net) 9.8 kg (21.6 lb)

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

Kenwood poursuit une politique de progrès constants en ce qui concerne le développement. Pour cette raison, les spécifications sont sujettes à modifications sans préavis.

Kenwood strebt ständige, Verbesserungen in der Entwicklung an. Daher bleiben Änderungen der technischen Daten jederzeit vorbehalten.

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

KENWOOD ELECTRONICS BENELUX N.V.

Mechelsesteenweg 418 B-1930 Zaventem, Belgium

KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrucker-Str. 15, 6056 Heusenstamm, West Germany

TRIO-KENWOOD FRANCE S.A.

Hi-Fi·VIDEO·CAR Hi-Fi
13, Boulevard Ney, 75018 Paris, France

TRIO-KENWOOD U.K. LTD.

17 Bristol Road, The Metropolitan Centre, Greenford, Middx. UB6 8UP England

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.

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