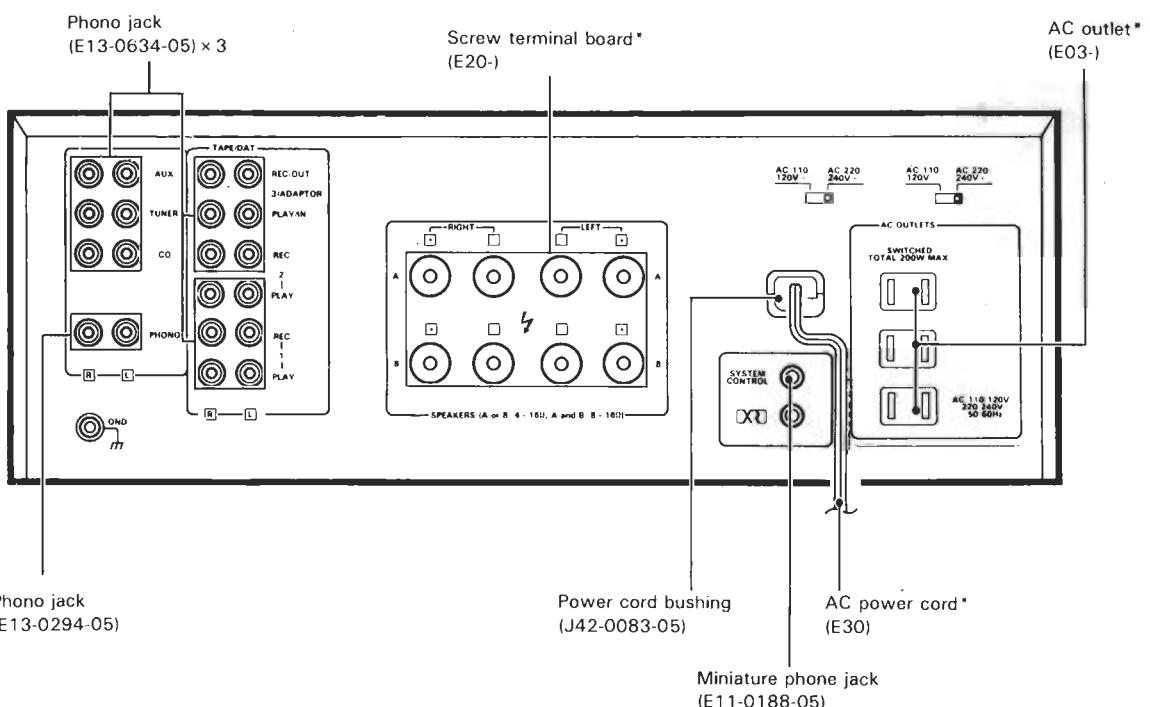
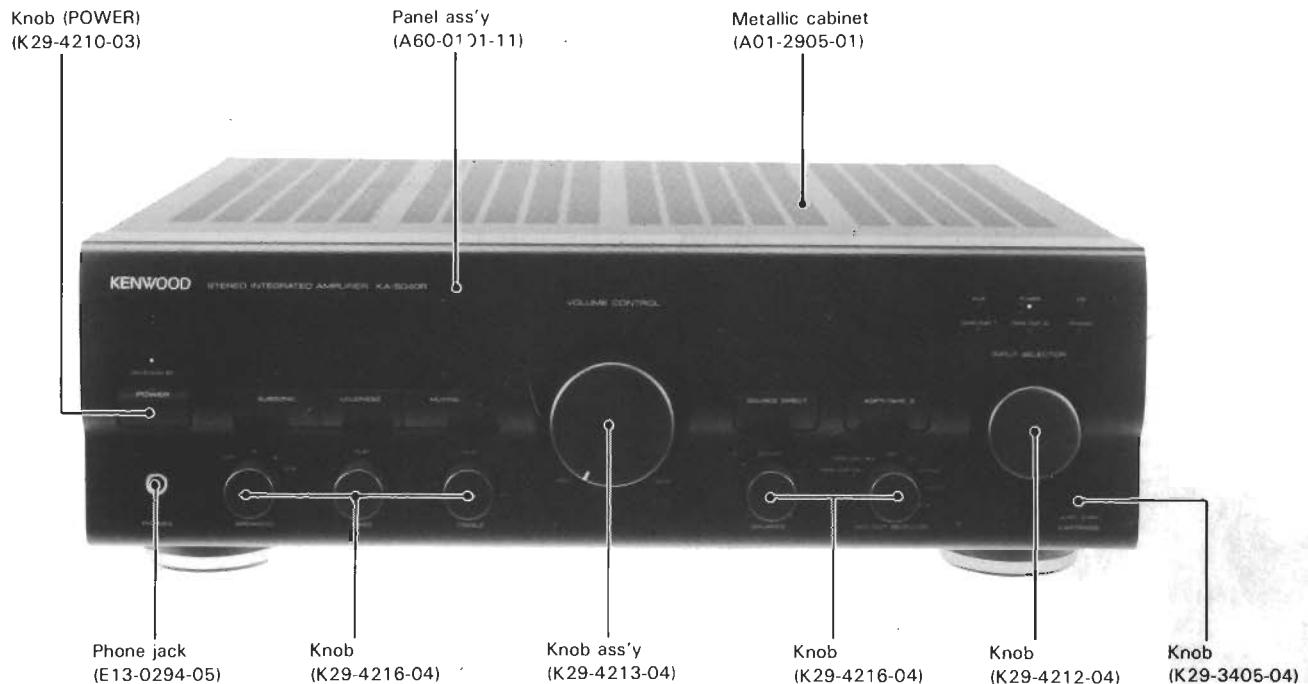


STEREO INTEGRATED AMPLIFIER

# KA-5040R

## SERVICE MANUAL

KENWOOD



\*Refer to parts list on page 29.

## REMOTE CONTROL OPERATION

**Operation keys for KENWOOD components connected by System Control cords**

**TUNER operation keys**

**TAPE A operation keys**

These keys perform the same operations as the corresponding keys on the cassette deck. However, operations requiring simultaneous pressing of two keys are not possible.

These keys are used for operating Deck A of a double-cassette deck.

**Numeric keys**

When the INPUT SELECTOR is set to TUNER:

These keys are used for specifying preset station numbers.

When the INPUT SELECTOR is set to CD:

These keys are used for direct tune selection.

**CD player operation keys**

When the INPUT SELECTOR is set to TUNER:

These keys are used for specifying preset station numbers.

When the INPUT SELECTOR is set to CD:

These keys are used for direct tune selection.

**INPUT SELECTOR keys**

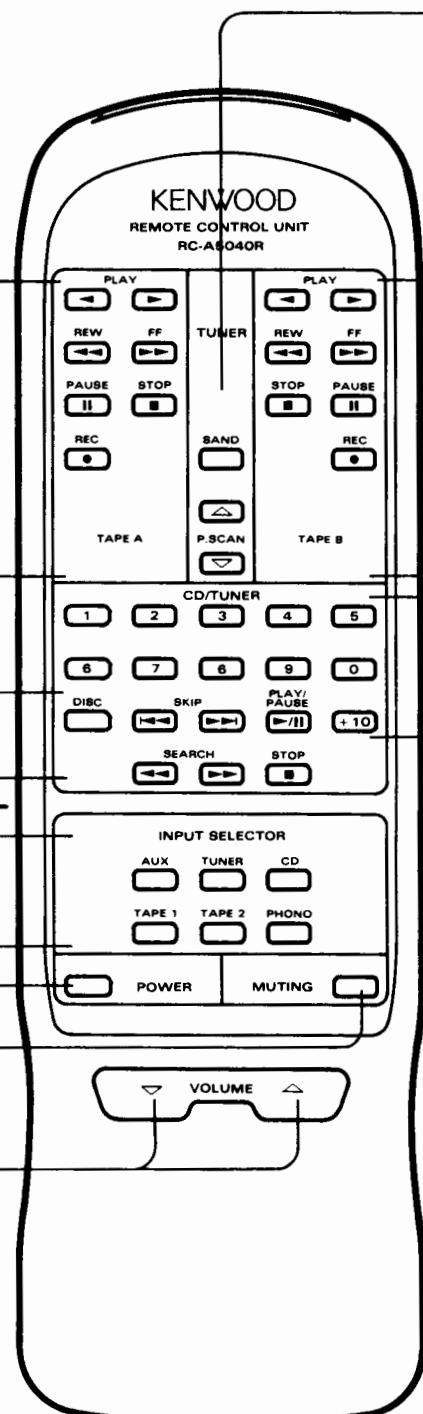
**POWER key**

**MUTING key**

**VOLUME UP  $\Delta$  DOWN  $\nabla$  keys**

**KA-5040R operation keys**

These keys have the same function as the corresponding keys on the main unit.



# KA-5040R

## CIRCUIT DESCRIPTION

### MICROPROCESSOR ( $\mu$ PD75104G-778)

#### 1. TEST MODE

##### 1.1 Test Mode Using Mainframe Keys

###### (1) Setting

Plug in while pressing the SOURCE DIRECT key.

###### (2) Contents

- Switch the power on so that all LED indicators go on. Operate all TACT keys and the rotary encoder to cancel all the LED indicators that go on. In the all-light mode, all the INPUT SELECTOR LED indicators do not go on at the same time. The next SELECTOR LED indicator goes on approximately 100 ms after one SELECTOR LED indicator goes on in the same order as during input selector selection using the rotary encoder, because the output current exceeds the absolute maximum rating when all the INPUT SELECTOR LED indicators go on, since each LED indicator is directly driven by a microcomputer.
- When the LOUDNESS key is pressed while the test mode is set with a mainframe key , The electromotive VOLUME decreases. When the MUTING key is pressed, the VOLUME increases. The VOLUME stops when the SOURCE DIRECT key is pressed.

###### (3) Cancellation

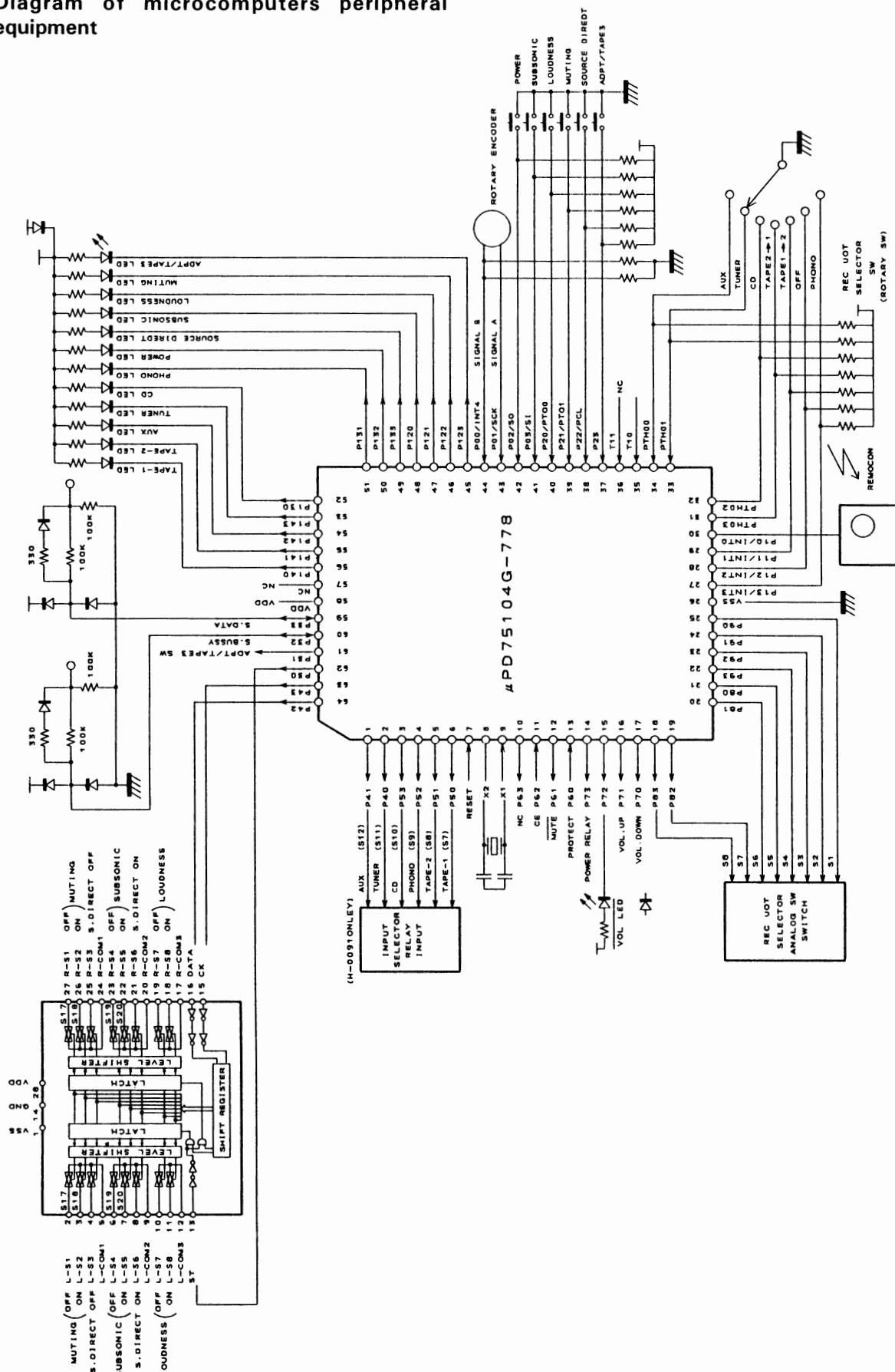
- Plug off. If there a backup function is to be used, plug off and destroy the backup check data when a test mode flag is set during backup operation.

#### 2. INITIALIZING

Insert the AC plug into a wall outlet while pressing the POWER key.

## CIRCUIT DESCRIPTION

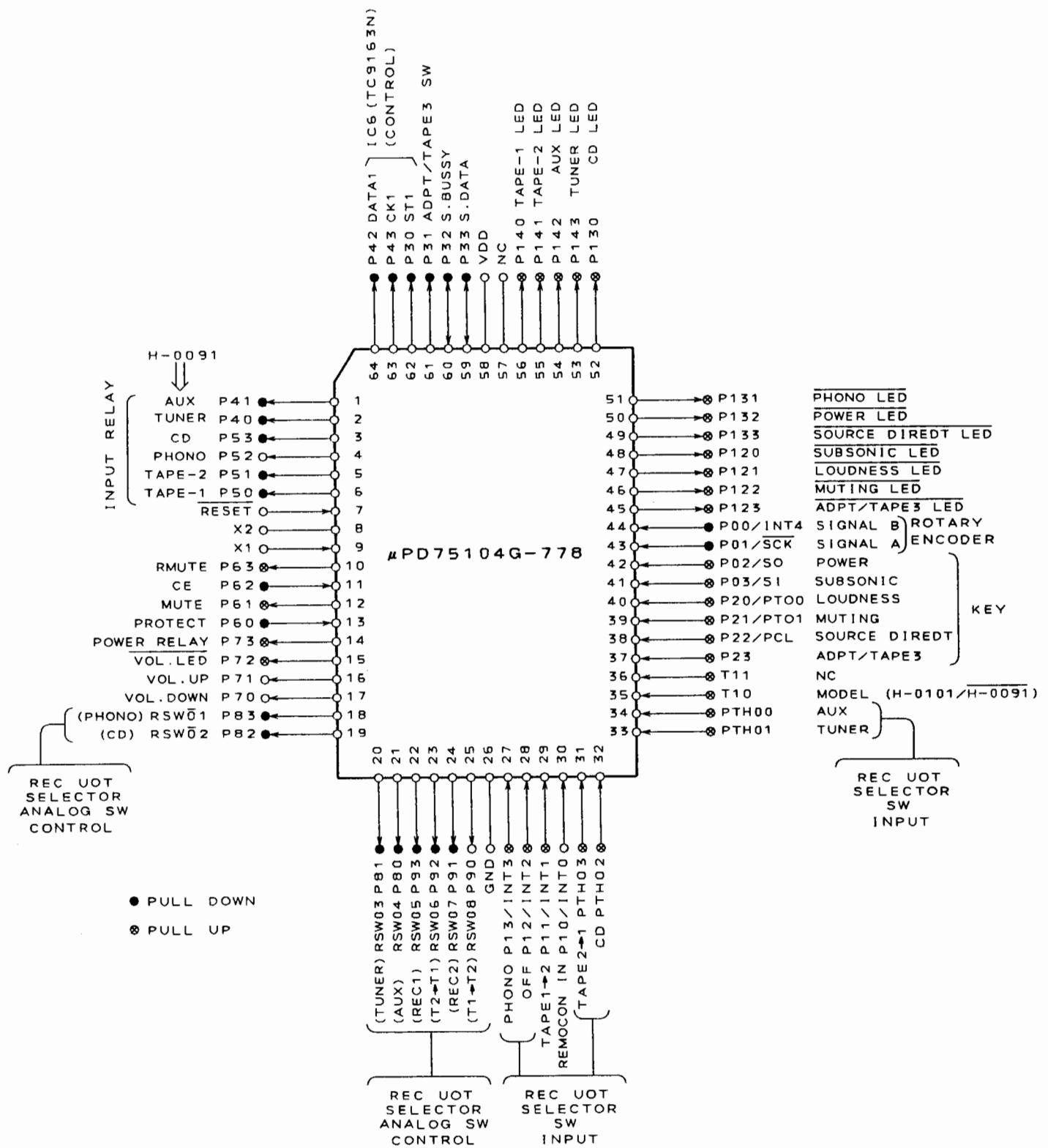
## 3. Diagram of microcomputers peripheral equipment



# KA-5040R

## CIRCUIT DESCRIPTION

### 4. PIN CONNECTIONS



**CIRCUIT DESCRIPTION****5. PIN FUNCTIONS**

Pin No.	Pin name	I/O	Name	Description
1	P41	O	SRAUX	AUX SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
2	P40	O	SRTUNER	TUNER SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
3	P53	O	SRCD	CD SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
4	P52	O	SRPHONO	PHONO SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
5	P51	O	SRTAPE2	TAPE2 SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
6	P50	O	SRTAPE1	TAPE1 SELECTOR RELAY control pin (high when active). Outputs a low signal in the backup mode.
7	RESET	I		Microcomputer reset input pin.
8	X2	O		Ceramic connection pin for microcomputer system
9	X1	I		clock oscillation (4.19 MHz).
10	P63	O	RMUTE	Unused. Enters the input mode during backup.
11	P62	I	/CE	Backup state detection pin (low when active). Enters the input mode during backup.
12	P61	O	MUTE	Mute signal output pin (high when active). Enters the input mode during backup.
13	P60	I	PROTECT	Protect state detection pin (high when active). The POWER LED indicator blinks when a high signal is input to this pin during the power-on sequence. Enters the input mode during backup.
14	P73	O	POWER RELAY	POWER RELAY control pin. POWER ON: High POWER OFF: Low Enters the input mode during backup.
15	P72	O	VOL. LED	Volume index LED control pin. Goes on: Low Goes off: High Enters the input mode during backup.
16	P71	O	VOL. UP	Electromotive volume control Up signal output pin. Volume control Up: High Except volume control Up: Low Enters the input mode during backup.
17	P70	O	VOL. DOWN	Electromotive volume control Down signal output pin. Volume control Down: High Except volume control Down: Low
18~25	P83~P90	O	RSW08~RSW01	Control signal output pin of REC OUT SELECTOR analog switch (high when active). Outputs a signal according to the REC Out selector state as shown on the attached sheet. Outputs a low signal in the back-up mode.
26	Vss		GND	Microcomputer GND pin.
27	P13/INT3	I	RSWI (PHONO)	REC out selector state setting input pin (PHONO). (Low when active.)
28	P12/INT2	I	RSWI (OFF)	REC out selector state setting input pin (OFF). (Low when active.)
29	P11/INT1	I	RSWI (TAPE1→2)	REC out selector state setting input pin (TAPE1→TAPE2). (Low when active.)

## CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Name	Description
30	PIO/INIT0	I	REMOCON IN	Remote control signal input pin.
31	PTH03	I	RSWI (TAPE2→1)	REC out selector state setting input pin (TAPE2 → TAPE1). (Low when active.)
32	PTH02	I	RSWI (CD)	REC out selector state setting input pin (CD). (Low when active.)
33	PTH01	I	RSWI (TUNER)	REC out selector state setting input pin (TUNER). (Low when active.)
34	PTH00	I	RSWI (AUX)	REC out selector state setting input pin (AUX). (Low when active.)
35	TIO	I		Unused.
36	TI1	I		Unused.
37	P23	I	KEYIN (ADPT/TAPE3)	ADPT/TAPE3 key input pin (low when active). Enters the input mode during backup.
38	P22/PCL	I	KEYIN (SOURCE DIRECT)	SOURCE DIRECT key input pin (low when active). Enters the input mode during backup.
39	P21/PTO1	I	KEYIN (MUTING)	MUTING key input pin (low when active). Enters the input mode during backup.
40	P20/PTO0	I	KEYIN (LOUDNESS)	LOUDNESS key input pin (low when active). Enters the input mode during backup.
41	PO3/SI	I	KEYIN (SUBSONIC)	SUBSONIC key input pin (low when active).
42	PO2/SO	I	KEYIN (POWER)	POWER key input pin (low when active). Enters the input mode during backup.
43	PO1/SCK	I	REI A	ROTARY ENCODER A signal input pin. Enters the input mode during backup.
44	PO0/INT4	I	REI B	ROTARY ENCODER B signal input pin.
45	PI23	O	ADPT/TAPE23 LED	ADPT/TAPE3 LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
46	PI22	O	MUTING LED	MUTING LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
47	PI21	O	LOUDNESS LED	LOUDNESS LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
48	P120	O	SUBSONIC LED	SUBSONIC LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
49	P133	O	SOURCE DIRECT LED	SOURCE DIRECT LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
50	PI32	O	POWER LED	POWER LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
51	PI31	O	PHONO LED	PHONO LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
52	PI30	O	CD LED	CD LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.

## CIRCUIT DESCRIPTION

Pin No.	Pin name	I/O	Name	Description
53	PI43	O	TUNER LED	TUNER LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
54	PI42	O	AUX LED	AUX LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
55	PI41	O	TAPE2 LED	TAPE1 LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
56	PI40	O	TAPE1 LED	TAPE1 LED control pin (low when active). No pull-up resistor is incorporated by a mask option. Enters the input mode during backup.
57	NC			
58	Vdd			Microcomputer power supply pin.
59	P33	I/O	SDATA	Serial communication SDATA signal input/output pin. Enters the input mode during backup.
60	P32	I/O	SBUSY	Serial communication SBUSY signal input/output pin. Enters the input mode during backup.
61	P31	O	ADPT/TAPE3	ADPT/TAPE3 analog switch control signal output pin. ADPT/TAPE3 ON: High ADPT/TAPE3 OFF: low Outputs a low signal in the backup mode.
62	P30	O	ST1	FUNCTION IC TC9163N ST signal output pin for MUTING, SUBSONIC, SOURCE DIRECT, and LOUDNESS. Usually set low. Outputs a low signal in the backup mode.
63	P43	O	CK1	FUNKTION IC TC9163N CK signal output pin for MUTING, SUBSONIC, SOURCE DIRECT, and LOUDNESS. Usually set low. Outputs a low signal in the backup mode.
63	P43	O	DATA1	FUCTION IC TC9163N DATA signal output pin for MUTING, SUBSONIC, SOURCE DIRECT, and LOUDNESS. Usually set low. Outputs a low signal in the backup mode.

# KA-5040R

## ADJUSTMENT/REGLAGE/ABGLEICH

### ADJUSTMENT

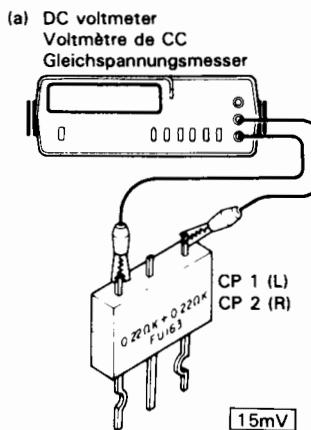
No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTING	ALIGNMENT POINTS	ALIGN FOR	FIG.
Unless otherwise specified, set the respective switches as follows: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
1	IDLE CURRENT	—	Connect a DC voltmeter across CP1 (L) CP2 (R) (X09-)	VOLUME: 0	VR1 (L) VR2 (R) (X09-)	15 mV (34 mA).	(a)

### REGLAGES

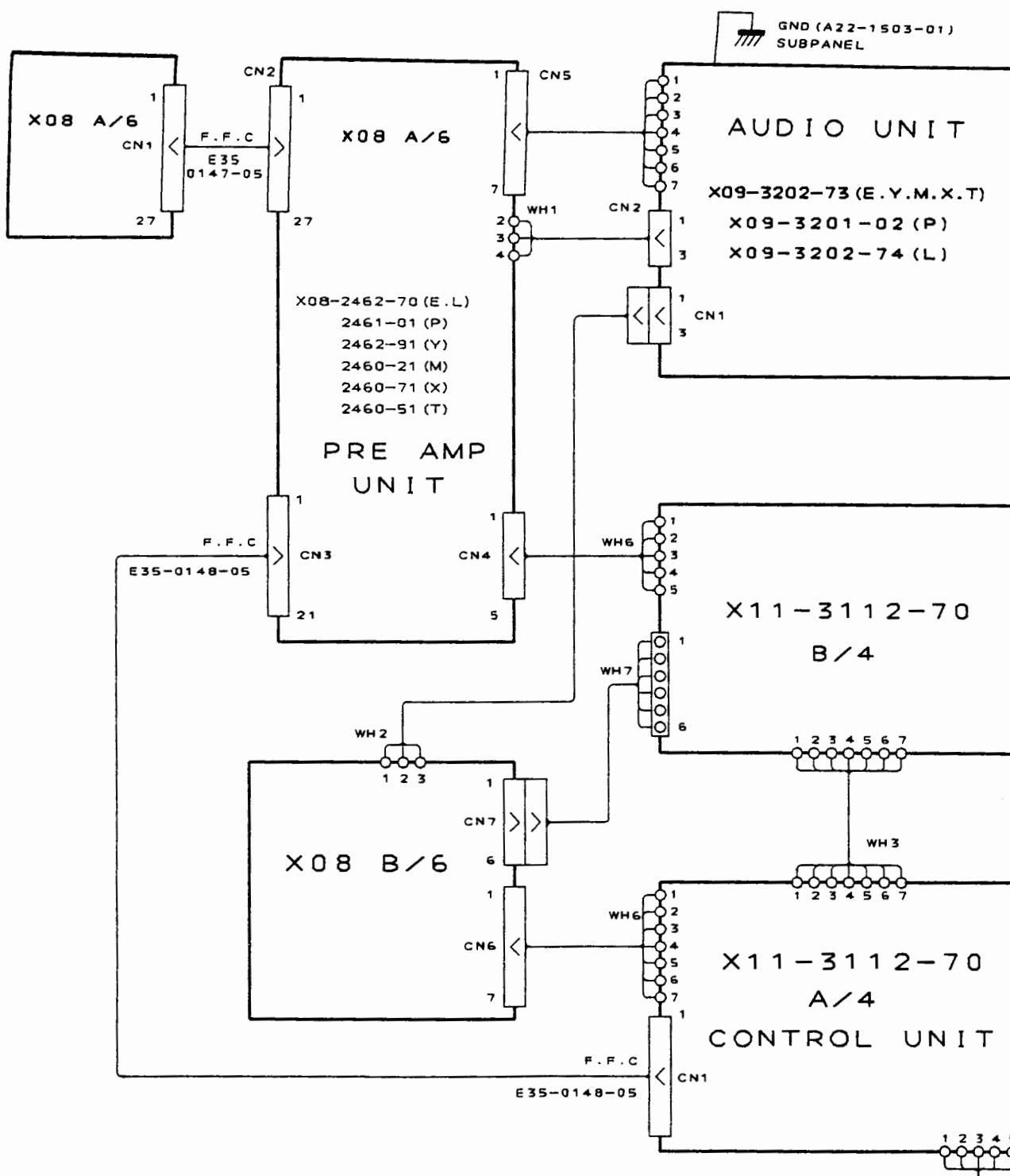
N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINTS DE L'ALIGNEMENT	ALIGNER POUR	FIG.
Sauf indication contraire, régler comme suit les commandes respectives: POWER:ON SPEAKER: B REC OUT: OFF SELECTOR:PHONO							
1	COURANT DE POLARISATION	—	Connecter un voltmètre de CC SUR CP1 (G) CP2 (D) (X09-)	VOLUME: 0	VR1 (G) VR2 (D) (X09-)	15 mV (34 mA).	(a)

### ABGLEICH

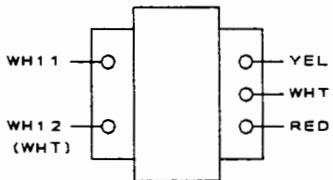
NR.	GENGENSTAND	EINGANGSEINSTELLUNG	AUSANGSEINSTELLUNG	VORSTÄRKEREINSTELLUNG	ABGLEICHE-PUNKTE	ABGLEICHEN FÜR	ABB.
Wenn nicht anders angegeben, die einzelnen Schalter wie folgt einstellen: POWER: ON SPEAKER: B REC OUT: OFF SELECTOR: PHONO							
1	- LEERLAUFSTROM	—	Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschließen. (X09-)	VOLUME: 0	VR1 (L) VR2 (R) (X09-)	15 mV (34 mA).	(a)



# WIRING D



# WIRING DIAGRAM



503-01)

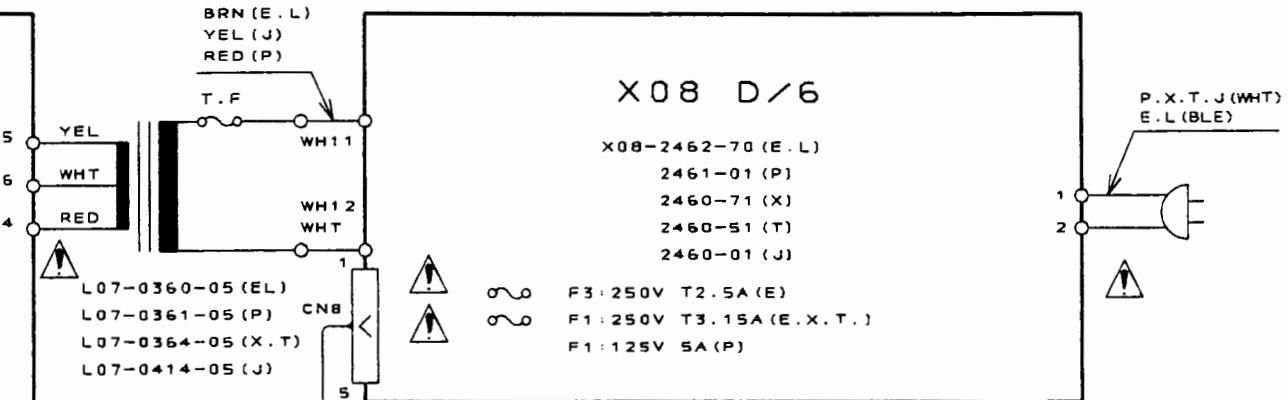
(E . L . P . X . T . TYPE )

UNIT

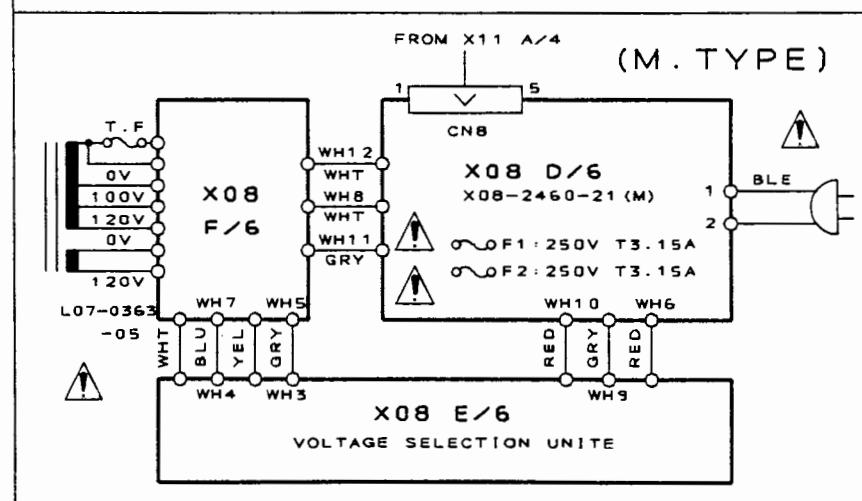
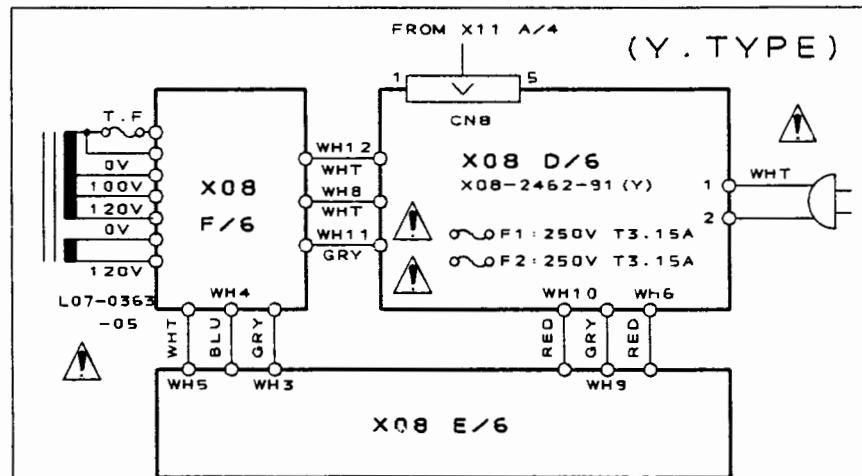
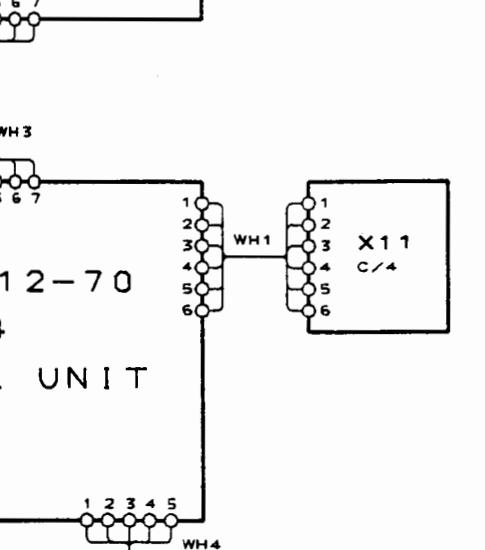
. Y . M . X . T )

02 (P)

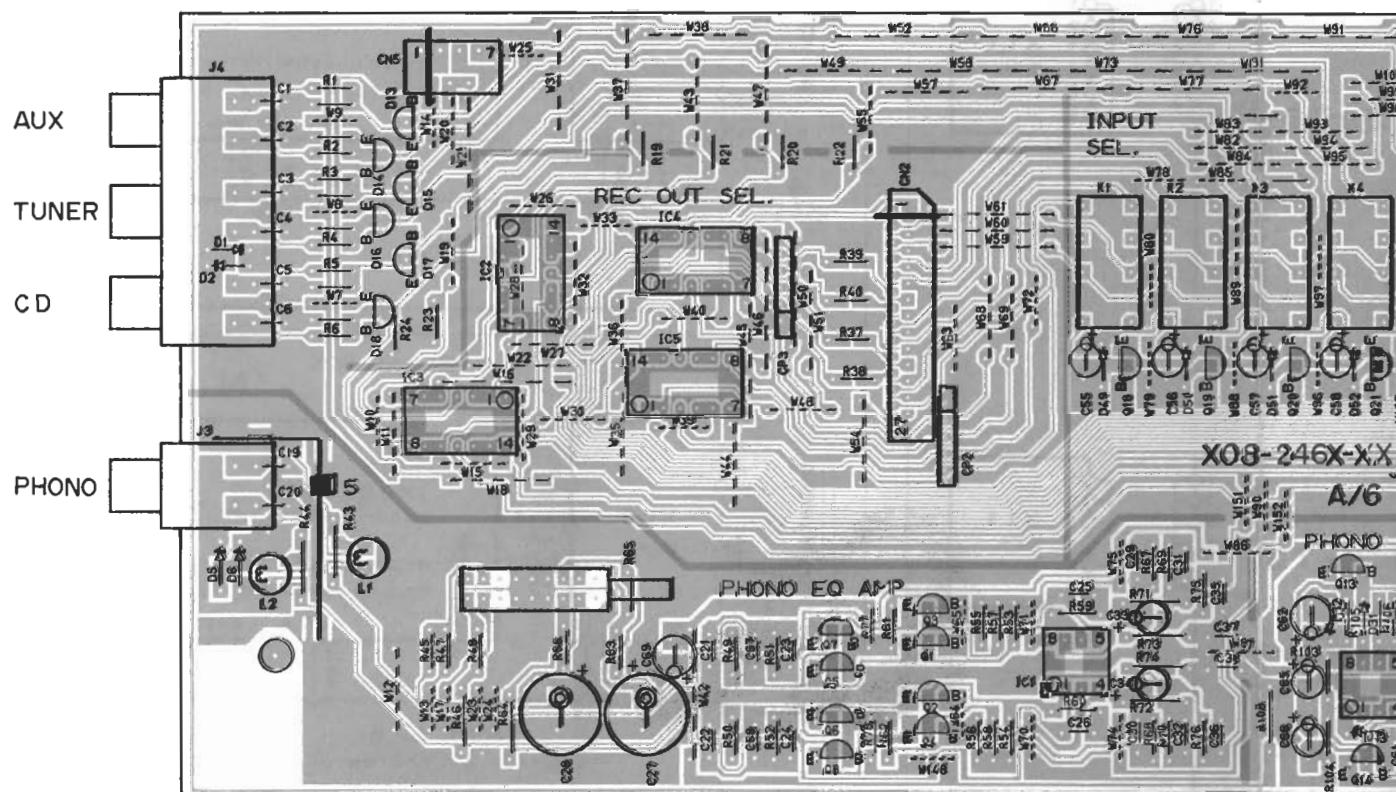
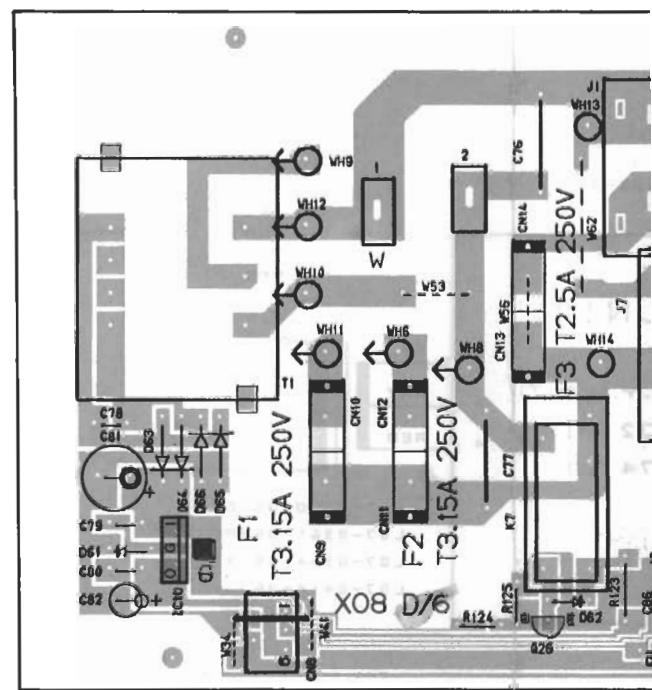
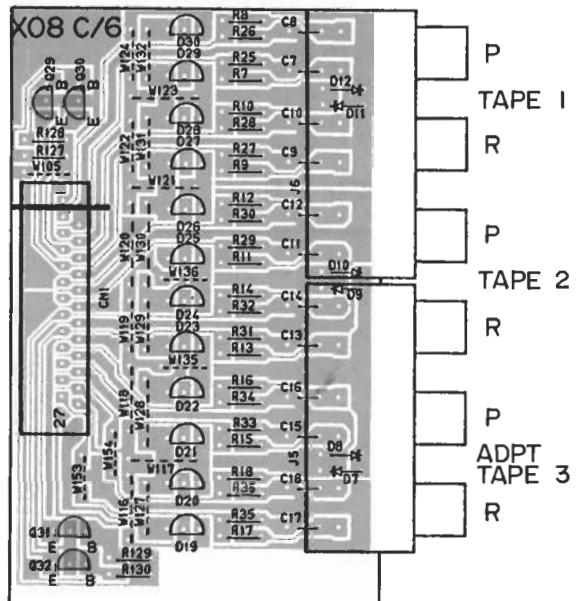
74 (L)

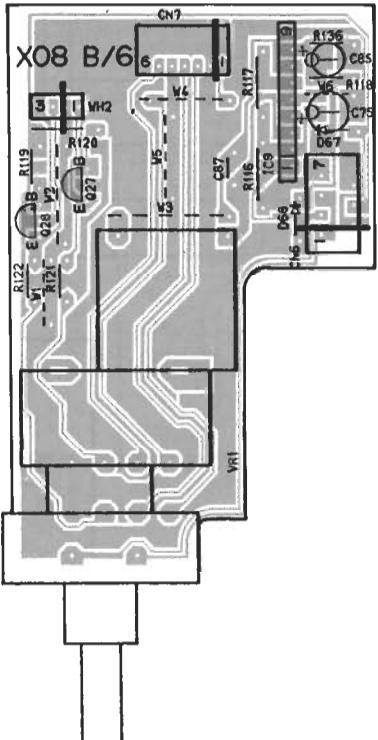
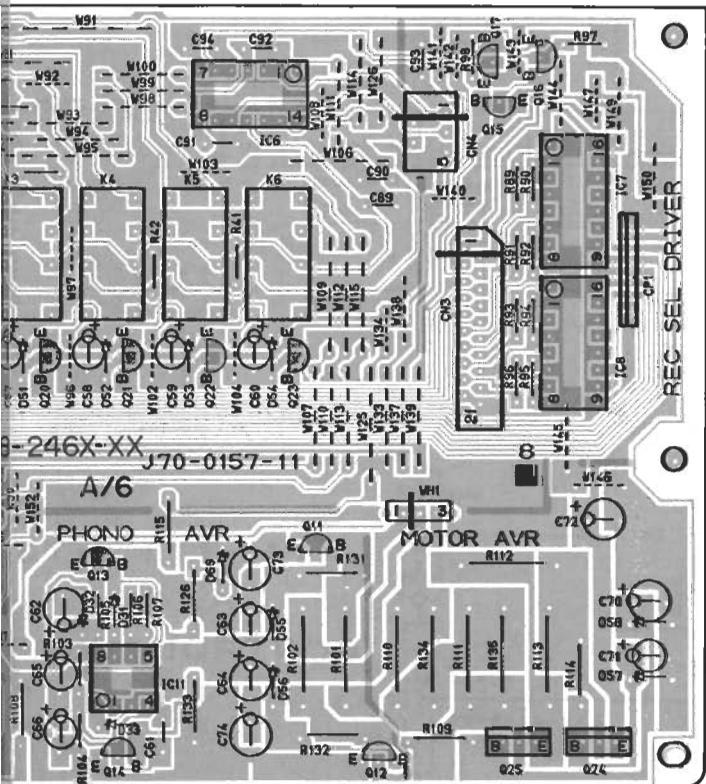
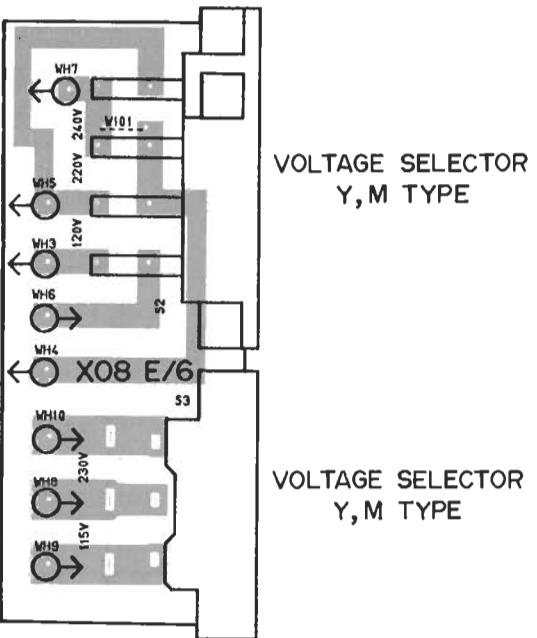
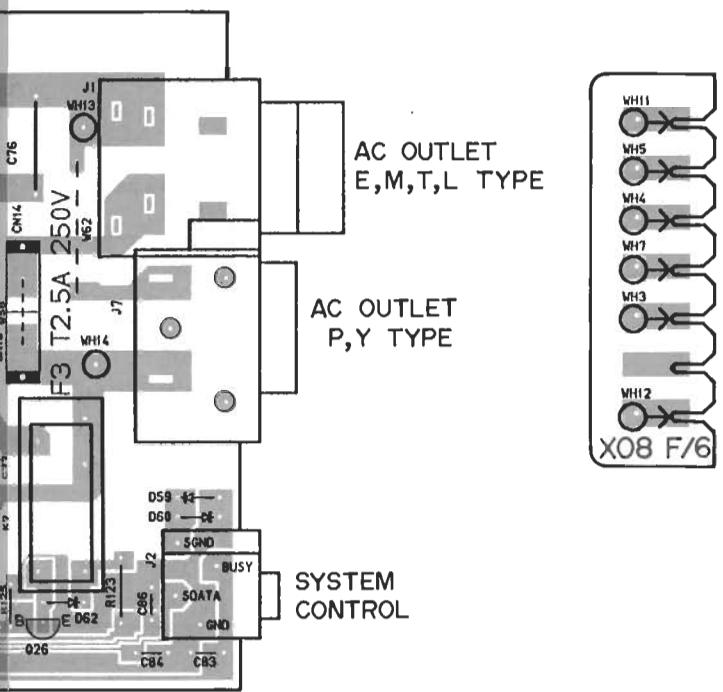


12-70



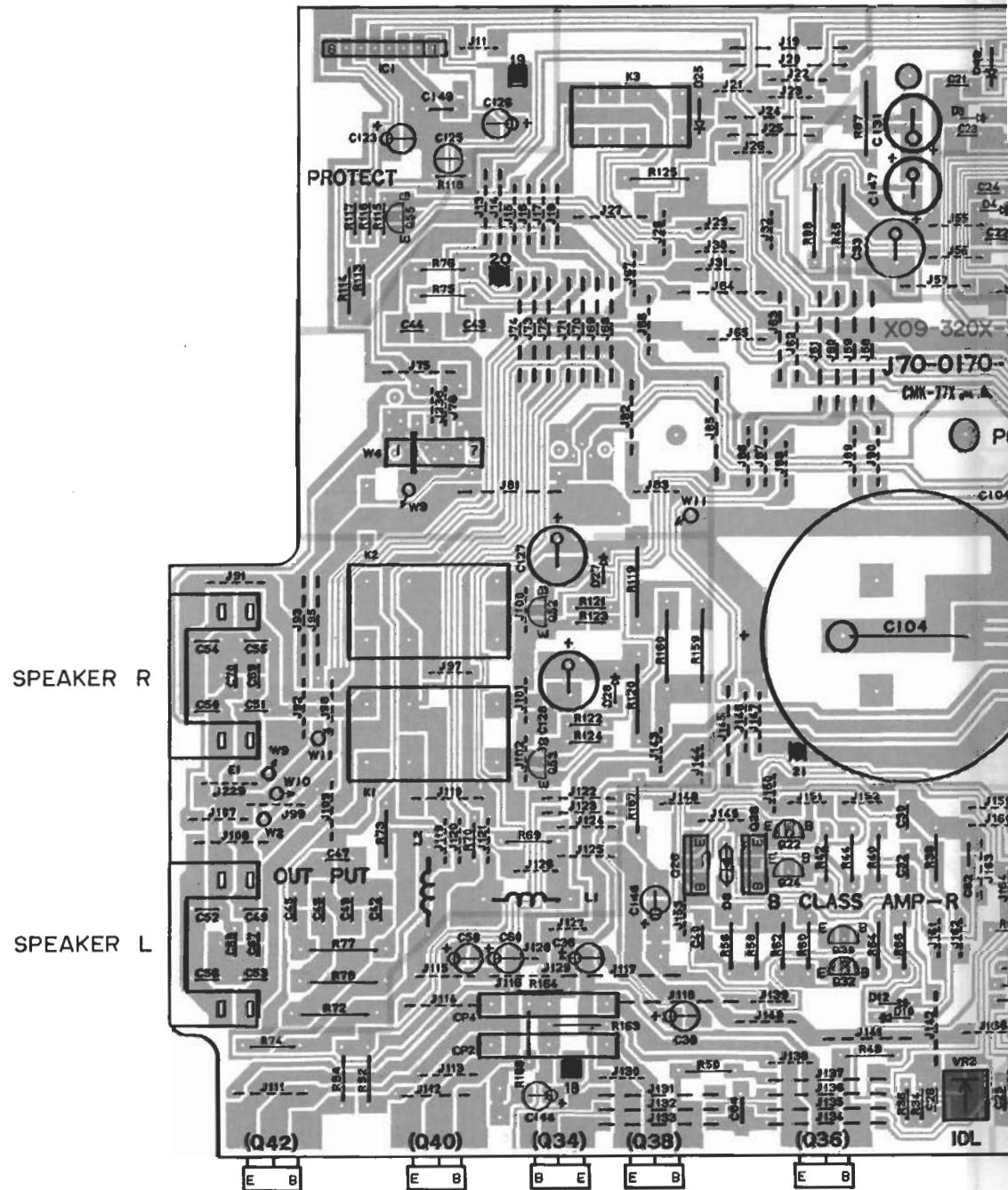
## **PC BOARD (Component side view)**

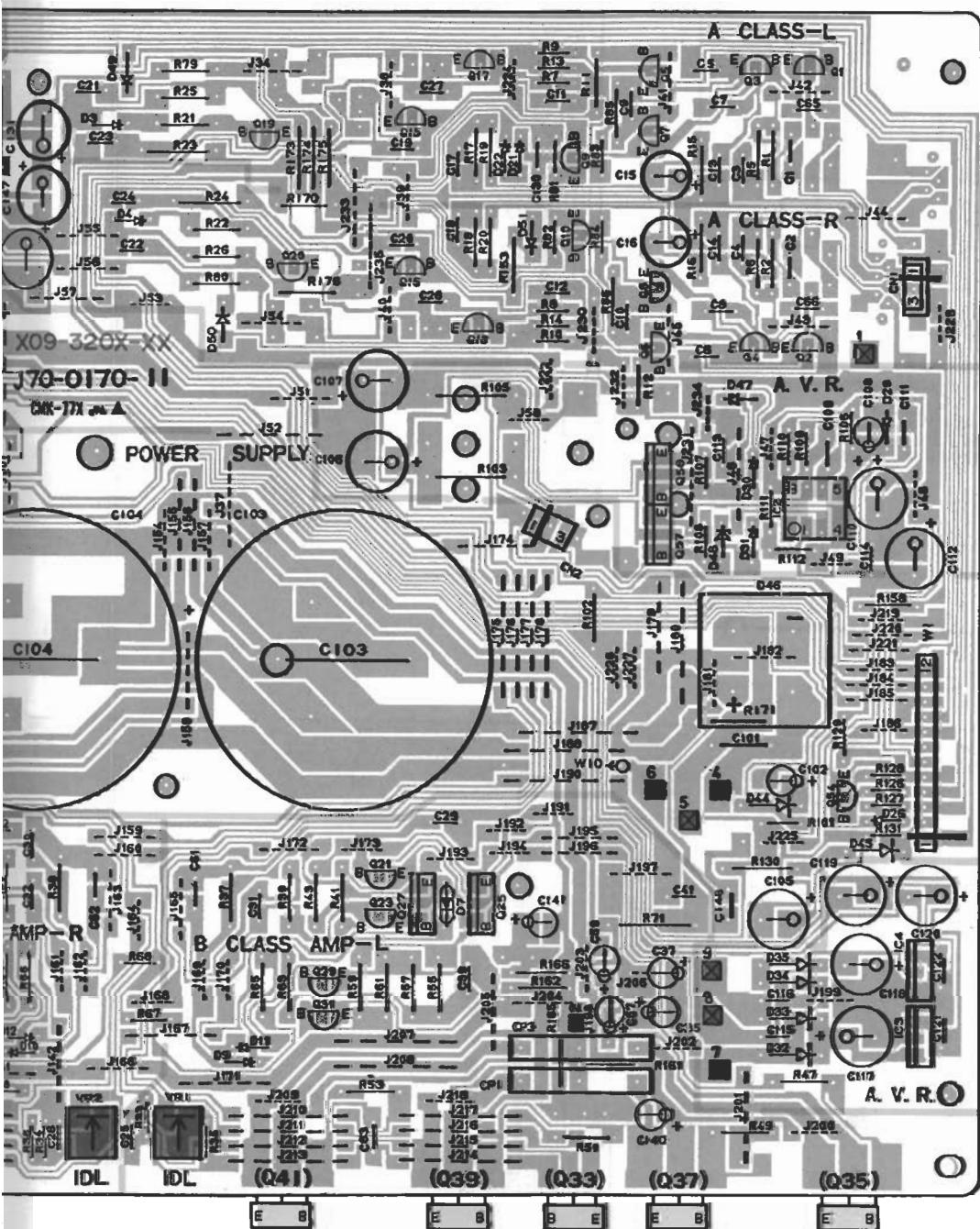




## VOLUME

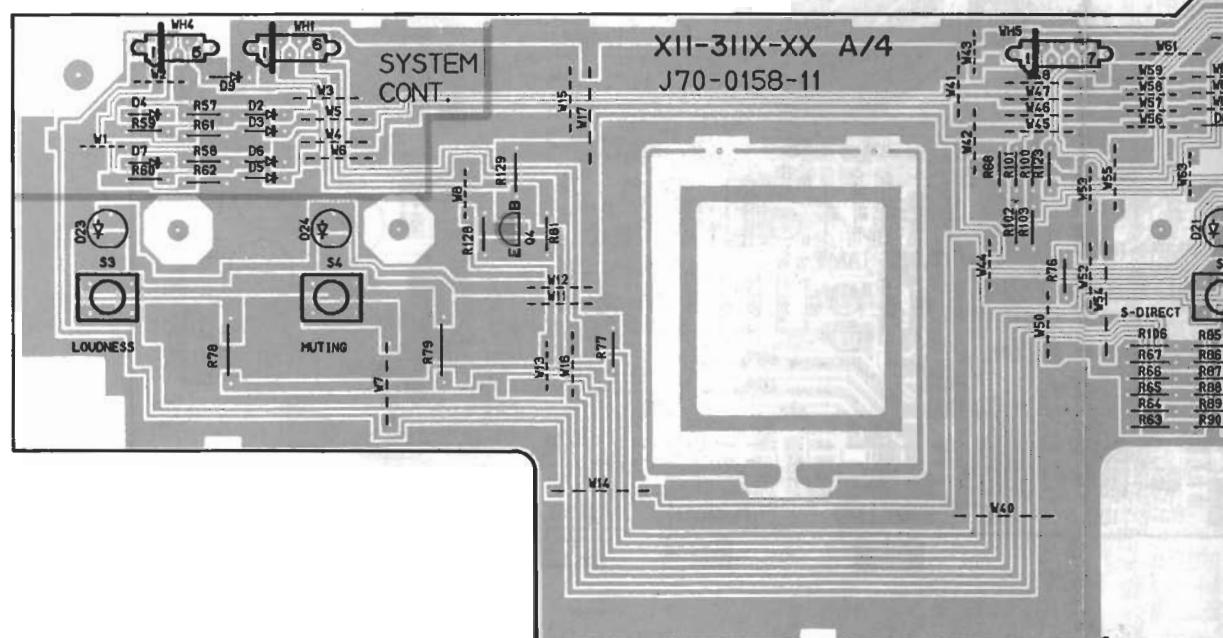
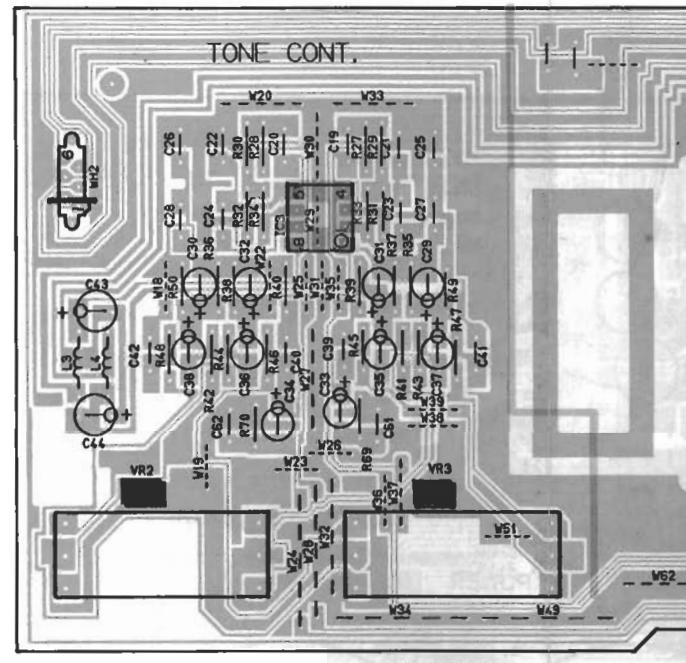
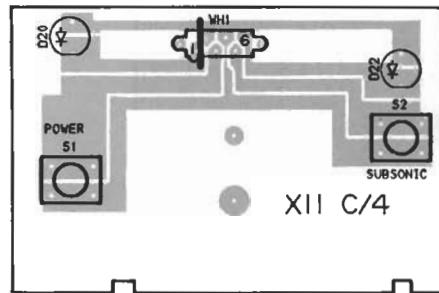
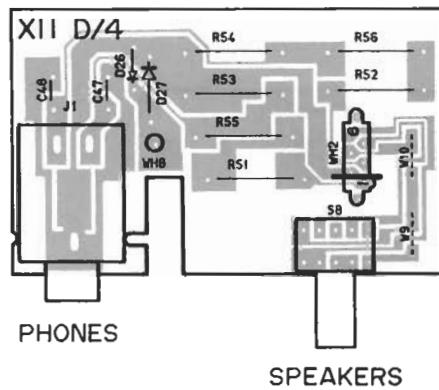
## **PC BOARD (Component side view)**

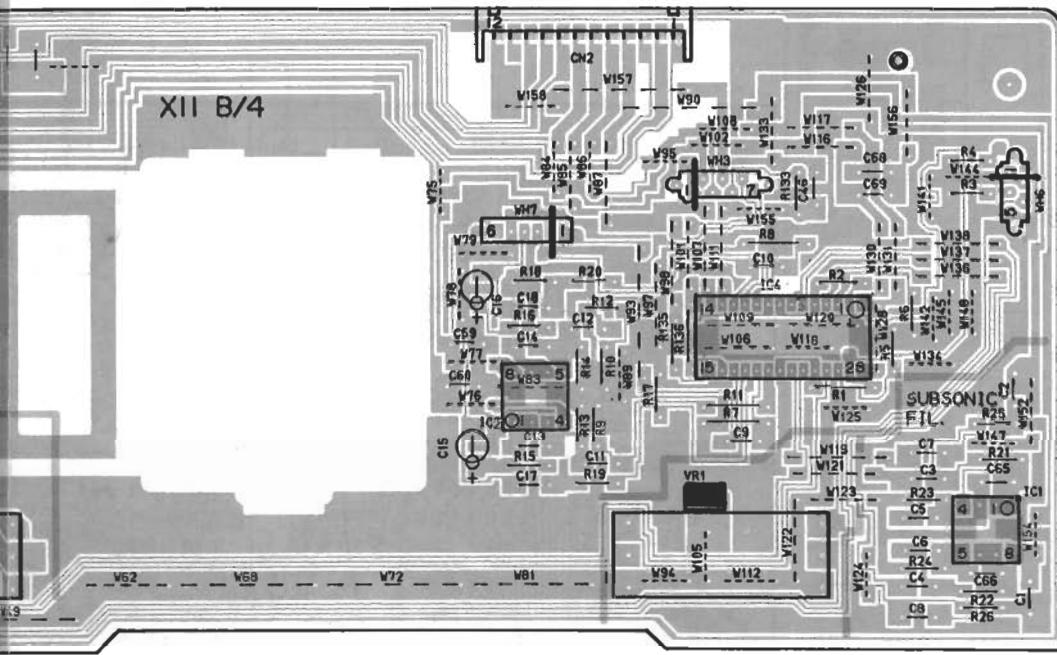




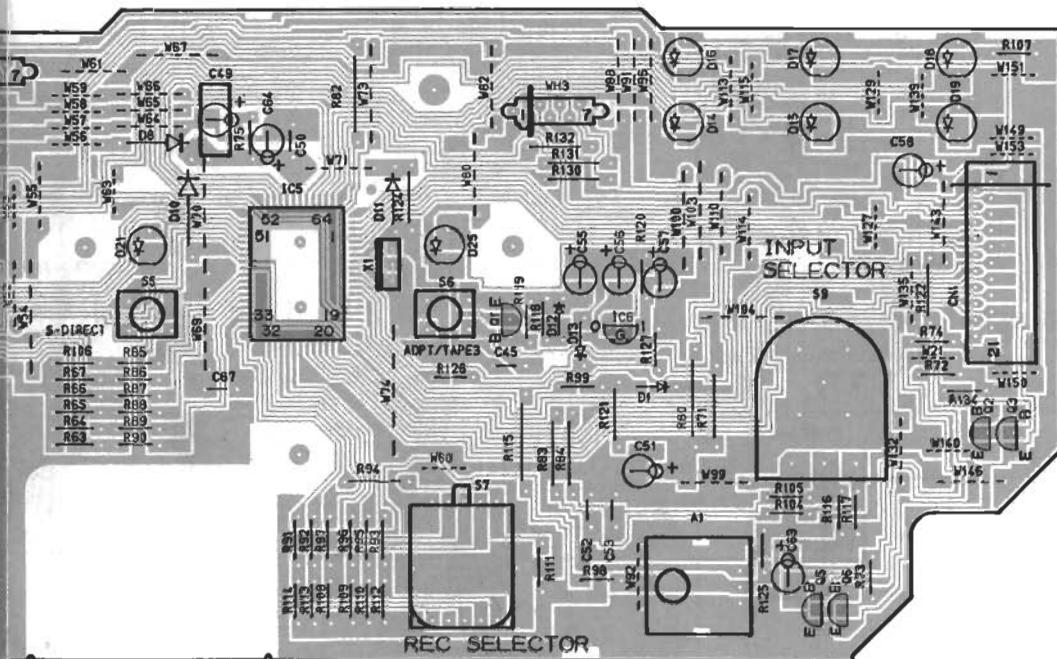
## **PC BOARD (Component side view)**

## CONTROL UNIT

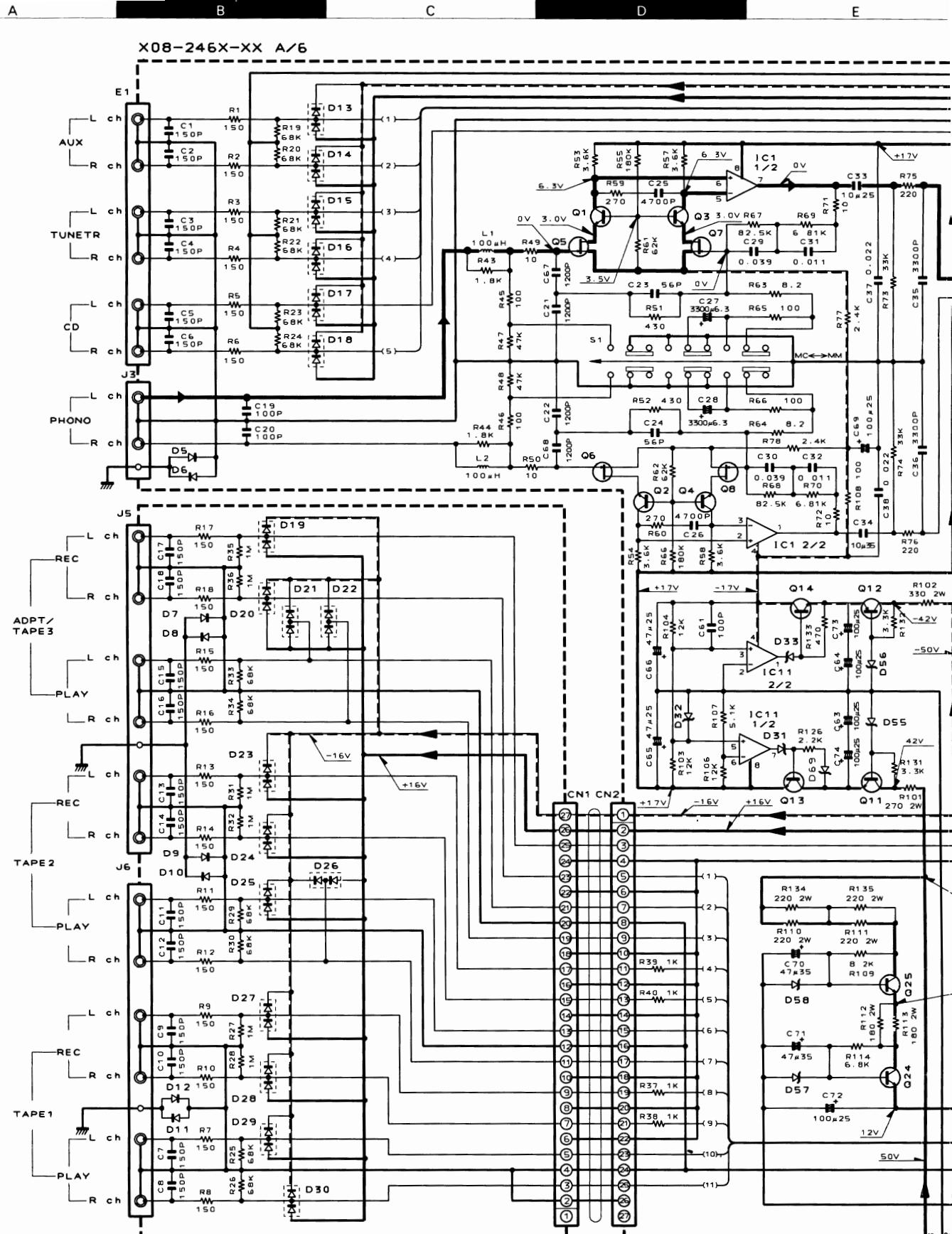




## BALANCE



**REC SELECTOR**



#### X 08 - C / 6

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 Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.

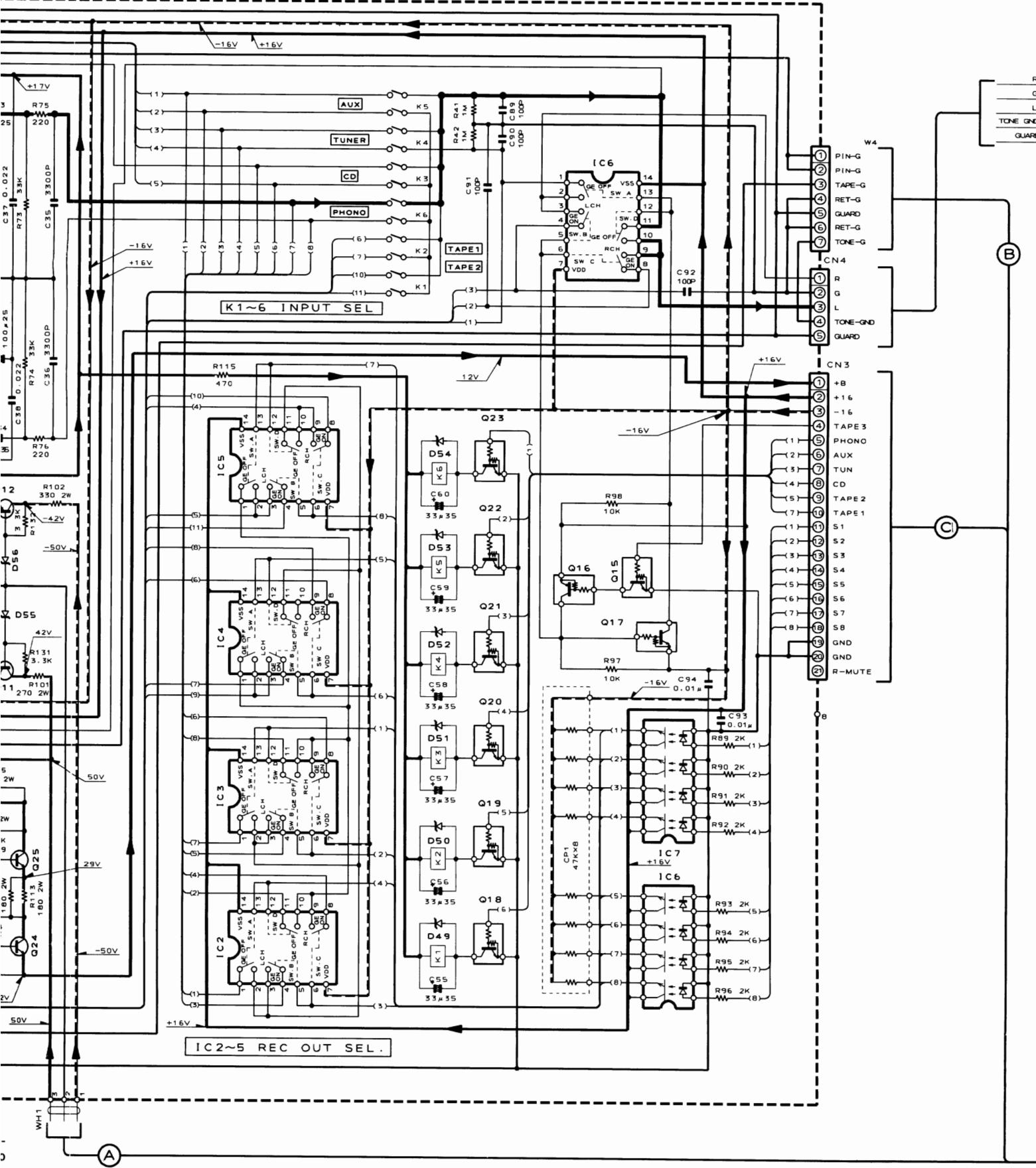
**CAUTION:** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). **△** Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are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

F

G

4

1



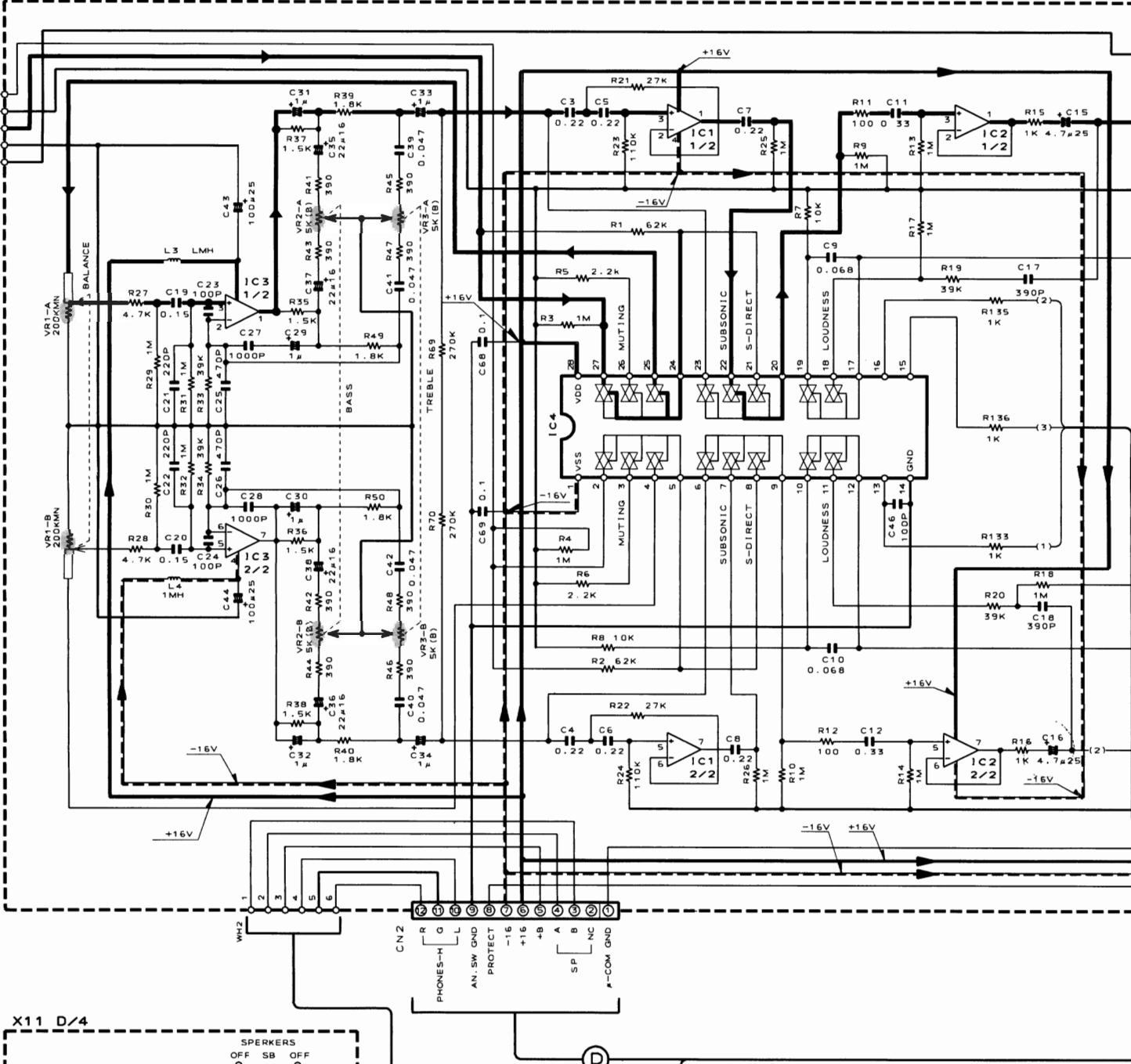
X11-311X-XX B/4

SA1123 2SA992  
SA1124 2SC1845  
SA733 (A) 2SC2631

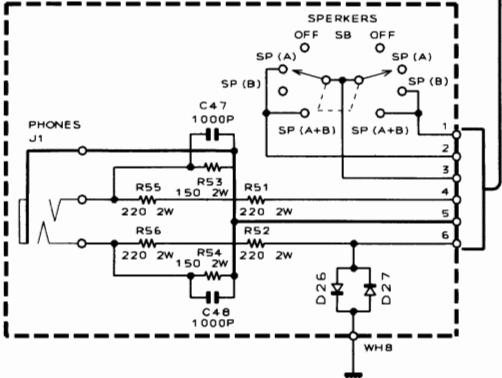
2SC2632  
2SC2878

2SA1694LB\*5  
2SC4467LB\*5

UN4212  
2SC3311A

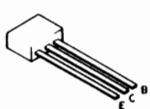
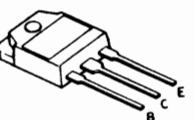


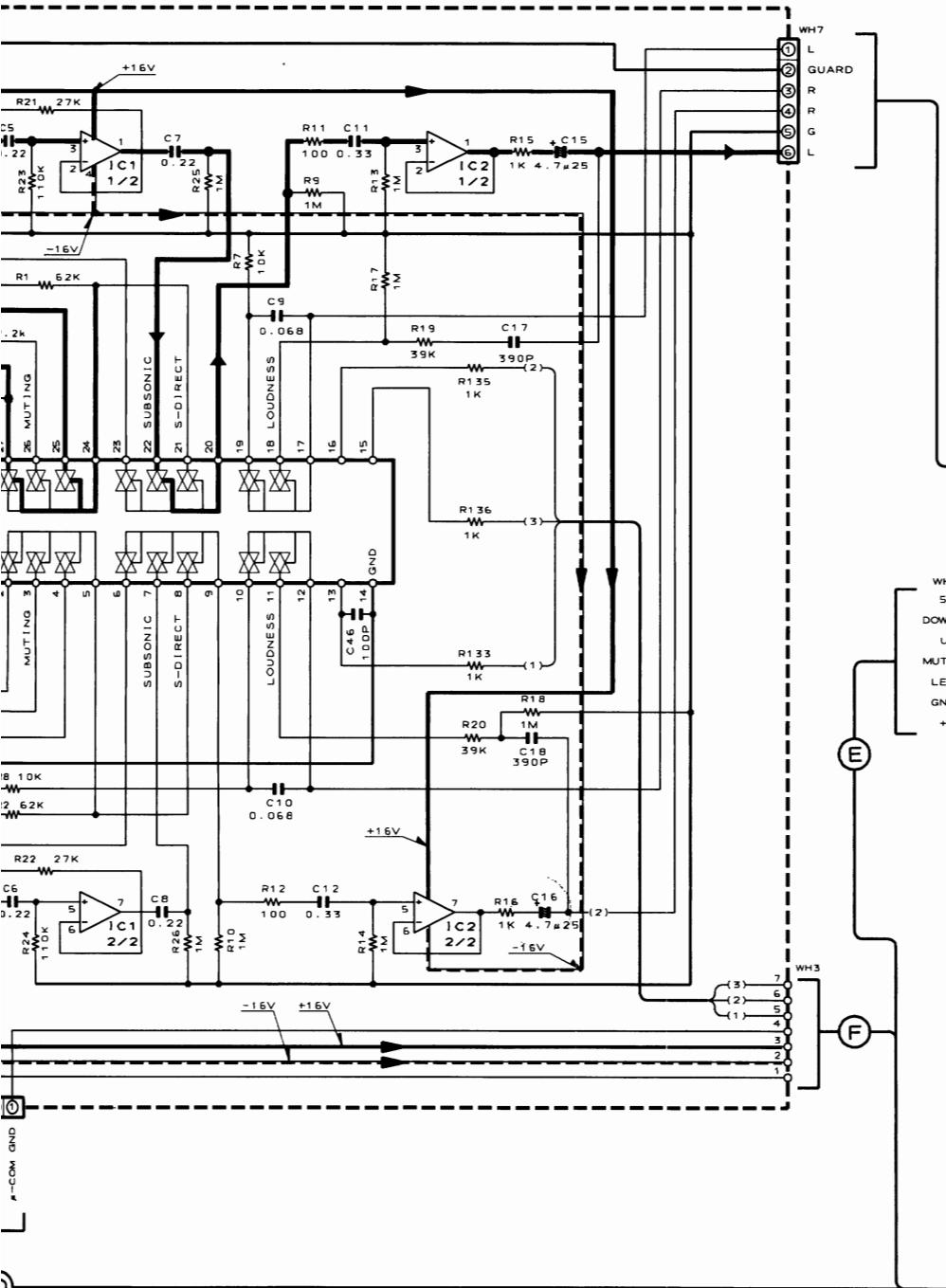
X11 D/4



X08-246X-XX

- |             |   |                                      |
|-------------|---|--------------------------------------|
| IC1         | : | NJM4565D-D                           |
| IC2~6       | : | LC4966                               |
| IC7, 8      | : | ON3134                               |
| IC9         | : | TA8409S                              |
| IC10        | : | UPC7805HF or TA7805S                 |
| IC11        | : | NJM4558D                             |
|             | : | .                                    |
| Q1~4        | : | 2SC1845 (F. E)                       |
| Q5~8        | : | 2SK170 (BL) or 2SK170 (V)            |
| Q11, 13, 14 | : | 2SC2590 (Q. R)                       |
| Q12         | : | 2SA1110 (Q. R)                       |
| Q15, 17~23  | : | DTC124ES or UN4212                   |
| Q16         | : | DTA124ES or UN4112                   |
| Q24, 25     | : | 2SD1266 (Q. P)                       |
| Q26         | : | 2SC1740S (O.R.) or<br>2SC3311A (Q.R) |
| Q27, 28     | : | 2SC2878 (B)                          |





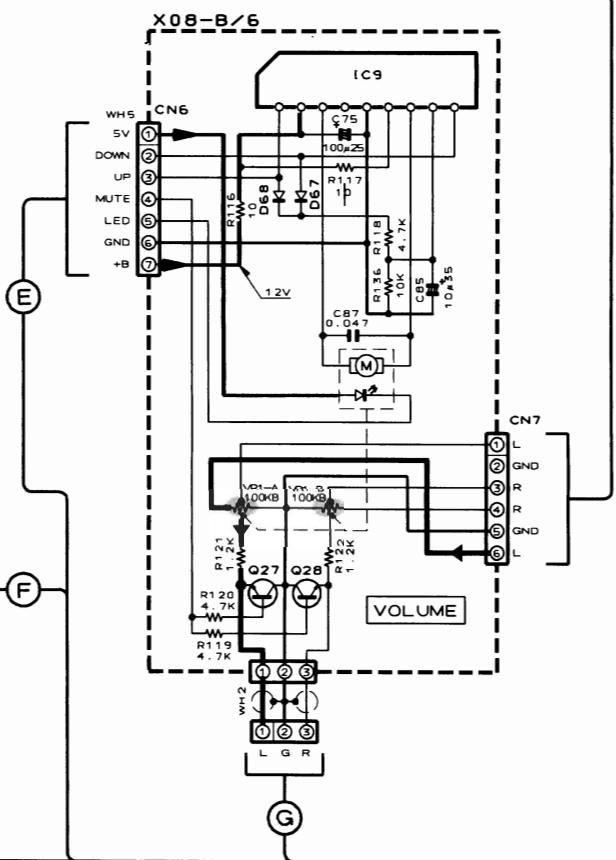
X09-320X-XX

COUNTRY	ABB.	UNIT NAME
EUROPE	E	
EUROPE	Y	
GENERAL MARKET	M	2-73
AUSTRALIA	X	
ENGLAND	T	
NORTHERN EUROPE	L	2-74
CANADA	P	1-02

X08-246X-XX

COUNTRY	ABB.	UNIT NAME
EUROPE	E	2-70
CANADA	P	1-01
EUROPE	Y	2-91
GENERAL MARKET	M	0-21
AUSTRALIA	X	0-71
ENGLAND	T	0-51

X08-B/6



X08-246X-XX

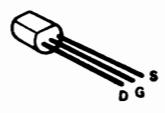
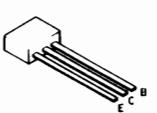
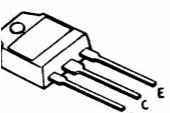
IC1	NJM4565D-D
IC2~6	LC4966
IC7, 8	ON3134
IC9	TA8409S
IC10	UPC7805HF or TA7805S
IC11	NJM4558D
Q1~4	2SC1845 (F, E)
Q5~8	2SK170 (BL) or 2SK170 (V)
Q11, 13, 14	2SC2590 (Q, R)
Q12	2SA1110 (Q, R)
Q15, 17~23	DTC124ES or UN4212
Q16	DTA124ES or UN4112
Q24, 25	2SD1266 (P, P)
Q26	2SC1740S (Q, R) or 2SC3311A (Q, R)
Q27, 28	2SC2878 (B)

D1	: ISS131 or HSS104R
D2~13, 26, 27	: D2~13, 26, 27
59~61, 67, 68	: 1SS133 or HSS104
D13~30	: MA177
D31	: RD20JS (B) or HZS20S (B)
D32	: RD5.1JS (B2) or HZS5.1S (B2)
D33	: RD20JS (B) or HZS20S (B)
D49~54	: RD11ES (B2) or HZS11N (B2)
D49~54	: RD11ES (B2) or HZS11N (B2)
D55, 56, 58	: RD30ES (B) or HZS30N (B)
D57	: RD13ES (B2) or HZS13N (B2)

D62 : 1SS131 or HSS104A  
 D63~66 : S5688B  
 D69 : RD3.9ES (B) or HZS3.9

X11-311X-XX  
 IC1, 3 : NJM4565D-D  
 IC2 : NJM4580D-D  
 IC4 : TC9163N

SIGNAL LINE  
 GND LINE  
 +B LINE  
 -B LINE

2SA1694LB\*5  
2SC4467LB\*5UN4212  
2SC3311A

UPC1237HA

2SK170



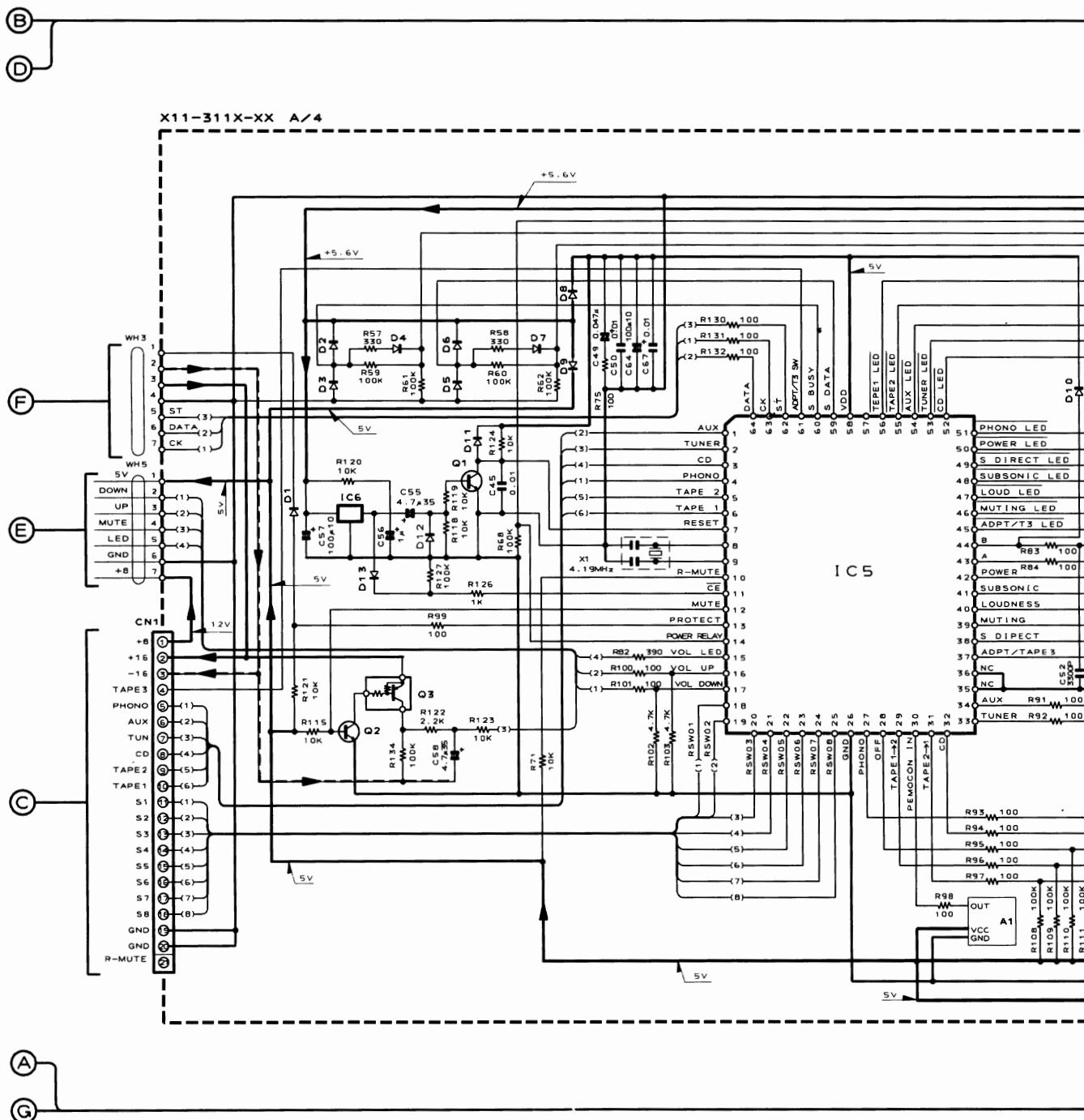
v

W

x

1

2



X11-311X-XX  
IC5 : PD75104GF-778

Q1. 2	2SC17405 (Q, P) or 2SC3311A (Q, R)
Q3. 4	DTA124ES OR UN4112
D1	1SS131 or HSS104A
D2~13, 26, 27	1SS133 or HSS104 D14~25              B30-1291-05

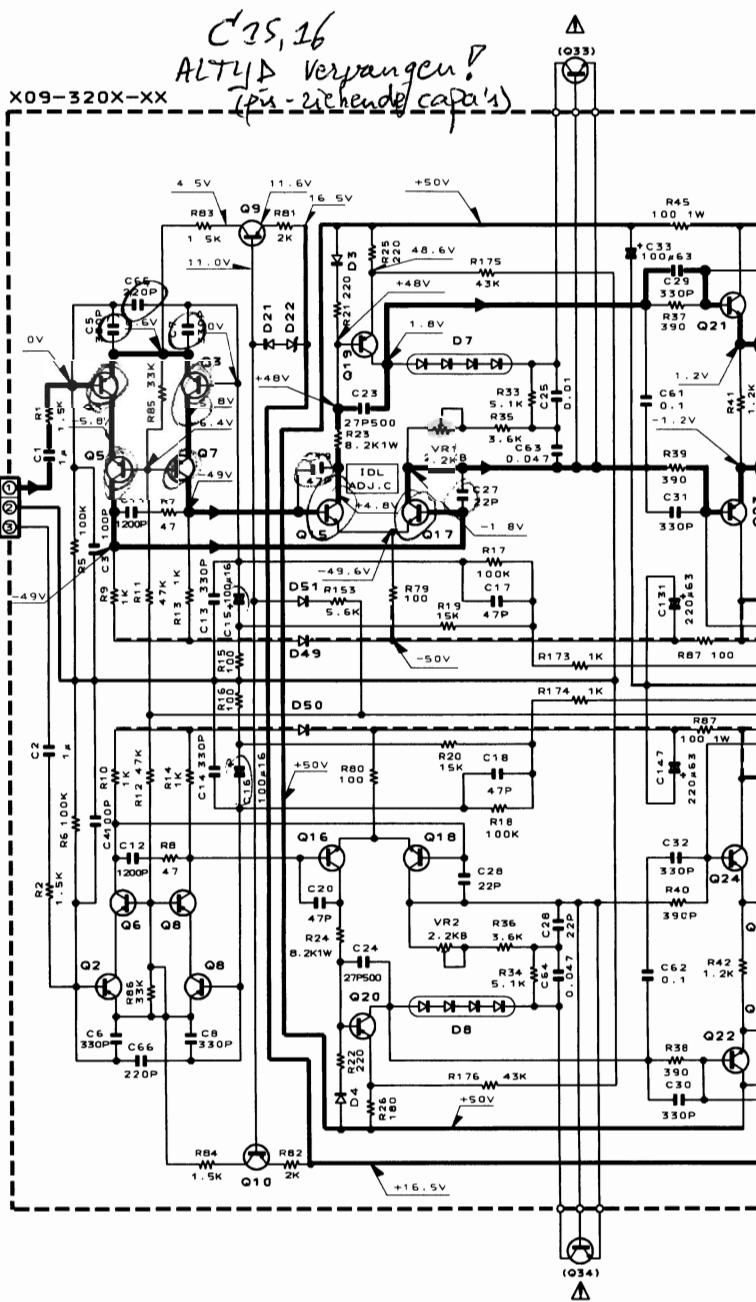
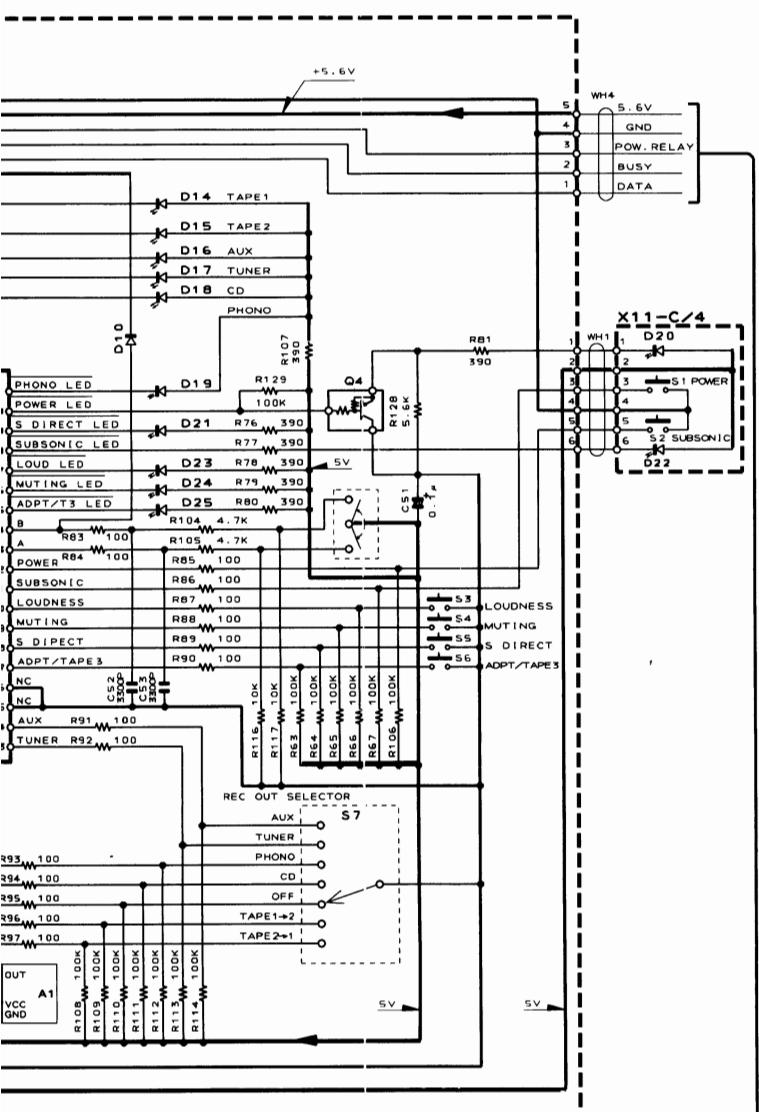
X09-320X-XX  
IC1 : UPC1237HA  
IC2 : NIM455ED

TC2 - NUM4583D

Q1~8, 31, 32, 55	: 2SA992 (F, E)
Q9, 10, 54	: 2SA733 (A) (Q, P) or 2SA933S (C)
Q15~18	: 2SC2632 (R, S)
Q19, 20	: S1 2SA1124 (R, S)
Q21, 22	: 2SC2631 (R, S)
Q23, 24	: 2SA1123 (R, S)
Q25, 26	: 2SC3544 (R, S)
Q27, 28	: 2SA1535 (R, S)
Q29, 30, 52, 53	: 2SC1845 (F, E)
Q56	: 2SD1266 (Q, P)
Q57	: 2SB941 (Q, P)

→ Verlangt ab 4/25 AGG2's (in der Bauart)

~~KRAUSE~~  $\bigcirc = \text{v大家一起}$

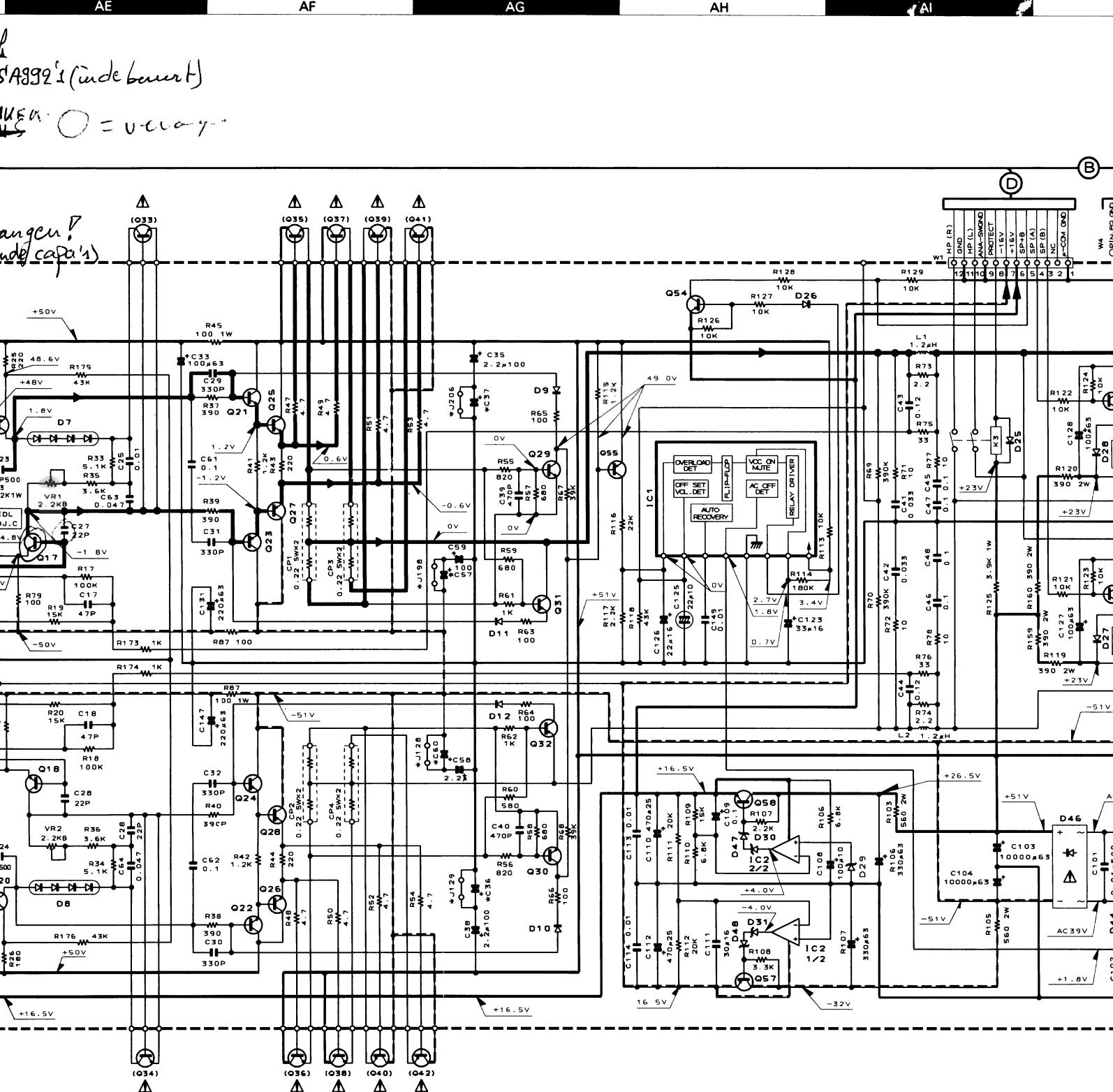


**2SA992 (F, E)**  
**2SA733 (A) (Q, P)**  
or **2SA933S (Q, R)**  
**2SC2632 (R, S)**  
**612SA1124 (R, S)**  
**2SC2631 (R, S)**  
**2SA1123 (R, S)**  
**2SC35944 (R, S)**  
**2SA1535 (R, S)**  
**2SC1845 (F, E)**  
**2SD1266 (Q, P)**  
**2SB941 (Q, P)**

D3. 4. 21. 26. 49. 50. 51	HSS104 or 1SS133
D7. 8	MA270 (A)
D9~12. 25. 27. 28	HSS104A or 1SS131
D22. 29	RDS. 1JS (B2) OR HZS5. 1S (B2)
D30. 31. 47. 48	RDS. 8ES (B2) or HZS6. 8N (B2)
D44	S56888
D-1	S56888-1

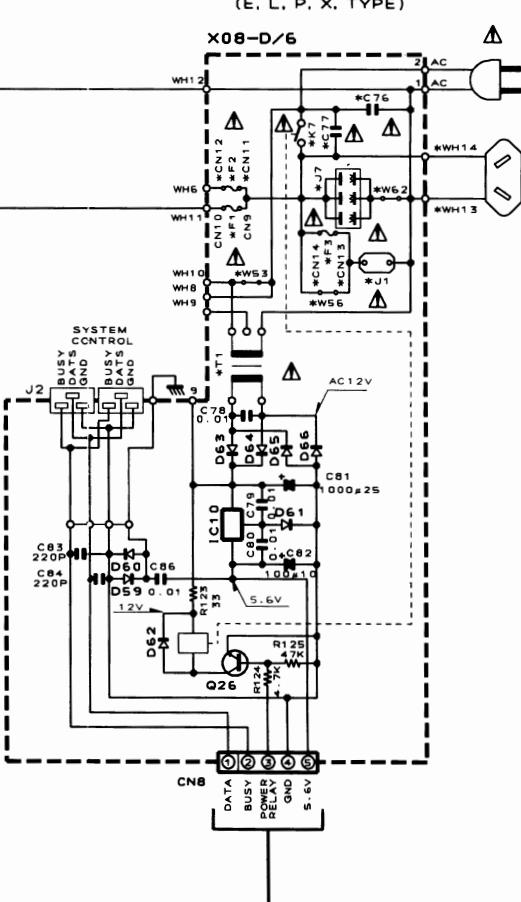
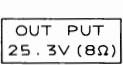
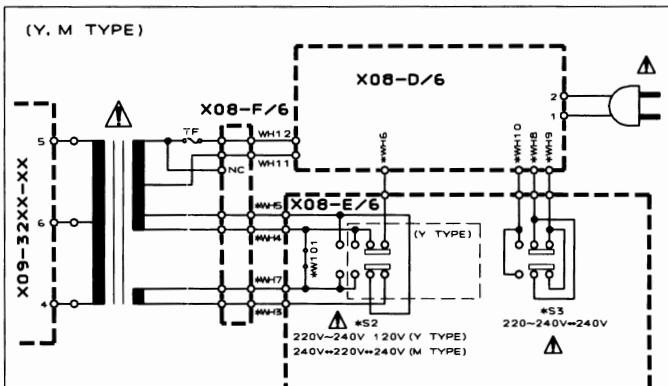
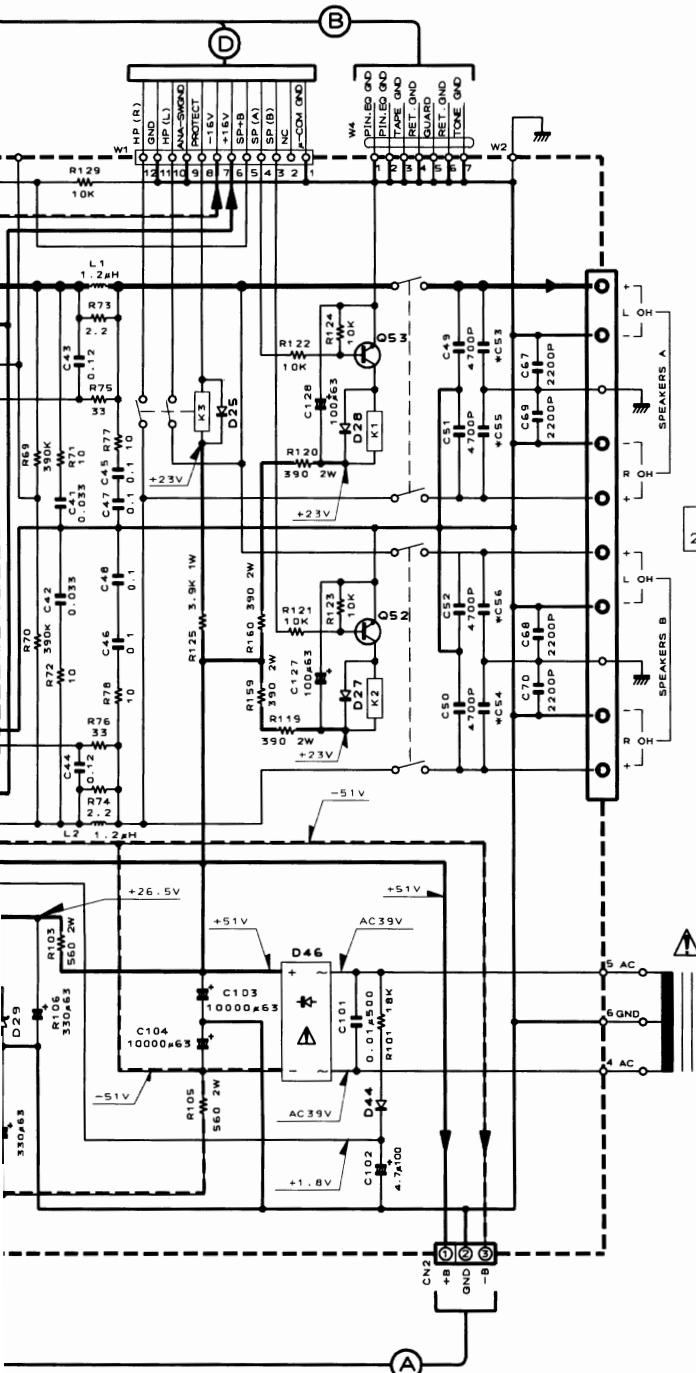
X09-320X-XX		REF. NO	C36, 37, 57, 60	J128, 129, 198, 206
COUNTRY	ABB.			
EUROPE	E	2-73	NO	YES
EUROPE	Y			
GENERAL MARKET	M			
AUSTRALIA	X			
ENGLAND	T			
NORTHERN EUROPE	L	2-74	2.2μ100	NO
CANADA	P	1-02		

X08-246X-XX  
COUNTRY  
EUROPE  
CANADA  
EUROPE  
GENERAL MARK  
AUSTRALIA  
ENGLAND



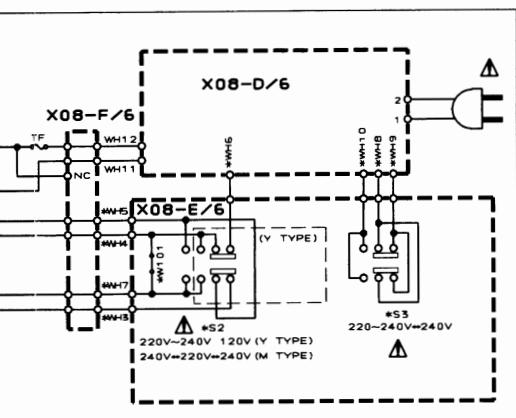
X08-246X-XX

	J128, 129, 198, 206	COUNTRY	ABB.	UNIT NAME	AREF. NO.	W53	W56	W62	W101	J1--	J7	F1	F2	F3	T1	CN11, 12	CN13, 14	-C76,
	YES	EUROPE	E	2-70	YES	NO	NO	NO	E03-0108-05	NO	F05-3121-05 T3.15A 250V	NO	F05-2525-05 T2.5V 250V	L01-7653-05	NO	YES	C91-14 or C91-14	
	NO	CANADA	P	1-01	YES	NO	YES	NO	NO	E03-0111-05	NO	F04-5022-05 T3.15A 250V	NO	NO	L01-7651-05	NO	NO	C91-09
	NO	EUROPE	Y	2-91	NO	NO	YES	YES	NO	E03-0111-05	NO	F05-3121-05 T3.15A 250V	NO	NO	L01-7653-05	YES	NO	C91-142
	NO	GENERAL MARKET	M	0-21	NO	YES	NO	NO	E03-0108-05	NO	F05-3121-05 T3.15A 250V	F05-3121-05 T3.15A 250V	NO	NO	L01-7653-05	YES	NO	C91-142
	NO	AUSTRALIA	X	0-71	YES	NO	NO	NO	NO	NO	F05-3121-05 T3.15A 250V	NO	NO	NO	L01-7657-05	NO	NO	C91-142
	NO	ENGLAND	T	0-51	YES	YES	NO	NO	E03-0109-05	NO	F05-3121-05 T3.15A 250V	NO	NO	NO	L01-7657-05	NO	NO	C91-142



F3	T1	CN11, 12	CN13, 14	-C76, 77	W13-6, B~10	W17	S2	S3	K7	X08-E/6, F/6	WH13, 14
15-2525-05 1.5V 250V	L01-7653-05	NO	YES	C91-1439-05 or C91-1443-05	NO	NO	NO	NO	S51-1052-05	NO	NO
NO	L01-7651-05	NO	NO	C91-0971-05	NO	NO	NO	NO	S76-0002-05	NO	NO
NO	L01-7653-05	YES	NO	C91-1421-05	YES	NO	C62-0001-05	S31-2131-05	S76-0002-05	YES	NO
NO	L01-7653-05	YES	NO	C91-1421-05	YES	YES	S31-2322-05	S31-2131-05	S76-0002-05	YES	NO
NO	L01-7657-05	NO	NO	C91-1421-05	NO	NO	NO	NO	S51-1052-05	NO	YES
NO	L01-7657-05	NO	NO	C91-1421-05	NO	NO	NO	NO	S51-1052-05	NO	NO

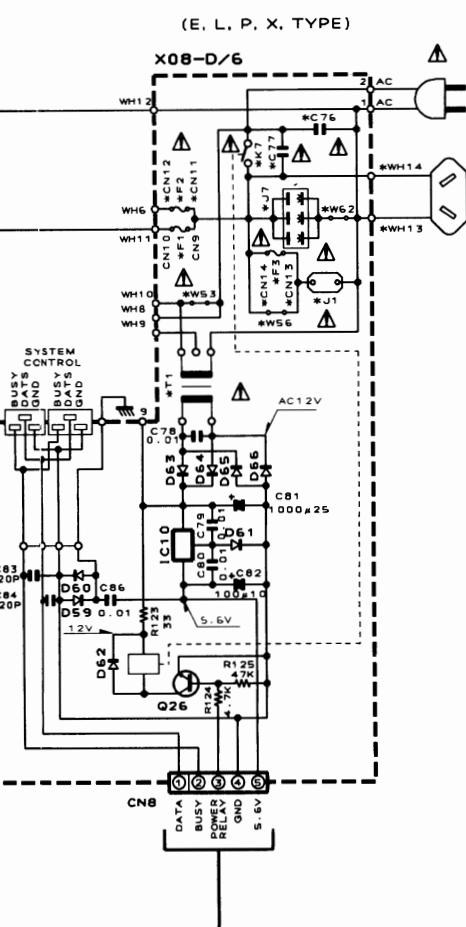
SIGNAL LINE  
GND LINE  
+B LINE  
-B LINE



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 Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanken die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u. U. geringfügig.





**KA-5040R**

## **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.

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► New Parts  
Parts without  
Les articles n  
Telle chose Par

► New Parts  
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Les articles non mentionnés dans le Parts No.  
Teile ohne Parts No. werden nicht geliefert.

No. 4

Ref. No.	参照番号	Address New Parts	部品番号	Parts No.	Description	部品名／規格	Desti- nation	Re- marks 備考
1059 -61			HSS104 ISS13 HSS104A ISS131 S5688B	D100E D100E D100E D100E D100E				
1059 -61			HSS104 ISS13 HSS104D ISS131 S5688B	D100E D100E D100E D100E D100E				
1062			HSS104 ISS13 HSS104D ISS131 S5688B	D100E D100E D100E D100E D100E				
1063 -66		*	HSS104 ISS13 HSS104D ISS131 S5688B	D100E D100E D100E D100E D100E				
1067 ,68			HSS104 ISS13 HSS104D ISS131 S5688B	D100E D100E D100E D100E D100E				
1067 ,68		*	HSS104 ISS13 HSS104D ISS131 S5688B	D100E D100E D100E D100E D100E				
11C9			TAB409S TA7805S UPC7805HF NJM558D 2SC1740S(Q,R)	IC(MOTOR CONTROL) IC(VOLTAGE REGULATOR / 15V) IC(VOLTAGE REGULATOR / 15V) IC(OP AMP X2) IC(OP AMP X2)				
11C10			2SC331A(Q,R) 2SK170(BL) 2SK170(V)	TRANSISTOR TRANSISTOR FET				
11C11	Q1 .4		2SC331A(Q,R) 2SK170(BL) 2SK170(V)	TRANSISTOR TRANSISTOR FET				
2011	.4		2SC2590(Q,R) UN4110(Q,R)	DIGITAL TRANSISTOR DIGITAL TRANSISTOR				
2012	.05 -8		2SC2590(Q,R) UN4110(Q,R)	DIGITAL TRANSISTOR DIGITAL TRANSISTOR				
2013 ,14			DTC124ES UN412	DIGITAL TRANSISTOR DIGITAL TRANSISTOR				
2015			DTC124ES UN412	DIGITAL TRANSISTOR DIGITAL TRANSISTOR				
2016			DTC124ES UN412	DIGITAL TRANSISTOR DIGITAL TRANSISTOR				
2017 -23			DTC124ES UN412	DIGITAL TRANSISTOR DIGITAL TRANSISTOR				
2017 -23			DTC124ES UN412	DIGITAL TRANSISTOR DIGITAL TRANSISTOR				
2024 ,25			2SC1740S(Q,R) 2SC331A(Q,R)	TRANSISTOR TRANSISTOR				
2026			2SC2878(B)	TRANSISTOR				
2027 ,28					AUDIO UNIT (X09-320X-XX)			
C1	'2		CF92FV1H105J CF92FV1H101K CF92FV1H101K CF92FV1H1331K CF92FV1H105J CF92FV1H122J	MF MF MF MF MF MF	1.00UF 1.00PF 330PF 1.00PF 1.00PF 1200PF	J K K J J J		
C3	'4		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C5	-8		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C11	.10		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C11	.12		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C13	'4		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C15	'6		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C17	'20		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C22	'24		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C25	'56		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C27	'28		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C29	'32		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C33	'32		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C35	'35		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C35	'38		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C39	'40		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C41	'42		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C43	'44		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C45	'45		CF92FV1H1912-05 CC45FS1H470U CC45FS1H270U CF92FV1H103J	MF MF MF MF	330PF 100UF 27PF 0.010UF	K J J J		
C49	'52		CF92FV1H472J CF92FV1H561J	ELECTRO ELECTRO ELECTRO ELECTRO	2.2UF 4.70PF 0.03UF 0.10UF	J J J J		
C53	'56		CF92FV1H472J CF92FV1H561J	MF MF	2.2UF 560PF	100W 100W	EYMTXL EYMTXL	

$\Delta$  indicates solid clinical contribution.

 indicates safety critical components

## PARTS LIST

No. 6

Ref. No.	Address	Parts No.	品名	規格	Description	品名	規格	Ref. No.	Address	Parts No.	品名	規格	Ref. No.	Address	Parts No.	品名	規格
C57-60		CEO4KWA2R2M	ELECTRO	2.2UF	100W	P	YMXTL	R159,160		FL-PRO0F	RS	390	J	2W			
C58-59		CEO4KWA2R2M	ELECTRO	2.2UF	100W	J		R173,174		RN148K2D1001FTS	1.00K		F	1/4W			
C61-62		CF2FV1H10AJ	MF	0.10UF				VR1,2		R12-1085-05	TRIM POT.						
C63-64		CF2FV1H47JJ	MF	0.047UF	J			K1,2		S51-2096-05	MAGNETIC RELAY						
C65-66		CF2FV1H222J	MF	2200PF	K			K3		S51-2090-05	MICRO SWITCH						
C67-70		CK45FECH103P	CERAMIC	0.010UF	P			D3,4		HSS104	DIODE						
C101		CEO4KWA4R7M	ELECTRO	4.7UF	100W	J		D3,4		ISS133	DIODE						
C102		C90-1822-05	ELECTRO	10000UF	63W	J		D7,8		HSS104A	VARISTOR						
C103-104		CEO4KWA331M	ELECTRO	330UF	63W	J		D9-12		HS131	DIODE						
C106,107		CEO4KWA101M	ELECTRO	100UF	10W	D21		D21		HS104	DIODE						
C108		CF2FV1H10AJ	MF	0.10UF	J	D21		D21		ISS133	DIODE						
C109		CEO4KWA471M	ELECTRO	4.7UF	25W	D22		D22		HSS104B(82)	ZENER DIODE						
C110		CF2FV1H10AJ	MF	0.10UF	J	D22		D22		RD5.1JS(82)	ZENER DIODE						
C111		CEO4KWA471M	ELECTRO	4.7UF	25W	D25		D25		HS104A	DIODE						
C112		CF2FV1H105J	MF	0.010UF	J	D25		D25		HS131	DIODE						
C113,114		CEO4KWA330H	ELECTRO	330UF	16W	D25		D25		HS131	DIODE						
C123		C90-1333-05	NP-ELEC	220UF	10W	D26		D26		HS104	DIODE						
C125		CEO4KWA220M	ELECTRO	220UF	16W	D26		D26		ISS133	DIODE						
C126		CEO4DWH110M	ELECTRO	100UF	63W	D27		D27		HS104A	DIODE						
C127,128		CF2FV1H105J	MF	1.0UF	J	D27		D27		HS131	DIODE						
C130		CEO4KWA221M	ELECTRO	220UF	63W	D29		D29		HSS104B(82)	ZENER DIODE						
C131		CEO4KWA221M	CERAMIC	0.010UF	Z	D30		D30		RD5.1JS(82)	ZENER DIODE						
C147		L39-0080-15	SCREW TERMINAL	BOARD	SPEAKERS	D30		D30		RD5.8ES(82)	ZENER DIODE						
C149		E20-0840-15	SCREW TERMINAL	BOARD	SPEAKERS	D31		D31		SS668B	DIODE						
E1		J11-0098-05	WIRE CLAMPER			D44		D44		D5F202*1	DIODE						
-		L39-0080-15	PHASE-COMPENSATION	COIL		D46		D47		HZ56.8N(B2)	ZENER DIODE						
L1	,2	R90-0187-05	MULTI-COMP	0.22X2	K	5W		D47		RD6.8ES(B2)	ZENER DIODE						
CPI-4		RD14ABE221JTS	FL-PR00F	RD	220	J	1/4W	D48		HS104	DIODE						
R21-22		RS14DB822JTE	FL-PR00F	RS	8.2K	J	1W	D49		1S5133	DIODE						
R23-24		RD14ABE181JTS	FL-PR00F	RD	180	J	1/4W	D49		UPC1237HA	IC(CPOWER AMP)						
R35-26		RD14ABE391JTS	FL-PR00F	RD	390	J	1/4W	D49		NJM565D	2SA565D(E)						
R37-40		RD14ABE122JTS	FL-PR00F	RD	1.2K	J	1/4W	D49		2SA333(A)(Q,P)	2SA333S(Q,R)						
R41	,42	RD14ABE221JTS	FL-PR00F	RD	220	J	1/4W	D49		2SA123(R,S)	TRANSISTOR						
R43	,44	RD14ABE221JTS	FL-PR00F	RS	100	J	1W	D49		2SC2632(R,S)	TRANSISTOR						
R45		* RD14ABE4R7JTS	FL-PR00F	RD	4.7	J	1/4W	D49		2SA1124(R,S)	TRANSISTOR						
R47-50		RD14GBE4R7JTS	FL-PR00F	RD	4.7	J	1/4W	D49		2SC2631(R,S)	TRANSISTOR						
R51		RD14ABE821JTS	FL-PR00F	RD	680	J	1/4W	D49		2SA1123(R,S)	TRANSISTOR						
R52-54		RD14ABE4R7JTS	FL-PR00F	RD	4.7	J	1/4W	D49		2SC3944(R,S)	TRANSISTOR						
R55-56		* RD14ABE821JTS	FL-PR00F	RD	820	J	1/4W	D49		2SA1535(R,S)	TRANSISTOR						
R57-60		RD14ABE821JTS	FL-PR00F	RD	1.0K	J	1/4W	D49		2SC1845(F,E)	TRANSISTOR						
R61-62		RD14ABE102JTS	FL-PR00F	RD	100	J	1/4W	D49		2SA922(F,E)	TRANSISTOR						
R63-66		RD14ABE101JTS	FL-PR00F	RD	100	J	1/4W	D49		2SC1845(F,E)	TRANSISTOR						
R71	,72	RS14GB2A100JKW	FL-PR00F	RS	10	J	1W	D54		2SA333(A)(Q,P)	TRANSISTOR						
R73-74		* RD14ABE2R2JTS	FL-PR00F	RD	2.2	J	1/4W	D54		2SA933S(Q,R)	TRANSISTOR						
R75-76		RS14GB2A330JTS	FL-PR00F	RD	33	J	1/4W	D55		2SD1266(G,P)	TRANSISTOR						
R77-78		* RS14GBA100JKW	FL-PR00F	RS	10	J	1W	D55		2SD1266(G,P)	TRANSISTOR						
R79-80		* RD14ABE210JTS	FL-PR00F	RD	100	J	1/4W	D57		2SB41(O,P)	TRANSISTOR						
R87-88		RS14GB2A101JKW	FL-PR00F	RS	100	J	1W	D14	-25	B30-1291-05	LED						
R103		RS14DBD56JUITE	FL-PR00F	RS	560	J	2W	C3	-6	CF9FV1H224J	Canada						
R105		RS14DBD56JUITE	FL-PR00F	RS	560	J	2W	C7	,8	CF9FV1H203J	Europe						
R119,120		RS14DBD39JUITE	FL-PR00F	RS	390	J	2W				Australia						
R125		RS14DB3A39JUITE	FL-PR00F	RS	3.9K	J	1W				Other Areas						

## CONTROL UNIT (X11-3112-70)

L:Scandinavia	U:S USA	P:Canada
Y:P(East, Hawaii)	T:England	E:Europe
Y:AEE(Europe)	X:Australia	X:Australia
Y:MAE(Europe)	M:Other Areas	M:Other Areas

▲ indicates safety critical components

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New Parts

Parts without Parts No are not supplied.

Les articles non mentionnés dans le Parts No ne sont pas fournis.

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## PARTS LIST

No. 8

\* 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.	Address	Parts No.	Description	Parts No.	Description	Desti- nation 向 標 考
参照番号	New 部 品 新	部 品 番 号	部 品 名 規 格	部 品 番 号	部 品 名 規 格	部 品 番 号
C9 .10		CF92FV1H681J	MF 0.068UF	J		
C11 .12	*	CF2FV1H33AJ	MF 0.33UF	J		
C15 .16	*	C90-1886-05	MF 0.39UF	K	25mV	
C17 .18		CF92FV1H391K	MF 0.15UF	J		
C19 .20		CF92FV1H154J				
C21 .22		CF92FV1H221K	MF 220PF	K		
C23 .24		CF92FV1H101K	MF 100PF	J		
C25 .26		CF92FV1H471J	MF 470PF	J		
C27 .28		CF92FV1H102J	MF 1000PF	J	50mV	
C29 .34		CEO4KW1H010M	ELECTRO			
C35 .38		CEO4KW1C220M	ELECTRO		220PF	16mV
C39 .42		CF92FV1H473J	ELECTRO		0.047UF	J
C43 .44		CE64KW1E101M	ELECTRO		100UF	25mV
C45 .46		CK55FF1H103Z	CERAMIC		0.010UF	Z
C47 .48		CC95FSL1H101J	CERAMIC		100PF	J
C49		CF92FV1H102J	ELECTRO		1000PF	J
C50		C90-1876-05	BACKUP		0.047F	5.5mV
C51		CK55FF1H103Z	CERAMIC		0.010UF	Z
C52 .53		CE64KW1H010M	ELECTRO		0.1UF	50mV
C55		CK55FF1H332K	CERAMIC		3.300PF	K
C56		CE64KW1H010M	ELECTRO		1.0UF	35mV
C57		CE64KW1A101M	ELECTRO		100UF	10mV
C58		CE64KW1A101M	ELECTRO		0.1UF	50mV
C64		CE64KW1A101M	ELECTRO		100UF	10mV
C67		CK55FF1H103Z	CERAMIC		0.010UF	Z
C68 .69		CF92FV1H104J	ELECTRO		0.1UF	J
J1	*	E11-0208-05	PHONE JACK	HEAD PHONES		
L3 .4		L40-1021-14	SMALL FIXED INDUCTOR(1.0MH, K)			
X1		L78-0267-05	RESONATOR		4.13MHz	
R51 .52		RS14DB8D221JTE	FL -PROOF RS	220	J	2W
R53 .54		RS14DB8D221JTE	FL -PROOF RS	150	J	2W
R55 .56	*	RS14DB8D221JTE	FL -PROOF RS	220	J	2W
VR1		R06-5190-05	POTENTIOMETER		BALANCE	
VR2 .3	*	R06-2050-05	POTENTIOMETER		BASS, TREBLE	
S1 .6		S40-1064-05	PUSH SWITCH	REC OUT SELECT		
S7	*	S60-0010-05	ROTARY SWITCH	SPEAKERS		
S8		S29-2050-05	ROTARY ENCODER	INPUT SELECTOR		
S9	*	T99-0521-05				
D1		HSS104A	DIODE			
D1		ISS131	DIODE			
D2	-13	HSS104	DIODE			
D2	-13	ISS133	DIODE			
D26	,27	HSS104	DIODE			
D26 .27		ISS133	DIODE			
IC1		NJR4565D-D	IC(OP AMP X2)			
IC2		NJR4580D-D	IC(BILATERAL SWITCH X16)			
IC3		TC163N	IC(MICROPROCESSOR)			
IC4		UPD75104GF-778	IC(SYSTEM RESET)			
IC5		PST5290	TRANSISTOR			
IC6		2SC17405(G, R)				
Q1	,2					

L:Scandinavia  
P:Canada  
Y:XP(Far East, Hawaii)  
Y:MAFE(Europe)

E:England  
X:Australia  
M:Other Areas

A: indicates safety critical components

L:Scandinavia  
P:Canada  
Y:USA  
Y:England  
Y:Australia  
M:Other Areas

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L:Scandinavia  
P:Canada  
Y:USA  
Y:England  
Y:Australia  
M:Other Areas

## SPECIFICATIONS

## (For U.K. and Europe)

## Continuous rated power output

(DIN) 1 kHz, at 8 Ω ..... 95 W + 95 W  
 ..... at 4 Ω ..... 140 W + 140 W

(IEC/NF) From 63 Hz to 12,500 Hz, 0.7% T.H.D.  
 ..... at 8 Ω 90 W + 90 W  
 ..... at 4 Ω 135 W + 135 W

Dynamic power ..... 105 W (8 Ω)  
 ..... 175 W (4 Ω)  
 ..... 210 W (2 Ω)

Damping factor ..... 220 (50 Hz)

Total harmonic distortion ..... 0.03% (20 Hz ~ 20,000 Hz, 80 W, 8 Ω)  
 ..... 0.002% (1 kHz, 40 W, 8 Ω)

Intermodulation distortion ..... 0.03% (80 W, 8 Ω)  
 (70 Hz : 7 kHz = 4:1)

Frequency response  
 CD ..... 5 Hz ~ 100 kHz, +0 dB, -3 dB  
 PHONO 'RIAA' response  
 ..... 20 Hz ~ 20 kHz, +0.3 dB, -0.3 dB

Maximum input level  
 PHONO (MM) ..... 120 mV, 0.03% T.H.D. at 1 kHz  
 PHONO (MC) ..... 10 mV, 0.03% T.H.D. at 1 kHz

## Signal to noise ratio

PHONO (MM) ..... 87 dB (IHF '66)/80 dB (IHF '78)

PHONO (MC) ..... 68 dB (IHF '66)/74 dB (IHF '78)

CD/TUNER/AUX/TAPE ..... 102 dB (IHF '66)/80 dB (IHF '78)

PHONO (MM) ..... 58 dB (DIN, 50 mW output)

CD/TUNER/AUX/TAPE ..... 59 dB (DIN, 50 mW output)

## Input sensitivity/impedance

PHONO (MM) ..... 2.5 mV/47 kΩ

PHONO (MC) ..... 0.2 mV/100 Ω

CD/TUNER/AUX/TAPE ..... 200 mV/47 kΩ

ADAPTOR IN ..... 200 mV/47 kΩ

## Tone control

BASS ..... ±10 dB (at 100 Hz)

TREBLE ..... ±10 dB (at 10 kHz)

## Filter

SUBSONIC filter ..... 18 Hz, -12 dB/oct

## Loudness control

VOLUME at -30 dB level ..... +6 dB (100Hz), +3 dB (10 kHz)

## Output level/impedance

TAPE REC ..... 200 mV/1 kΩ

ADAPTOR OUT ..... 200 mV/0.2 kΩ

## General

Power consumption ..... 250 W

AC outlet

SWITCHED ..... 200 W max.

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

H: 147 mm (5-13/16")

D: 403 mm (15-7/8")

Weight (net) ..... 11.6 kg (25.6 lb)

## (For other countries)

## Continuous rated power output

(IHF '66) From 20 Hz to 20,000 Hz 0.03% T.H.D.  
 ..... at 8 Ω 80 W + 80 W

(IEC/NF) From 63 Hz to 12,500 Hz, 0.7% T.H.D.  
 ..... at 8 Ω 90 W + 90 W  
 ..... at 4 Ω 135 W + 135 W

Dynamic power ..... 105 W (8 Ω)  
 ..... 175 W (4 Ω)  
 ..... 210 W (2 Ω)

Damping factor ..... 220 (50 Hz)

Total harmonic distortion ..... 0.03% (20 Hz ~ 20,000 Hz, 80 W, 8 Ω)  
 ..... 0.002% (1 kHz, 40 W, 8 Ω)

Intermodulation distortion ..... 0.03% (80 W, 8 Ω)  
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Maximum input level  
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Signal to noise ratio  
 PHONO (MM) ..... 87 dB (IHF '66)/80 dB (IHF '78)  
 PHONO (MC) ..... 68 dB (IHF '66)/74 dB (IHF '78)  
 CD/TUNER/AUX/TAPE ..... 102 dB (IHF '66)/80 dB (IHF '78)

## Input sensitivity/impedance

PHONO (MM) ..... 2.5 mV/47 kΩ

PHONO (MC) ..... 0.2 mV/100 Ω

CD/TUNER/AUX/TAPE ..... 200 mV/47 kΩ

ADAPTOR IN ..... 200 mV/47 kΩ

## Tone control

BASS ..... ±10 dB (at 100 Hz)

TREBLE ..... ±10 dB (at 10 kHz)

## Filter

SUBSONIC filter ..... 18 Hz, -12 dB/oct

## Loudness control

VOLUME at -30 dB level ..... +6 dB (100Hz), +3 dB (10 kHz)

## Output level/impedance

TAPE REC ..... 200 mV/1 kΩ

ADAPTOR OUT ..... 200 mV/0.2 kΩ

## General

Power consumption ..... 250 W

AC outlet

SWITCHED ..... Total 200 W max.

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

H: 147 mm (5-13/16")

D: 403 mm (15-7/8")

Weight (net) ..... 11.6 kg (25.6 lb)

DATE: May. 31. 2001

MODEL	KA - 5040R	SYSTEM NAME	.	DIVISION	NA
SERIAL No.	10700121	.	.	JAPAN	K
RELATED MODEL	.	.	.		

## SYMPTOM, PROBLEM

No sound output.

## IMPROVE METHOD FOR INFERIOR, CAUSE, AND PROBLEM

It turns on the power normally but does not output any sound.

There was a liquid leak at C15 on Tone AMP circuit (X11-3112), and this caused eroded the IC2.

Therefore, it did not output any sound or outputted noise.

## TREATMENT,COUNTERMEASURE

Replaced C15 (4.7u 25V: C90-1886-08) on X11-3112.

Control No.	N1 - 01 - 103	EXAMINER	Hori
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