

A-711/711L

SPECIFICATIONS

Receiver unit (A-711/L)	
Amplifier section	
Rated power output	
35 watts per channel minimum RMS, both channels driven, at 6 Ω from 40 Hz to 20,000 Hz with no more than 0.09% total harmonic distortion (FTC)	
(IEC/NF) From 63 to 12,500 Hz, 0.7% T.H.D. at 6 Ω	40 W + 40 W
(DIN) 1 kHz, at 6 Ω	43 W + 43 W
(IHF '66) From 40 to 20 kHz, 0.09% T.H.D. at 6 Ω	39 W + 39 W
(EIAJ) Maximum useful power output at 6 Ω	50 W + 50 W
Total harmonic distortion	0.09% at rated power 0.04% at 1 kHz, 1/2 rated power
Frequency response	
CD, TUNER, AUX, TAPE	
Signal to noise ratio (IHF '66)	
DAT INPUT	
Input sensitivity/Impedance	
DAT INPUT	
N.B.circuit (−30 dB VOLUME level)	
Output level/Impedance	
SUB WOOFER OUT	
Power consumption	
Dimensions	
Weight (Net)	

A-711L FM tuner section	
Tuning frequency range	
Usable sensitivity (DIN at 75 Ω)	
MONO	
STEREO	
Total harmonic distortion (DIN at 1 kHz)	
MONO	
STEREO	
Signal to noise ratio (DIN weighted at 1 kHz)	
MONO	
STEREO	

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

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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.

Stereo separation (DIN)	
1 kHz	
Frequency response	
MW tuner section	
Tuning frequency range	
Usable sensitivity	
Signal to noise ratio	
(at 30% mod, 1 mV input)	
LW tuner section	
Tuning frequency range	
Usable sensitivity	
Signal to noise ratio	
(at 30% mod, 1 mV input)	

A-711 FM tuner section	
Tuning frequency range	
Usable sensitivity (MONO at 75 Ω)	
Total harmonic distortion (at 1 kHz)	
MONO	
STEREO	
Signal to noise ratio (at 1 kHz)	
MONO	
STEREO	
Stereo separation 1 kHz	
Frequency response	

AM tuner section	
Tuning frequency range	
9 kHz step	
10 kHz step	
Usable sensitivity	
Signal to noise ratio	
(at 30% mod, 1 mV input)	

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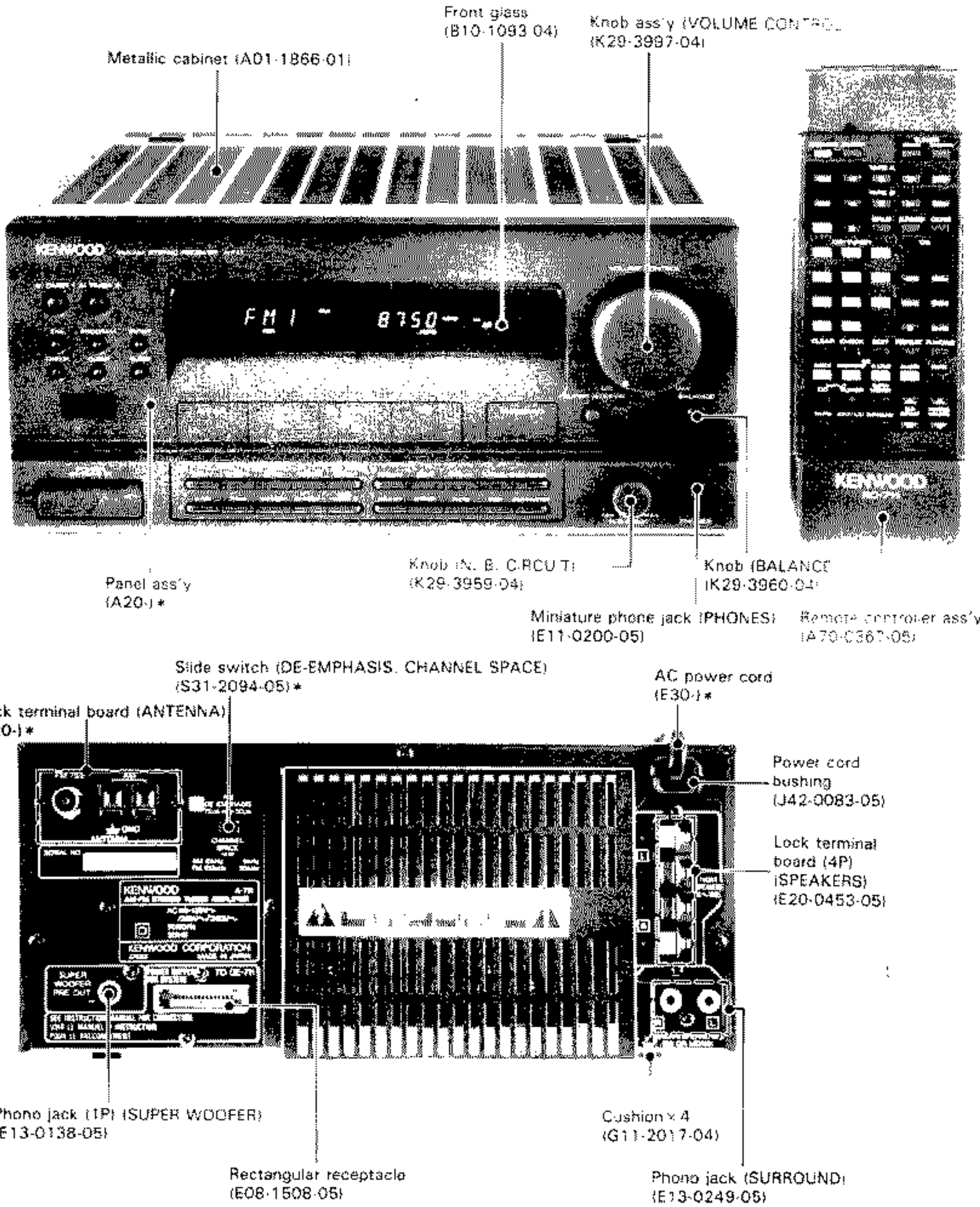
FM/AM STEREO RECEIVER

A-711/711L
SERVICE MANUAL

(COMPACT HI-FI SYSTEM
UD COMPONENT SYSTEM UD-7)

KENWOOD

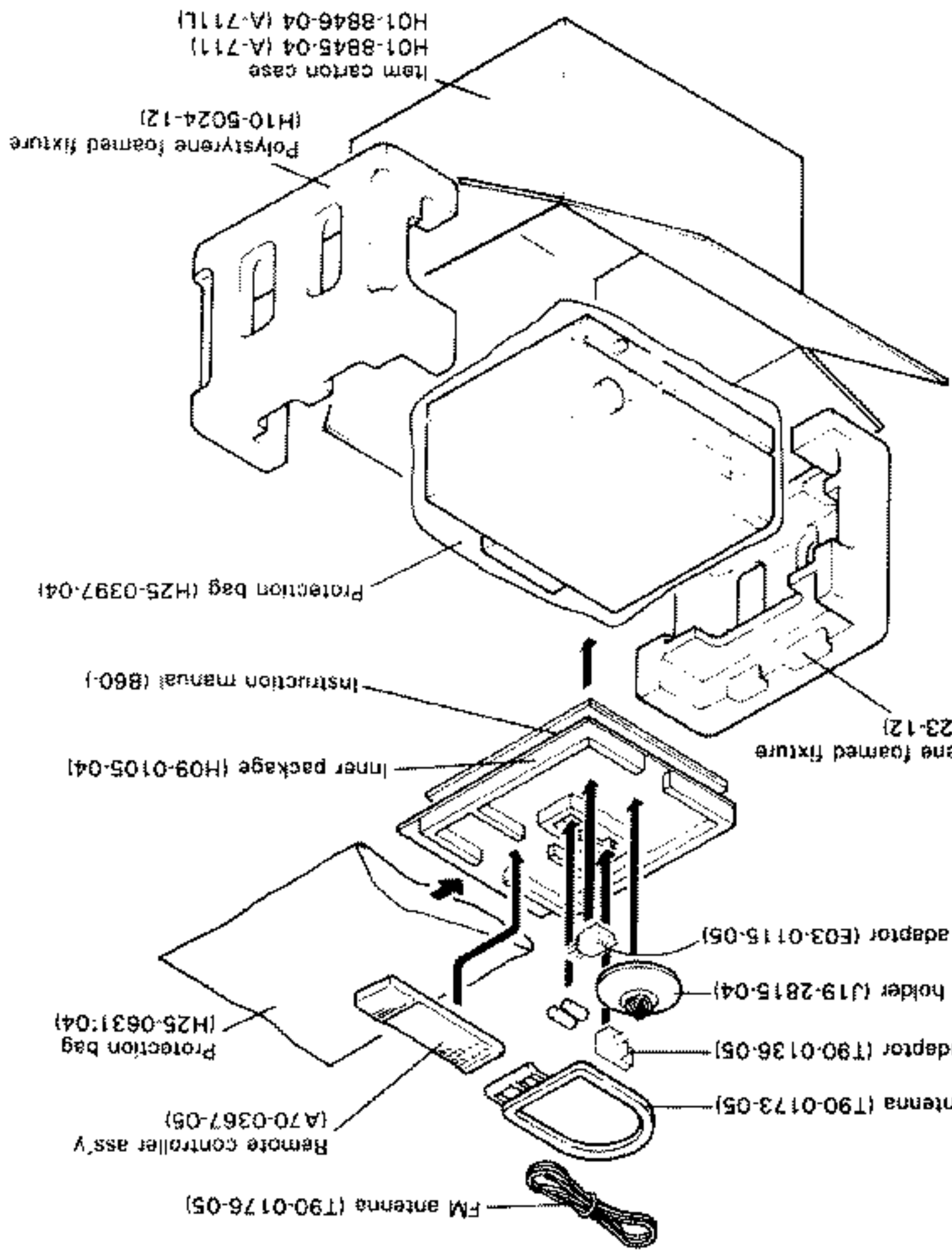
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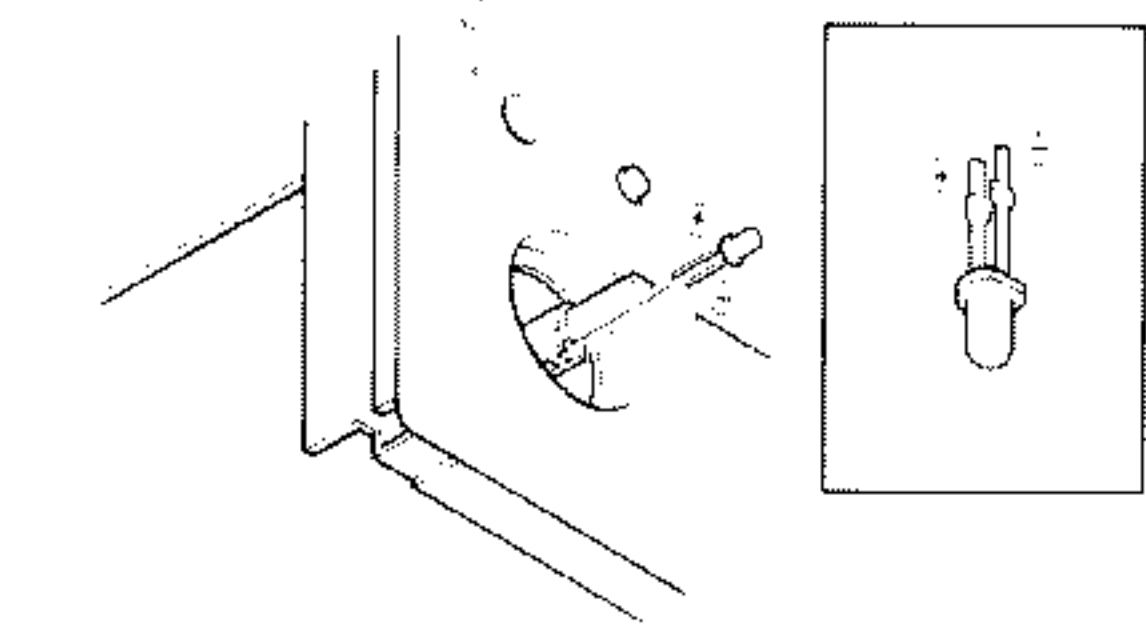
A-711 : K, P, Y, M, X type
A-711L: T, E type

*Refer to parts list on page 46.
Photo is A-711.

PACKING



7. Exchange the fuse resistance mounted on the printed board of power-source transformer for a new one after removing the transformer and putting it on the side of the set.



6. LED for VOLUME (part number: B30-1284-08)

5. The A1 sensor for remote-control light receptor, of X05 uses initially W02-1049-05 and uses W02-1048-05 thereafter. They can be installed on printed board even though their shapes and the location of terminals are different from each other.

4. As a new function, one pattern of graphic equalizer has been added to the disassembly method for repair (detail, refer to the disassembly method for repair).

3. The small radiator cover is attached to this unit. Use it to check power transistors and so on by removing it. In addition, the main board can be checked by removing the bottom board after detaching the case from the unit. For further detail, refer to the disassembly method for repair.

2. This unit is the receiver that is mounted with tuner and amplifier. However, as INPUT SELECTOR IC is incorporated into the graphic equalizer (GE-711), signal system goes through the graphic equalizer. Therefore, radio waves cannot be received with this unit alone.

1. Be sure to refer to the instruction manual of UD-7 of this system for the operation.

NOTES REGARDING SERVICES OF THIS UNIT AND FEATURES OF SYSTEM

1. Be sure to refer to the instruction manual of UD-7 of this system for the operation.

2. This unit is the receiver that is mounted with tuner and amplifier. However, as INPUT SELECTOR IC is incorporated into the graphic equalizer (GE-711), signal system goes through the graphic equalizer. Therefore, radio waves cannot be received with this unit alone.

When you listen to radio waves with this unit alone, connection must be made by the following method:

a) Facilitated connection method, or b) Regular connection method.

(Instead of tuner output, AG output can also be connected to X05 side)

a) Facilitated connection method (It can be connected at once after case is opened)

Connect the output pin TP7(Lch) and TP9(Rch) of the tuner board (X05, A/B) with the test pin TP1(Lch) and TP3(Rch) of main board (X09) (B/B). <Fig. 1> (Output decreases partly because of the relation with input impedance)

b) Regular connection method (Refer to disassembly method for repair)

Connect the output pin TP7(Lch) and TP9(Rch) of the tuner board (X05, A/B) with the test pin TP1(Lch) and TP3(Rch) of main board (X09) (B/B). <Fig. 1> (Output decreases partly because of the relation with input impedance)

c) Regular connection method (Refer to disassembly method for repair)

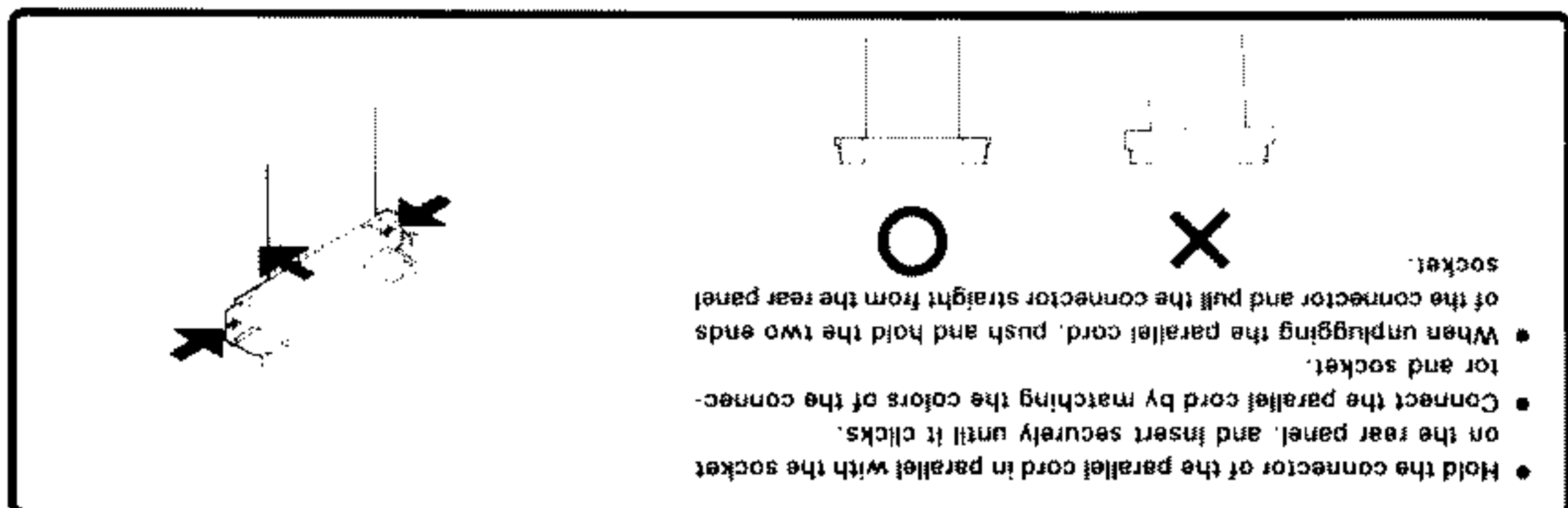
Connect the output pin TP7(Lch) and TP9(Rch) of the tuner board (X05, A/B) with the test pin TP1(Lch) and TP3(Rch) of main board (X09) (B/B). <Fig. 1> (Output decreases partly because of the relation with input impedance)

11	CIRCUIT DESCRIPTION
27	ADJUSTMENT
29	PC BOARD (Component side view)
35	SCHEMATIC DIAGRAM
44	EXPLODED VIEW
46	PARTS LIST
46	Back cover
7	DISASSEMBLY FOR REPAIR
10	BLOCK DIAGRAM

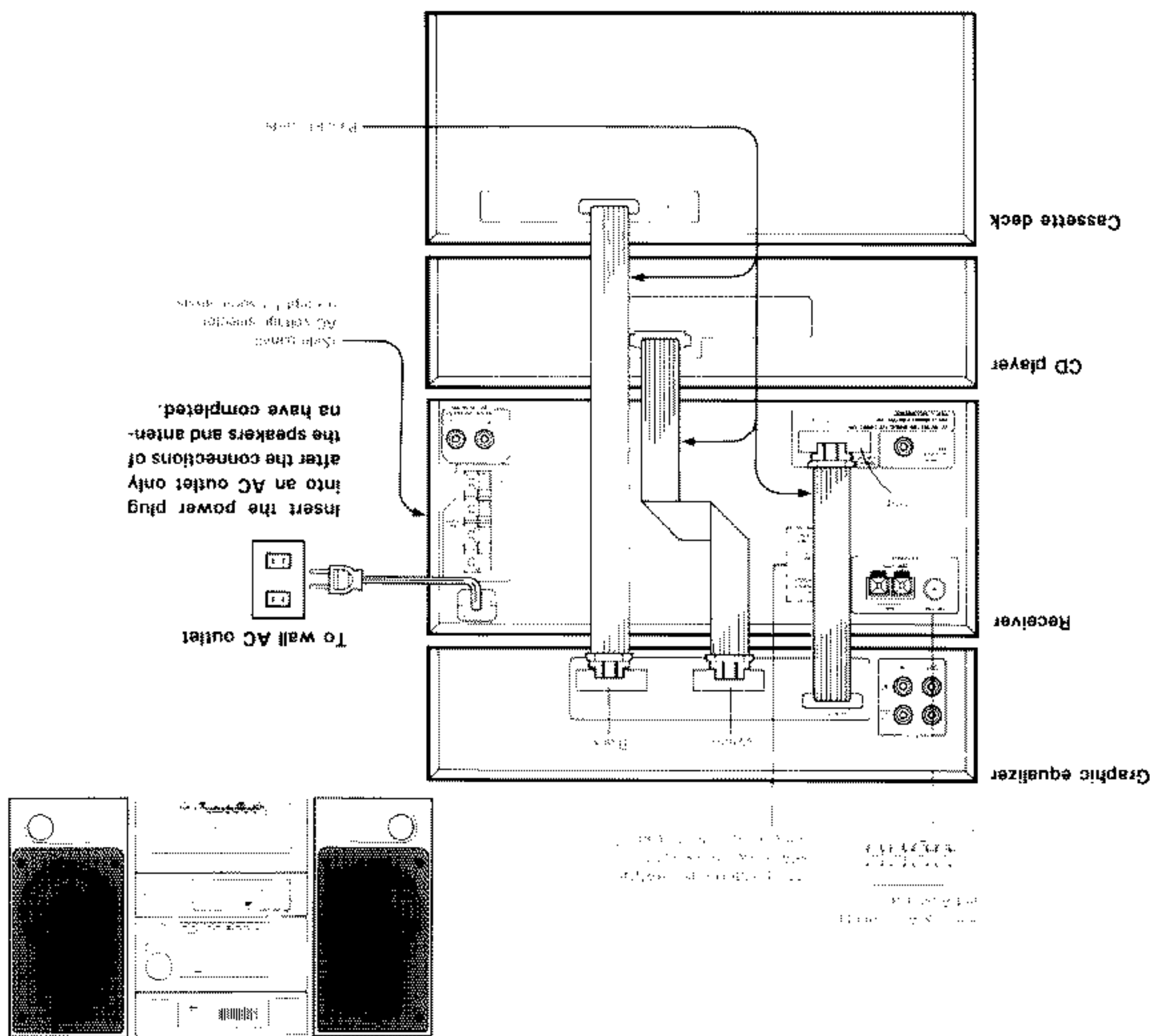
CONTENTS

A-711/711L

NOTES REGARDING SERVICES OF THIS UNIT AND FEATURES OF SYSTEM

[illegible]

■ Connection of parallel cord



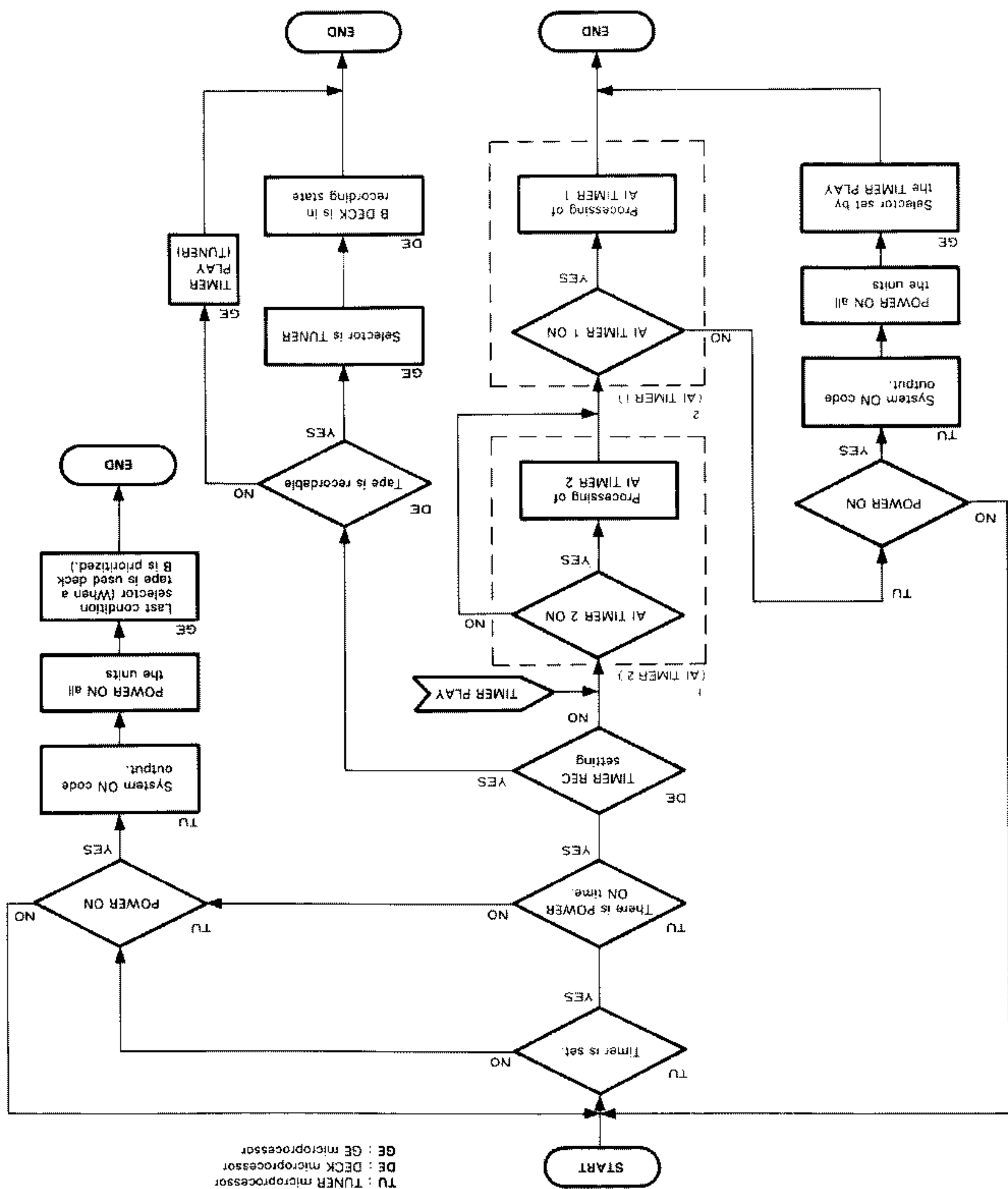
Make connection as shown below. When connecting the related system components, refer also to the instruction manuals of the related components.

When connecting the parallel cord, be sure to match the colors of the sockets.

Do not plug in the power lead until all connections are completed.

System connections

A-711/711L

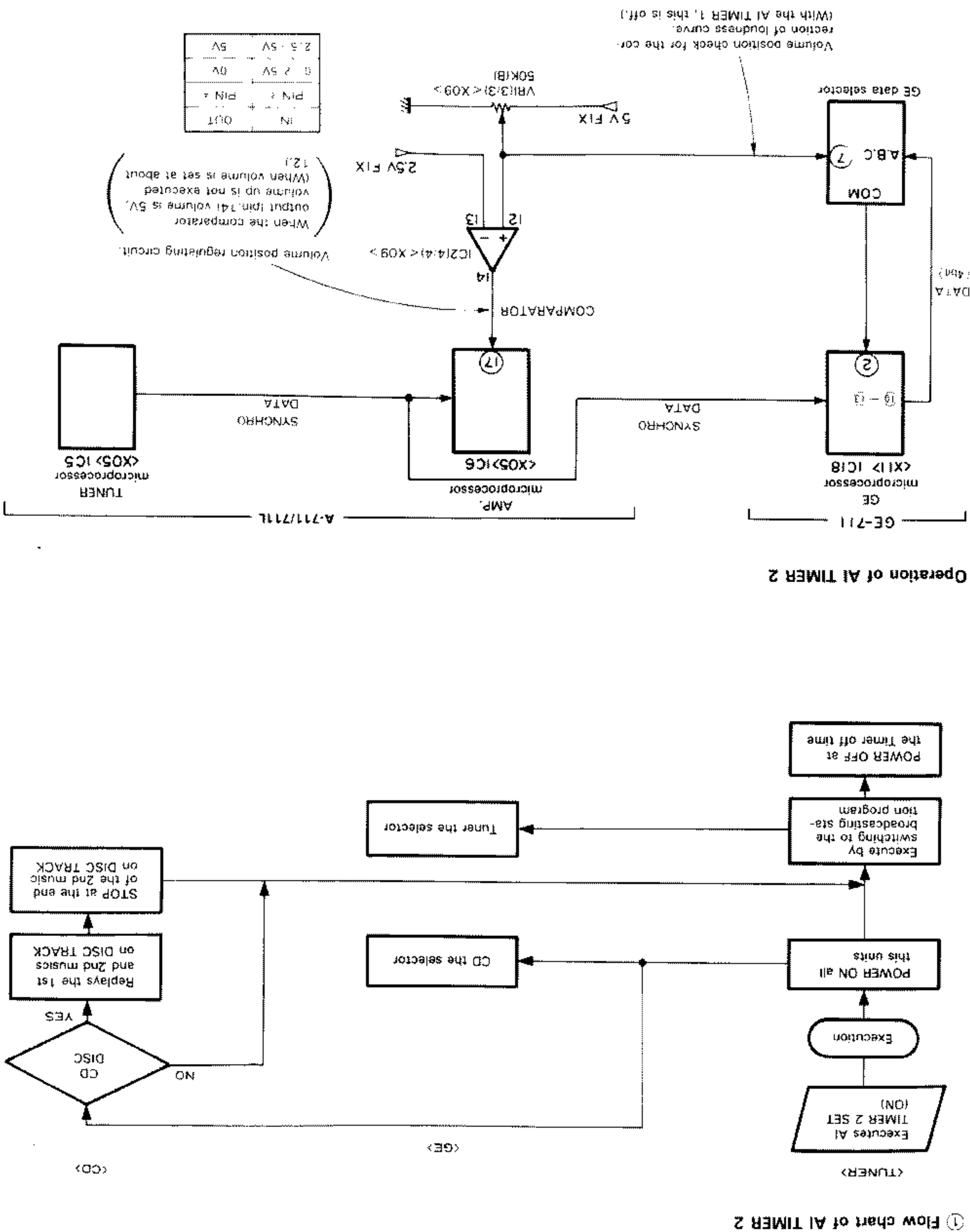


Operation of UD-7 system

CIRCUIT DESCRIPTION

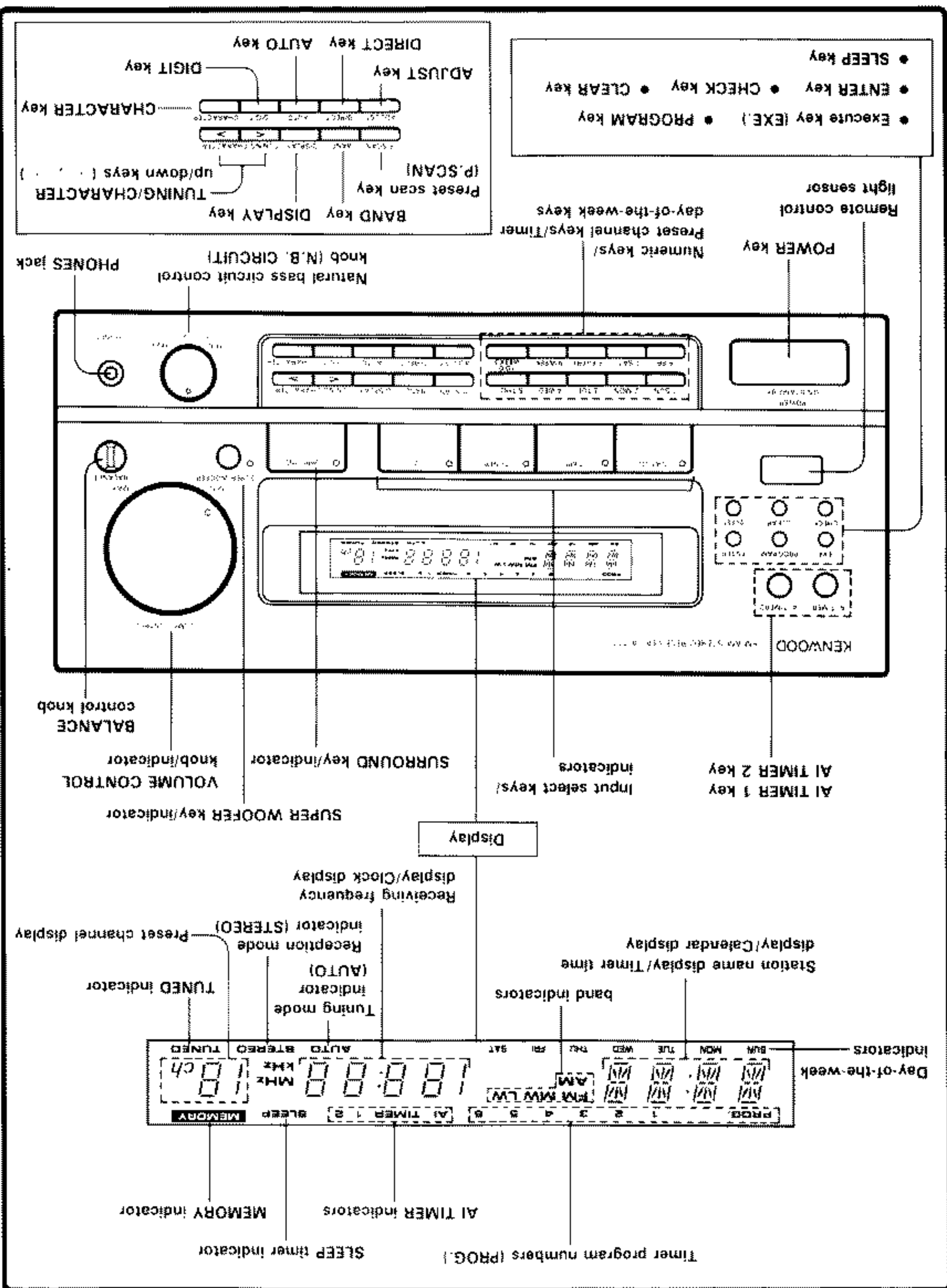
CIRCUIT DESCRIPTION

A-711/711



Controls and indicators

Receiver ■



A-711/711L

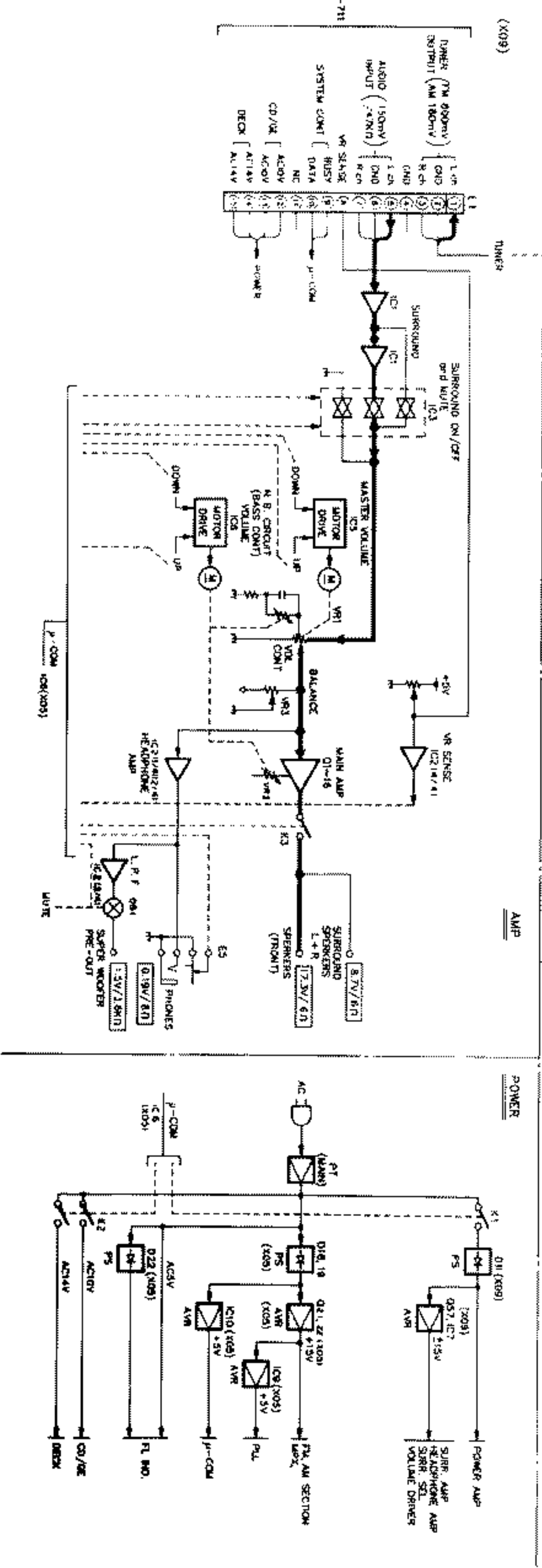
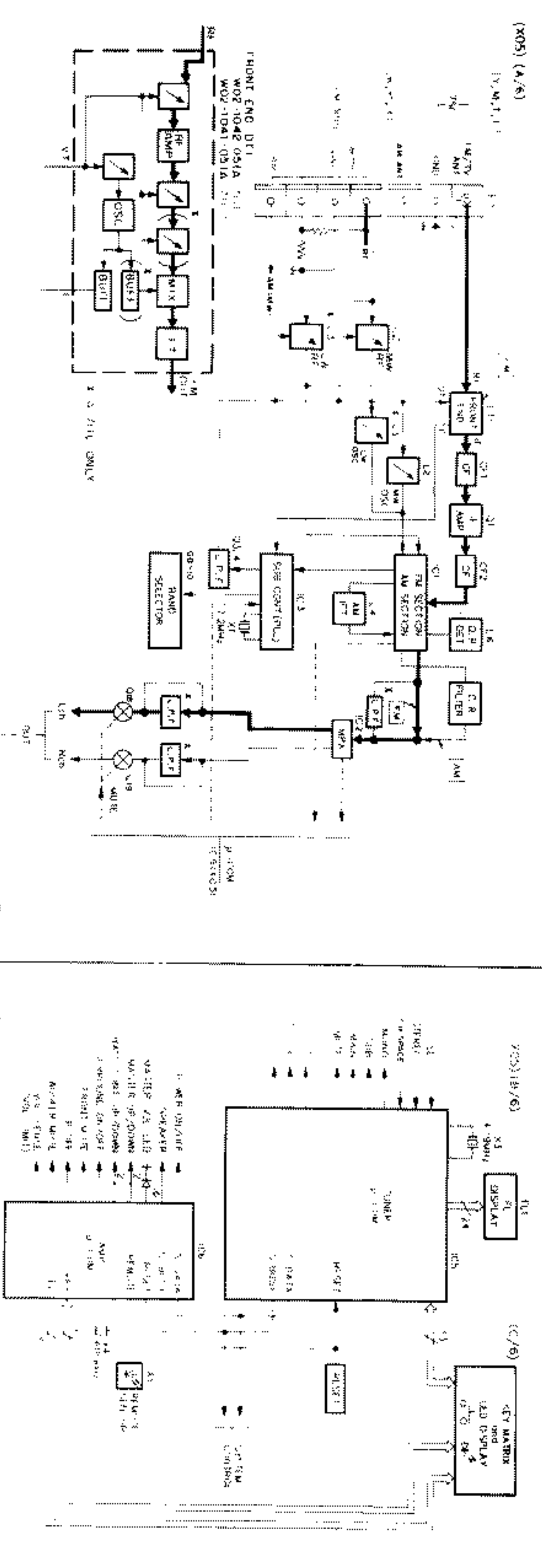
CIRCUIT DESCRIPTION

Function of components

Audio unit (X09-3142-711)

Ref. No.	Components	Use/Function	Operation/Condition
IC1	NJM2058D	Headphone amplifier, Super woofer or buffer, VR detecting comparator	Surround buffer
IC2	IC2 (1/4) (2/4) headphone amplifier, IC2 (3/4) super-woofer	Surround selector	Surround selector
IC3	TC9215P	MUTE is turned ON/OFF with the pin No. 13 of IC6 <X05> H: ON, L: OFF	Mute
IC4	μC1237HA	MAIN VOL. is turned DOWN/UP with the pin Nos. 6 and 7 of IC6 <X05> IC6 <X05> N.B.C. VOL. is turned DOWN/UP with the pin Nos. 10 and 11 of IC6 <X05> -15V stabilizing power source	Protection
IC5	TAB409S	Main volume drive	
IC6	TAB409S	N.B.C. volume drive	
IC7	μC7915HF	3-terminal regulator	
Q1~4	2SA927F(E)	For the 1st stage A class	
Q5, 6	2SA927F(E)	For the 2nd stage A class	
Q7~10	2SC1845F(E)	For the 2nd stage A class	
Q11, 12	2SC4137F19IV(W)	For temperature compensation	
Q13, 14	2SD2255BT*5	Final Tr.	
Q15, 16	2SB14938T*5	For detecting overloading	
Q51	2SC2878(B)	For super woofer muting	
Q52	2SA733A(H,P) or 2SA933S(IQ,R)	Super woofer muting drive	
Q53	2SA733A(H,P) or 2SA933S(IQ,R)	Hi-ple filter	
Q54	2SA927F(E)	For protection	
Q55	2SC3666	AC relay drive	
Q56	2SC1740S(IQ,R) or 2SC945A(IQ,P)	Speaker relay drive	
Q57	2SD1266(IQ,P) + 15V stabilizing, power source	For A class	
D1, 2	HSS104 or 1SS133	For rectifying AC relay power source	
D3, 4	HSS104A or 1SS131	For protection	
D11	RBV-6021FA	For rectification	
D12	HZS155(B) or RD15J5(B)	+15V stabilizing, power source	
D13	HZS155(B) or RD15J5(B)	For +15V stabilizing power source A class	
D14, 15	HZS51N(E2) or RD51ES1821	For VR detection	
D16	HZS475(B) or RD475(B)	For muting	
D17~22	HSS104 or 1SS133	For protection of static electricity	
D23	HSS104 or 1SS133	For removing headphone snock	
D24	HSS104 or 1SS133	For removing selector snock noise	
D25, 26	HSS104 or 1SS133	For relay	
D27	HSS104A or 1SS131	For detecting protection AC	
D29	S55666	For rectifying AC relay power source	
D32	HSS104 or 1SS133	For mute	
D33	HSS104 or 1SS133	For VR LED	
D34 or 35	HSS104 or 1SS133	For protection of static electricity	

BLOCK DIAGRAM



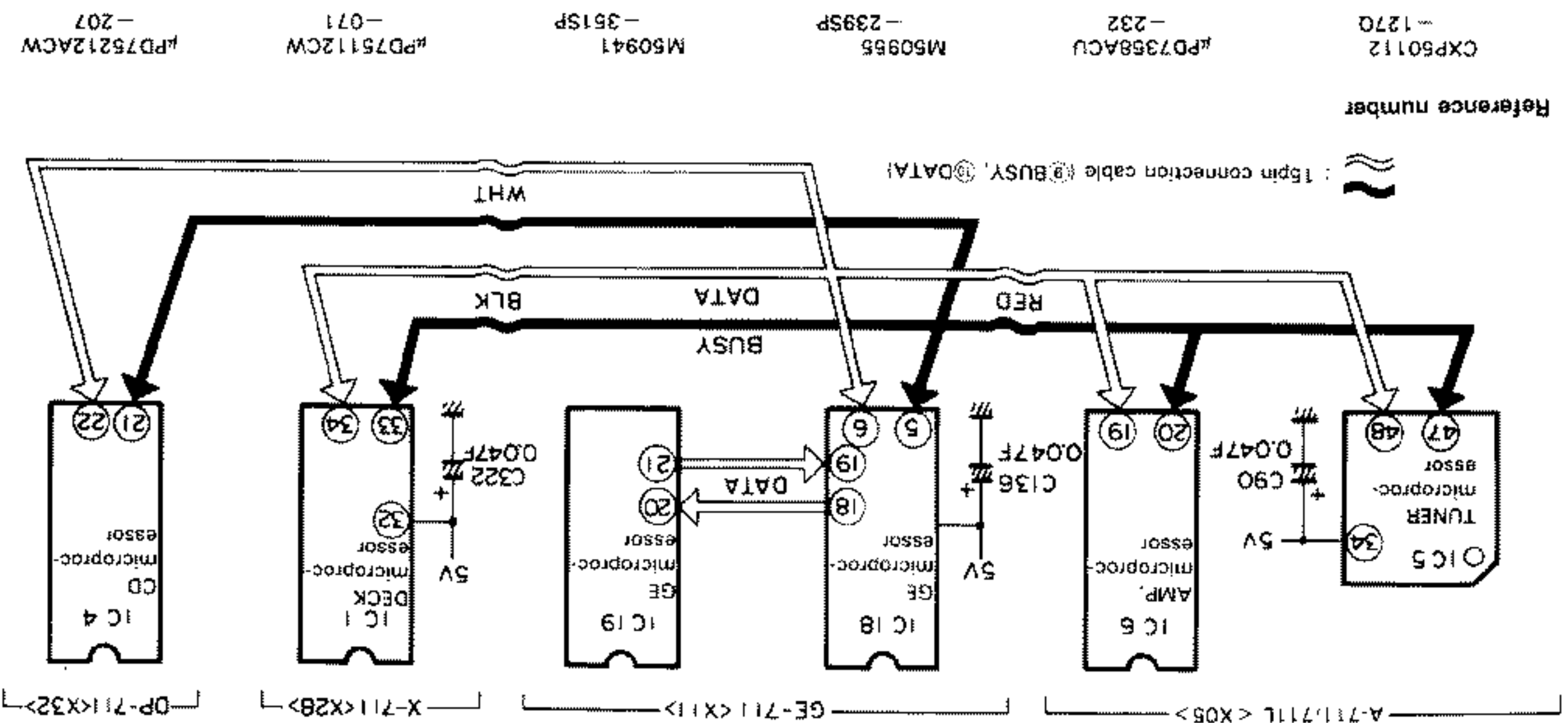
CIRCUIT DESCRIPTION

Function of components

Tuner unit (X05-3992-711)

Ref. No.	Components	Use/Function	Operation/Condition
IC1	LA1265	FM/AM system IC	FM IF amplification, FM detection, AM MIX, AM IF amplification and AM detection
IC2	AN7470	Audio demodulation (AM, FM)	FM stereo multiplex
IC3	LM7001	PLL IC	PLL
IC5	CXP50112-27Q	Tuner microprocessor	Tuner control, tuner operation and control of others
IC6	μPD7536ACU-232	Amplifier microprocessor	Amplifier control
IC7	PST529D	Reset IC	Generates the reset power source.
IC9	μPC7805HF or AN7805F	+5V 3-terminal regulator	+5V rectification
IC10	μPC7805HF or AN7805F	+5V 3-terminal regulator	+5V rectification
Q1	2SC1923(R,Q)	IF amplification	IF amplification of FM
Q2	2SC1631(M)	PLL time constant conversion	At the time of LW reception: OFF
Q3	2SC945A(IQ,P) or 2SC1740S(IQ,R)	L.P.F.	L.P.F. for PLL (integration type)
Q4	2SC1845F(E)	L.P.F.	L.P.F. for PLL (integration type)
Q5	2SC945A(IQ,P) or 2SC1740S(IQ,R)	MW/LW conversion	At the time of MW: ON
Q6	2SC945A(IQ,P) or 2SC1740S(IQ,R)	MW/LW conversion	At the time of LW: ON
Q7	2SC945A(IQ,P) or 2SC1740S(IQ,R)	Buffer	Buffer for FM detecting output (L.P.F. matching)
Q8	2SA733A(H,P) or 2SA933S(IQ,R)	FM + B conversion	At the time of receiving FM: ON
Q9	2SA733A(H,P) or 2SA933S(IQ,R)	LW + B conversion	At the time of receiving LW: ON
Q10	2SA733A(H,P) or 2SA933S(IQ,R)	MW + B conversion	At the time of receiving MW: ON
Q11	2SC945A(IQ,P) or 2SC1740S(IQ,R)	Deemphasis conversion	Deemphasis conversion
Q12	2SC945A(IQ,P) or 2SC1740S(IQ,R)	Deemphasis conversion	Deemphasis conversion
Q13	2SC945A(IQ,P) or 2SA1740S(IQ,R)	Reversing circuit	Controls reset circuit (Tuner μ-COM)
Q14	2SA733A(H,P) or 2SA933S(IQ,R)	Reversing circuit	Controls reset circuit (Amplifier μ-COM)
Q15	2SA733A(H,P) or 2SA933S(IQ,R)	Reversing circuit	Reverses the mute signal from the amplifier microprocessor
Q16	2SA733A(H,P) or 2SA933S(IQ,R)	Reversing circuit	Reverses the mute signal from the tuner microprocessor
Q17	2SA733A(H,P) or 2SA933S(IQ,R)	Destination Conversion SW	Converts deemphas and channel space
Q18	2SD1302(S,T)	Mute	Mute SW of Lch
Q19	2SC1302(S,T)	Mute	Mute SW of Rch
Q21	2SC1266(IQ,P)	+14V rectification	Generates the stabilized power source for 14V
Q22	2SC945A(IQ,P) or 2SC1740S(IQ,R)		
Q23	2SC945A(IQ,P) or 2SC1740S(IQ,R)		

Microprocessor and back-up condenser of this unit

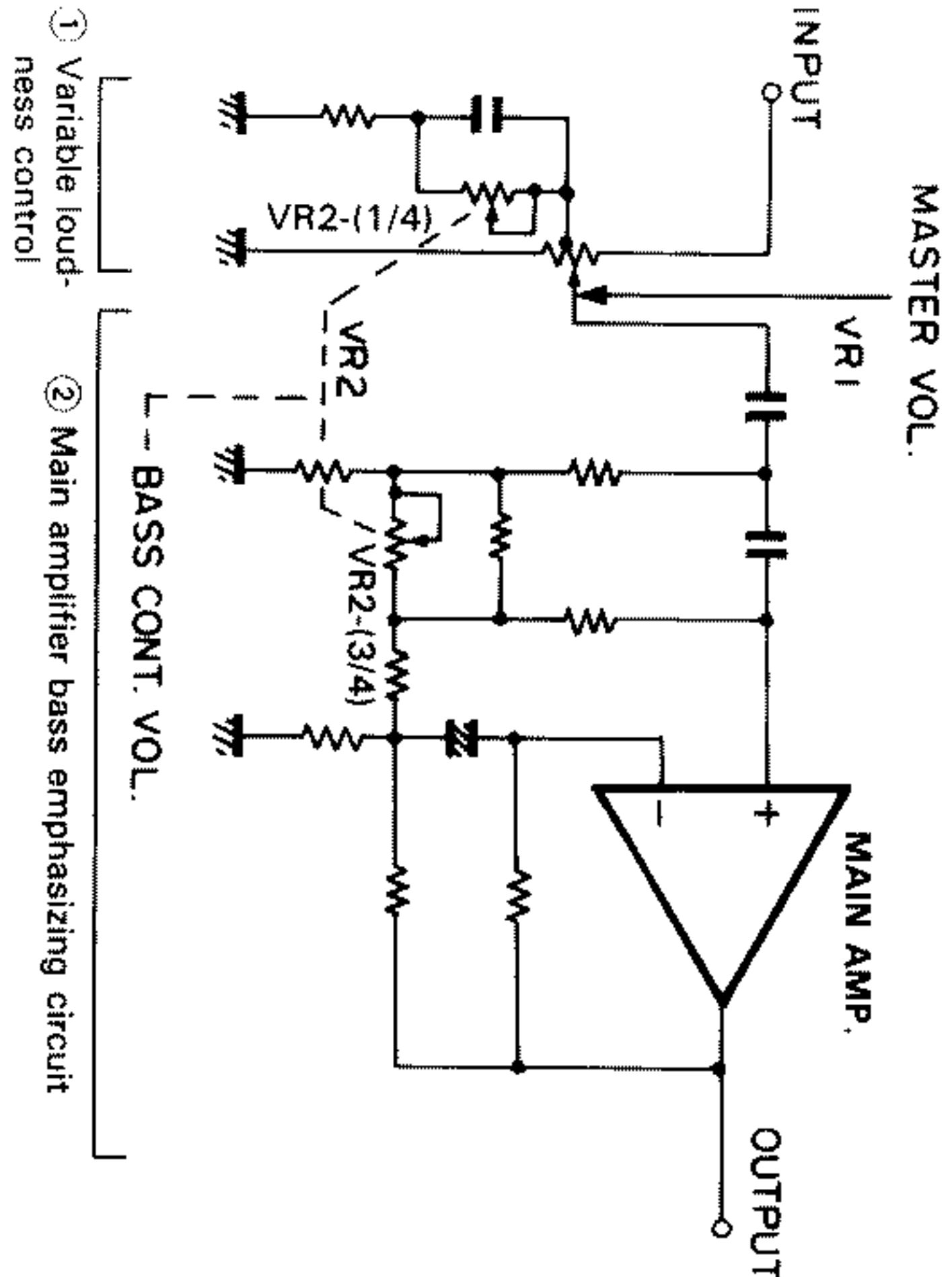


CIRCUIT DESCRIPTION

N.B. CIRCUIT (X09-3142-71 (B/5))

The N.B. of N.B. CIRCUIT stands for Natural Bass, and it is the circuit to create further natural bass sound.
It is roughly composed of ① Variable loudness control and ② Main amplifier bass emphasizing circuit showed in the chart.
The ① Variable loudness control in the chart has become able to vary the level of loudness control by mounting the traditional loudness control variable VR (VR2, 1/4) onto itself.
The ② main amplifier bass emphasizing circuit can boost up the desired frequency with the fixed number of C.R. parts for input and returning C.R. parts of main amplifier. It has also become able to vary these boost levels by mounting VR2, (3/4) onto it. The fixed number of this A-711/711L has been set so as to boost up 60 Hz.

The action of this circuit results from the combination of aforementioned ① and ②, which also can vary the boost level of bass sound at the same time.



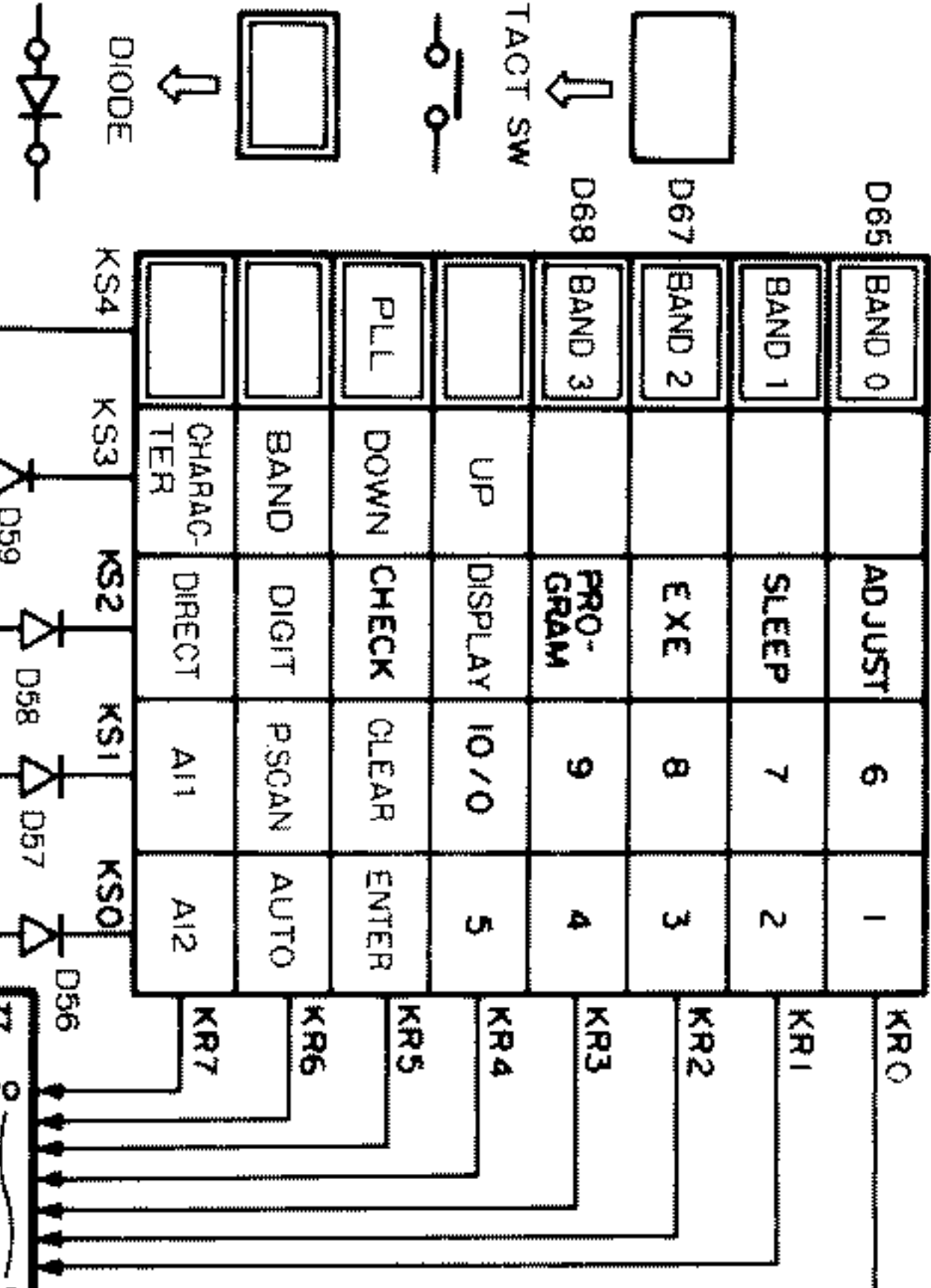
Pin connections

CIRCUIT DESCRIPTION

IC5: CXP50112-127Q (X05-3992-71)
TUNER microprocessor

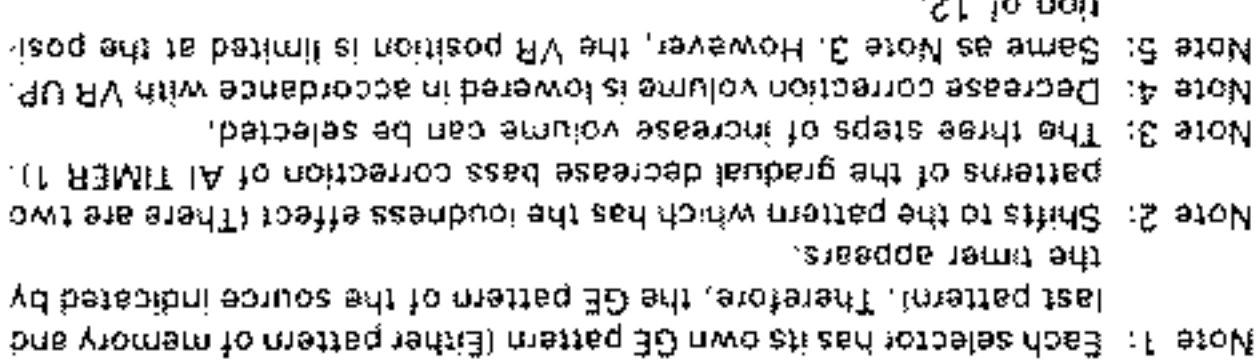
Terminal connection diagram & key matrix connection

KEY MATRIX



CIRCUIT DESCRIPTION

② Indication flow of AI TIMER 1



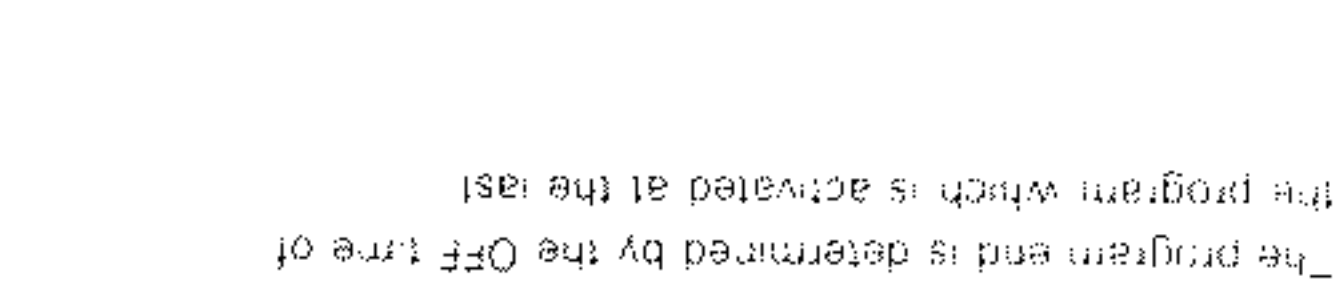
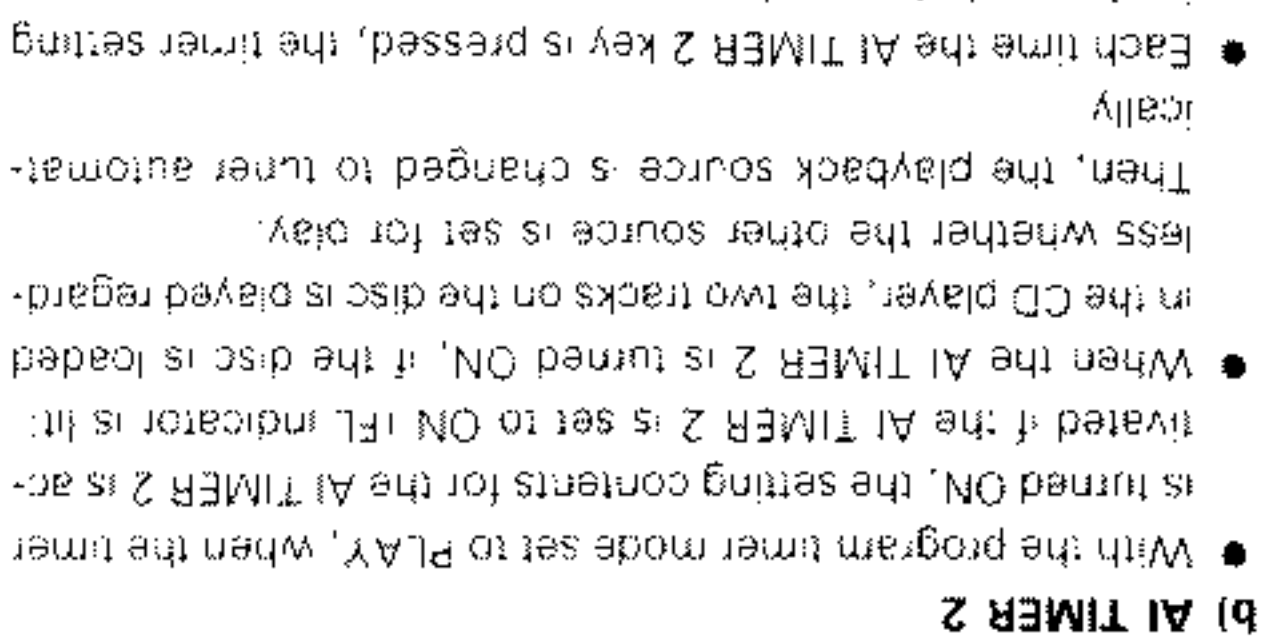
Function description	a) AI TIMER 1

CIRCUIT DESCRIPTION

A-711/711L

- With the program under mode set to P-RT, when the number of the AI TIMER is set to ON, the FL indicator is lit.
- When the AI TIMER is turned ON, first playback status is set to ON, then the volume level is increased in three steps.
- The third-step volume level (the maximum volume level) can be selected among the three types of the volume levels (VOL. 1-3). Each time the AI TIMER 1 key is pressed, the maximum volume level is changed in order from VOL. 1 to VOL. 3 and TIMER OFF setting cyclically.

Reference for volume selection

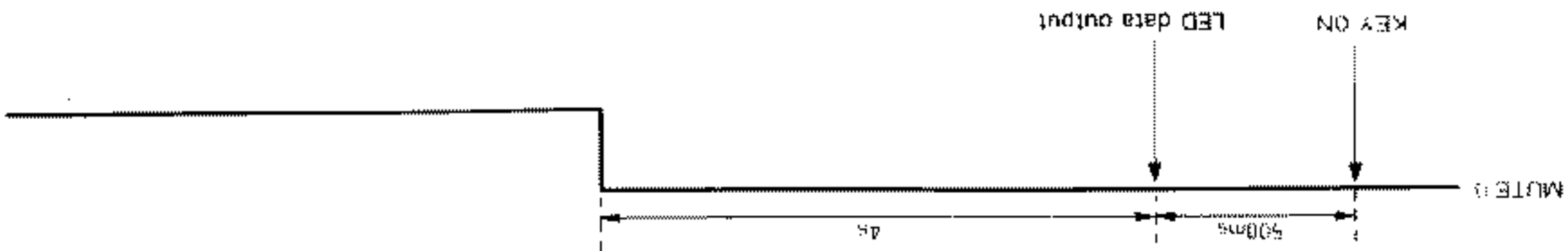


CIRCUIT DESCRIPTION

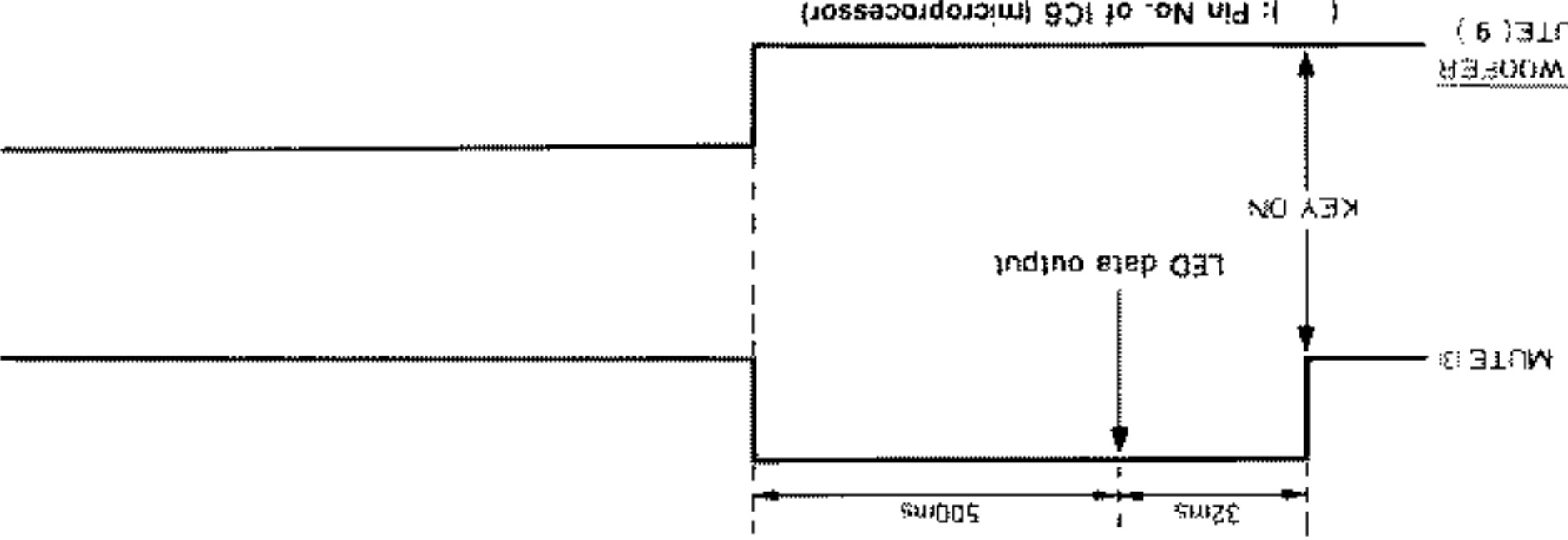
Pin No.	Pin name	I/O	Symbol	Description
1	RESET	I	RESET	Reset input (H: Reset)
2	CL1	—	—	System clock terminal
3	CL2	—	—	System clock terminal
4	Vcc	—	—	No use. (GND)
5	Vcc	—	—	No use. (GND)
6	P53	O	VOL DOWN	Motor volume down drive
7	P52	O	VOL UP	Motor volume up drive
8	P51	O	VOL LED	Volume indicator LED drive
9	P50	O	S WOOFER	Super woofer mute
10	P23	O	BASS UP	N.B. circuit volume up drive
11	P22	O	BASS DOWN	N.B. circuit volume down drive
12	P21/PTOUT	—	—	No use. (OPEN)
13	P103	O	MUTE	Mute
14	P102	O	POWER	Power relay drive
15	P101	—	—	No use. (GND)
16	P100	O	SP ON/OFF	Speaker ON/OFF conversion
17	P113	I	VOL LIMIT IN	Volume position detection input
18	P112	I	REMOCOM IN	Remote control input
19	P111	I/O	DATA	Serial data input/output
20	P110	I/O	BUSY	Serial busy input/output
21	Vcc	—	—	Power supply pin
22	P93	O	S WOOFER	Super woofer LED drive
23	P92	O	SURROUND	Surround ON/OFF and LED drive
24	P91	—	—	No use. (OPEN)
25	P90	O	TAPE	TAPE LED drive
26	P89	O	DATA/LD	DATA/LD LED drive
27	P82	O	TUNER	TUNER LED drive
28	P81	O	CD	CD LED drive
29	P80	—	—	No use. (OPEN)
30	P43	I	SP OFF	Speaker OFF detection input
31	P42	—	—	No use. (GND)
32	P41	—	—	No use. (GND)
33	P40	—	—	No use. (GND)
34	P33	—	—	No use. (OPEN)
35	P32	—	—	No use. (OPEN)
36	P31	—	—	No use. (OPEN)
37	P30	O	K50	Key scan output signal 0
38	P03-S1	I	KR3	Key return input signal 3
39	P02-S0	I	KR2	Key return input signal 2
40	P01-SCK	I	KR1	Key return input signal 1
41	P00-INTC	I	KR0	Key return input signal 0
42	VSS	—	—	GND pin

Pin functions

Timing chart



(2) SELECTOR, SURROUND, SUPER WOOFER KEY ON



* When the switching of POWER ON/OFF or selector is executed in the condition of SUPER WOOFER ON, S. WOOFER MUTE will have the same timing as MUTE (the logic is reverse).

a) Setting method
While pressing the "CD" key and tuning "DOWN" key, insert the AC plug into the outlet and simultaneously enter the TEST MODE. When you wish to enter only the amplifier into the TEST MODE, pull out the AC plug from the outlet in the POWER ON MODE. When you wish to enter only the amplifier and tuner, press either the ten keys, "BAND" key or "UP/DOWN" key.

b) Clearing method
In order to simultaneously clear the amplifier and tuner, press the "CD" key.

c) Contents of operation
① POWER is turned ON and all the LEDs are lit on.

② By pressing "S-WOOFER", both the VOLUME and N.B. CIRCUIT are simultaneously up, and remain to be up for 2 seconds. Then, they go DOWN and STOPS after about 12 seconds.

③ Even if the "CD", "TAPE", "DATA LD", "SURROUND", and "POWER" keys are pressed, they are not accepted.

Initial status

Item	Condition
INPUT	TUNER
SURROUND	OFF
SUPER WOOFER	OFF
POWER	OFF (STAND BY)
MUTE	ON
MOTOR VOLUME CONTROL	OFF
LED	OUT LIGHTS

Initialization: Pull the AC plug from the outlet and then insert again.

CIRCUIT DESCRIPTION

Destination	Band	FM (FM1)	AM	TV/LW
J	1	87.5 MHz	76.0 MHz	8
	2	89.1 MHz	78.0 MHz	7
	3	90.0 MHz	80.0 MHz	6
	4	92.0 MHz	82.0 MHz	5
	5	94.0 MHz	83.5 MHz	4
	6	96.0 MHz	86.0 MHz	3
	7	100.1 MHz	88.0 MHz	2
	8	102.0 MHz	89.1 MHz	1
	9	106.0 MHz	90.0 MHz	—
	10	108.0 MHz	90.0 MHz	—
K.P.Y.M.X	1	87.5 MHz	76.0 MHz	8
	2	89.1 MHz	78.0 MHz	7
	3	90.0 MHz	80.0 MHz	6
	4	92.0 MHz	82.0 MHz	5
	5	94.0 MHz	83.5 MHz	4
	6	96.0 MHz	86.0 MHz	3
	7	100.1 MHz	88.0 MHz	2
	8	102.0 MHz	89.1 MHz	1
	9	106.0 MHz	90.0 MHz	—
	10	108.0 MHz	90.0 MHz	—
T.E	1	87.5 MHz	76.0 MHz	8
	2	89.1 MHz	78.0 MHz	7
	3	90.0 MHz	80.0 MHz	6
	4	92.0 MHz	82.0 MHz	5
	5	94.0 MHz	83.5 MHz	4
	6	96.0 MHz	86.0 MHz	3
	7	100.1 MHz	88.0 MHz	2
	8	102.0 MHz	89.1 MHz	1
	9	106.0 MHz	90.0 MHz	—
	10	108.0 MHz	90.0 MHz	—

(Table 1)

Conditions by destination

Destination type	B3	B2	B1	B0	Band	Receiving frequency range	Intermediate frequency	PLL reference frequency
J	0	0	0	0	FM	76.0 ~ 90.0 MHz	100 kHz	25 kHz
	0	0	0	0	AM	531 ~ 1602 kHz	9 kHz	450 kHz
M.Y	1	1 or 0	0	0	FM	87.5 ~ 108.0 MHz	100 kHz	25 kHz
	1	0	0	0	FM	87.5 ~ 108.0 MHz	100 kHz	25 kHz
K.P	1	0	0	0	FM	87.5 ~ 108.0 MHz	100 kHz	25 kHz
	1	0	0	0	FM	87.5 ~ 108.0 MHz	100 kHz	25 kHz
X	1	1	0	0	FM	87.5 ~ 108.0 MHz	100 kHz	25 kHz
	1	1	0	0	FM	87.5 ~ 108.0 MHz	100 kHz	25 kHz
T.E	1	1	1	0	FM	87.5 ~ 108.0 MHz	100 kHz	25 kHz
	1	1	1	0	FM	87.5 ~ 108.0 MHz	100 kHz	25 kHz

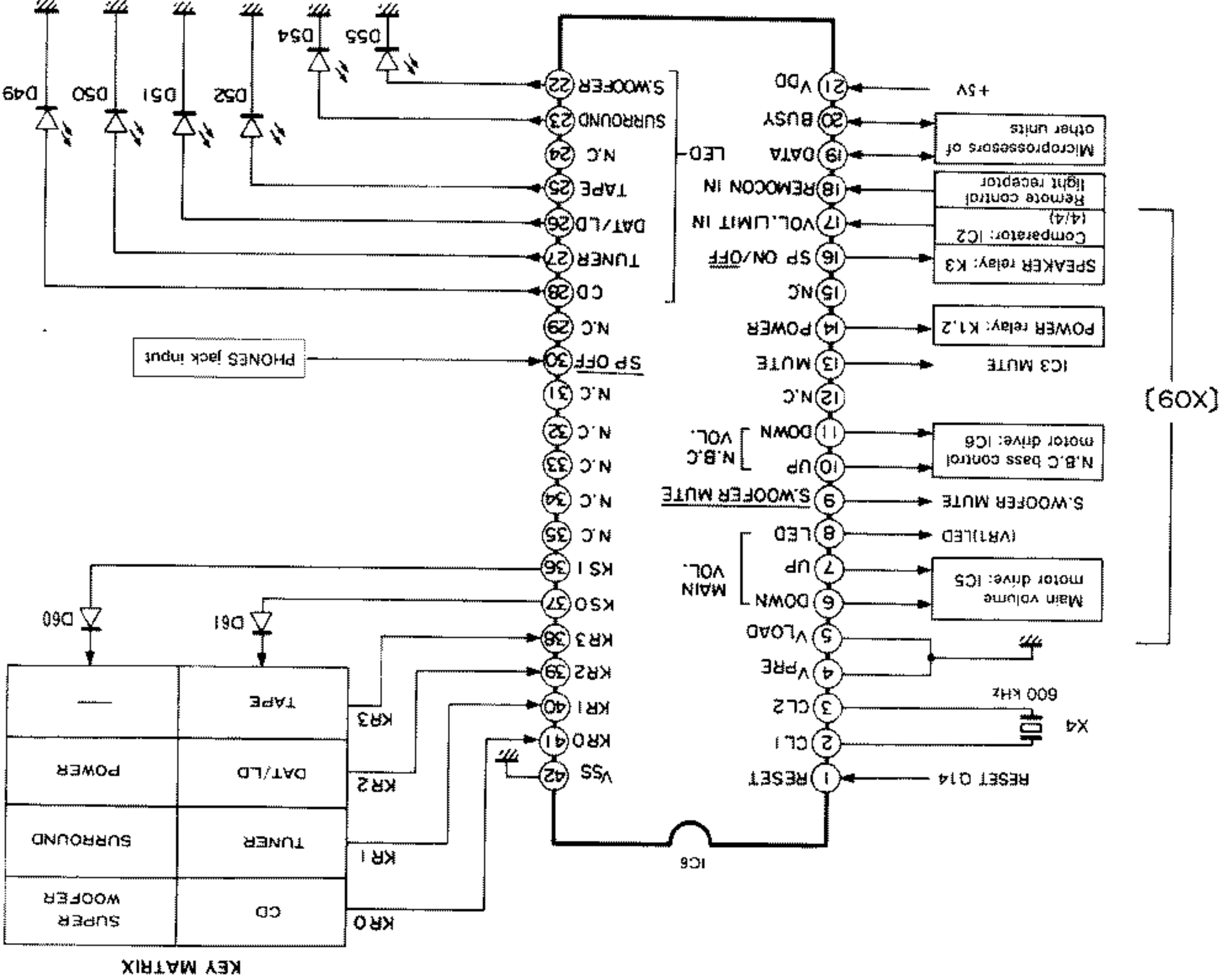
- (1) Setting method**
Insert the AC plug into an outlet and remove your fingers from DOWN key at the same time while pressing DOWN key.
- (2) Contents**
POWER ON
All the FLS turned on
Test Frequency Setting (Table 1)
- (3) Clearing method**
All the turned on FLS can be cleared with ten keys, BAND key, UP/DOWN key or POWER key.
- (1) Method**
While pressing ENTER key, turn the AC ON.
- (2) Contents**
Clears all the memory and returns to the initial conditions.
However, the test frequency is newly memorized in the preset memory at this time. (The same as when the back-up data is NG.)

CIRCUIT DESCRIPTION

IC6: μ PD7538ACU-232 (X05-3992-71)

AMP, microprocessor

Terminal connection diagram & key matrix connection

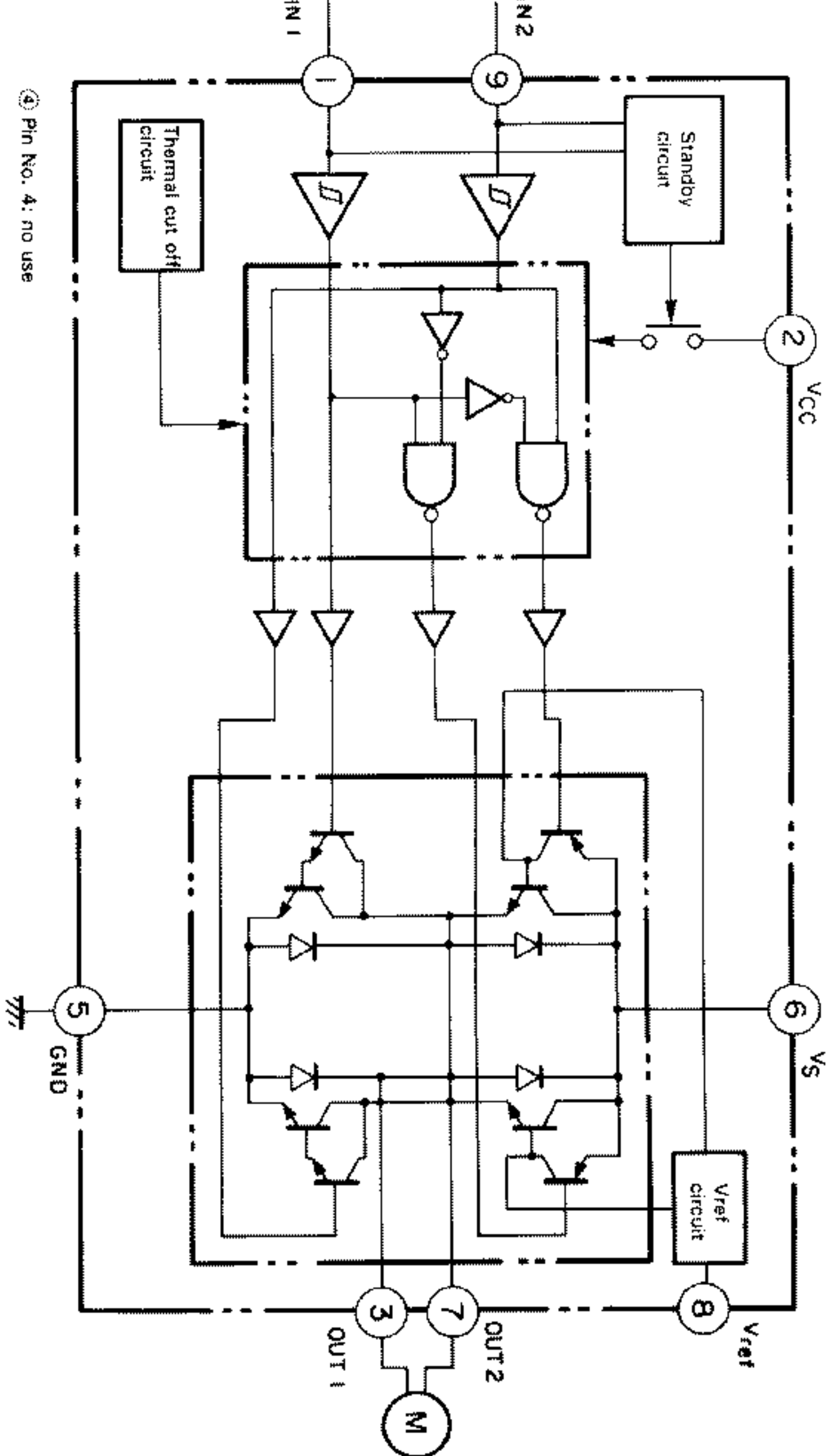


CIRCUIT DESCRIPTION

CIRCUIT DESCRIPTION

IC5, 6: TA8409S (X09-3142-71)
Volume motor drive IC

Block diagram



Truth table

INPUT	OUTPUT	MODE
①	③	Pin No. of IC5, 6
IN 1	OUT 1	Motor mode
0	∞	STOP
1	L	CW
1	H	CCW
1	L	BRAKE

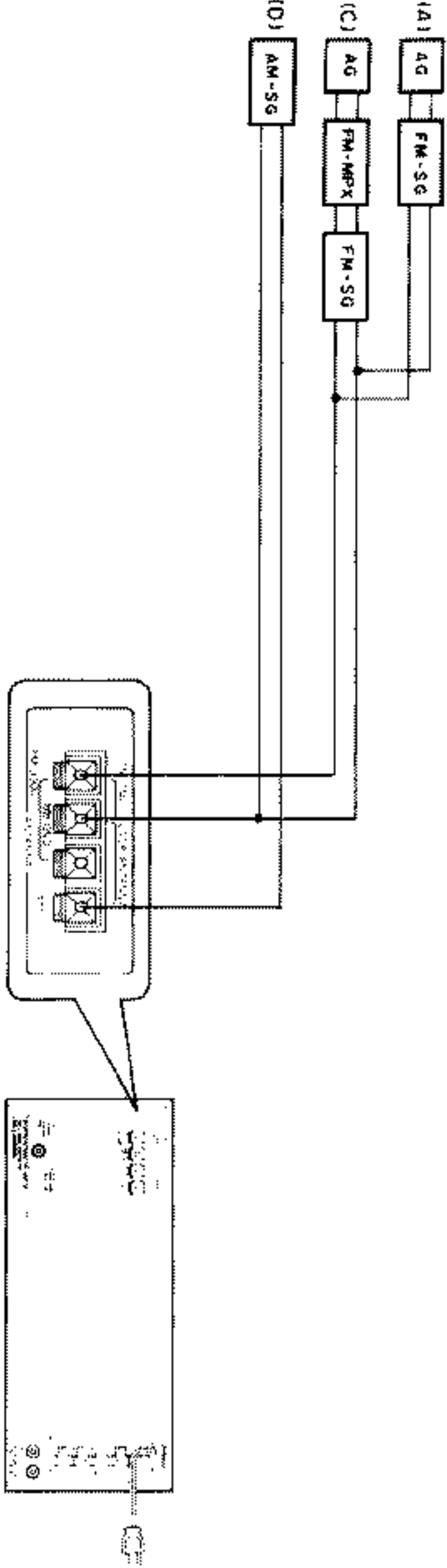
∞: High impedance
Input "H": active

Tuner unit

If alignment point is "...", confirm the value.
If not, replace the front-end pack and IC5A33-PJ.)

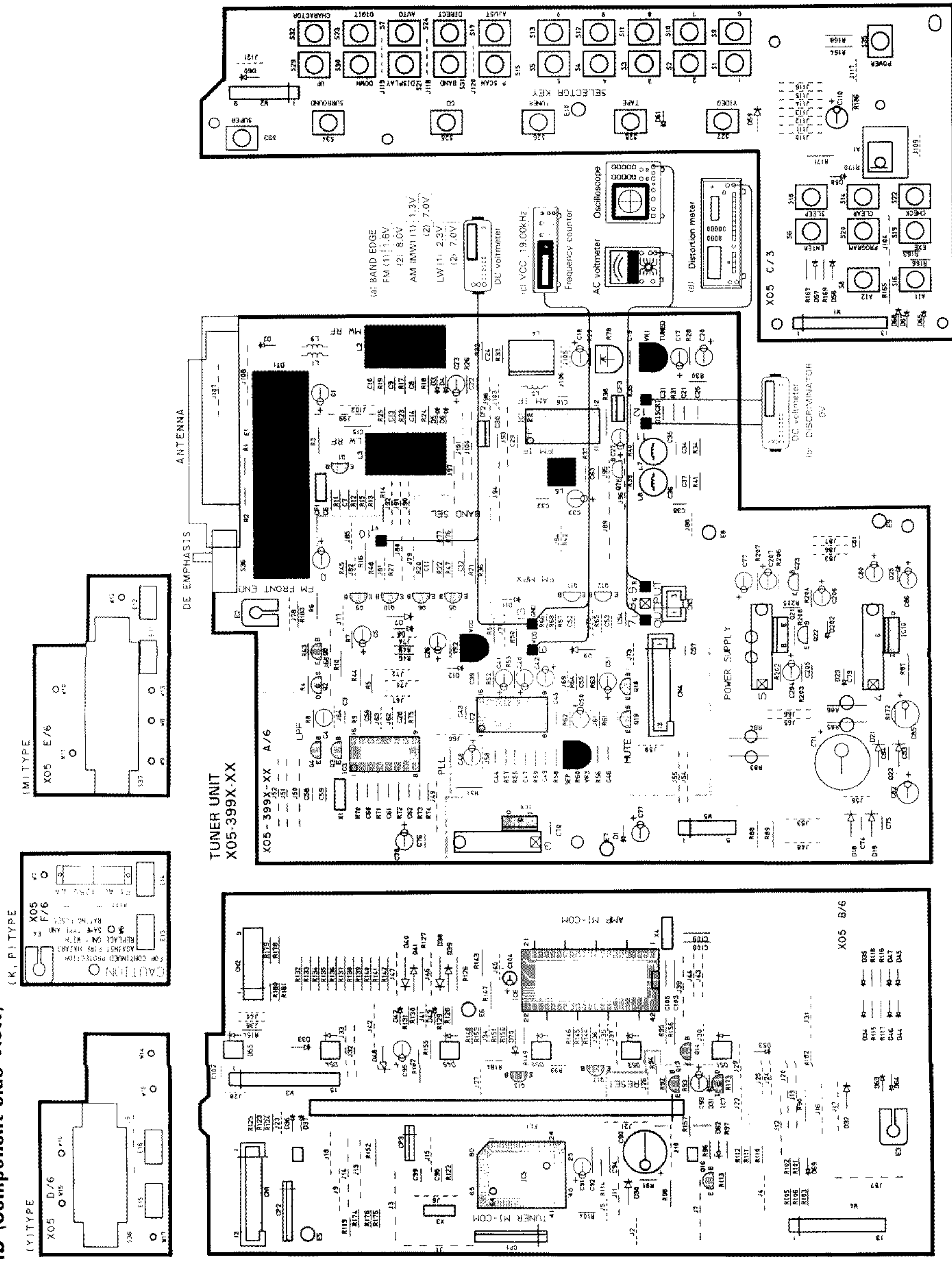
No.	ITEM	SETTING	SETTING	ALIGNMENT	ALGO. P.C.S.	FIG.
F.M. SECTION						
1	IF BAND EDGE (1)	-	Connect a DC voltmeter between TP10(VT) and TP13(GND).	NT 3MHz	1.6V	(a)
2	IF BAND EDGE (2)	-	Connect a DC voltmeter between TP10(VT) and TP13(GND).	103.0MHz	8.0V	(a)
3	DISCRIMINATOR	98.0MHz 1kHz, 75dBz dev 600μA (ANT input)	Connect a DC voltmeter between TP11 and TP12.	AUTO or MONO 98.0MHz	0V	(b)
4	VCO	98.0MHz 0 dev 1000μA (ANT input)	Connect a frequency counter between TP5 and GND.	AUTO 95MHz	13.00MHz	(c)
5	DISTORTION (STEREO)	98.0MHz 1kHz, 56.25dBz dev P150: 28.75dBz dev S100μA (ANT input)	(d)	95.0MHz (102.5)	Maximum distortion.	
6	SEPARATION (E.T. type only)	98.0MHz Stereo signal 600μA (ANT input)	(d)	98.0MHz (103.5)	Minimum cross-talk.	
7	TUNING LEVEL	98.0MHz 0 dev 1000μA (ANT input), 750	(d)	AUTO or MONO 98.0MHz	Adjust VR1 and stop at the point where P150 (LITENED) goes on.	
AM-MW SECTION						
Keep the AM loop antenna installed. SELECTION: AM or MW						
(1)	BAND EDGE (1)	-	Connect a DC voltmeter between TP10(VT) and TP13(GND).	530kHz (531kHz)	1.3V	(a)
(2)	BAND EDGE (2)	-	Connect a DC voltmeter between TP10(VT) and TP13(GND).	1610kHz (1602kHz)	1.0V	(a)
(3)	RF ALIGNMENT	990kHz 400Hz, 30% mod 3400μA (ANT input)	(d)	990kHz (183.5)	Maximum amplitude and symmetry of the oscilloscope display.	
AM-LW SECTION (E.T. type only)						
Keep the AM loop antenna installed. SELECTION: LW						
(4)	BAND EDGE (1)	-	Connect a DC voltmeter between TP10(VT) and TP13(GND).	153kHz	2.3V	(a)
(5)	BAND EDGE (2)	-	Connect a DC voltmeter between TP10(VT) and TP13(GND).	281kHz	1.0V	(a)
Repeat alignments (4) and (5) several times.						
(6)	RF ALIGNMENT	216kHz 100Hz, 30% mod 3300μA (ANT input)	(d)	216kHz (183.5)	Maximum amplitude and symmetry of the oscilloscope display.	

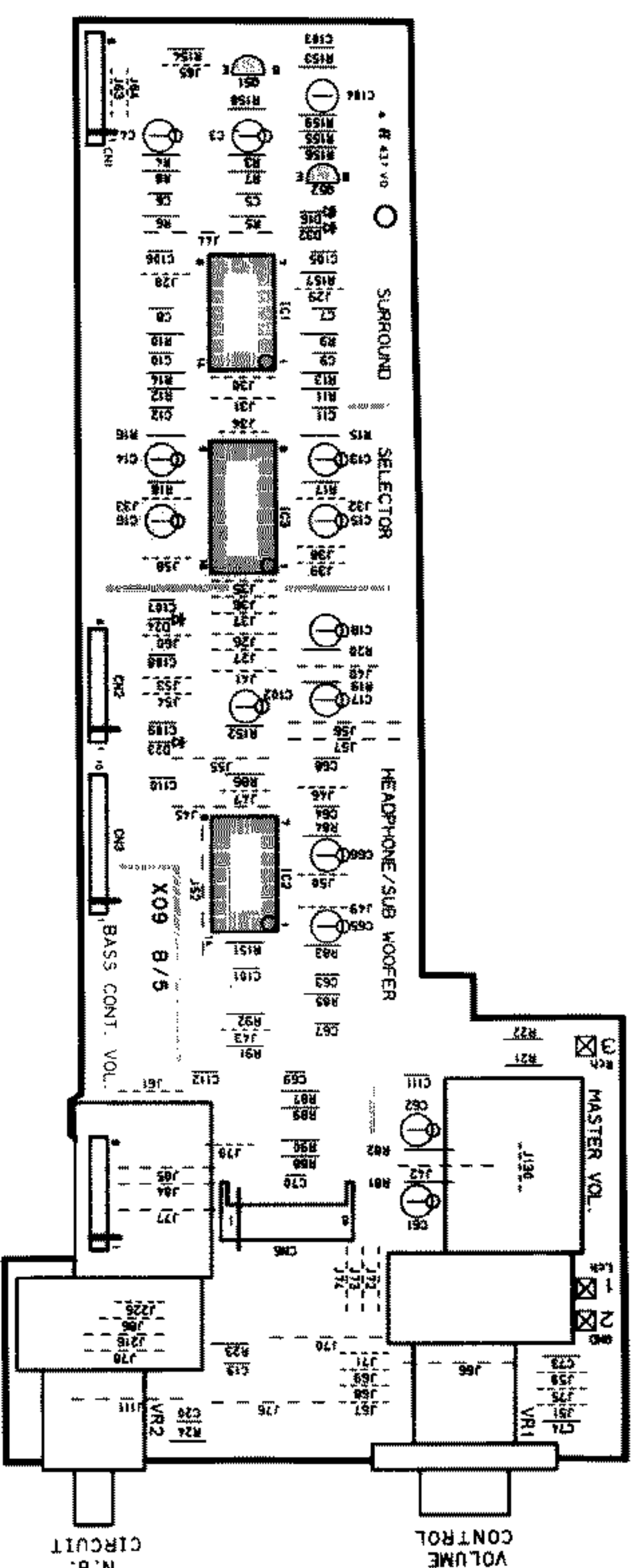
Connection



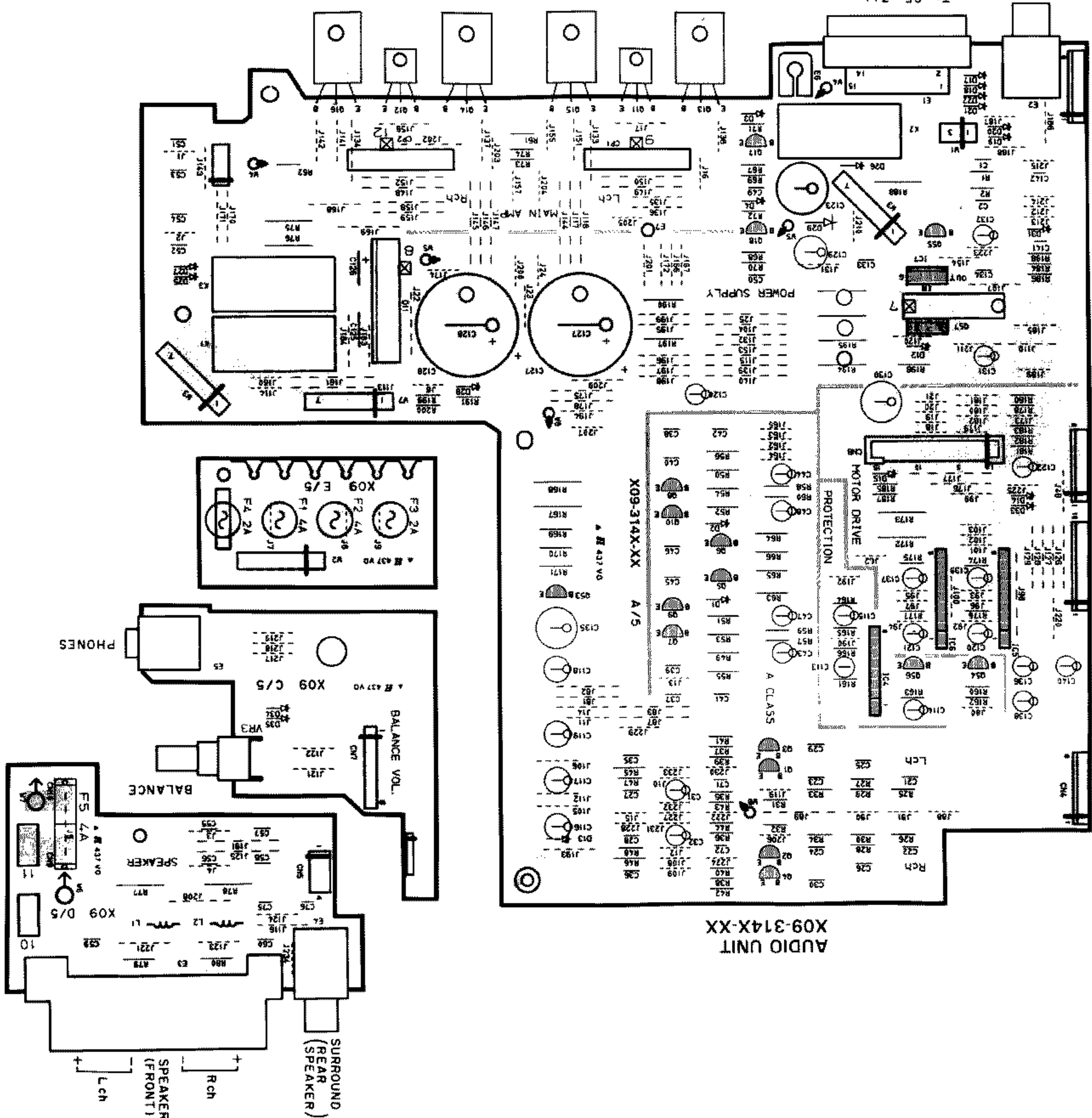
ADJUSTMENT

PC BOARD (Component side view)





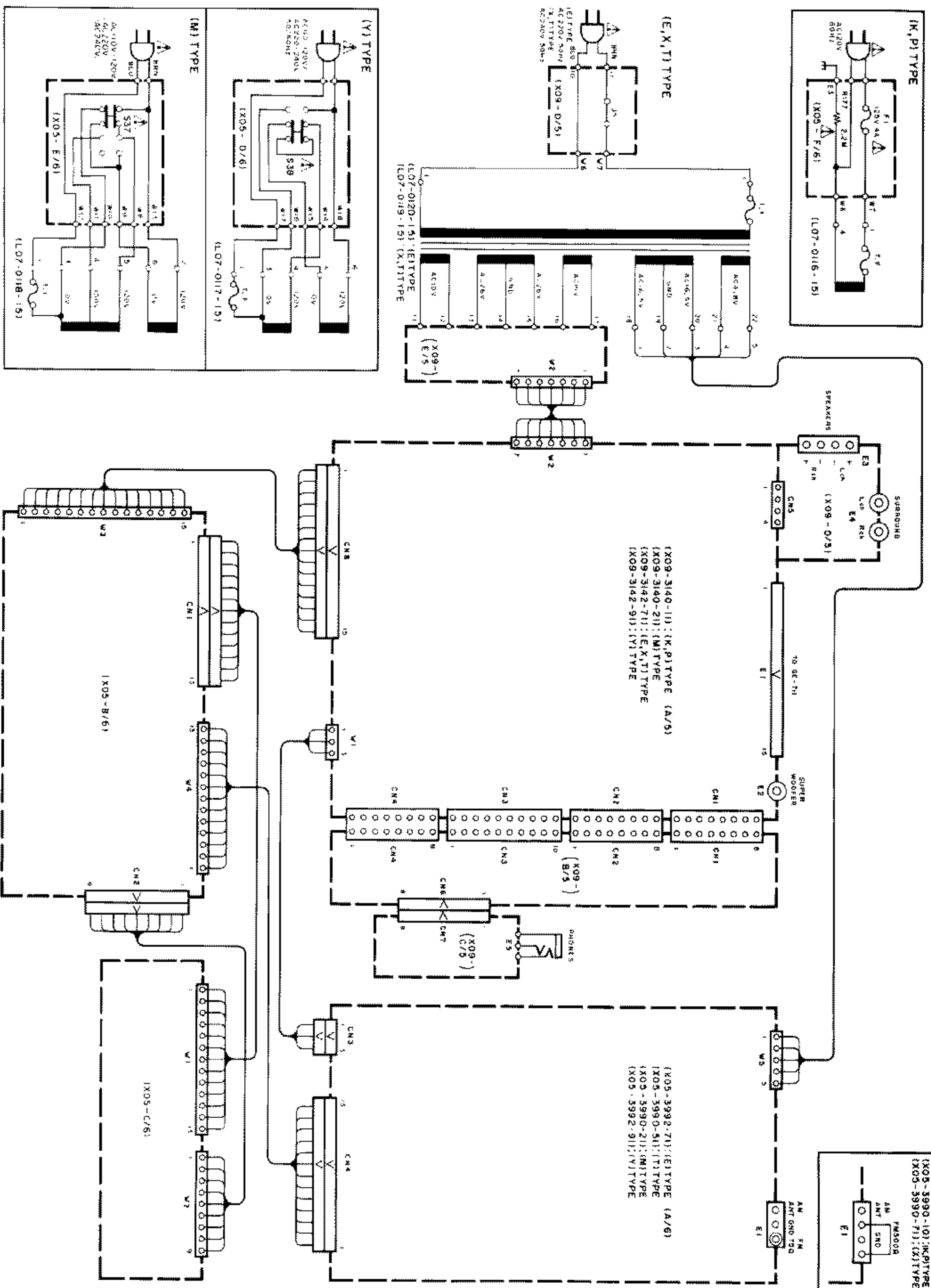
PC BOARD (component side view)



RM	NO	Q	Add/ess
39	1	3	58
38	2	2	57
37	3	4	56
36	4	6	55
35	5	5	54
34	6	7	53
33	7	8	52
32	8	9	51
31	9	10	50
30	10	11	49
29	11	12	48
28	12	13	47
27	13	14	46
26	14	15	45
25	15	16	44
24	16	17	43
23	17	18	42
22	18	19	41
21	19	20	40
20	20	21	39
19	21	22	38
18	22	23	37
17	23	24	36
16	24	25	35
15	25	26	34
14	26	27	33
13	27	28	32
12	28	29	31
11	29	30	30
10	30	31	29
9	31	32	28
8	32	33	27
7	33	34	26
6	34	35	25
5	35	36	24
4	36	37	23
3	37	38	22
2	38	39	21
1	39	40	20
0	40	41	19
0	41	42	18
0	42	43	17
0	43	44	16
0	44	45	15
0	45	46	14
0	46	47	13
0	47	48	12
0	48	49	11
0	49	50	10
0	50	51	9
0	51	52	8
0	52	53	7
0	53	54	6
0	54	55	5
0	55	56	4
0	56	57	3
0	57	58	2
0	58	59	1
0	59	60	0

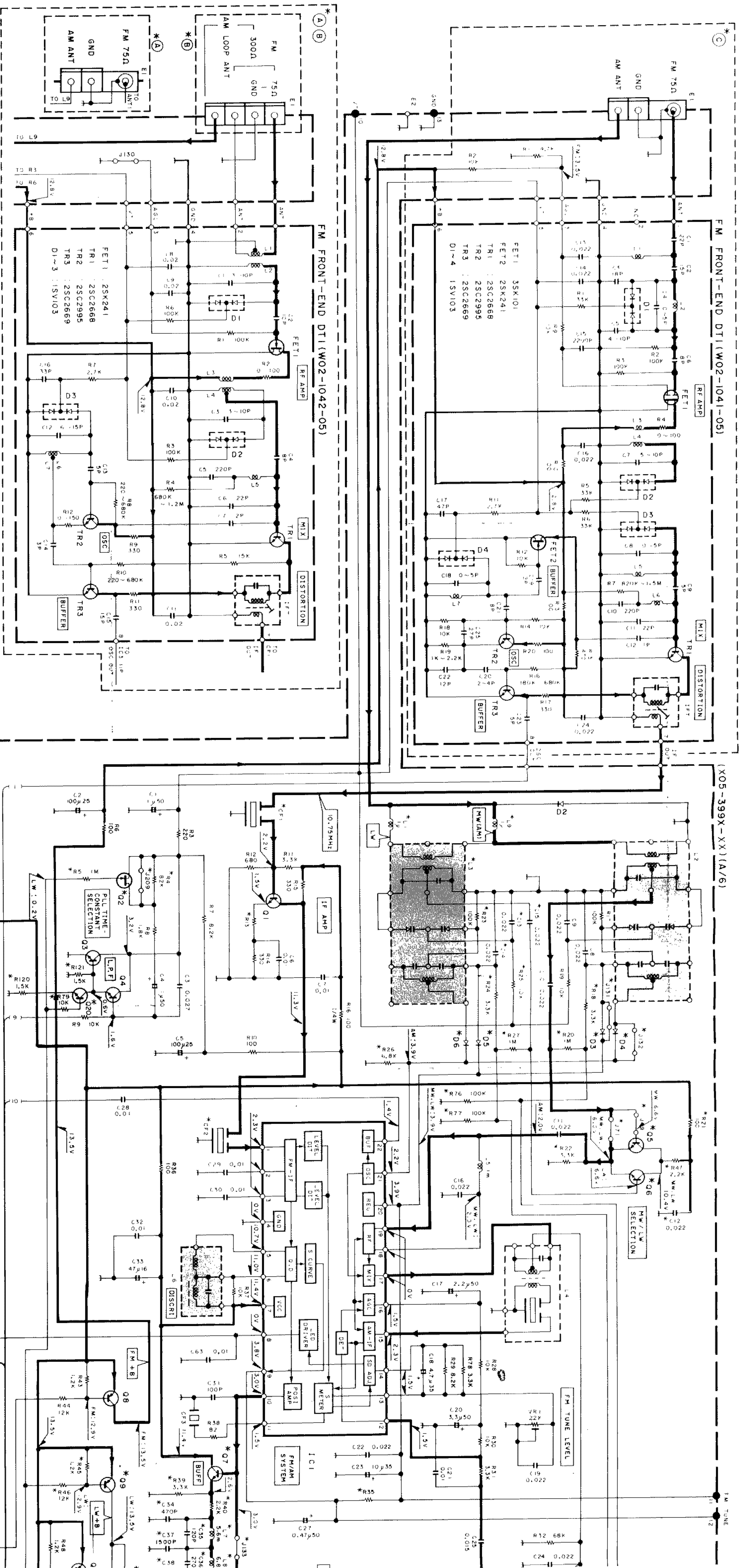
(X09-314X-X)

48

[illegible]

PARTS LIST

A-711711L

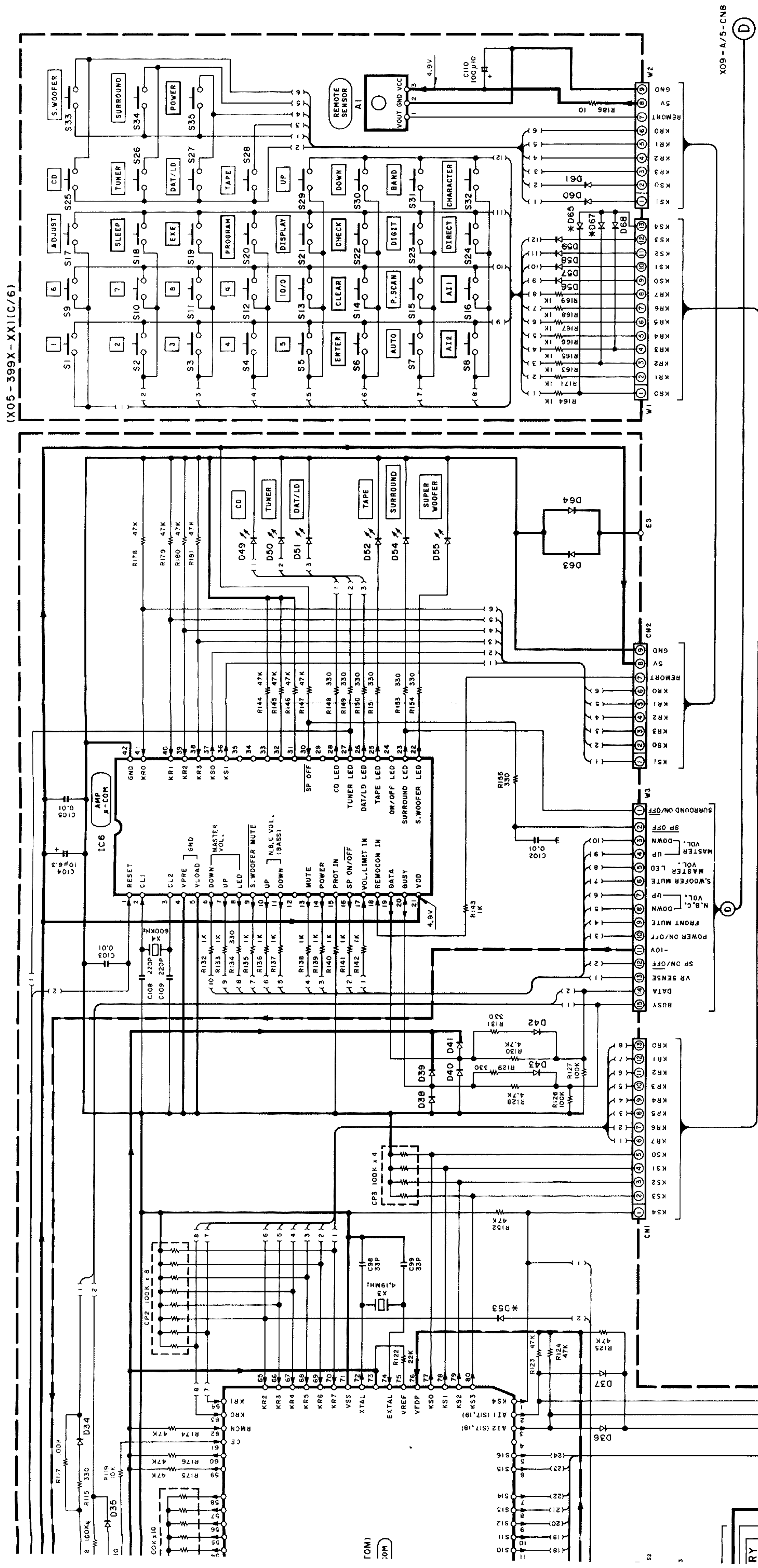


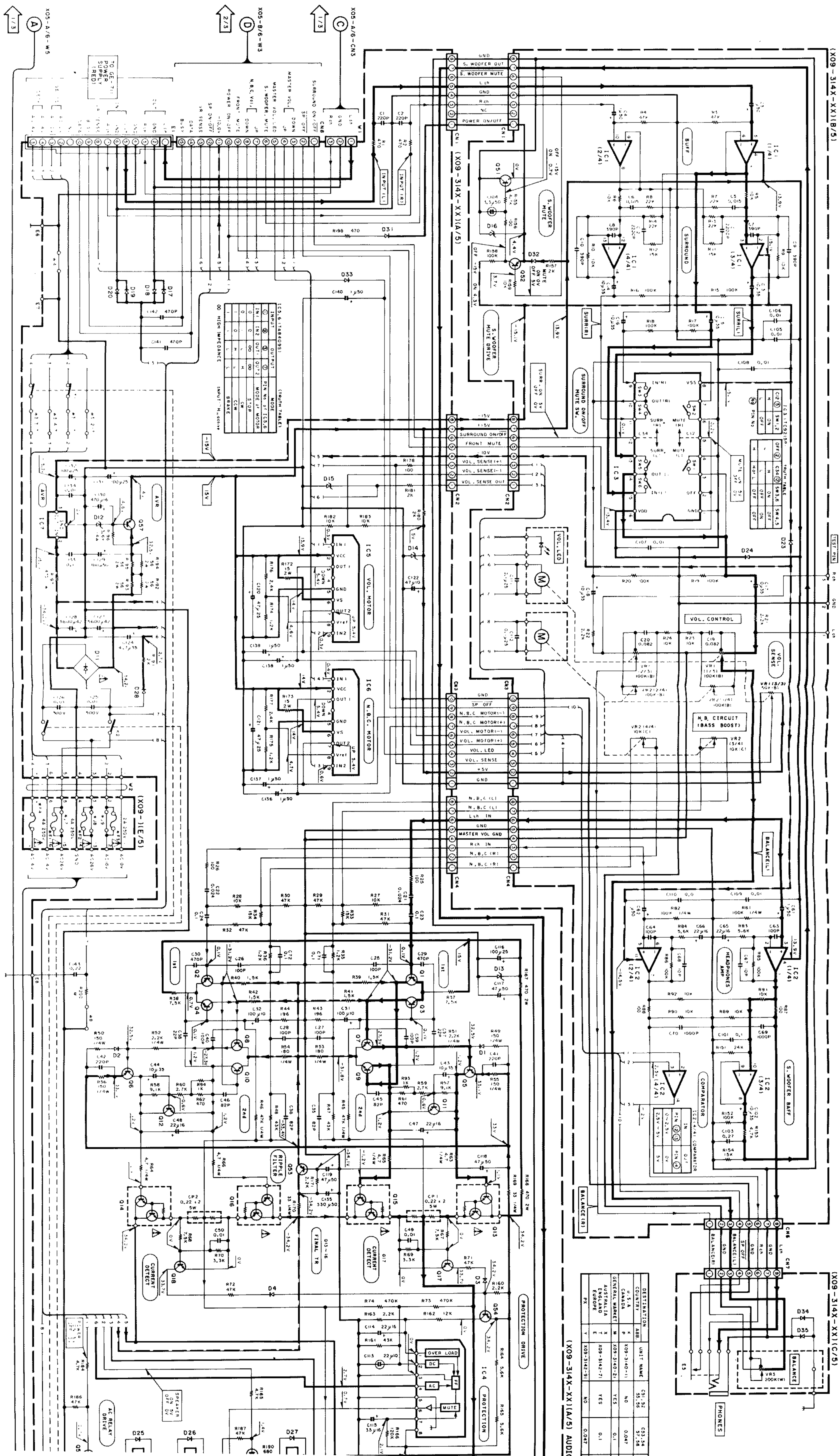
DESTINATION	UNIT NAME	(A)	(B)	(C)	(D)	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	R16	R17	R18	R19	R20	R21	R22	R23	R24	R25	R26	R27	R28	R29	R30	R31	R32	R33	R34	R35	R36	R37	R38	R39	R40	R41	R42	R43	R44	R45	R46	R47	R48	R49	R50	R51	R52	R53	R54	R55	R56	R57	R58	R59	R60	R61	R62	R63	R64	R65	R66	R67	R68	R69	R70	R71	R72	R73	R74	R75	R76	R77	R78	R79	R80	R81	R82	R83	R84	R85	R86	R87	R88	R89	R90	R91	R92	R93	R94	R95	R96	R97	R98	R99	R100																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
COUNTRY	ABB																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

SIGNAL LINE
 GND LINE
 +B LINE
 -B LINE

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.

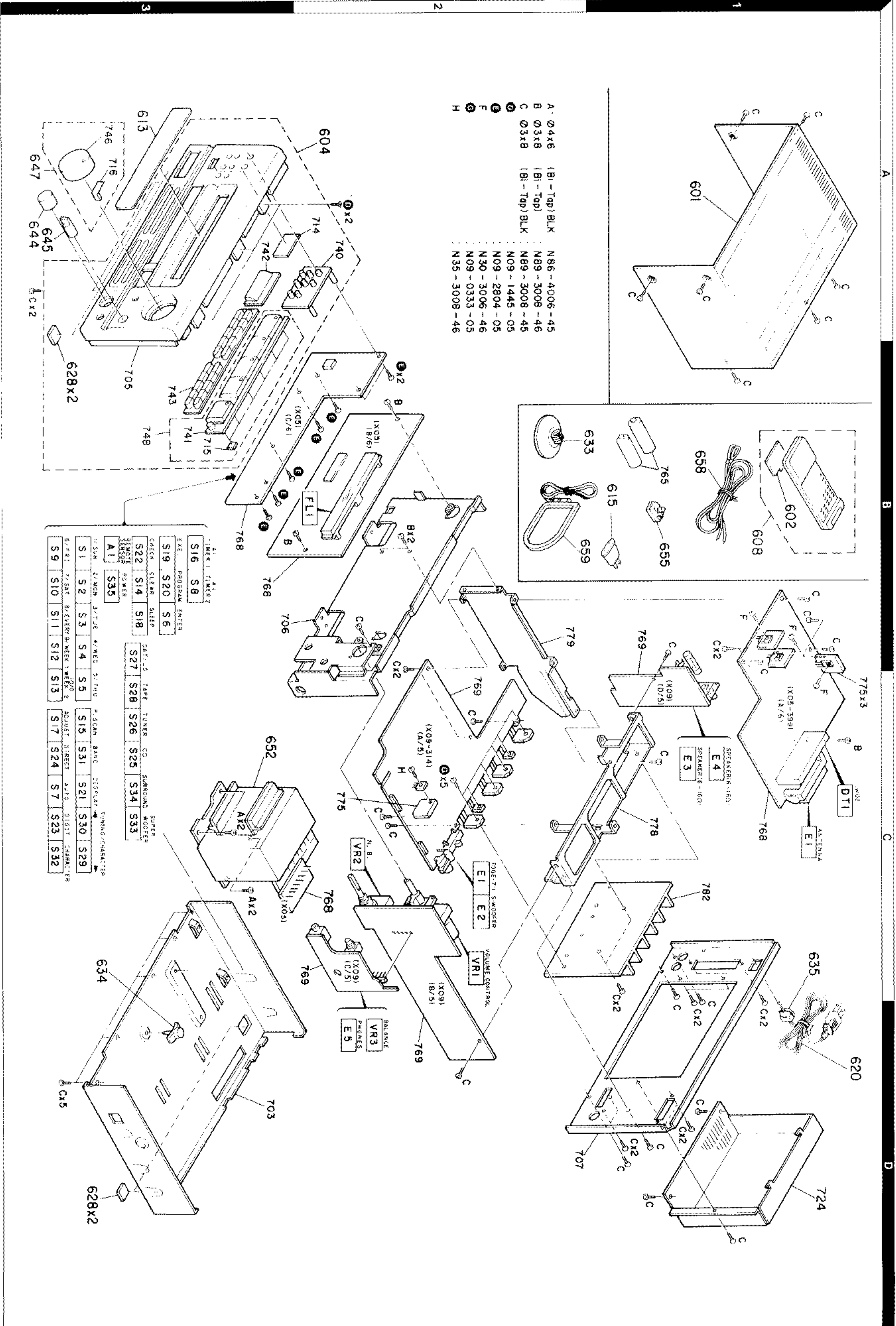
DC voltages are as measured with a high-impedance voltmeter during reception of the FM broadcast signal (with a signal strength of 60 dB at the ANT terminal). Values may vary slightly due to variations between individual instruments and units. Values in parentheses are as measured during reception of the AM broadcast signal (with a signal strength of 60 dB at the ANT terminal).





EXPLODED VIEW

EXPLODED VIEW



PARTS LIST

* New Parts
Parts without Parts No. are not supplied.
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Ref. No.	Address	New Parts	Parts No.	Description	Desti- nation	Re- marks
参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
A-7117711L						
601	1A	*	A01-1866-01	METALLIC CABINET		
602	1B	*	A09-0106-08	BATTERY COVER		
604	2A	*	A20-6100-02	PANEL ASSY(A-711L)		
604	2A	*	A20-6107-02	PANEL ASSY(A-711)		
608	1B	*	A70-0367-05	REMOTE CONTROLLER ASSY	TE KPYMX	
613	3A	*	810-1093-04	FRONT GLASS		
-	-	*	B46-0092-03	WARRANTY CARD	K	
-	-	*	B46-0094-03	WARRANTY CARD	Y	
-	-	*	B46-0095-03	WARRANTY CARD	Y	
-	-	*	B46-0096-13	WARRANTY CARD	X	
-	-	*	B46-0121-03	WARRANTY CARD	P	
-	-	*	B46-0122-13	WARRANTY CARD	E	
-	-	*	B46-0143-13	WARRANTY CARD	T	
-	-	*	B58-0513-04	CAUTION CARD	C4	
-	-	*	B58-0803-13	CAUTION CARD (PRESET220-240)	Y	
-	-	*	B60-0155-00	INSTRUCTION MANUAL(ENGLISH)	E	
-	-	*	B60-0156-00	INSTRUCTION MANUAL(FRENCH)	PE	
-	-	*	B60-0157-00	INSTRUCTION MANUAL(GERMAN)	E	
-	-	*	B60-0158-00	INSTRUCTION MANUAL(DUTCH)	E	
-	-	*	B60-0159-00	INSTRUCTION MANUAL(ITALIAN)	E	
-	-	*	B60-0160-00	INSTRUCTION MANUAL(CHINESE)	M	
-	-	*	B60-0161-00	INSTRUCTION MANUAL(SPANISH)	M	
615	1B	*	E03-0115-05	AC PLUG ADAPTER	M	
620	1D	*	E30-0459-05	AC POWER CORD	ME	
620	1D	*	E30-0812-05	AC POWER CORD	Y	
620	1D	*	E30-0974-05	AC POWER CORD	KP	
620	1D	*	E30-1341-05	AC POWER CORD	X	
620	1D	*	E30-1416-05	AC POWER CORD	T	
628	3B, 3D	*	G11-2017-04	CUSHION		
-	-	*	H01-8845-04	ITEM CARTON CASE(A-711)		
-	-	*	H01-8846-04	ITEM CARTON CASE(A-711L)	KPYMX	
-	-	*	H09-0105-04	INNER PACKAGE	TE	
-	-	*	H10-5023-12	POLYSTYRENE FOAMED FIXTURE		
-	-	*	H10-5024-12	POLYSTYRENE FOAMED FIXTURE		
-	-	*	H20-0566-04	PROTECTION COVER		
-	-	*	H25-0397-04	PROTECTION BAG	M	
-	-	*	H25-0631-04	PROTECTION BAG	KPYXTE	
633	2B	*	J19-2815-04	ANTENNA HOLDER		
634	3C	*	J19-3300-05	UNIT HOLDER		
635	1C	*	J42-0083-05	POWER CORD BUSHING		
-	-	*	J61-0167-05	WIRE CLAMPER		
-	-	*	J61-0307-05	WIRE BAND		
644	3A	*	K29-3959-04	KNØB(N.B.CIRCUIT)		
645	3A	*	K29-3960-04	KNØB(BALANCE)		
647	3A	*	K29-3997-04	KNØB ASSY(VOLUME)		
652	3C	*	L07-0116-15	POWER TRANSFORMER	KP	
652	3C	*	L07-0117-15	POWER TRANSFORMER	Y	
652	3C	*	L07-0118-15	POWER TRANSFORMER	M	
652	3C	*	L07-0119-15	POWER TRANSFORMER	XT	
652	3C	*	L07-0120-15	POWER TRANSFORMER	E	

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

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参照番号	位置	新	部品番号	部品名 / 規格	仕向	備考
TUNER UNIT (X05-399X-XX, 0-10; K, P type, 0-21; M type, 0-71; X type, 2-71; T, E type, 2-91; Y type)						
649 -52			B30-1012-05	LED(SLP-981C-50)		
654 ,55			B30-1012-05	LED(SLP-981C-50)		
C1			CE04KW1H010M	ELECTRØ		
C2			CE04KW1E101M	ELECTRØ		
C3			CE92FV1H273J	MF		
C4			CE04KW1H010M	ELECTRØ		
C5			CE04KW1E101M	ELECTRØ		
C6 ,7			C91-0769-05	CERAMIC		
C8 -11			CK45FF1H223Z	CERAMIC		
C12			C91-0085-05	CERAMIC		
C13 ,14			CK45FF1H223Z	CERAMIC		
C15			C91-0085-05	CERAMIC		
C16			CK45FF1H223Z	CERAMIC		
C17			CE04KW1H2R2M	ELECTRØ		
C18			CE04KW1H4R7M	ELECTRØ		
C19			CK45FF1H223Z	CERAMIC		
C20			CE04KW1H3R3M	ELECTRØ		
C21			CK45FF1H103Z	CERAMIC		
C22			CK45FF1H223Z	CERAMIC		
C23			CE04KW1V100M	ELECTRØ		
C24			CK45FF1H223Z	CERAMIC		
C25			CF92FV1H153J	MF		
C26			CE04KW1V100M	ELECTRØ		
C27			CE04KW1H4R7M	ELECTRØ		
C28 -30			CK45FF1H103Z	CERAMIC		
C31			CC45FSL1H101J	CERAMIC		
C32			CK45FF1H103Z	CERAMIC		
C33			CE04KW1C470M	ELECTRØ		
C34			CK45FB1H471K	CERAMIC		
C35			CC45FSL1H121J	CERAMIC		
C36			CC45FSL1H271J	CERAMIC		
C37			CF92FV1H152J	MF		
C38			CF92FV1H132J	MF		
C39			CK45FB1H471K	CERAMIC		
C40			CE04KW1H2R2M	ELECTRØ		
C41			CE04KW1H3R3M	ELECTRØ		
C42			CE04KW1H4R7M	ELECTRØ		
C43			CF92FV1H473J	MF		
C44			CC93FCH1H471J	CERAMIC		
C45			CK45FF1H103Z	CERAMIC		
C46 ,47			CC45FSL1H221J	CERAMIC		
C48			CE04KW1C101M	ELECTRØ		
C49			CC45FSL1H680J	CERAMIC		
C50 ,51			CE04KW1H3R3M	ELECTRØ		
C52 ,53			CF92FV1H752J	MF		

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X3 X4		L77-1175-05 L78-0274-05	CRYSTAL RESONATOR(4.19MHz) RESONATOR(600kHz)	
C F	1B 1B	N30-3008-46 N89-3008-45	PAN HEAD MACHINE SCREW BINDING HEAD TAPITTE SCREW	
CP1 CP2 CP3 R16 R21		R90-0802-05 R90-0492-05 R90-0482-05 RD14AB2E101J RD14AB2E101J	MULTI-COMP 100KX10 J 1/4W MULTI-COMP 100KX8 J 1/6W MULTI-COMP 100KX4 J 1/6W FL-PROOF RD 100 J 1/4W FL-PROOF RD 100 J 1/4W	TE
R51 R83 ,84 R85 ,86 R87 R162		RD14AB2E151J RS14K83D181J RS14K83D271J RS14K83A271J RS14K83A222J	FL-PROOF RD 150 J 1/4W FL-PROOF RS 180 J 2W FL-PROOF RS 270 J 2W FL-PROOF RS 270 J 1W FL-PROOF RS 2.2K J 1W	
R177 VR1 VR2 VR3		R92-0173-05 R12-3128-05 R12-1089-05 R12-5060-05	RC 2.2M M 1/2W TRIMMING POT.(22K)TUNE LEVEL TRIMMING POT.(4.7K)VCO TRIMMING POT.(220K)SEPARATION	KP
S1 -35 S36 S37 S38	3B,3C	S40-1064-05 S31-2094-05 S31-2082-05 S31-2128-05	PUSH SWITCH SLIDE SWITCH (CH.SPACE,DE-EM.) SLIDE SWITCH (POWER TYPE) SLIDE SWITCH (POWER TYPE)	TE YM M Y
D1 -9 D1 -9 D1 ,2 D1 ,2 D9		HSS104 1SS133 HSS104 1SS133 HSS104	DIODE DIODE DIODE DIODE DIODE	TE TE KPYMX KPYMX KPYMX
D9 D11 ,12 D11 ,12 D18 ,19 D21 ,22		1SS133 HSS104 1SS133 1SS133 S5566B S5566B	DIODE DIODE DIODE DIODE DIODE DIODE	KPYMX
D23 D23 D25 D30 -47		HSS104 1SS133 HSS104 HSS104	DIODE DIODE ZENER DIODE ZENER DIODE	
D30 -47 D48 D48 D53		1SS133 HSS104 HSS104 HSS104	DIODE ZENER DIODE ZENER DIODE DIODE	YM YM
D56 -61 D56 -61 D62 D62 D63 ,64		HSS104 1SS133 HSS104 HSS104 HSS104	DIODE DIODE ZENER DIODE ZENER DIODE DIODE	
D63 ,64 D65 D65 D67 -70 D67 -70 D68 -70		1SS133 HSS104 HSS104 HSS104 HSS104 HSS104	DIODE DIODE DIODE DIODE DIODE DIODE	TE TE XTE XTE KPYMX

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D68 -70 D202 D202 FL1 IC1	2B	1SS133 HZS5.1S(B2) RD5.1JS(B2) 8-BT-980K LA1265	DIODE ZENER DIODE ZENER DIODE FLUORESCENT INDICATOR TUBE IC(FM/AM TUNER)	KPYM
IC2 IC3 IC5 IC6 IC7		AN7470 LM7001 CXP50112-127Q UPD7538ACU-232 PST529D	IC(FM MPX) IC(PLL FREQUENCY SYNTHESIZER) IC(TUNER a-COM) IC(AMP. u-COM) IC(RESET)	
IC9 ,10 IC9 ,10 Q1 Q2 Q3		AN7805F UPC7805HF 2SC1923(R,Ø) 2SK163(L,M) 2SC1740S(Q,R)	IC(VOLTAJE REGULATOR/ +5V) IC(VOLTAJE REGULATOR/ +5V) TRANSISTOR FET TRANSISTOR	TE
Q3 Q4 Q5 -7 Q5 -7 Q8		2SC945(A)(Q,P) 2SC1845(F,E) 2SC1740S(Q,R) 2SC945(A)(Q,P) 2SA733(A)(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	TE TE KPYMX KPYMX KPYMX
Q8 Q8 -10 Q8 -10 Q10 Q10		2SA933S(Q,R) 2SA733(A)(Q,P) 2SA933S(Q,R) 2SA733(A)(Q,P) 2SA933S(Q,R)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	KPYMX TE TE KPYMX KPYMX
Q11 -13 Q11 -13 Q13 Q13 Q14 -16		2SC1740S(Q,R) 2SC945(A)(Q,P) 2SC1740S(Q,R) 2SC945(A)(Q,P) 2SA733(A)(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	YM YM KPYMX KPYMX KPYMX
Q14 -16 Q17 Q17 Q18 ,19 Q20		2SA933S(Q,R) 2SC1740S(Q,R) 2SC945(A)(Q,P) 2SD1302(S,T) 2SC1740S(Q,R)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	YM YM YM YM TE
Q20 Q21 Q22 ,23 Q22 ,23		2SC945(A)(Q,P) 2SD1266(Q,P) 2SC1740S(Q,R) 2SC945(A)(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR	TE TE
A1 A1 DT1 DT1	3B 3B 1C 1C	W02-1048-05 W02-1049-05 W02-1041-05 W02-1042-05	ELECTRIC CIRCUIT MODULE ELECTRIC CIRCUIT MODULE FM FRONT-END ASSY(A-711L) FM FRONT-END ASSY(A-711)	TE KPYMX

AUDIO UNIT (X09-314X-XX, 0-11; K, P type, 0-21; M type, 2-71; X, T, E, type 2-91; Y type)			
C1 ,2 C3 ,4 C5 ,6 C7 -10 C11 ,12		CC45FSL1H221J CE04KW1H010M CF92FV1H153J CK45FB1H391K CK45FB1H222K	CERAMIC 220PF J ELECTRO 1.0UF 50WV MF 0.015UF J CERAMIC 390PF K CERAMIC 2200PF K
C13 -18 C19 ,20 C21 ,22 C23 ,24 C25 -28		CE04KW1V100M CF92FV1H823J CF92FV1H243J CF92FV1H104J CC45FSL1H101J	ELECTRO 10UF 35WV MF 0.082UF J MF 0.024UF J MF 0.10UF J CERAMIC 100PF J

E: Scandinavia & Europe K: USA P: Canada W: Europe
Y: PX(Far East, Hawaii) T: England M: Other Areas
Y: AAFES(Europe) X: Australia
△ indicates safety critical components.

PARTS LIST

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

Ref. No. 参照番号	Address 位置	New Parts 新部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
F4		*	FUSE(125V 2A)	KP	
L1 , 2			PHASE-COMPENSATION COIL		
C	2C		BINDING HEAD TAPRITE SCREW		
H	2C		TAPPING SCREW (3X12)		
	2C		BINDING HEAD MACHINE SCREW		
CPI , 2			MULTI-COMP 0.22X2 K 5H		
R43 , 44			RN 196.0 F 1/6W		
R49 , 50			FL-PROOF RD 150 J 1/4W		
R51 , 52			FL-PROOF RD 2.2K J 1/4W		
R53 , 54			FL-PROOF RD 180 J 1/4W		
R55 , 56			FL-PROOF RD 150 J 1/4W		
R63 -66			FL-PROOF RD 4.7 J 1/4W		
R75 -78			FL-PROOF RS 10 J 2W		
R79 , 80			FL-PROOF RD 4.7 J 1/4W		
R167,168			FL-PROOF RS 470 J 2W		
R169,170			FL-PROOF RD 33 J 1/4W		
R171			FL-PROOF RD 2.2K J 1/4W		
R172,173			FL-PROOF RS 15 J 2W		
R188			FL-PROOF RS 330 J 2W		
R190			FL-PROOF RS 680 J 1W		
R192-195		*	FL-PROOF RS 56 J 2W		
R196			FL-PROOF RD 3.6K J 1/4W		
R197			FL-PROOF RS 470 J 1W		
VR1	2C	*	POTENTIOMETER(VOLUME CONTROL)		
VR2	2C	*	POTENTIOMETER(N.B.CIRCUIT)		
VR3	2D	*	POTENTIOMETER(BALANCE)		
K1 , 2		*	MAGNETIC RELAY(AC ON/OFF)		
K3			MAGNETIC RELAY(SPEAKER ON/OFF)		
D1 , 2			DIODE		
D3 , 4			DIODE		
D11			DIODE		
D12 , 13			ZENER DIODE		
D12 , 13			ZENER DIODE		
D14 , 15			ZENER DIODE		
D16			ZENER DIODE		
D16			ZENER DIODE		
D17 -26			ZENER DIODE		
D17 -26			DIODE		
D27 , 28			DIODE		
D27 , 28			DIODE		
D29			DIODE		
D31 -35			DIODE		
D31 -35			DIODE		
IC1 , 2			IC(OP AMP X4)		
IC3			IC(ANALOG SWITCH X 6)		
IC4			IC(PWR AMP)		
IC5 , 6			IC(MOTOR CONTROL)		
IC7			IC(VOLTAGE REGULATOR/ -15V)		
Q1 -6			TRANSISTOR		

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Ref. No. 参照番号	Address 位置	New Parts 新部品番号	Description 部品名 / 規格	Desti- nation 仕向	Re- marks 備考
Q7 -10			TRANSISTOR		
Q11 , 12			TRANSISTOR		
Q13 , 14		*	TRANSISTOR		
Q15 , 16		*	TRANSISTOR		
Q17 , 18			TRANSISTOR		
Q51			TRANSISTOR		
Q52 , 53			TRANSISTOR		
Q54			TRANSISTOR		
Q55			TRANSISTOR		
Q56			TRANSISTOR		
Q57			TRANSISTOR		

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