

16K29 REO INTEGRATED AMPLIFIER A-87/97

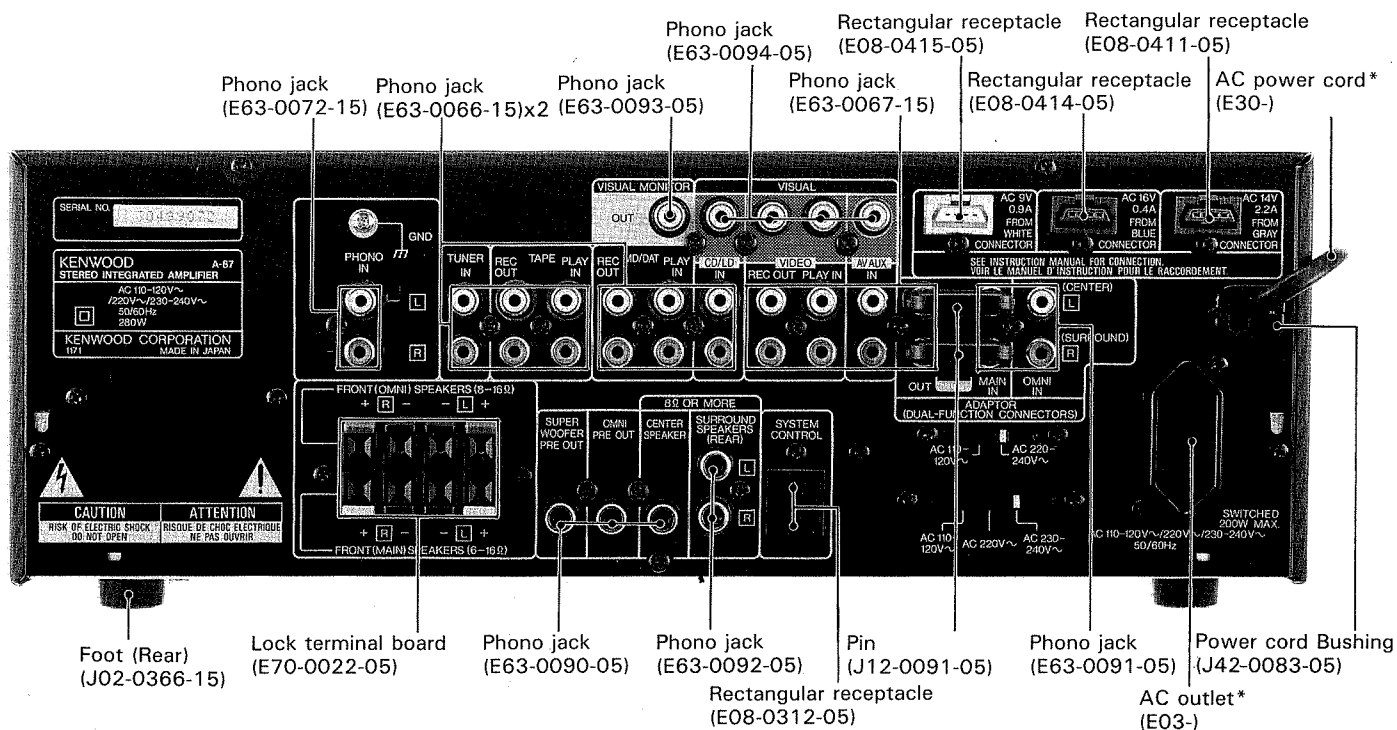
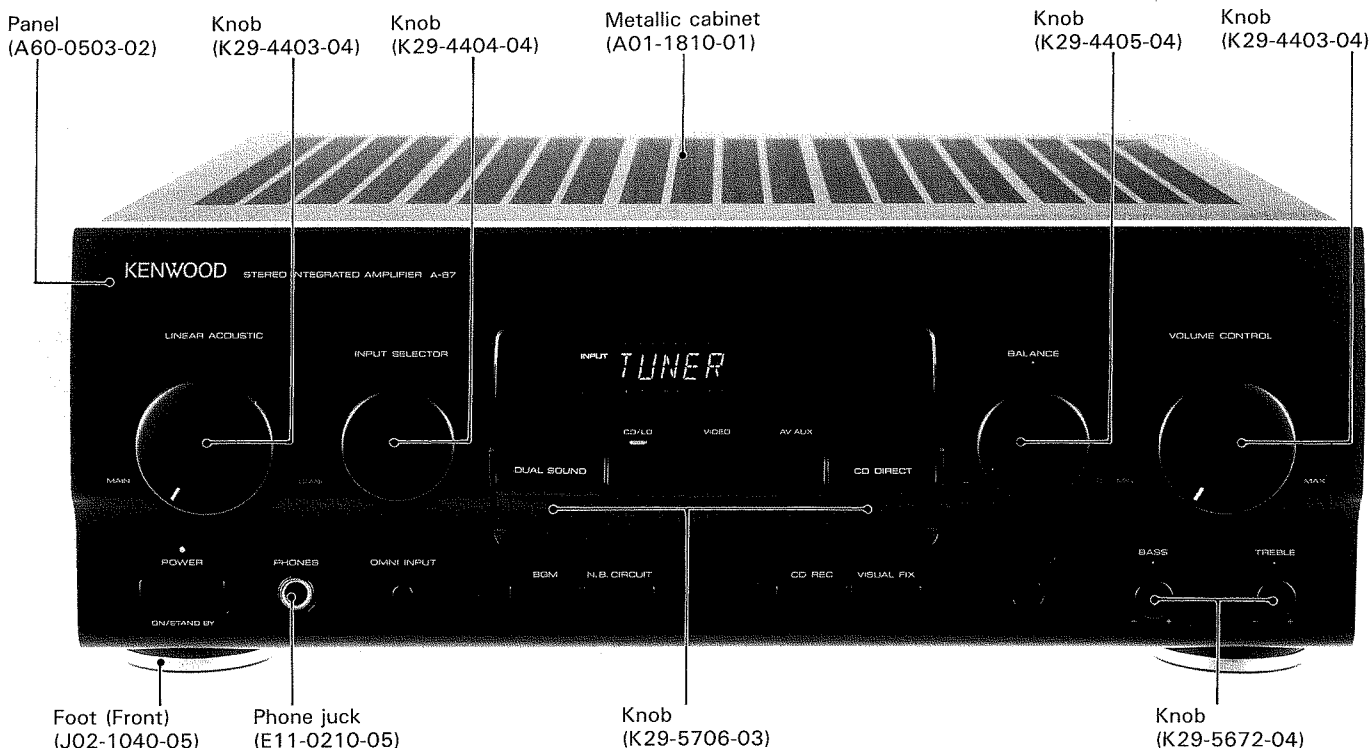
KENWOOD

SERVICE MANUAL (M-97/97M/99LD/99M)

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B51-4735-00 (S) 2318

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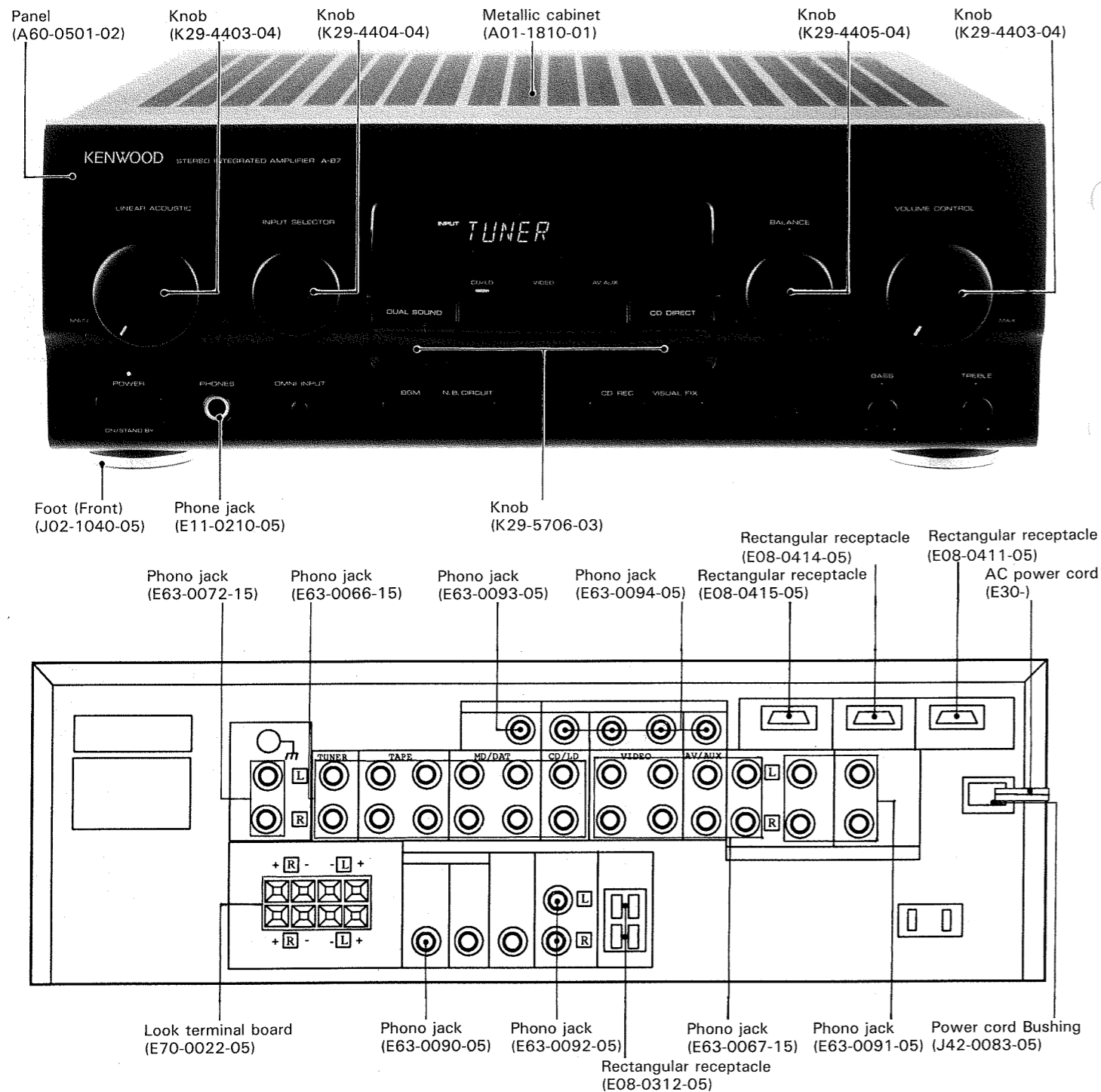
[A-87]



*Refer to parts list on page 22.

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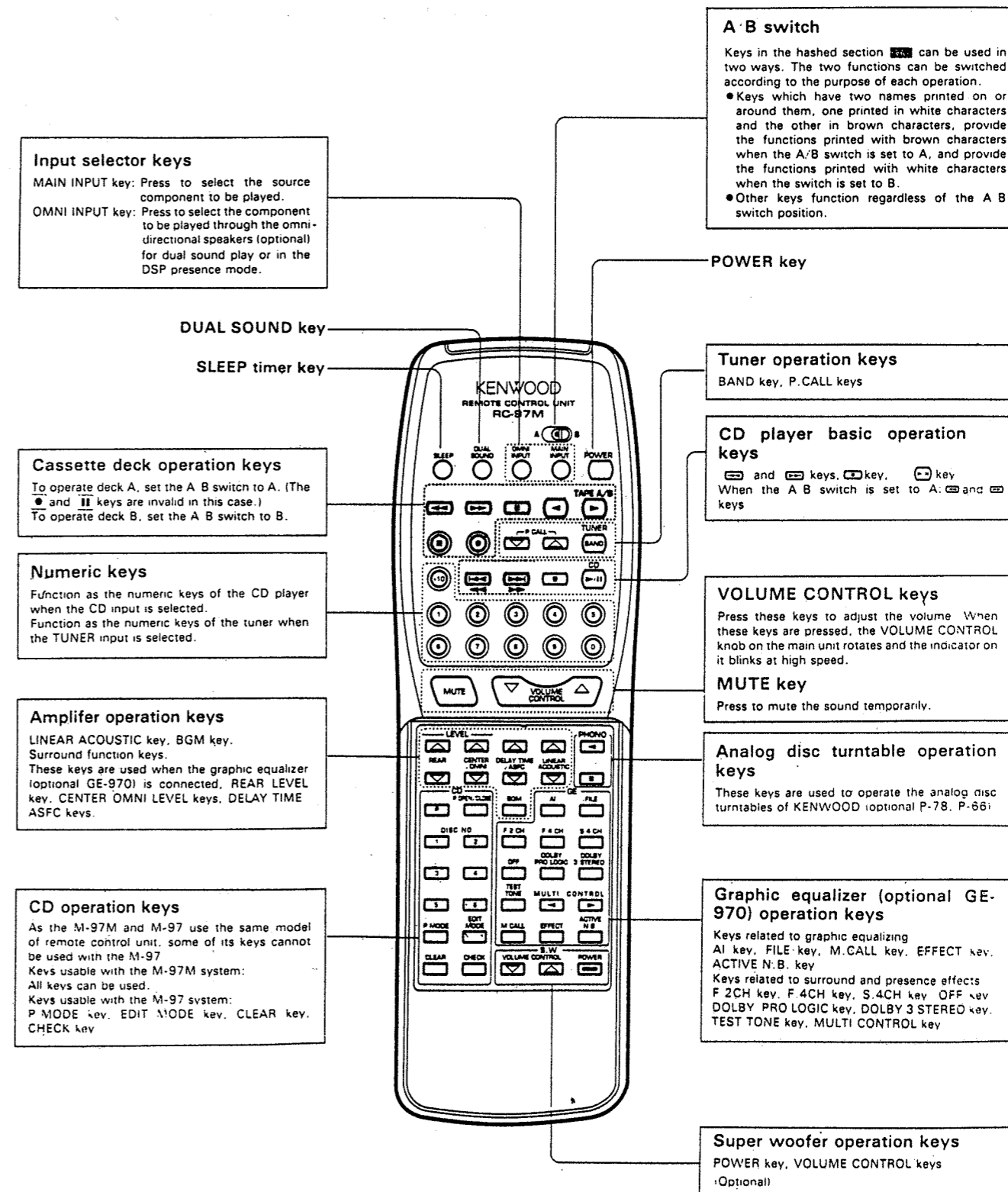


INSTRUCTION MANUAL
 B60-1351-00 ENGLISH
 B60-1352-00 SPANISH M
 B60-1353-00 CHINESE M

*Refer to parts list on page 22.

REMOTE CONTROL UNIT

REMOTE CONTROL UNIT (X94-1050-11)
 BATTERY COVER (F07-0721-23)



A·B switch
 Keys in the hashed section can be used in two ways. The two functions can be switched according to the purpose of each operation.
 • Keys which have two names printed on or around them, one printed in white characters and the other in brown characters, provide the functions printed with brown characters when the A/B switch is set to A, and provide the functions printed with white characters when the switch is set to B.
 • Other keys function regardless of the A B switch position.

Input selector keys
 MAIN INPUT key: Press to select the source component to be played.
 OMNI INPUT key: Press to select the component to be played through the omnidirectional speakers (optional) for dual sound play or in the DSP presence mode.

Cassette deck operation keys
 To operate deck A, set the A B switch to A. (The and keys are invalid in this case.)
 To operate deck B, set the A B switch to B.

Numeric keys
 Function as the numeric keys of the CD player when the CD input is selected.
 Function as the numeric keys of the tuner when the TUNER input is selected.

Amplifier operation keys
 LINEAR ACOUSTIC key, BGM key, Surround function keys. These keys are used when the graphic equalizer (optional GE-970) is connected, REAR LEVEL key, CENTER OMNI LEVEL keys, DELAY TIME ASFC keys.

CD operation keys
 As the M-97M and M-97 use the same model of remote control unit, some of its keys cannot be used with the M-97.
 Keys usable with the M-97M system: All keys can be used.
 Keys usable with the M-97 system: P MODE key, EDIT MODE key, CLEAR key, CHECK key

Tuner operation keys
 BAND key, P. CALL keys

CD player basic operation keys
 and keys, key, key
 When the A B switch is set to A, and keys

VOLUME CONTROL keys
 Press these keys to adjust the volume. When these keys are pressed, the VOLUME CONTROL knob on the main unit rotates and the indicator on it blinks at high speed.

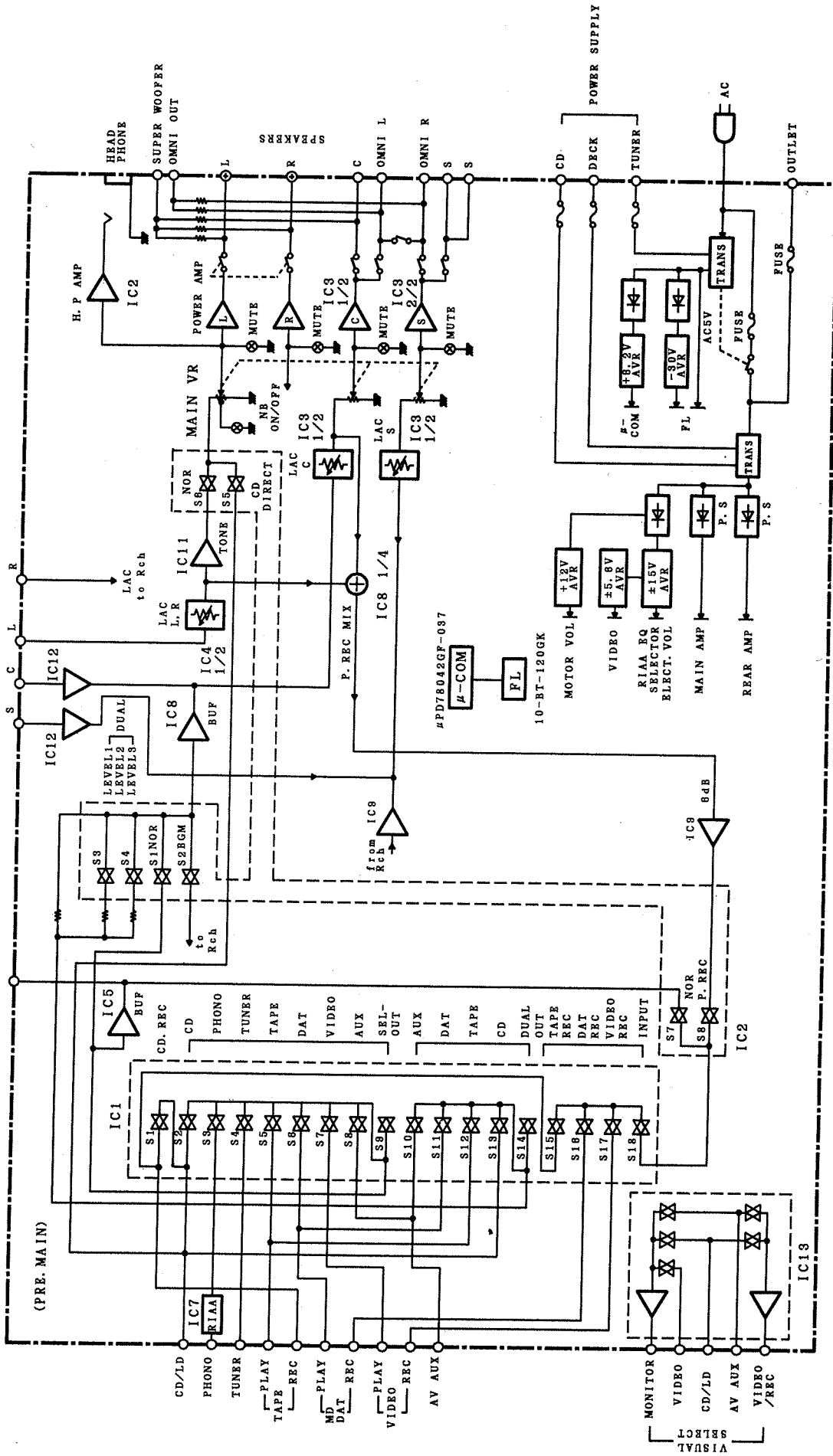
MUTE key
 Press to mute the sound temporarily.

Analog disc turntable operation keys
 These keys are used to operate the analog disc turntables of KENWOOD (optional P-78, P-86)

Graphic equalizer (optional GE-970) operation keys
 Keys related to graphic equalizing: AI key, FILE key, M.CALL key, EFFECT key, ACTIVE N.B. key
 Keys related to surround and presence effects: F 2CH key, F 4CH key, S 4CH key, OFF key, DOLBY PRO LOGIC key, DOLBY 3 STEREO key, TEST TONE key, MULTI CONTROL key

Super woofer operation keys
 POWER key, VOLUME CONTROL keys (Optional)

BLOCK DIAGRAM



CIRCUIT DESCRIPTION

CIRCUIT DESCRIPTION

Microprocessor μ PD78042GF-037-3B9 (X11: IC-101)

TEST MODE

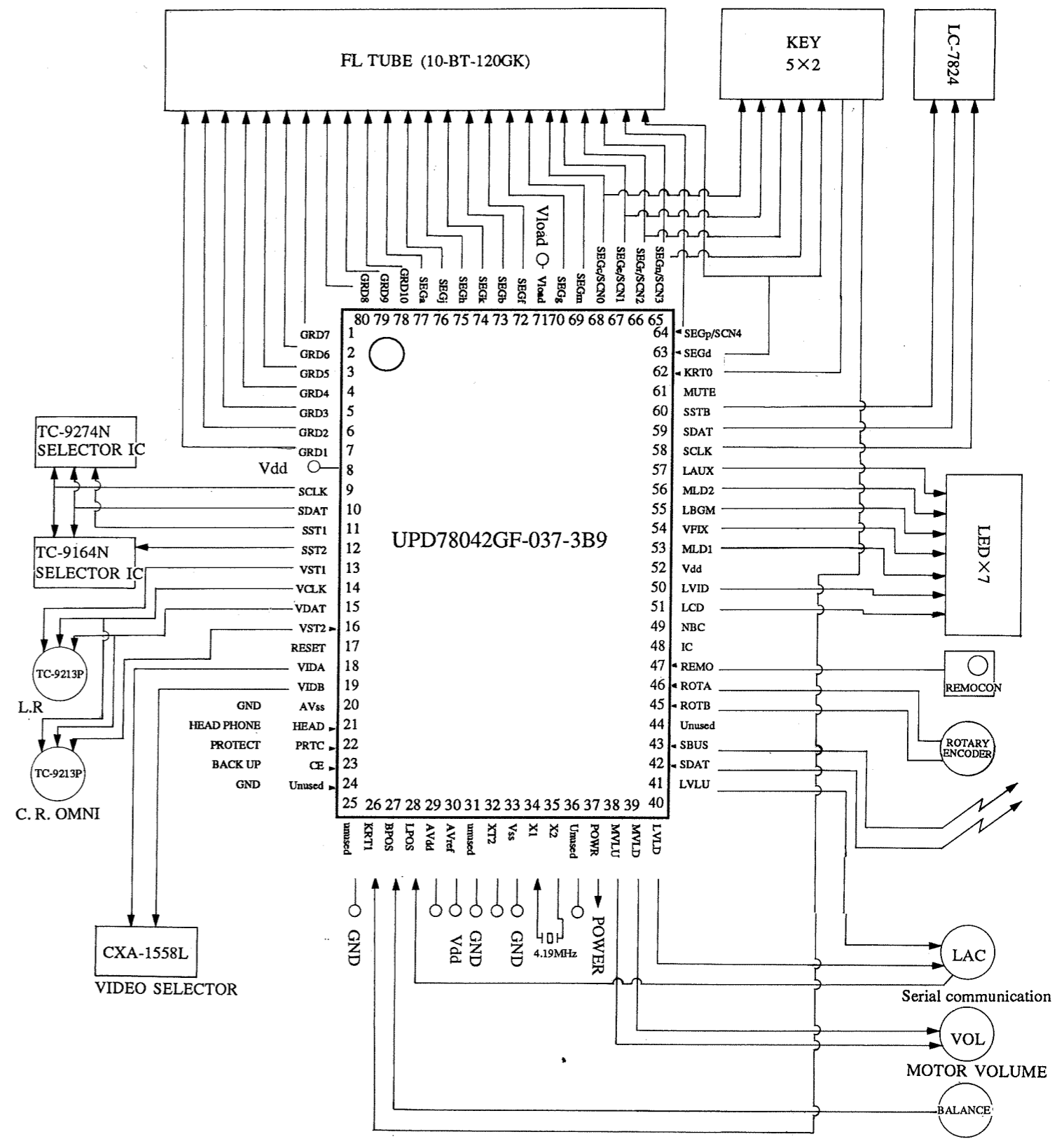
Test mode by means of main unit keys

- (1) Setting method
Plug the power cord in the AC electrical outlet while pressing the CD DIRECT key.
- (2) Cancellation method
The test mode set at the beginning is cancelled when the power cord is unplugged from the AC electrical outlet.
- (3) Contents
 - ① Automatic POWER ON
The POWER turns necessarily ON, and all functions are initialized when the power cord is plugged into the AC electrical outlet while pressing the CD DIRECT KEY.
 - ② ALL LIT mode
All FL and all LED light up without fail when the power cord is plugged into the AC electrical outlet while pressing the CD KEY. After that, the equipment switches to the ordinary indication mode when any key of the main unit is operated.
 - ③ Master/LAC volume automatic motor VR UP/DOWN
The motor VR carries out the following sequence of operations when the CD REC key is operated during the test mode by means of the main unit keys
16-second UP → 16-second DOWN → STOP
The CD REC key is inhibited during these operations.

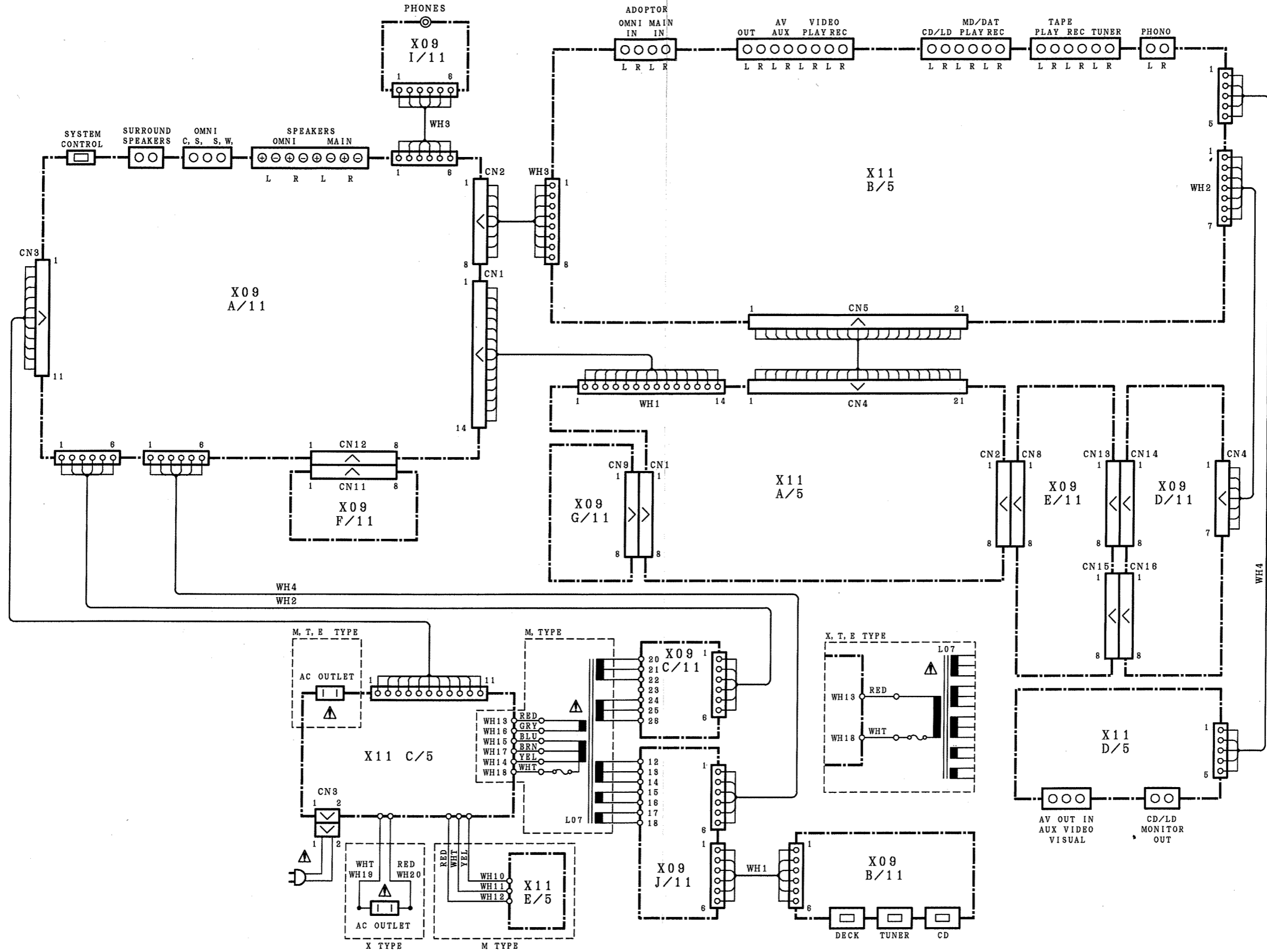
- ④ Check of the operations of all circuits by means of the main unit keys
The MUTING function, which is carried out only with the remote controller, can be operated also with the N.B key of the main unit during the test mode by means of the main unit keys.
- ⑤ MUTE signal output
Ordinary operation should be carried out during the test mode by means of the main unit keys.

Initialization

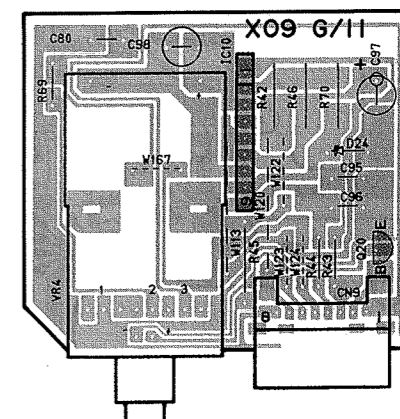
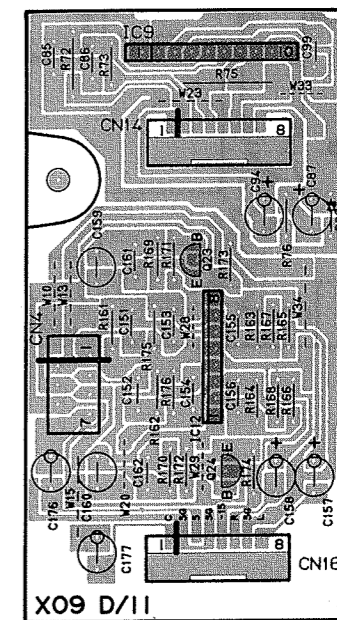
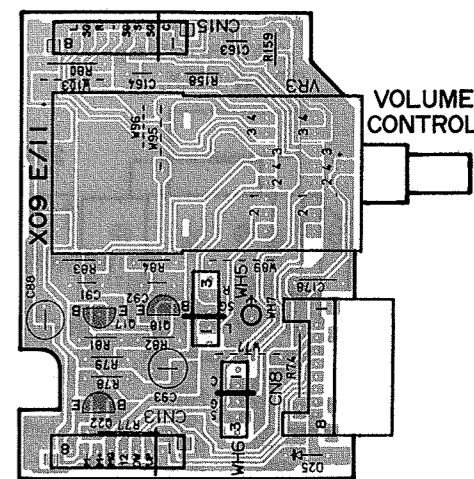
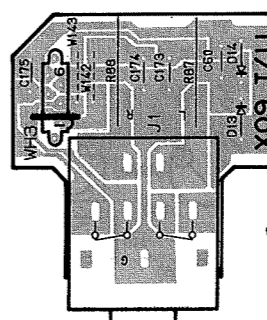
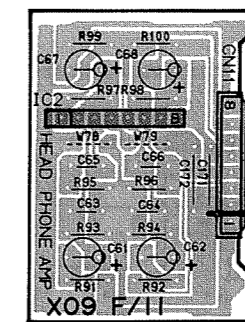
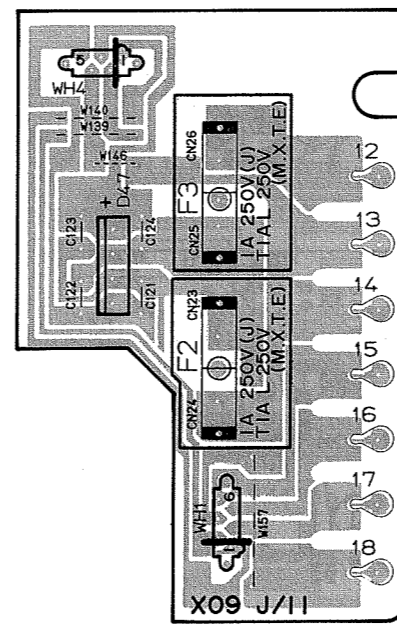
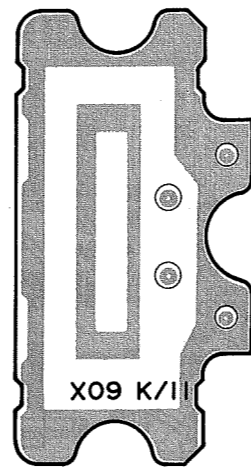
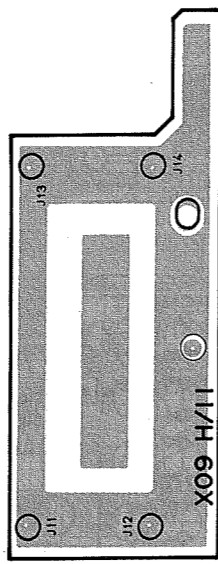
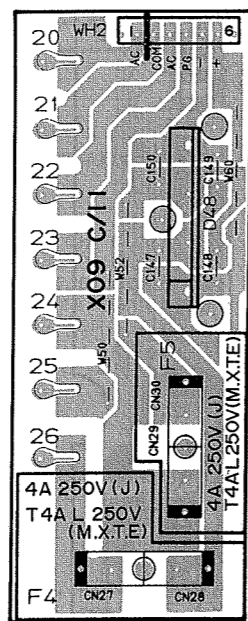
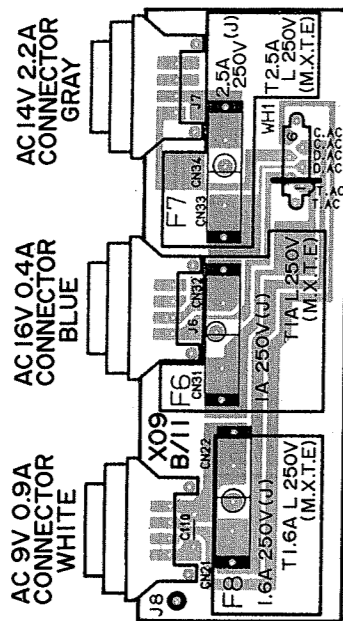
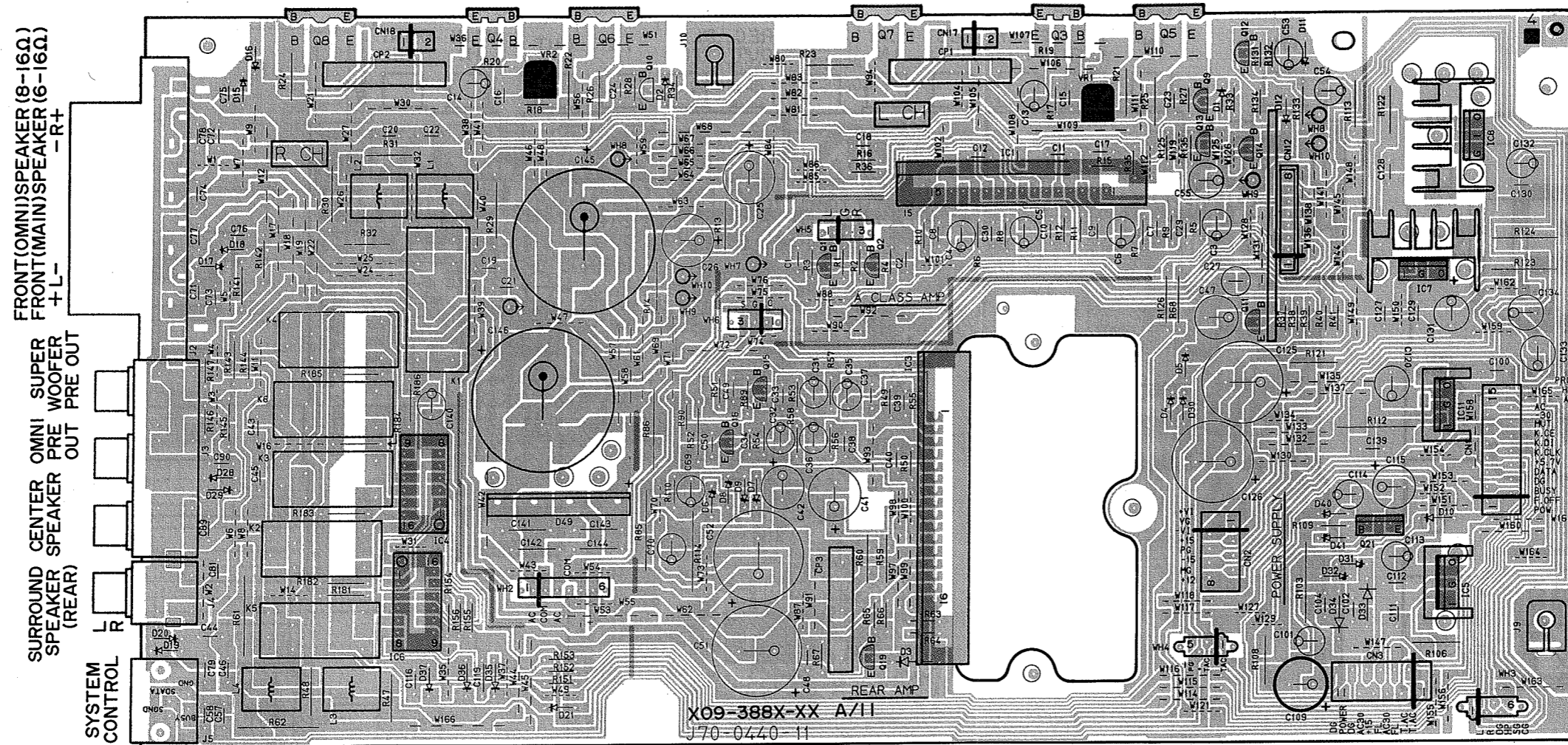
- (1) Setting method
 - The equipment is initialized by plugging the power cord in the AC electrical outlet while pressing the POWER key.
 - The equipment is initialized when the power cord is unplugged and then plugged in the AC electrical outlet during the test mode by means of the main unit keys and the test mode by means of serial communication.
- (2) Contents
All functions are initialized. (Including test mode).



A-87/97 A-87/97 WIRING DIAGRAM



PC BOARD (Component side view) AUDIO UNIT (X09-388X-XX)



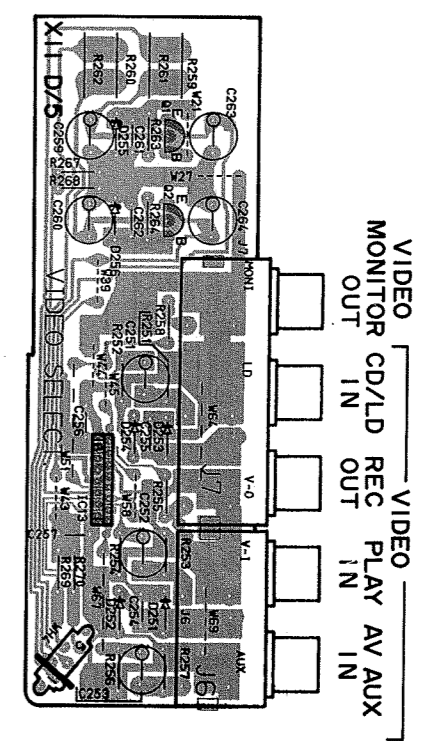
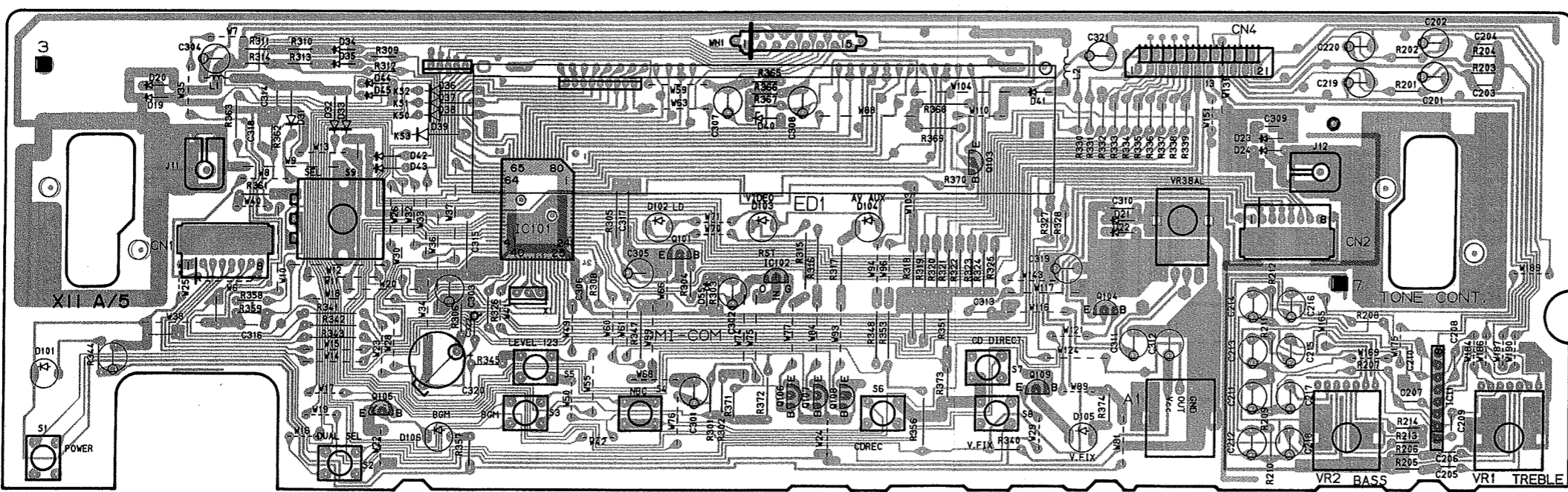
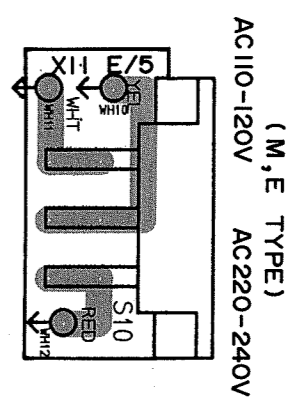
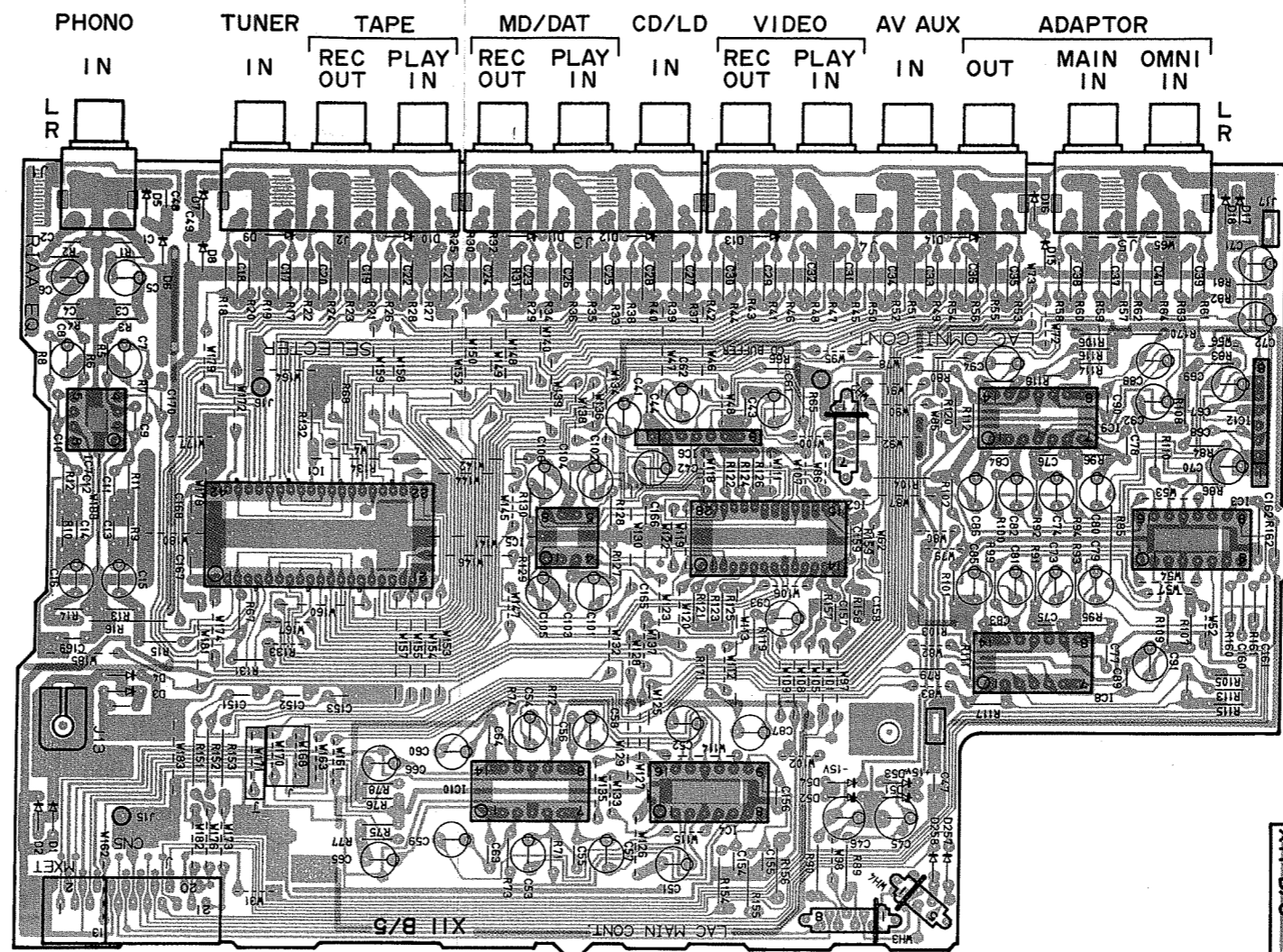
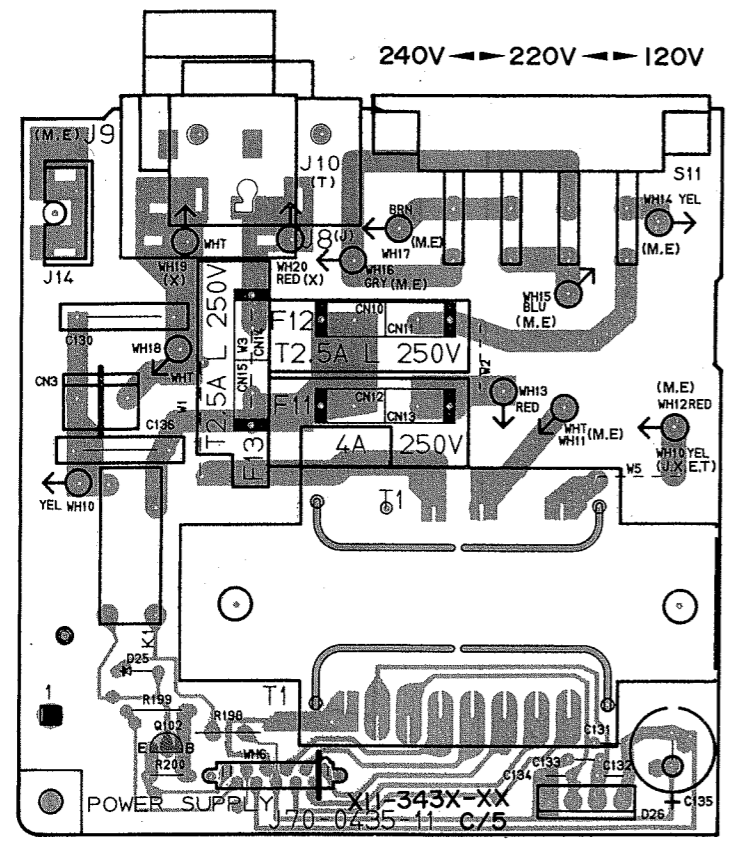
ON/STANDBY
POWER

LINER ACOUSTIC
FRONT

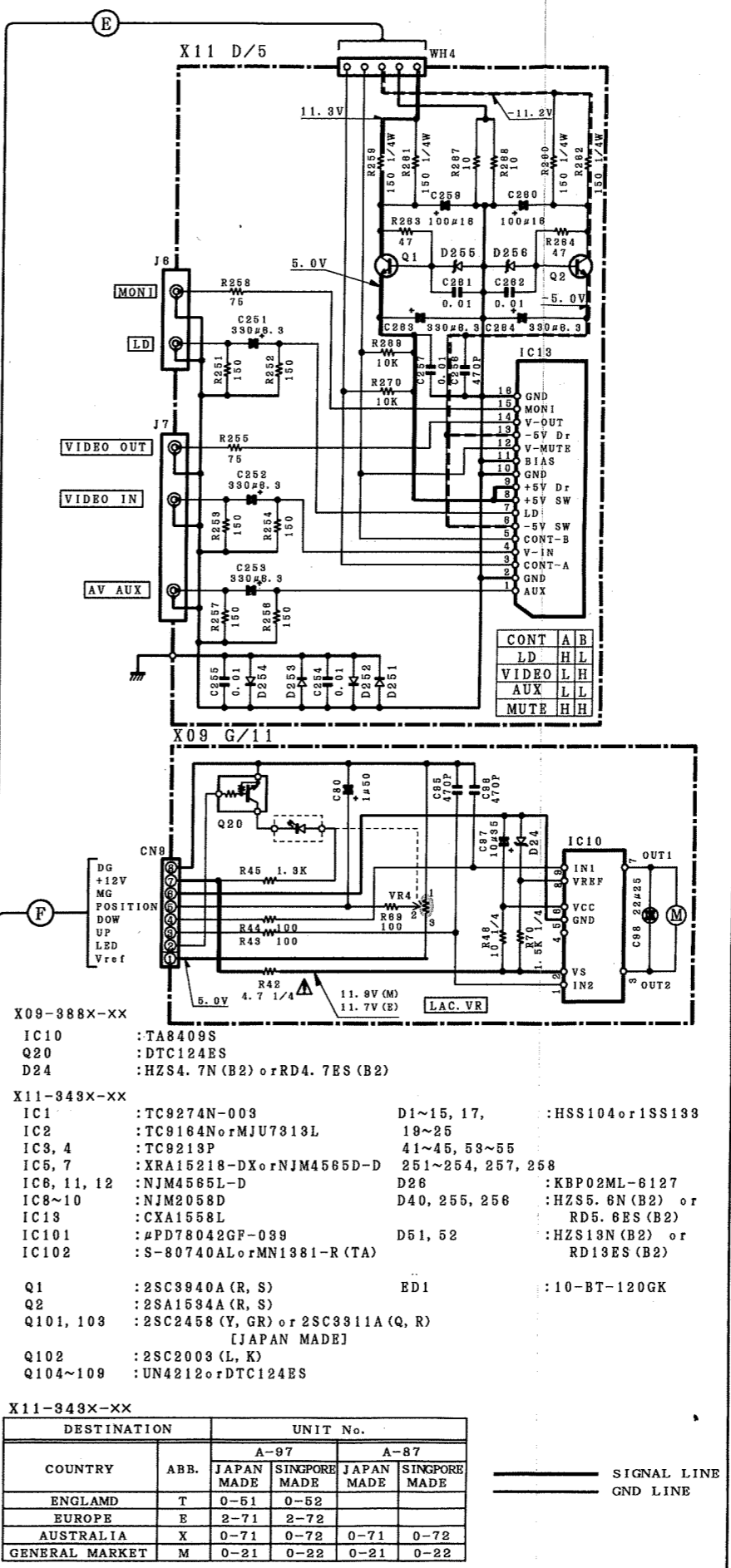
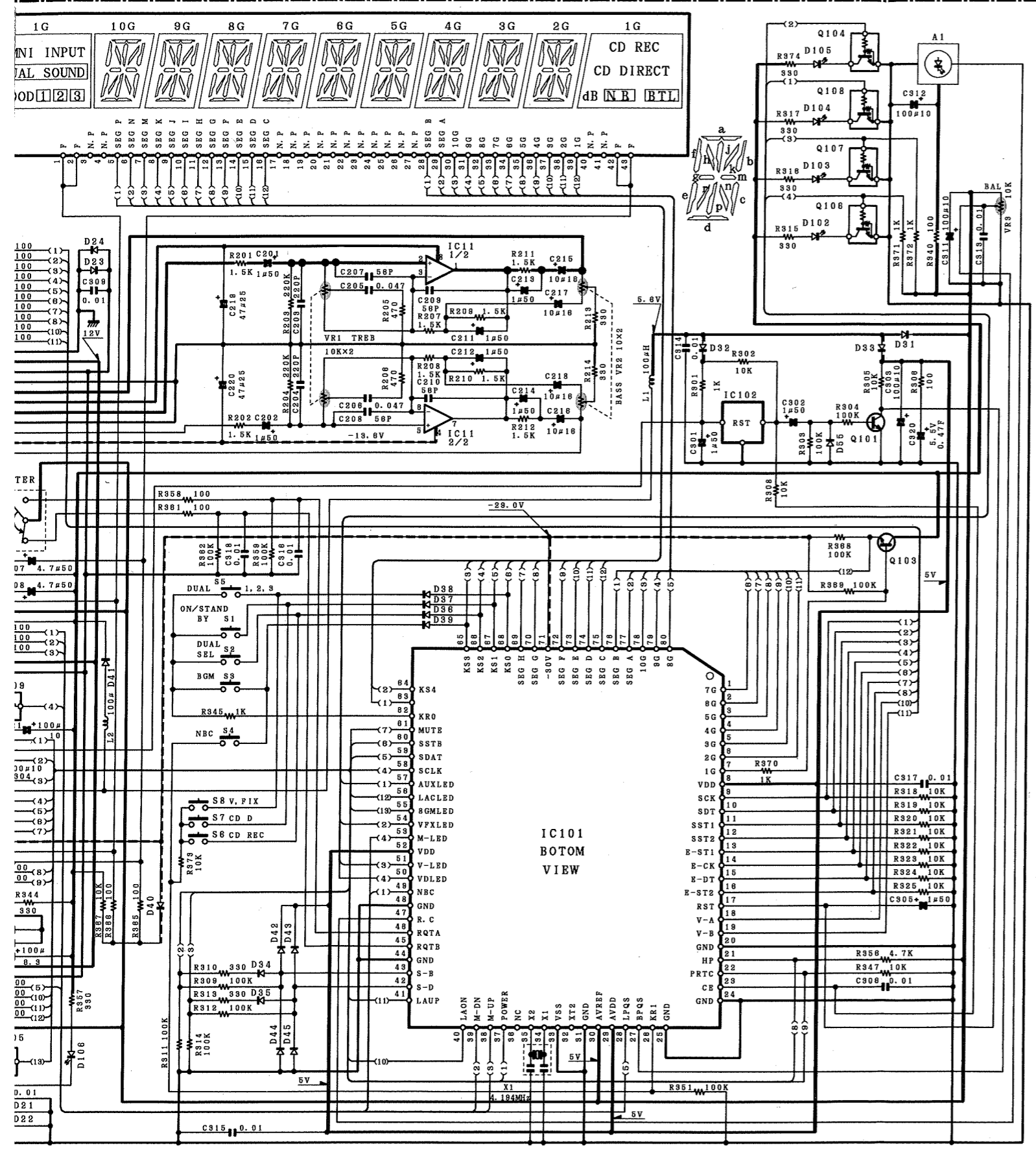
Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (Component side view) CONTROL UNIT (X11-343X-XX)

AC OUTLET
AC 100V 50/60Hz
200W MAX.



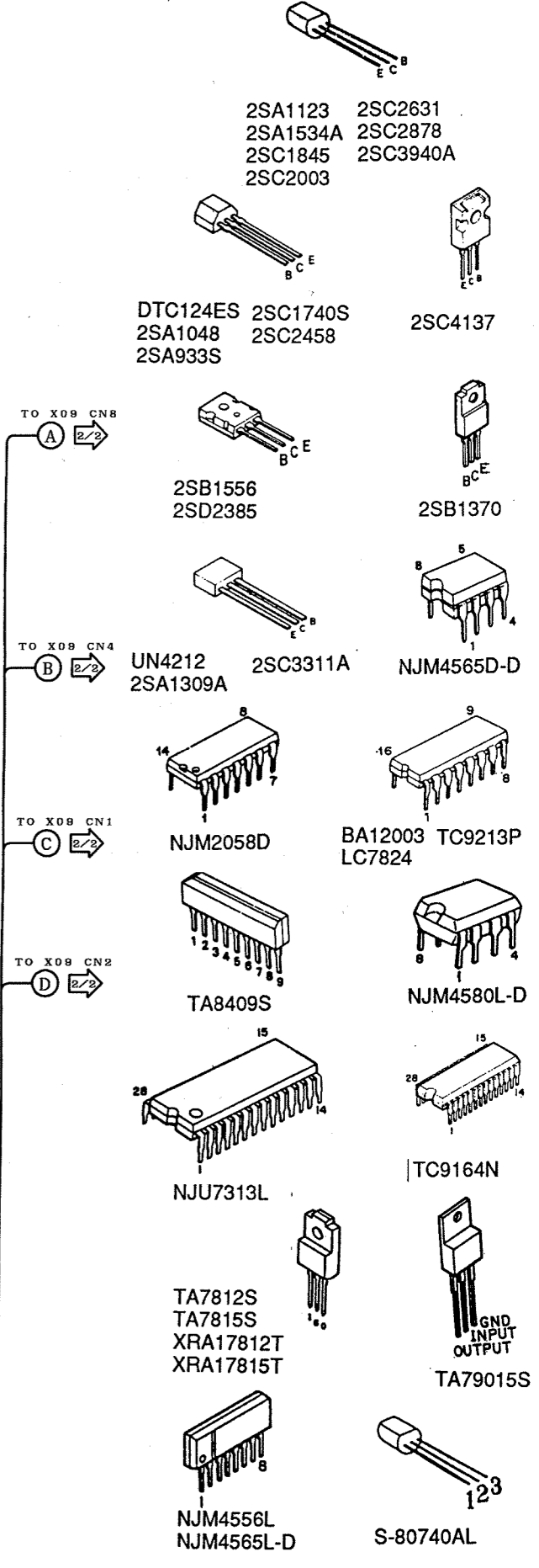
Refer to the schematic diagram for the values of resistors and capacitors.



- X09-388X-XX**
 IC10 : TA8409S
 Q20 : DTC124ES
 D24 : HZS4. 7N (B2) or RD4. 7ES (B2)
- X11-349X-XX**
 IC1 : TC9274N-003
 IC2 : TC9164N or MJU7313L
 IC3, 4 : TC9213P
 IC5, 7 : XRA15218-DX or NJM4585D-D
 IC6, 11, 12 : NJM4565L-D
 IC8~10 : NJM2058D
 IC13 : CXA1558L
 IC101 : μ PD78042GF-039
 IC102 : S-80740AL or MN1381-R (TA)
- Q1 : 2SC3940A (R, S)
 Q2 : 2SA1534A (R, S)
 Q101, 103 : 2SC2458 (Y, GR) or 2SC3311A (Q, R) [JAPAN MADE]
 Q102 : 2SC2003 (L, K)
 Q104~108 : UN4212 or DTC124ES
- D1~15, 17 : HSS104 or ISS133
 19~25 : HZS5. 6N (B2)
 41~45, 53~55 : HZS5. 6ES (B2)
 251~254, 257, 258 : KBP02ML-6127
 D26 : HZS5. 6N (B2) or RD5. 6ES (B2)
 D40, 255, 256 : HZS13N (B2) or RD13ES (B2)
 D51, 52 : HZS13N (B2) or RD13ES (B2)
- ED1 : 10-BT-120GK

X11-349X-XX

COUNTRY	ABB.	UNIT No.			
		A-97		A-87	
		JAPAN MADE	SINGAPORE MADE	JAPAN MADE	SINGAPORE MADE
ENGLAND	T	0-51	0-52		
EUROPE	E	2-71	2-72		
AUSTRALIA	X	0-71	0-72	0-71	0-72
GENERAL MARKET	M	0-21	0-22	0-21	0-22

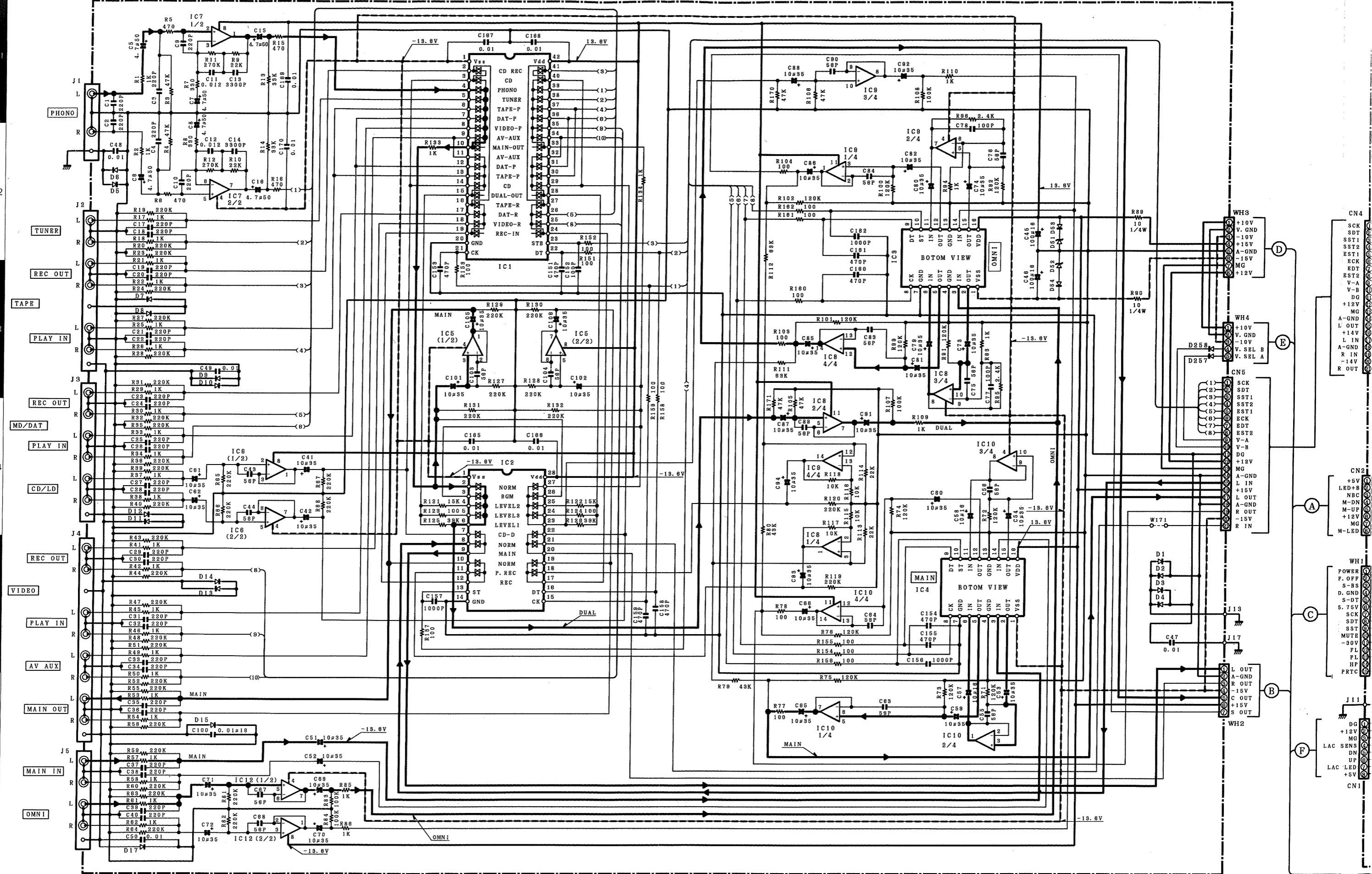


impedance voltme- lightly due to varia- f units.

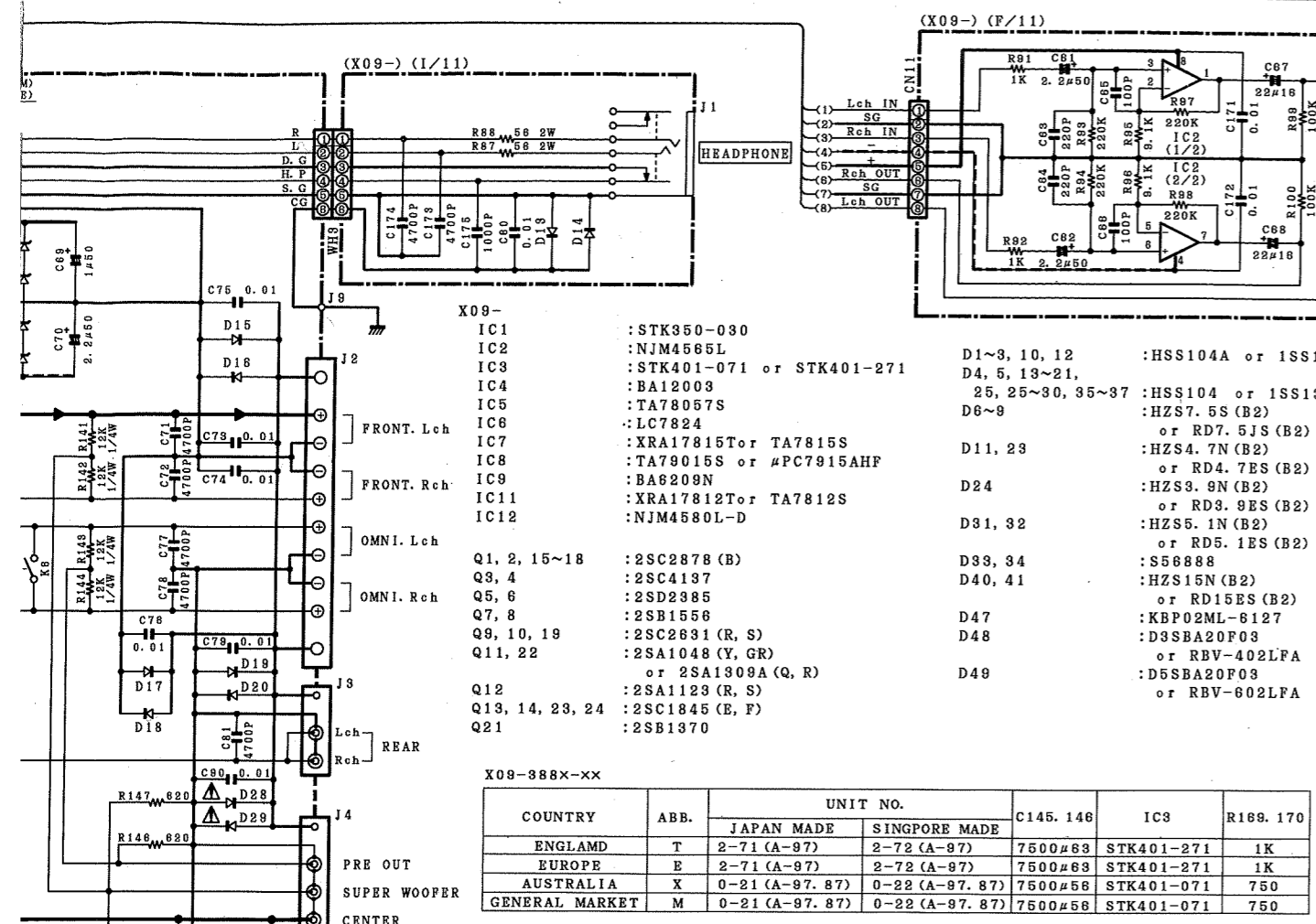
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

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). Δ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.



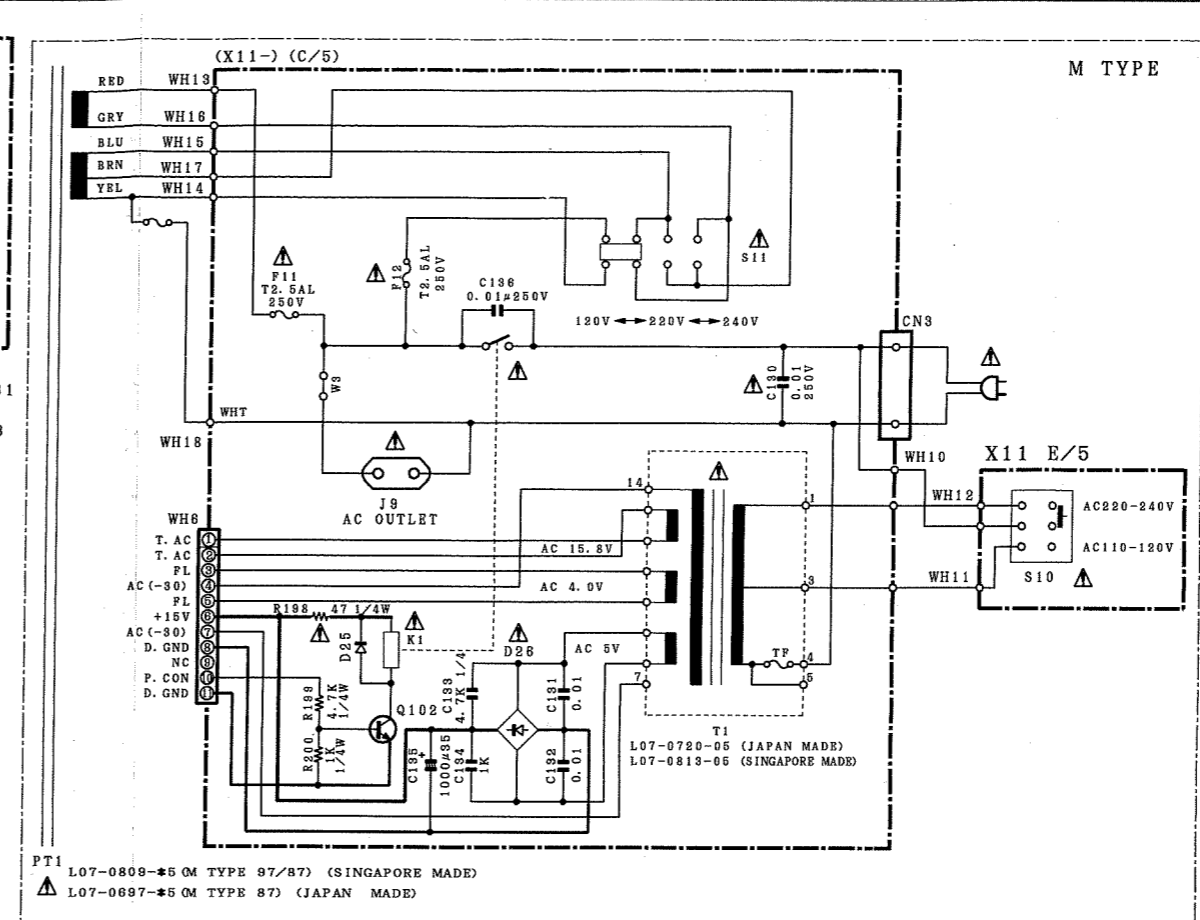
DC voltages are as measured with
 ter with no signal input. Values m
 tions between individual instrum



- X09-**
- IC1 : STK350-030
 - IC2 : NJM4565L
 - IC3 : STK401-071 or STK401-271
 - IC4 : BA12003
 - IC5 : TA78057S
 - IC6 : LC7824
 - IC7 : XRA17815T or TA7815S
 - IC8 : TA79015S or MPC7915AHF
 - IC9 : BA8209N
 - IC11 : XRA17812T or TA7812S
 - IC12 : NJM4580L-D
- D1~3, 10, 12** : HSS104A or 1SS131
D4, 5, 13~21, 25, 25~30, 35~37 : HSS104 or 1SS133
D6~8 : HZS7.5S (B2) or RD7.5JS (B2)
D11, 23 : HZS4.7N (B2) or RD4.7ES (B2)
D24 : HZS3.9N (B2) or RD3.9ES (B2)
D31, 32 : HZS5.1N (B2) or RD5.1ES (B2)
D33, 34 : S56888
D40, 41 : HZS15N (B2) or RD15ES (B2)
D47 : KBP02ML-B127
D48 : D3SBA20F03 or RBV-402LFA
D49 : D3SBA20F03 or RBV-602LFA
- Q1, 2, 15~18** : 2SC2878 (B)
Q3, 4 : 2SC4137
Q5, 6 : 2SD2385
Q7, 8 : 2SB1556
Q9, 10, 19 : 2SC2631 (R, S)
Q11, 22 : 2SA1048 (Y, GR) or 2SA1309A (Q, R)
Q12 : 2SA1123 (R, S)
Q13, 14, 23, 24 : 2SC1845 (E, F)
Q21 : 2SB1370

X09-388X-XX

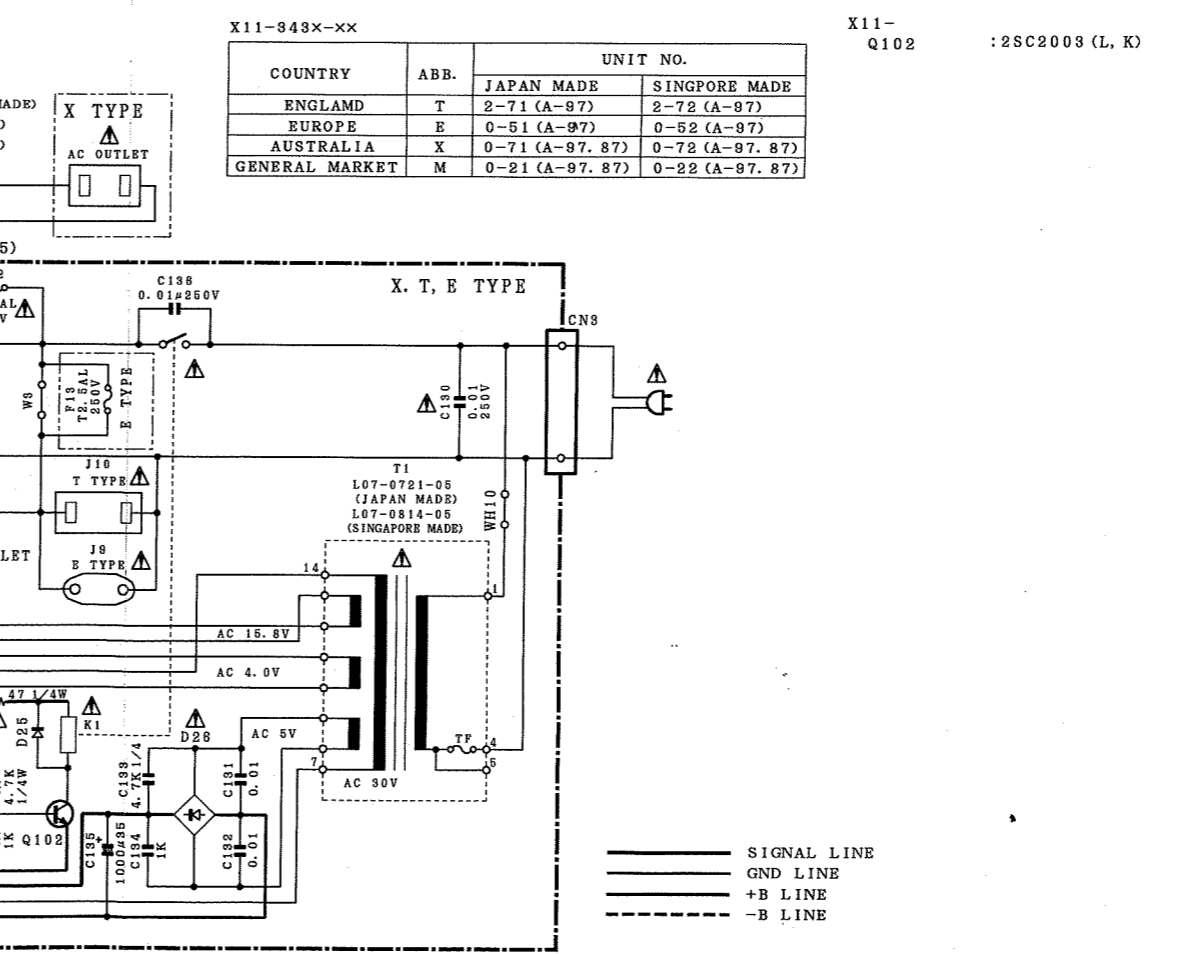
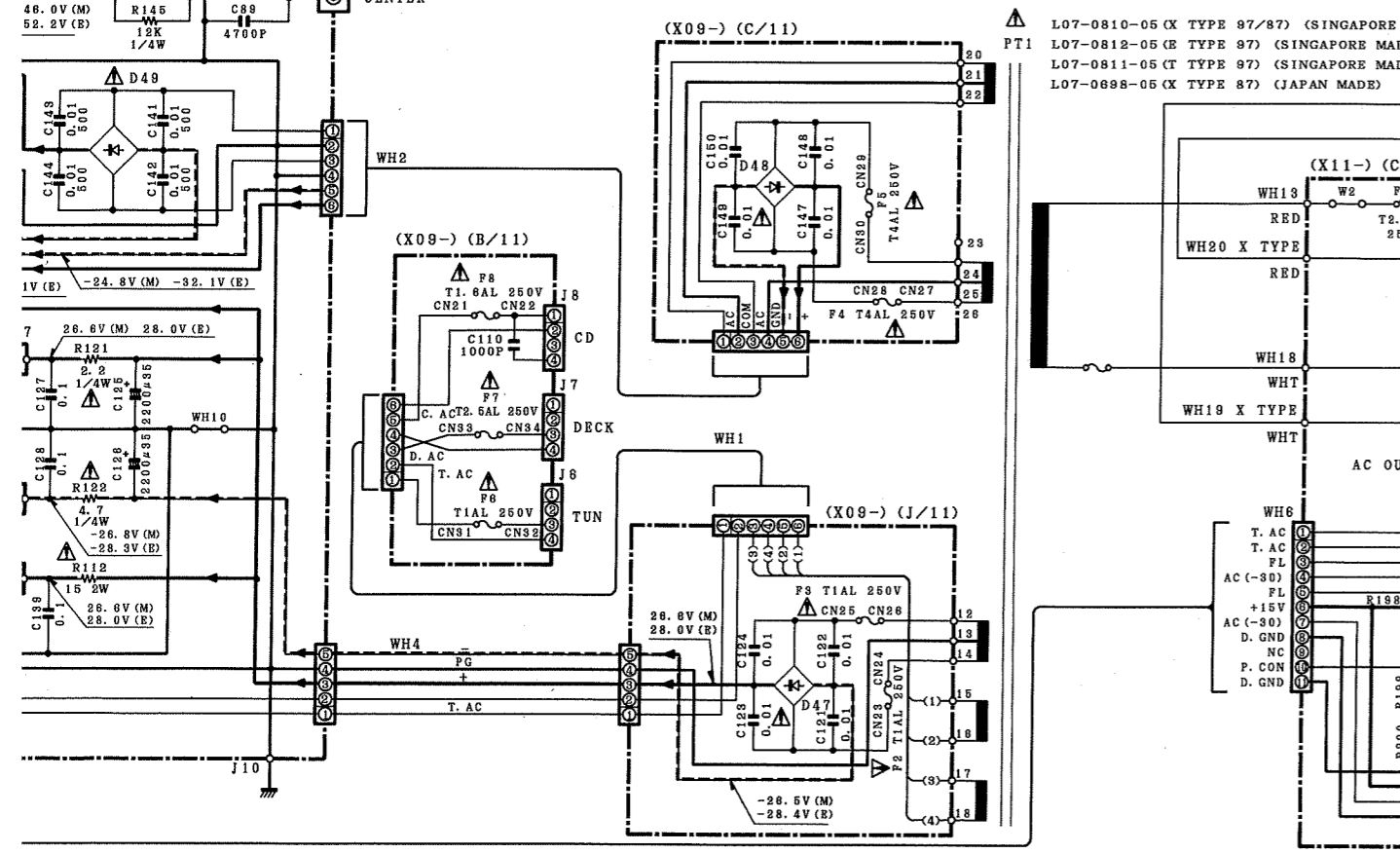
COUNTRY	ABB.	UNIT NO.		C145. 146	IC3	R169. 170
		JAPAN MADE	SINGAPORE MADE			
ENGLAND	T	2-71 (A-97)	2-72 (A-97)	7500μ683	STK401-271	1K
EUROPE	E	2-71 (A-97)	2-72 (A-97)	7500μ683	STK401-271	1K
AUSTRALIA	X	0-21 (A-97. 87)	0-22 (A-97. 87)	7500μ568	STK401-071	750
GENERAL MARKET	M	0-21 (A-97. 87)	0-22 (A-97. 87)	7500μ568	STK401-071	750



X11-343X-XX

COUNTRY	ABB.	UNIT NO.	
		JAPAN MADE	SINGAPORE MADE
ENGLAND	T	2-71 (A-97)	2-72 (A-97)
EUROPE	E	0-51 (A-97)	0-52 (A-97)
AUSTRALIA	X	0-71 (A-97. 87)	0-72 (A-97. 87)
GENERAL MARKET	M	0-21 (A-97. 87)	0-22 (A-97. 87)

X11-Q102 : 2SC2003 (L, K)



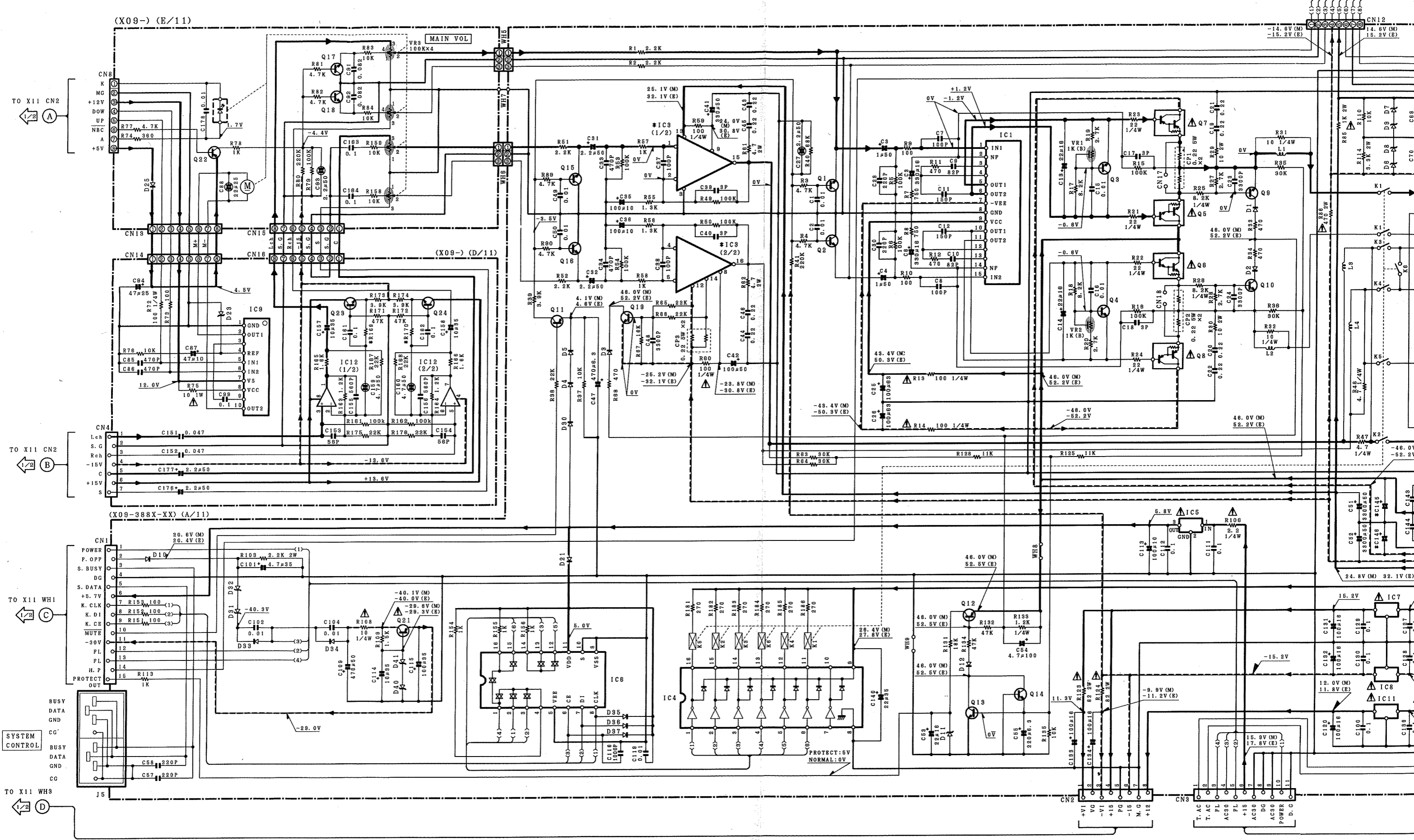
— SIGNAL LINE
 — GND LINE
 — +B LINE
 - - - -B LINE

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.

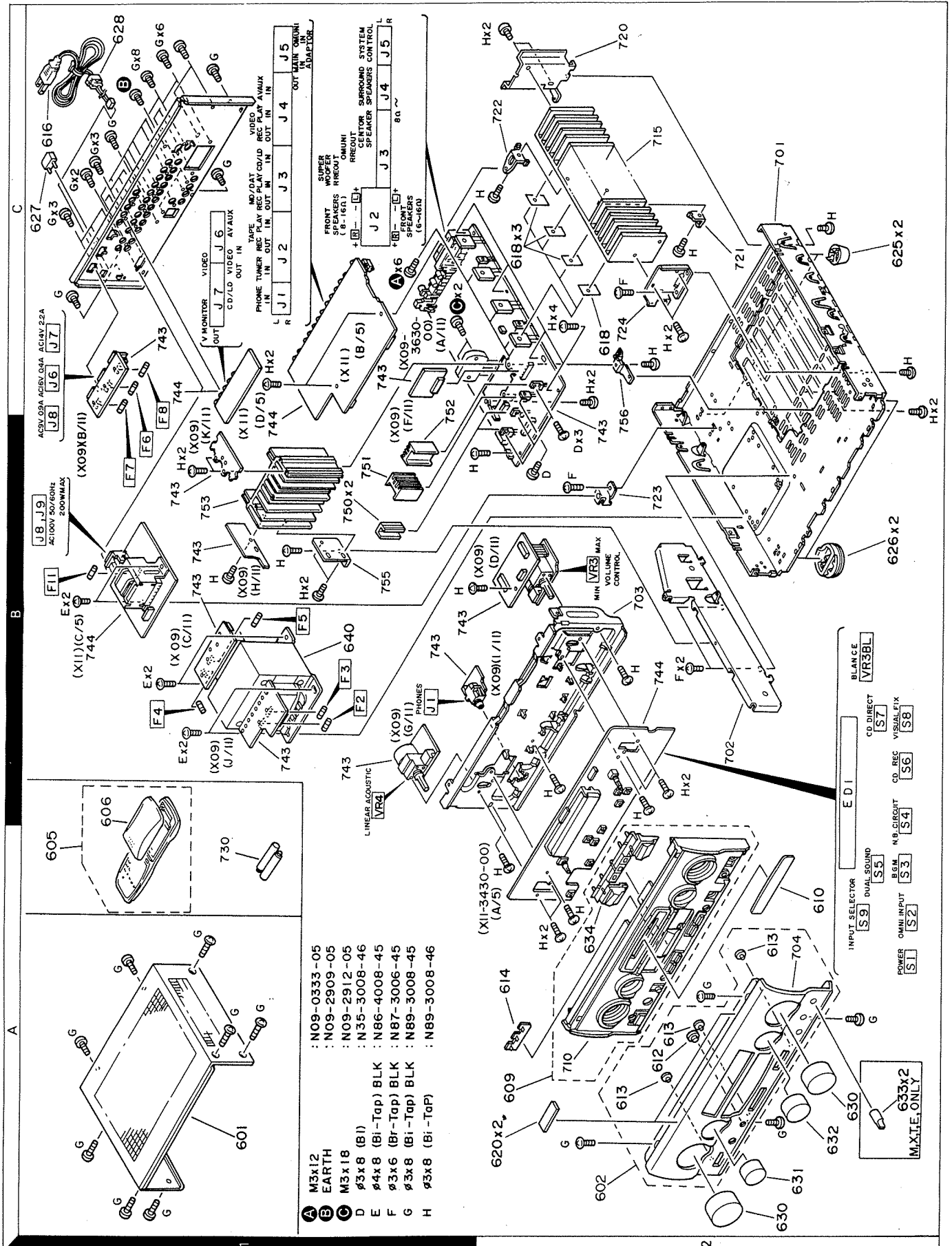
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

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.

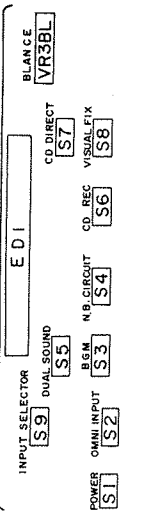
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). ⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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



EXPLODED VIEW (MAIN UNIT)



- A M3x12
 - B EARTH
 - C M3x18
 - D ϕ3x8 (B1)
 - E ϕ4x8 (Bi-Tap) BLK
 - F ϕ3x6 (Br-Tap) BLK
 - G ϕ3x8 (Bi-Tap) BLK
 - H ϕ3x8 (Bi-Tap)
- : N09-0333-05
 - : N09-2909-05
 - : N09-2912-05
 - : N35-3008-46
 - : N86-4008-45
 - : N87-3006-45
 - : N89-3008-45
 - : N89-3008-46



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

PARTS LIST

UNIT LIST(A-87)

DESTINATION		AUDIO UNIT	CONTROL UNIT
JAPAN MADE	M	X09-3880-21	X11-3430-21
	X	X09-3880-21	X11-3430-71
SINGAPORE MADE	M	X09-3880-22	X11-3430-22
	X	X09-3880-22	X11-3430-72

A-97

DESTINATION		AUDIO UNIT	CONTROL UNIT
JAPAN MADE	J	X09-3880-00	X11-3430-00
	M	X09-3880-21	X11-3430-21
	X	X09-3880-21	X11-3430-71
	T	X09-3882-71	X11-3430-51
	E	X09-3882-71	X11-3432-71
SINGAPORE MADE	M	X09-3880-22	X11-3430-22
	X	X09-3882-22	X11-3430-72
	T	X09-3882-72	X11-3430-52
	E	X09-3882-72	X11-3432-72

PARTS LIST

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.

NO.1

Table with columns: Ref. No., Address, New Parts, Parts No., Description, Destination. Includes sub-sections for A-87 (JAPAN MADE) and A-97 (SINGAPORE MADE).

L:Scandinavia Y:PX(Far East, Hawaii) Y:AAFE(S/Europe) K:USA T:England X:Australia P:Canada E:Europe M:Other Areas

* 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.

NO.2

Table with columns: Ref. No., Address, New Parts, Parts No., Description, Destination. Includes sub-sections for A-97 (JAPAN MADE) and A-97 (SINGAPORE MADE).

L:Scandinavia Y:PX(Far East, Hawaii) Y:AAFE(S/Europe) K:USA T:England X:Australia P:Canada E:Europe M:Other Areas

indicates safety critical components.

* 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.

NO.3

Table with columns: Ref. No., Address, New Parts, Parts No., Description, Destination. Includes sub-sections for A-97 (SINGAPORE MADE) and A-97 (SINGAPORE MADE).

L:Scandinavia Y:PX(Far East, Hawaii) Y:AAFE(S/Europe) K:USA T:England X:Australia P:Canada E:Europe M:Other Areas

* 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.

NO.4

Table with columns: Ref. No., Address, New Parts, Parts No., Description, Destination. Includes sub-sections for A-97 (SINGAPORE MADE) and A-97 (SINGAPORE MADE).

L:Scandinavia Y:PX(Far East, Hawaii) Y:AAFE(S/Europe) K:USA T:England X:Australia P:Canada E:Europe M:Other Areas

indicates safety critical components.

PARTS LIST

NO.6

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

Table with columns: Ref. No., Address, Parts No., Description, Destination. Includes parts like resistors, capacitors, and diodes.

L:Scandinavia
Y:PX(Far East, Hawaii)
Y:AFES(Europe)
X:Australia
M:Other Areas
J: JAPAN MADE
S: SINGAPORE MADE
8: A-87
9: A-97
indicates safety critical components.

NO.5

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

Table with columns: Ref. No., Address, Parts No., Description, Destination. Includes parts like transformers, screws, and audio unit components.

L:Scandinavia
Y:PX(Far East, Hawaii)
Y:AFES(Europe)
X:Australia
M:Other Areas
J: JAPAN MADE
S: SINGAPORE MADE
8: A-87
9: A-97
indicates safety critical components.

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 que Parts No. werden nicht geliefert.

Table with columns: Ref. No., Address, Parts No., Description, Destination. Includes parts like resistors, capacitors, and diodes.

L:Scandinavia
Y:PX(Far East, Hawaii)
Y:AFES(Europe)
X:Australia
M:Other Areas
J: JAPAN MADE
S: SINGAPORE MADE
8: A-87
9: A-97
indicates safety critical components.

NO.7

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

Table with columns: Ref. No., Address, Parts No., Description, Destination. Includes parts like fuses, capacitors, and audio unit components.

L:Scandinavia
Y:PX(Far East, Hawaii)
Y:AFES(Europe)
X:Australia
M:Other Areas
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S: SINGAPORE MADE
8: A-87
9: A-97
indicates safety critical components.

PARTS LIST

x New Parts
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 Teile ohne Parts No. werden nicht geliefert.

NO.10

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 向	Re- marks 備考
C45, 46			CE04LW1C101M	ELECTR0		S
C48, 49			CK45FE1H103Z	CERAMIC	16WV	
C50			C91-0769-05	ELECTR0	Z	
C51-54			CE04KW1V100M	ELECTR0	K	J S
C55, 56			CC45FSL1H560J	ELECTR0	10UF	
C57, 58			C90-3225-05	CERAMIC	J	J J S
C59-62			CE04KW1V100M	ELECTR0	10UF	
C63, 64			CC45FSL1H560J	CERAMIC	J	J S
C65, 66			CE04KW1V100M	ELECTR0	10UF	
C67, 68			CC45FSL1H560J	CERAMIC	56PF	J S
C69-74			CE04KW1V100M	ELECTR0	10UF	J S
C75, 76			CC45FSL1H560J	CERAMIC	56PF	J S
C77, 78			CE04KW1V100M	ELECTR0	10UF	J S
C79, 82			CC45FSL1H560J	CERAMIC	56PF	J S
C83, 84			CE04KW1V100M	ELECTR0	10UF	J S
C85-88			CE04KW1V100M	ELECTR0	10UF	J S
C89, 90			CC45FSL1H560J	CERAMIC	56PF	J S
C91-94			CE04KW1V100M	ELECTR0	10UF	J S
C100			C91-0769-05	CERAMIC	0.01UF	J S
C101, 102			CE04KW1V100M	ELECTR0	10UF	J S
C103, 104			CC45FSL1H560J	CERAMIC	56PF	J S
C105, 106			CE04KW1V100M	ELECTR0	10UF	J S
C130-134			CE04LW1V100M	ELECTR0	10UF	S
C135			CK45FE1H103Z	CERAMIC	0.01UF	
C136			CE04LW1V100M	ELECTR0	0.010UF	
C137			CE04LW1V100M	ELECTR0	1000UF	
C138			C91-1439-05	FILM	0.01UF	
C151			CK45FE1H471K	CERAMIC	470PF	
C152			CK45FE1H102K	CERAMIC	1000PF	
C153-155			CK45FE1H471K	CERAMIC	470PF	
C156, 157			CK45FE1H102K	CERAMIC	1000PF	
C158			CK45FE1H471K	CERAMIC	470PF	
C159-161			C91-0753-05	CHIP C	470PF	
C162			C91-0757-05	CERAMIC	1000PF	
C165-168			CK45FE1H103Z	CERAMIC	0.010UF	
C169, 170			CF92FV1H103J	MF	0.010UF	
C201, 202			CE04KW1H010M	ELECTR0	1.0UF	J S
C203, 204			CC45FSL1H221J	CERAMIC	220PF	
C205, 206			CF92FV1H473J	MF	0.047UF	
C207-210			CC45FSL1H560J	CERAMIC	56PF	
C211-214			CE04KW1H010M	ELECTR0	1.0UF	J S
C215-218			C90-3225-05	ELECTR0	10UF	J S
C219, 220			CC45FSL1H560J	CERAMIC	56PF	J S
C219, 220			CE04LW1E470M	ELECTR0	47UF	J S
C219, 220			CE04LW1E470M	ELECTR0	25WV	J S

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NO.9

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 向	Re- marks 備考
IC1		*	STK350-030	IC(CAF DRIVER AMP)		
IC2		*	NJM4556L	IC(COP AMP)		9
IC3		*	STK401-071	IC(CAF POWER AMP/40HX2)		8
IC3		*	STK401-071	IC(CAF POWER AMP/40HX2)		8
IC3		*	STK401-271	IC(CAF POWER AMP/40HX2)		9
IC4			BA12003	IC(TRANSISTOR ARRAY)		
IC5			TA76057S	IC(VOLTAJE REGULATOR/ +5.75V)		
IC6		*	LC78225	IC(CANALOG SW)		
IC7			TA7815S	IC(VOLTAJE REGULATOR/ +15V)		
IC7		*	XRA17815T	IC(VOLTAJE REGULATOR/ +15V)		
IC8			TA79015S	IC(VOLTAJE REGULATOR/ -15V)		
IC8			UPC7915AHF	IC(VOLTAJE REGULATOR/ -15V)		
IC9			BA6209N	IC(MOTOR DRIVER)		
IC10			TAB409S	IC(MOTOR CONTROL)		
IC11			TA7812S	IC(VOLTAJE REGULATOR/ +12V)		
IC11		*	XRA17812T	IC(VOLTAJE REGULATOR/ +12V)		
IC12			NJM4580L-D	IC(COP AMP X2)		
Q1			25C2878(B)	TRANSISTOR		J S
Q3, 4			25C4137	TRANSISTOR		J S
Q5, 6		*	25D2385	TRANSISTOR		J S
Q7, 8		*	25B1556	TRANSISTOR		J S
Q9, 10		*	25C2631(R, S)	TRANSISTOR		J S
Q11			25A1048(V, GR)	TRANSISTOR		J S
Q11			25A1175(F, E)	TRANSISTOR		J S
Q11			25A1309A(Q, R)	TRANSISTOR		J S
Q11			25A933S(G, B)	TRANSISTOR		S
Q12			25A1123(K, S)	TRANSISTOR		
Q13, 14			25C1845(K, E)	TRANSISTOR		
Q15-18			25C2626(E, E)	TRANSISTOR		
Q19			25C2676(B)	TRANSISTOR		
Q20			25C2631(R, S)	TRANSISTOR		
Q20			DTC124BS	DIGITAL TRANSISTOR		
Q21			25B1370	TRANSISTOR		
Q22			25A1048(V, GR)	TRANSISTOR		J S
Q22			25A1175(F, E)	TRANSISTOR		J S
Q22			25A1309A(Q, R)	TRANSISTOR		J S
Q22			25A933S(G, R)	TRANSISTOR		S
Q23, 24			25C1845(F, E)	TRANSISTOR		
CONTROL UNIT (X11-343X-XX)						
D101-106			B30-1291-05	LED(LN21CPSLX(V)-(TA4))		
C1-4			CC45FSL1H221J	CERAMIC	220PF	J
C5, 6			CE04KW1H4R7M	ELECTR0	4.7UF	J S
C5, 6			CE04LW1H4R7M	ELECTR0	50WV	J S
C7, 8			CE04KW1H4R7M	ELECTR0	4.7UF	J S
C7, 8			CE04LW1H4R7M	ELECTR0	50WV	J S
C9, 10			CC45FSL1H221J	CERAMIC	220PF	J
C11, 12			CF92FV1H123J	MF	0.012UF	
C13, 14			CF92FV1H352J	MF	3300PF	
C15, 16			CE04KW1H4R7M	ELECTR0	4.7UF	J S
C15, 16			CE04LW1H4R7M	ELECTR0	50WV	J S
C17-40			C91-0749-05	CERAMIC	220PF	J S
C41, 42			CE04KW1V100M	ELECTR0	10UF	J S
C43, 44			CE04LW1V100M	ELECTR0	10UF	J S
C43, 44			CC45FSL1H560J	CERAMIC	56PF	J S
C45, 46			CE04KW1C101M	ELECTR0	100UF	J

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 indicates safety critical components.

PARTS LIST

NO.12

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
T1		L07-0814-05	POWER TRANSFORMER	XTE	9 S
T1		L07-0814-05	POWER TRANSFORMER	X	8 S
X1		L78-0267-05	RESONATOR 4.194MHZ		S
R198		RD14NB2E470J	RD 47. J 1/4W		
R259-262		RD14NB2E151J	RD 150. J 1/4W		
VR1, 2		R10-3954-05	POTENTIOMETER(10K) BASS, TREBLE		
VR3		R05-3037-05	POTENTIOMETER(10K) BALANCE		
K1		S76-0002-05	MAGNETIC RELAY		
S10		S60-1064-05	PUSH SWITCH KEY BOARD		
S11		S62-0001-05	SLIDE SWITCH VOLTAGE SELECTOR	M	
S11		S31-2322-05	SLIDE SWITCH VOLTAGE SELECTOR	M	
S9		T99-0530-05	ROTARY ENCODER INPUT SELECTOR		
D1		HSS104	DIODE		
D1		HSS133	DIODE		
D17		HSS133	DIODE		
D17		HSS133	DIODE		
D19		HSS104	DIODE		
D19		HSS133	DIODE		
D19		HSS104	DIODE		
D19		HSS133	DIODE		
D26		KBPO2ML-6127	DIODE		
D31		HSS104	DIODE		
D31		HSS133	DIODE		
D31		HSS133	DIODE		
D40		HZSS5.6N(B2)	ZENER DIODE		
D40		R05.6ES(B2)	ZENER DIODE		
D41		HSS104	DIODE		
D41		HSS133	DIODE		
D51		HZS13N(B2)	ZENER DIODE		
D51		RD13ES(B2)	ZENER DIODE		
D53		HSS104	DIODE		
D53		HSS133	DIODE		
D251-254		HSS104	DIODE		
D251-254		HSS133	DIODE		
D255, 256		HZSS5.6N(B2)	ZENER DIODE		
D255, 256		R05.6ES(B2)	ZENER DIODE		
D257, 258		HSS104	DIODE		
D257, 258		HSS133	DIODE		
ED1		10-BT-120GK	INDICATOR TUBE		
IC1		TC9274N-003	IC(ANALOG SWITCH)		
IC2		NJU7313L	IC(ANALOG SWITCH)		
IC2		IC9164N	IC(16CH BILATERAL SELECTOR SW)		
IC3		IC9213P	IC(2CH ELECTRONIC VOLUME)		
IC3		IC9213P	IC(2CH ELECTRONIC VOLUME)		
IC5		NR4565D-D	IC(OP AMP X2)		
IC5		XRA15218-DX	IC(OP AMP X2)		
IC6		NJM4565L-D	IC(OP AMP X2)		
IC6		NJM4565L-D	IC(OP AMP X2)		
IC7		YR115058-D	IC(OP AMP X2)		
IC7		YR115058-D	IC(OP AMP X2)		
IC8-10		NJM2058B-DX	IC(OP AMP X2)		
IC8-10		NJM2058B-DX	IC(OP AMP X2)		
IC11, 12		NJM4565L-D	IC(OP AMP X2)		
IC11, 12		NJM4565L-D	IC(OP AMP X2)		
IC13		CXA1558L	IC(MICROPROCESSOR)		
IC101		UPD78042QF-039	IC(VOLTAGE DETECT)		
IC102		MN1381-R(TA)	IC(VOLTAGE DETECTOR)		
IC102		S-80740AL	IC(VOLTAGE DETECTOR)		
Q1		2SC3940A(R, S)	TRANSISTOR		
Q2		2SA1534A(R, S)	TRANSISTOR		

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NO.11

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Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
C251-253		CE04KW0331M	ELECTR0 330UF 6.3KV	J S	
C251-253		CE04LW0331M	ELECTR0 330UF 6.3KV		
C254, 255		CK45FF1H103Z	CERAMIC 0.010UF Z		
C256		CK45F1H103Z	CERAMIC 0.010UF Z		
C257		CK45FF1H103Z	CERAMIC 0.010UF Z		
C259, 260		CE04KW1010M	ELECTR0 100UF 16WV	J S	
C261, 262		CE04LW1010M	ELECTR0 100UF 16WV		
C263, 264		CK45FF1H103Z	CERAMIC 0.010UF Z		
C263, 264		CK45F1H103Z	CERAMIC 0.010UF Z		
C301, 302		C90-3253-05	ELECTR0 1UF 50WV	J S	
C303, 304		CE04KW1A101M	ELECTR0 100UF 10WV		
C303, 304		CE04LW1A101M	ELECTR0 100UF 10WV		
C305		C90-3253-05	ELECTR0 1UF 50WV		
C306		CK45FF1H103Z	CERAMIC 0.010UF Z		
C307, 308		C90-3256-05	ELECTR0 4.7UF 50WV		
C309		CK45FF1H103Z	CERAMIC 0.010UF Z		
C310		C91-0769-05	CERAMIC 0.01UF Z		
C311, 312		CE04KW1A101M	ELECTR0 100UF 10WV		
C311, 312		CE04LW1A101M	ELECTR0 100UF 10WV		
C313, 314		CK45FF1H103Z	CERAMIC 0.010UF Z		
C315		C91-0769-05	CERAMIC 0.01UF Z		
C316		CK45FF1H103Z	CERAMIC 0.010UF Z		
C317		C91-0769-05	CERAMIC 0.01UF Z		
C318		CK45FF1H103Z	CERAMIC 0.010UF Z		
C319		C90-3214-05	ELECTR0 100UF 6.3KV	J S	
C320		C90-1827-05	BACKUP 0.047F 5.5WV		
C321		CE04KW1A101M	ELECTR0 100UF 10WV		
C321		CE04LW1A101M	ELECTR0 100UF 10WV		
CN4	2B	E40-4161-05	FLAT CABLE CONNECTOR		
CN5	1C	E40-4201-05	FLAT CABLE CONNECTOR		
J1		E63-0072-1S	PHONO JACK TUNER, TAPE, MD, CD		
J2		E63-0072-1S	PHONO JACK TUNER, TAPE, MD, CD		
J4		E63-0067-1S	PHONO JACK VIDEO, AV/AUX, ADAPTER		
J5		E63-0091-05	PHONO JACK ADAPTER/1N, 0MMI		
J6		E63-0093-05	PHONO JACK VISUAL MONITOR		
J7		E63-0094-05	PHONO JACK VIDEO IN/OUT, AV AUX		
J9		E03-0108-05	AC OUTLET	M 8	
J9		E03-0108-05	AC OUTLET	M 8	
J10		E03-0109-05	AC OUTLET	T 9	
F11, 12		F05-2525-05	FUSE (SEM0) (250V T2.5A)	M	
F12		F05-2525-05	FUSE (SEM0) (250V T2.5A)	X X	
F12, 13		F05-2525-05	FUSE (SEM0) (250V T2.5A)	X X	
F17		F10-0937-03	SHIELDING PLATE	TE	
CN10-13		J13-0075-05	FUSE CLIP	M XTE	
CN10, 11		J13-0075-05	FUSE CLIP	X X	
CN10, 11		J13-0075-05	FUSE CLIP	X X	
CN14, 15		J13-0075-05	FUSE CLIP	TE	
L1		L40-1011-17	SMALL FIXED INDUCTOR(100UH, K)		
T1		L07-0720-05	POWER TRANSFORMER	M	
T1		L07-0721-05	POWER TRANSFORMER	XTE	
T1		L07-0721-05	POWER TRANSFORMER	X X	
T1		L07-0813-05	POWER TRANSFORMER	M	

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PARTS LIST

NO.13

Ref. No. 参照番号	Address 位置	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕	Re- marks 備考
Q101		2SC1740S(Q, R)	TRANSISTOR		S
Q101		2SC2458(Y, GR)	TRANSISTOR		S
Q101		2SC2785(F, E)	TRANSISTOR		S
Q101		2SC3311A(Q, R)	TRANSISTOR		S
Q102		2SC2003(L, K)	TRANSISTOR		
Q103		2SC1740S(Q, R)	TRANSISTOR		S
Q103		2SC2458(Y, GR)	TRANSISTOR		S
Q103		2SC2785(F, E)	TRANSISTOR		S
Q103		2SC3311A(Q, R)	TRANSISTOR		S
Q104-109		DTC124ES	DIGITAL TRANSISTOR		
Q104-109		UN4212	DIGITAL TRANSISTOR		
A1		W02-1174-05	ELECTRIC CIRCUIT MODULE		
		X25-5470-11	REMOTE CONTROL UNIT		8

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SPECIFICATIONS

Rated power output at the STEREO operation
(IEC/NF) from 63 Hz to 12,500Hz, 0.7% T.H.D.
at 8Ω 85W+85W
(DIN) 1,000Hz at 8Ω 85W+85W

Power output at the Surround operation
Front (1kHz, 0.08% T.H.D. at 8Ω) 85W+85W
Omni (1kHz, 0.5% T.H.D. at 8Ω) 25W+25W
Center (1kHz, 0.5% T.H.D. at 8Ω) 25W
Rear (1kHz, 0.5% T.H.D. at 8Ω) 25W+25W

Total harmonic distortion (1kHz, 8Ω) 0.02% at 40W

Signal to noise ratio (IHF '66)
PHONO (MM) 72dB
CD/LD, TAPE 90dB

Signal to noise ratio (DIN weighted at 50mW output)
PHONO (MM) 56dB
CD/LD, TAPE 57dB

Input sensitivity/impedance
PHONO (MM) 2.5mV/47kΩ
CD/LD, TAPE 200mV/47kΩ

Tone controls
BASS ±10dB (at 100Hz)
TREBLE ±10dB (at 10kHz)

VIDEO inputs/outputs
(composite) 1Vp-p/75Ω

General
Power consumption 280W
Dimensions W : 360 mm
H : 129 mm
D : 378 mm
Weight (net) 11.3kg
AC outlets (switched) 1 (Total 200W max)

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.

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