

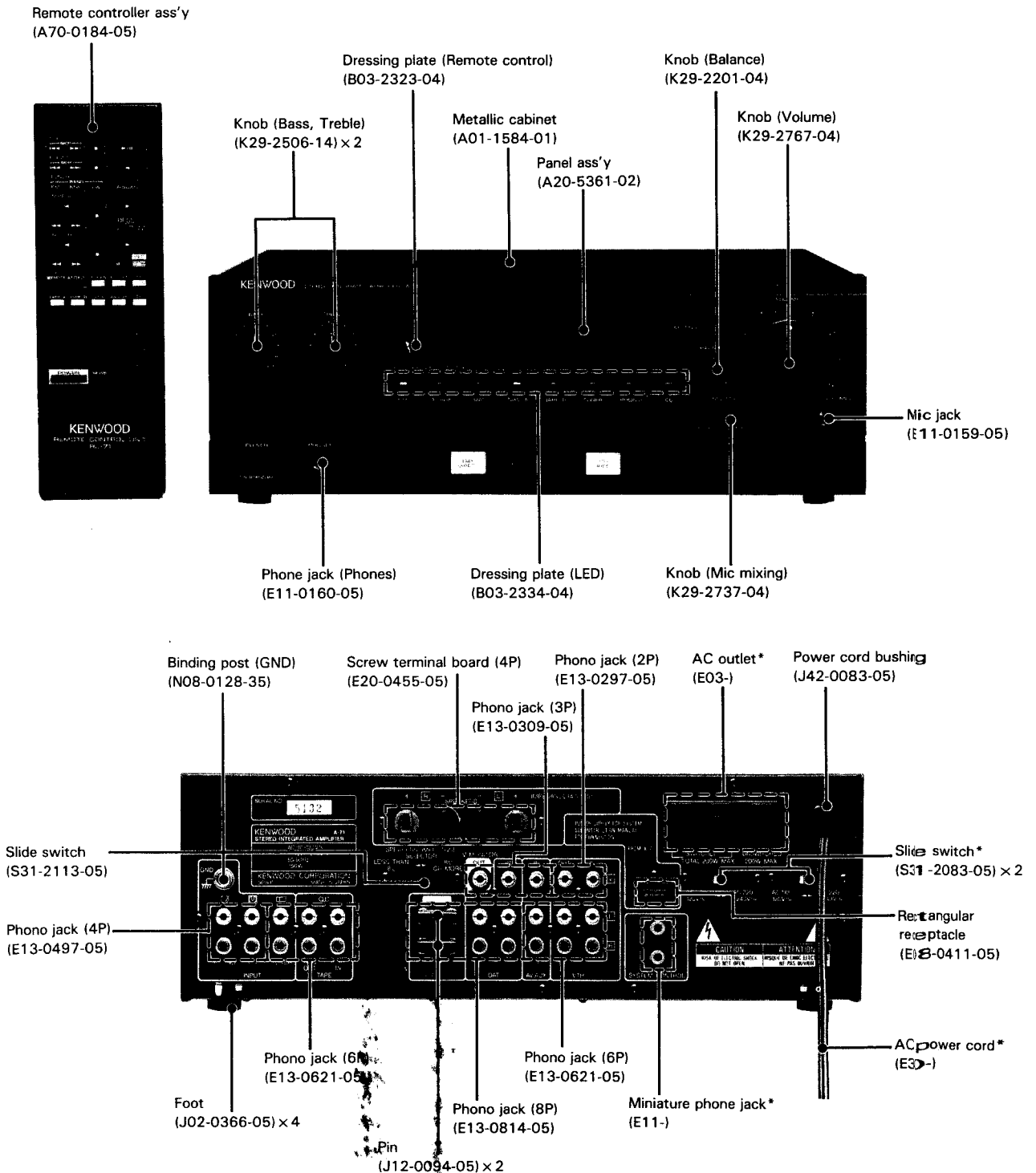
STEREO INTEGRATED AMPLIFIER

A-71

SERVICE MANUAL

KENWOOD

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B51-3342-00(T)1,272



* Refer to parts list on page 34.

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Caution

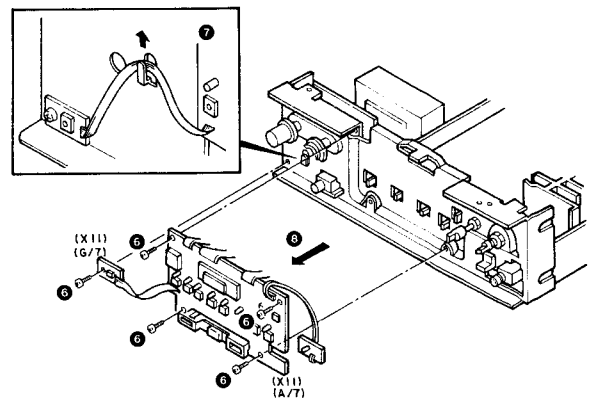
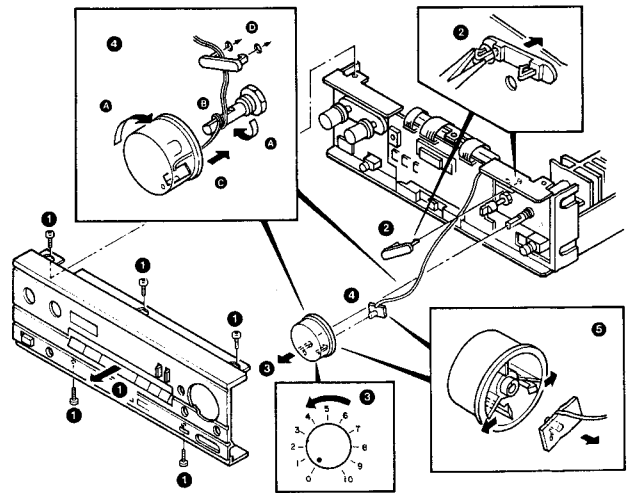
- The AC power supply for the X-91 on the rear panel outputs 16 V AC. Therefore, it cannot be used for supplying AC power to the MIDI X Series.

- In addition to the conventional audio circuitry, this unit is equipped with 4 video input systems (1 with analog switch and 3 with electronic switches) and 2 video output systems.

DISASSEMBLY FOR REPAIR

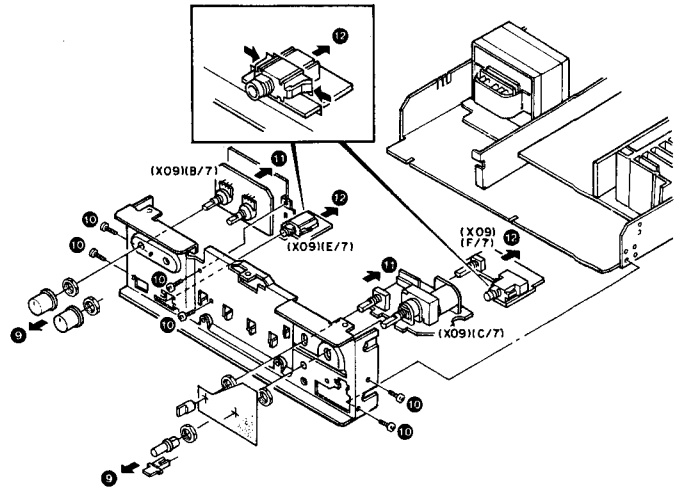
(Remove the metallic cabinet before proceeding to the following.)

1. Remove the 5 screws fixing the front panel from the upper and lower sides, then take out the front panel in the direction of the arrow (①).
2. Crush the clamber's lug using radio pliers, and remove the clamber off the sub-panel (②).
3. Turn the VOLUME control knob to the minimum position and pull it out. Do not pull it out too far because there are LED cords attach inside it (③).
4. When attaching the VOLUME knob, turn it to the maximum position (A), wind the cord twice clockwise around the VOLUME shaft (B), and insert the VOLUME knob (C). When attaching the clamber, the cord shall be a little loose on the knob side (D) (④).
5. Remove the LED board by disengaging the claws on the back of the VOLUME knob (⑤).
6. Remove the 4 screws fixing the Control Unit (X11-2452-71) (A/7) to the sub-panel and 1 screw fixing the Control Unit (X11-) (G/7) to it (⑥).
7. Unhook the cord of the Control Unit (X11-) (G/7) from the hook on the sub-panel (⑦).
8. Take out the Control Unit (X11-) (A/7, G/7) in the direction of the arrow (⑧).



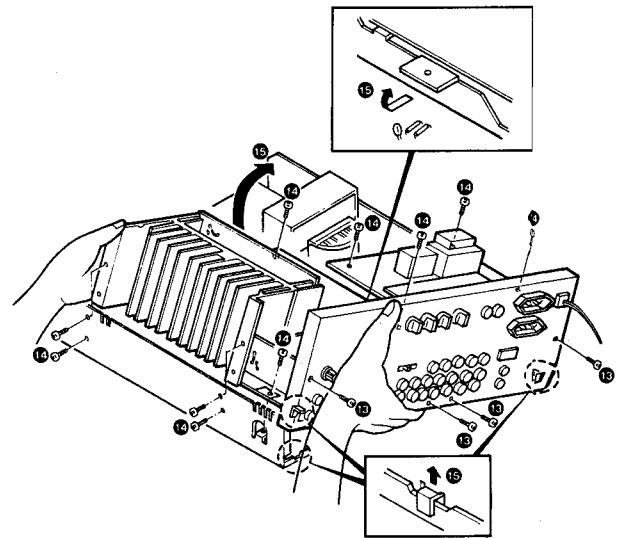
DISASSEMBLY FOR REPAIR

9. Remove the BASS, TREBLE, BALANCE and MIC MIXING control knobs with hex nuts and the VOLUME hex nut from the sub-panel (9). Note that the BALANCE and VOLUME hex nuts can be removed only after removing the blind plate.
10. Remove the 4 screws from the side of the sub-panel. 1 screw from the front of it and 1 screw fixing the shield plate, and move the sub-panel toward the front (10).
11. Remove the Audio Unit (X09-2532-71) (B/7, C/7) off the sub-panel (11).
12. Disengage the claws of the PHONE and MIC jacks of the Audio Unit (X09-) (E/7, F/7), and remove their PC boards off the sub-panel (12).

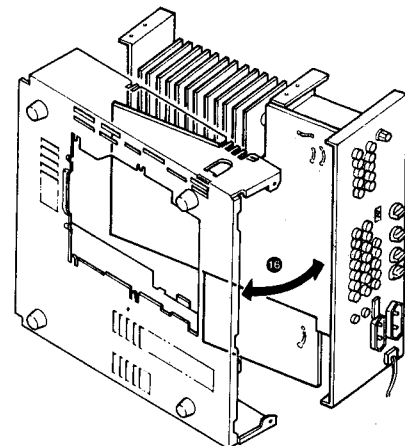


(Remove the bottom plate before proceeding to the following.)

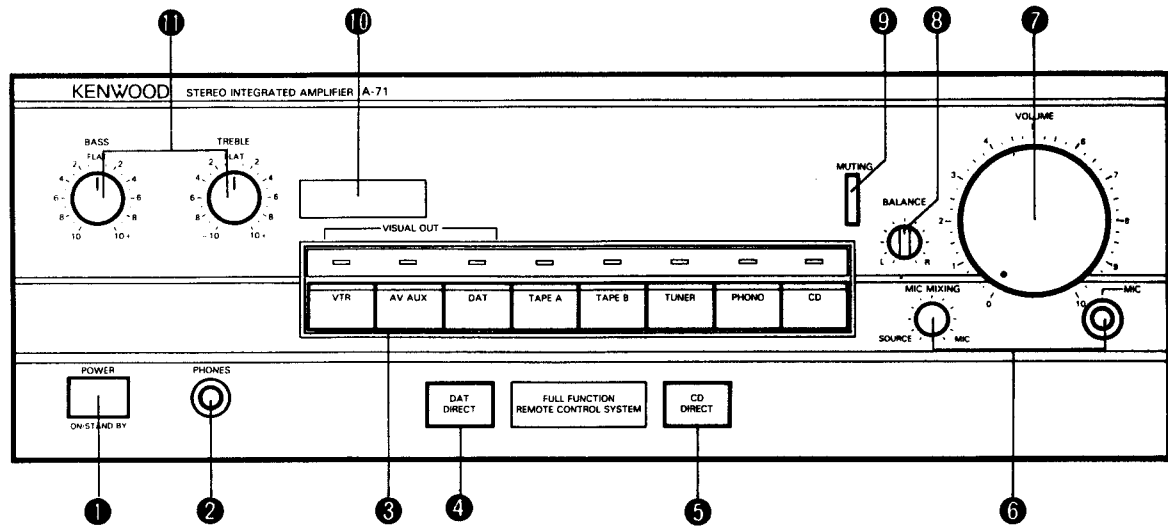
13. Remove the 4 screws fixing the rear panel (13).
14. Remove the 4 screws fixing the radiator to the chassis, 3 screws fixing the Audio Unit (X09-) (A/7) to the chassis and 3 screws fixing the Control Unit (X11-) (B/7) to the chassis (14).
15. Hold the radiator and rear panel paying attention to the projection on the frame, and lift them from the rear-panel side in the direction of the arrow (15).



16. For the continuity check, stand the set with its left side down, and be careful so that the pattern sides of P.C. boards do not touch the chassis or frame (16).



FUNCTION



1 POWER switch

Press this switch to turn power to the entire system ON. Press it again to set it in STAND BY mode. This switch functions in the same way as the POWER switch on the tuner.

2 PHONES jack

Connect stereo headphones to this jack to listen in private. Sound from the speakers will automatically be cut-off.

Note:

Be sure to lower the volume level before plugging or unplugging the headphones.

3 Input selector switches/Indicators

- VTR (VCR):** Press this to listen to sound from a VCR.
- AV AUX:** Press this to play the program source connected to the rear panel AV AUX jacks.
- DAT:** Press this to play the DAT deck.
- TAPE A:** Press this to play the A cassette deck.
- TAPE B:** Press this to play the B cassette deck.
- TUNER:** Press this to listen to broadcasts.
- PHONO:** Press this to play the turntable.
- CD:** Press this to play the CD player.

Note:

These input selector switches select the recording mode for TAPE B as well as the input source.

When recording, check that the display indicator is set to the desired input source.

4 DAT DIRECT switch

When this switch is set to ON (the indicator lights up), the signal input to the DAT jacks is selected over the other input signals. This allows you to listen to high quality digital sound from a DAT (Digital Audio Tape). With this switch ON, no controls, except for Volume and Muting on the amplifier front panel, function. To release DAT direct mode, press this switch again to set it to OFF, or select the desired source with the Input Selector buttons (other than the DAT switch).

5 CD DIRECT switch

When the DP-710 CD player is connected using the system control cord and the CD input selector switch is selected, pressing the CD DIRECT switch allows to play the DP-710 CD player.

When this switch is set to ON (the indicator lights up), the signal input to the CD jacks is selected over the other input signals. This allows you to listen to high quality

digital sound from a Compact Disc. With this switch ON, no controls except for Volume and Muting on the amplifier front panel, function. To release CD direct mode, press this switch again to set it to OFF, or select the desired source with the Input Selector buttons (other than the CD switch).

6 MIC jack and MIC MIXING control

Connect a monaural microphone to the MIC jack.

The signal from the microphone is decreased while the source signal is increased.



The signal from the microphone is increased while the source signal is decreased.

When the microphone is not in use, be sure to set the MIC MIXING control to its SOURCE position and unplug the microphone. When plugging or unplugging a microphone, set the MIC MIXING knob to the SOURCE position, and lower the volume level with the VOLUME control.

7 VOLUME control

This control adjusts left- and right-channel volume simultaneously. Set it for the desired listening level.

8 BALANCE control

This control permits balancing of left and right channels when an imbalance exists from the sound source, or to correct acoustic imbalance due to room conditions. Turn it to the left from the center position to boost the left channel; turn it to the right of the center position to raise the level of the right channel.

9 MUTING key

When this key is pressed, the volume level is instantaneously attenuated. Pressing it again will resume the previous volume level.

10 Remote sensor (remote control signal receptor)

11 BASS/TREBLE controls

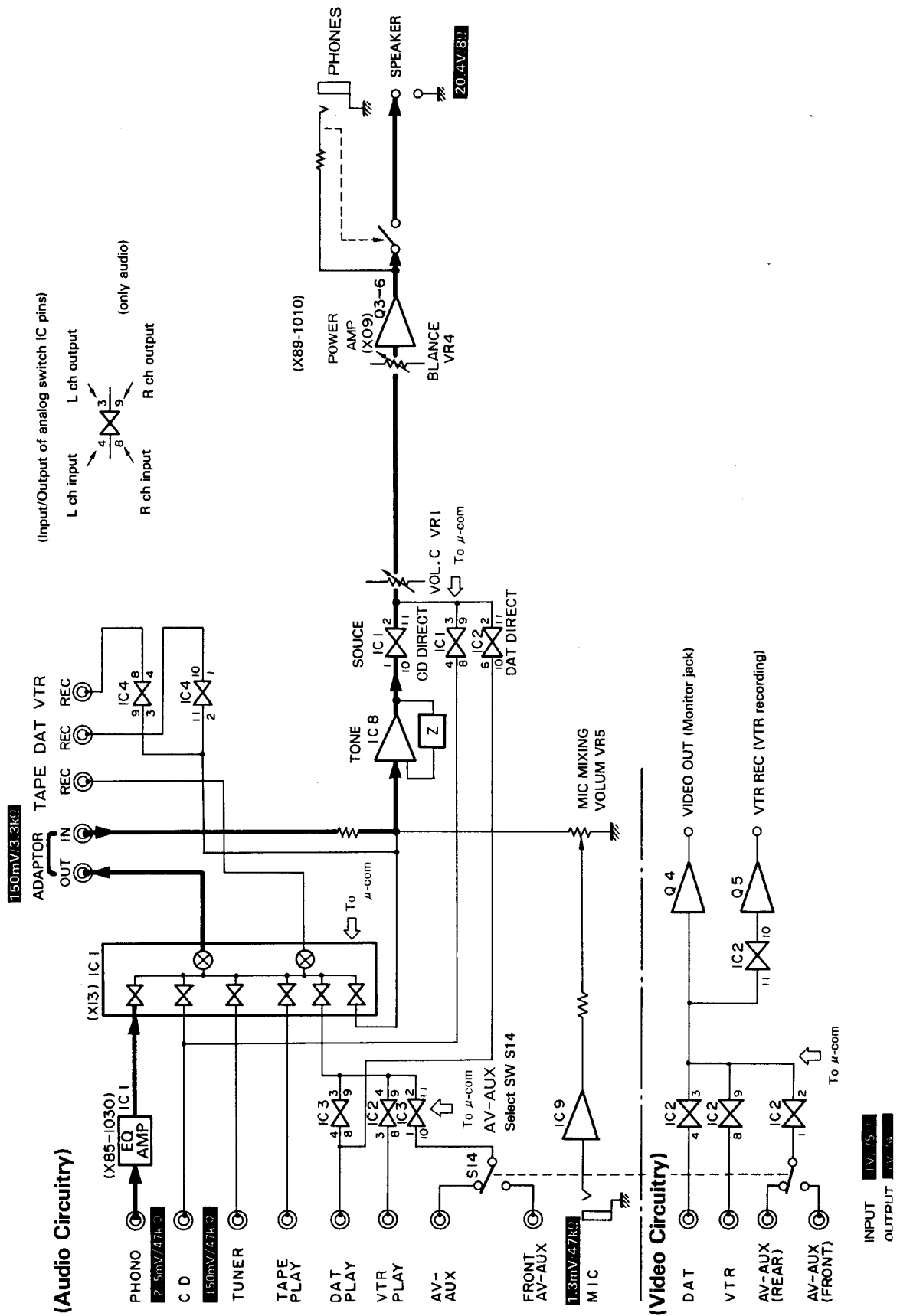
BASS - Turn from the FLAT position to the right to increase bass response.

Turn to the left to lower bass response.

TREBLE - Turn from the FLAT position to the right to increase treble response.

Turn to the left to lower treble response.

BLOCK & LEVEL DIAGRAM



CIRCUIT DESCRIPTION

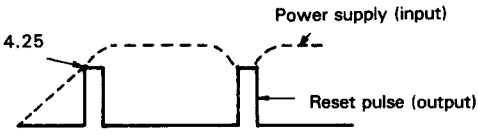
FUNCTION OF COMPONENTS

Audio unit (X09-2532-71)

Component	Use/Function	Operation/Condition/Interchangeability
IC1 (LC4066BH)	CMOS switch Pin 1→2, 13 Pin 10→11, 12 Pin 4→3, 5 Pin 8→9, 6	ON-OFF of source signal and CD direct signal. ON when INPUT SEL. is pressed, OFF with CD direct or DAT direct input. (L CH) ON when INPUT SEL. is pressed, OFF with CD direct or DAT direct input. (R CH) ON with CD direct input, otherwise OFF. (L CH) ON with CD direct input, otherwise OFF. (R CH)
IC2 (LC4066BH)	CMOS switch Pin 1→2, 13 Pin 10→11, 12 Pin 3→4, 5 Pin 8→9, 6	ON-OFF of DAT direct signal and VTR signal. ON when DAT DIRECT is pressed, otherwise OFF. (L CH) ON when DAT DIRECT is pressed, otherwise OFF. (R CH) ON when VTR is pressed, otherwise OFF. (L CH) ON when VTR is pressed, otherwise OFF. (R CH)
IC3 (LC4066BH)	CMOS switch Pin 1→2, 13 Pin 10→11, 12 Pin 4→3, 5 Pin 8→9, 6	ON-OFF of AUX signal and DAT signal. ON when AUX is pressed, otherwise OFF. (L CH) ON when AUX is pressed, otherwise OFF. (R CH) ON when DAT is pressed, otherwise OFF. (L CH) ON when DAT is pressed, otherwise OFF. (R CH)
IC4 (LC4066BH)	CMOS switch Pin 2→1, 13 Pin 10→11, 12 Pin 3→4, 5 Pin 9→8, 6	ON-OFF of DAT REC signal and VTR REC signal. OFF when DAT is pressed, otherwise ON. (R CH) OFF when DAT is pressed, otherwise ON. (L CH) OFF when VTR is pressed, otherwise ON. (R CH) OFF when VTR is pressed, otherwise ON. (L CH)
IC6 (μ PC339C)	Comparator Pin 1, 6 Pin 2, 5 Pin 13, 11 Pin 14, 9 Pin 3 Pin 12 Pin 4, 7, 8, 9	Voltage comparison and level shifting. High when INPUT SEL. is pressed, otherwise Low. High when DAT DIRECT is pressed, otherwise Low. High when VTR is pressed, otherwise Low. High when CD DIRECT is pressed, otherwise Low. +Vcc (+12 V). -Vcc (-12 V). Vref (+2.7 V).
IC7 (μ PC339C)	Comparator Pin 1 Pin 6 Pin 2, 5 Pin 13, 11, 8 Pin 14 Pin 3 Pin 12 Pin 4, 7, 9, 10	Voltage comparison and level shifting. High when VTR is pressed, otherwise High. High when VTR is pressed, otherwise Low. High when AUX is pressed, otherwise Low. High when DAT is pressed, otherwise Low. Low when DAT is pressed, otherwise Low. +Vcc (+12 V). -Vcc (-12 V). Vref (+2.7 V).
IC8 (μ PC4570C)	OP-amplifier	For tone amplifier.
IC9 (AN6556)	OP-amplifier	For microphone amplifier.
IC10 (BA6109)	Reversible motor driver	For electric volume driving. For VOL UP (remote controlled): Pins 2 and 5 High. For VOL DOWN (Remote controlled): Pins 10 and 6 High. Pin 4: 5.1 V.
IC11 (μ PC78M12H)	3-pin regulator	+12 V.
Q1, 2	Muting	Muting for approx. 4.5 seconds after switching selector or turning power ON, muting when power is turned OFF.
Q3, 4	Final transistor	60 W.
Q5, 6	Final transistor	60 W.
Q7, 8	Bias current compensation	Muting.
Q9	Muting transistor driver	ON during muting.
Q10, 11	Constant-voltage supply	-12 V.

CIRCUIT DESCRIPTION

Control unit (X11-2452-71)

Component	Use/Function	Operation/Condition/Interchangeability
IC1 (μ PD7538AC-050)	Microprocessor	Refer to the separate table.
IC2 (LC4066BH)	CMOS switch Pin 1, 2, 13 Pin 6, 8, 9 Pin 10, 11, 12 Pin 3, 4, 5	Video input switching. ON with AUX input, otherwise OFF. ON with VTR input, otherwise OFF. OFF with VTR input, otherwise ON. ON with DAT input, otherwise OFF.
IC3 (μ PC78M05H)	3-pin regulator	Generation of 5 V voltage.
IC4 (M51952ASL)	Reset IC	Generates one pulse (reset pulse) when the voltage input (at pin 1) exceeds 4.25 V. 
Q1	DAT-DIRECT lamp driver	ON in DAT DIRECT mode, otherwise OFF.
Q3	CD-DIRECT lamp driver	ON in CD DIRECT mode, otherwise OFF.
Q4	Video (monitor) output buffer (emitter-follower)	
Q5	VTR output buffer (emitter-follower)	
Q6	Relay driver	ON when Power is turned ON.

Pre-amplifier unit (X85-1032-72) (DT1)

Component	Use/Function	Operation/Condition/Interchangeability
IC1 (AN6556)	Preamplifier IC	Interchangeable with M5218P.

Sub unit (X13-5520-00) (DT2)

Component	Use/Function	Operation/Condition/Interchangeability
IC1 (CX7977)	Selector IC	Refer to on page 14.

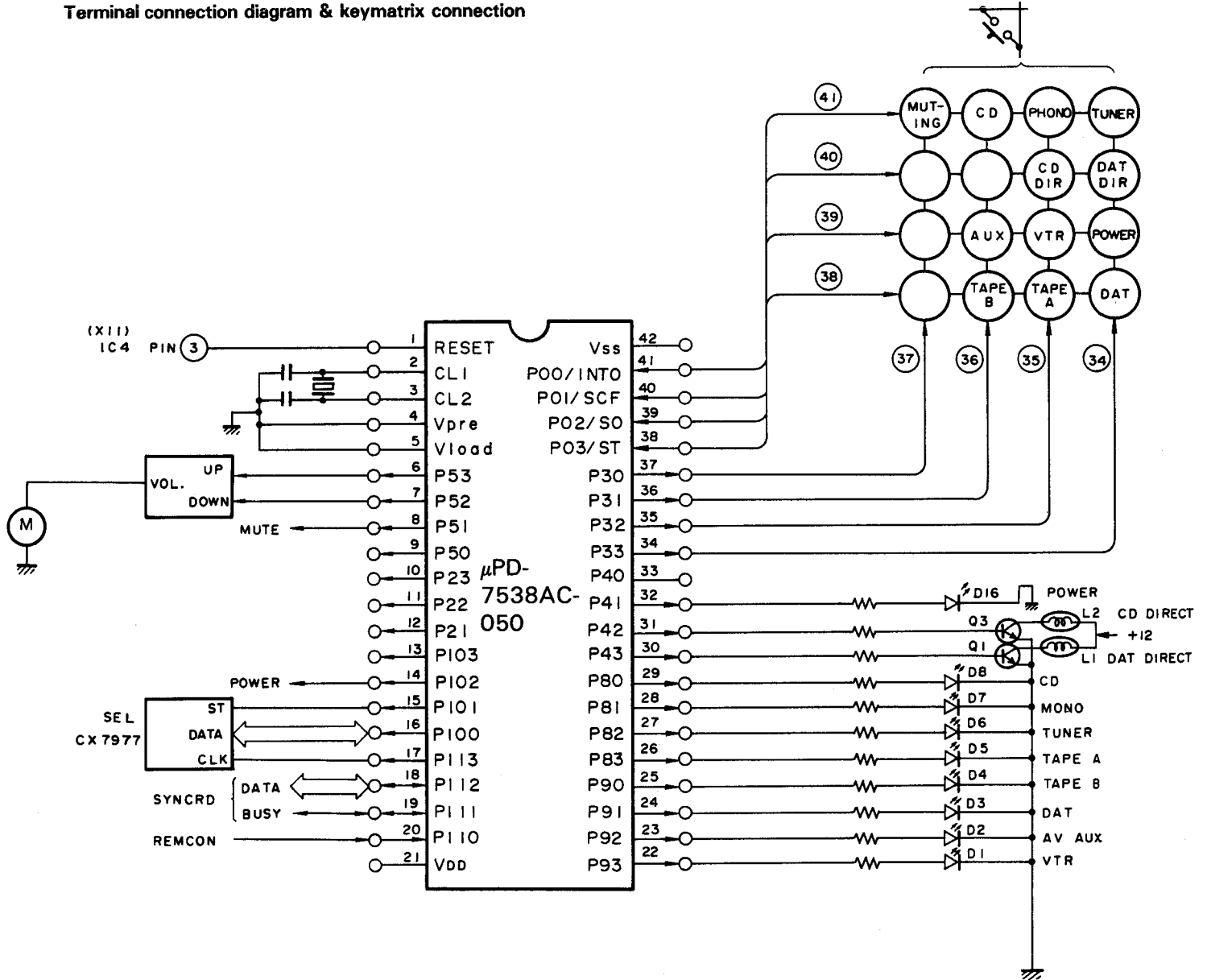
Main amplifier unit (X89-1010-02) (DT4)

Component	Use/Function	Operation/Condition/Interchangeability
Q1 ~ 4	Class A 1st-stage differential amp.	
Q5 ~ 8	Class A 2nd-stage differential amp.	
Q9, 10	Class A current Miller circuit	
Q11 ~ 14	Predriver	
Q18	Current limiter	Limits the current of final Tr during overloaded drive.
Q19	1st-stage constant-voltage regulated power supply circuit	

CIRCUIT DESCRIPTION

IC1: μ PD7538AC-050 (X11-2452-71)
Microprocessor

Terminal connection diagram & keymatrix connection



CIRCUIT DESCRIPTION

Initial status

Status	Explanation	Display
After connection to Acc power outlet	<ul style="list-style-type: none"> • INPUT SELECTOR → TUNER • VIDEO OUT → VTR • CD/DAT DIRECT → OFF • MUTING → OFF • POWER OFF 	All OFF
After pressing POWER key ON	The INPUT SELECTOR, VIDEO OUT, MUTING, CD/DAT DIRECT hold the last statuses.	

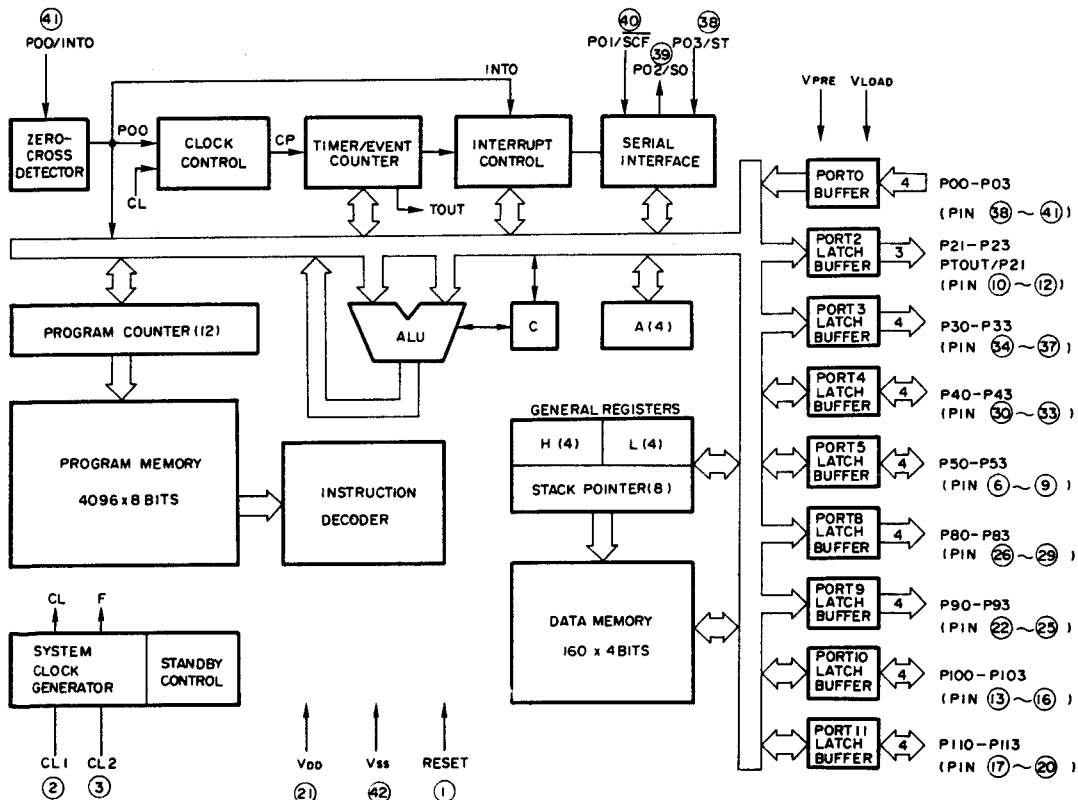
Explanation of pins

Pin No.	Pin Name	I/O	Active Mode	Name	Explanation															
1	PRESET	—	H	—	Reset terminal. Active High.															
2	CL1	—	—	—	Clock terminal.															
3	CL2	—	—	—																
4	Vpre	—	—	—	N.C.															
5	Vload	—	—	—																
6	P53	O	L or H	Vol up	Volume UP/DOWN terminals. Motor drive IC control.															
7	P52	O	L or H	Vol down																
					<table border="1"> <thead> <tr> <th>P53</th> <th>P52</th> <th></th> </tr> </thead> <tbody> <tr> <td>L</td> <td>L</td> <td>STOP</td> </tr> <tr> <td>L</td> <td>H</td> <td>Vol down</td> </tr> <tr> <td>H</td> <td>L</td> <td>Vol up</td> </tr> <tr> <td>H</td> <td>H</td> <td>STOP</td> </tr> </tbody> </table>	P53	P52		L	L	STOP	L	H	Vol down	H	L	Vol up	H	H	STOP
P53	P52																			
L	L	STOP																		
L	H	Vol down																		
H	L	Vol up																		
H	H	STOP																		
8	P51	O	L	MUTE	Muting terminal. Active Low.															
14	P102	O	H	POWER	Power ON/OFF terminal. Active High.															
15	P101	O	H	ST	Selector IC strobe port.															
16	P100	O	H	DATA	Selector IC data.															
17	P113	O	H	CLK	Selector IC clock.															
18	P112	O	H	DATA	Serial communication data port.															
19	P111	O	H	BUSY	Serial communication busy signal.															
20	P110	I	H	REMOCON	Remote control input port.															
21	VDD	—	—	VDD	+ B (+5 V).															
22	P93	O	H	VTR	LED display.															
23	P92	O	H	AUX																
24	P91	O	H	DAT																
25	P90	O	H	TAPE A																

CIRCUIT DESCRIPTION

Pin No.	Pin Name	I/O	Active Mode	Name	Explanation
26	P83	O	H	TAPE B	LED display.
27	P82	O	H	TUNER	
28	P81	O	H	PHONO	
29	P80	O	H	CD	
30	P43	O	H	CD DIRECT	
31	P42	O	H	DAT DIRECT	
32	P41	O	H	MUTE	Used for Power-ON muting, MUTE key and VOL UP/DOWN muting.
33	P40	—	H	—	N.C.
34	P33	O	H	—	Key scanning output.
35	P32	O			
36	P31	O			
37	P30	O			
38	P03	I	H	—	Key scanning input
39	P02	I			
40	P01	I			
41	P00	I			
42	Vss	—			

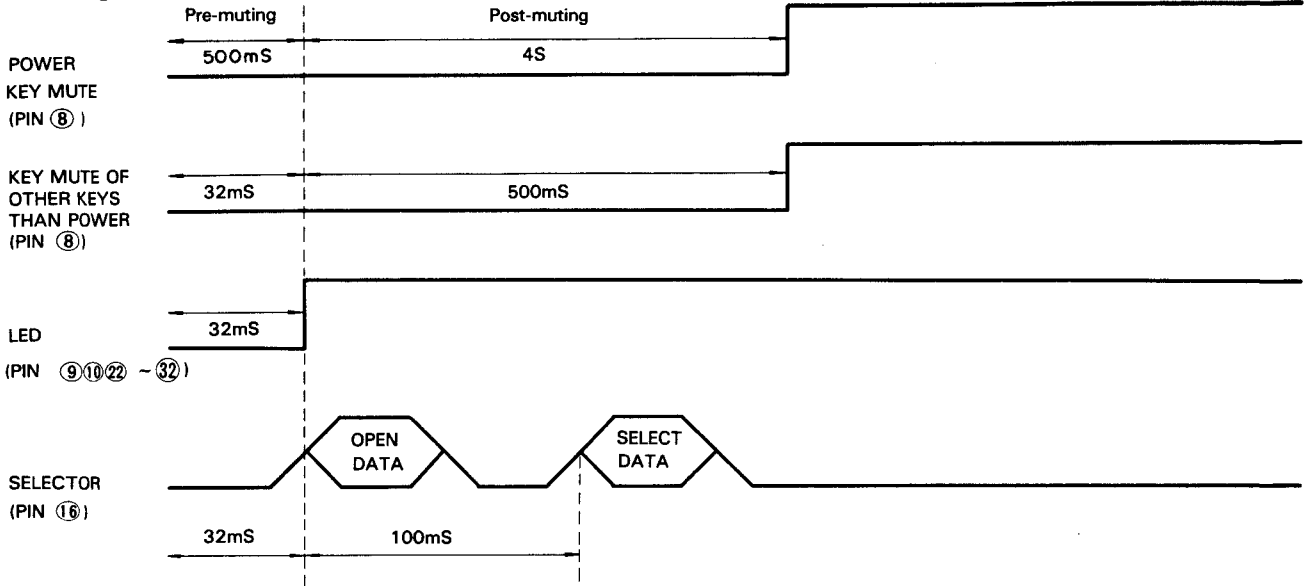
Inner block diagram



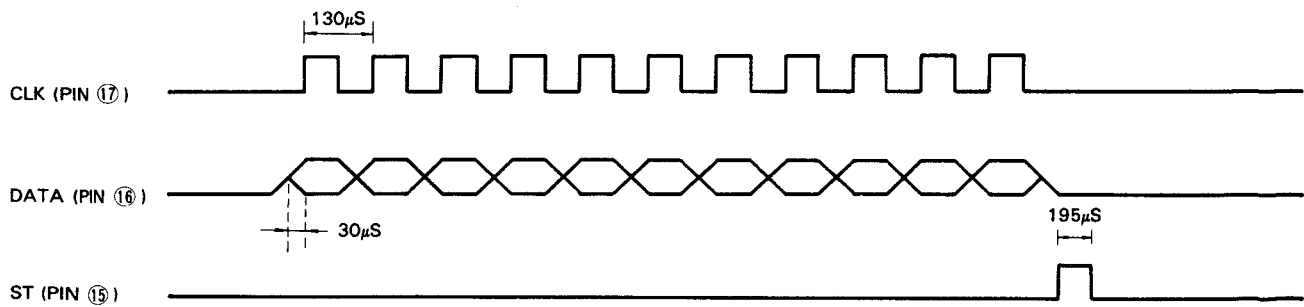
CIRCUIT DESCRIPTION

Timing chart

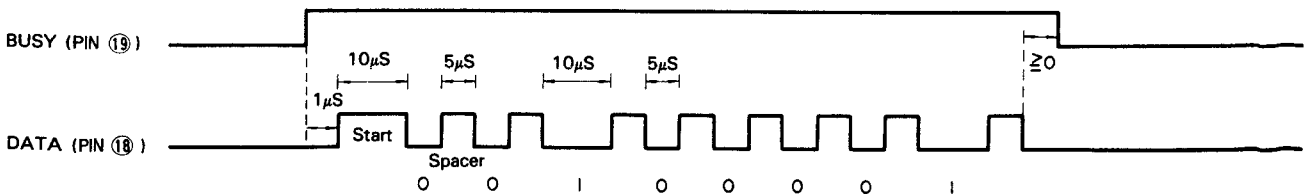
• Muting



• Selector IC



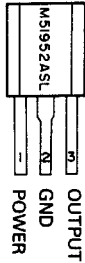
• Serial communication



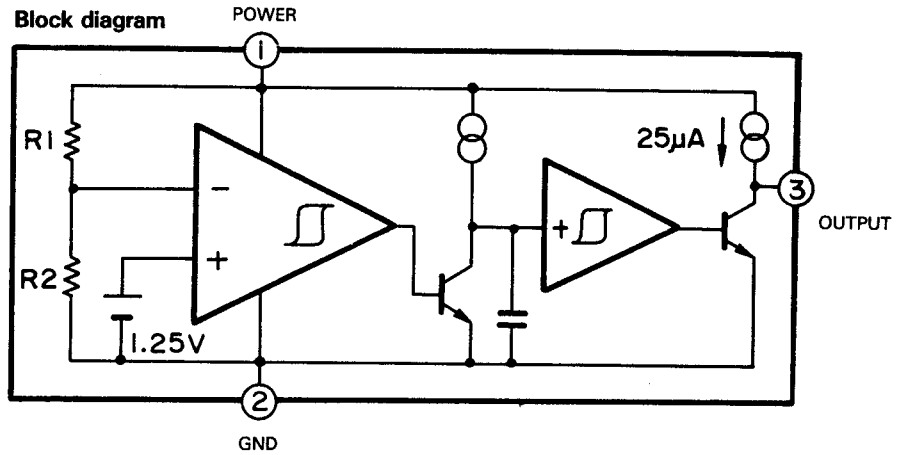
CIRCUIT DESCRIPTION

IC4: M51952ASL (X11-2452-71)
Supply voltage detector & delay circuit

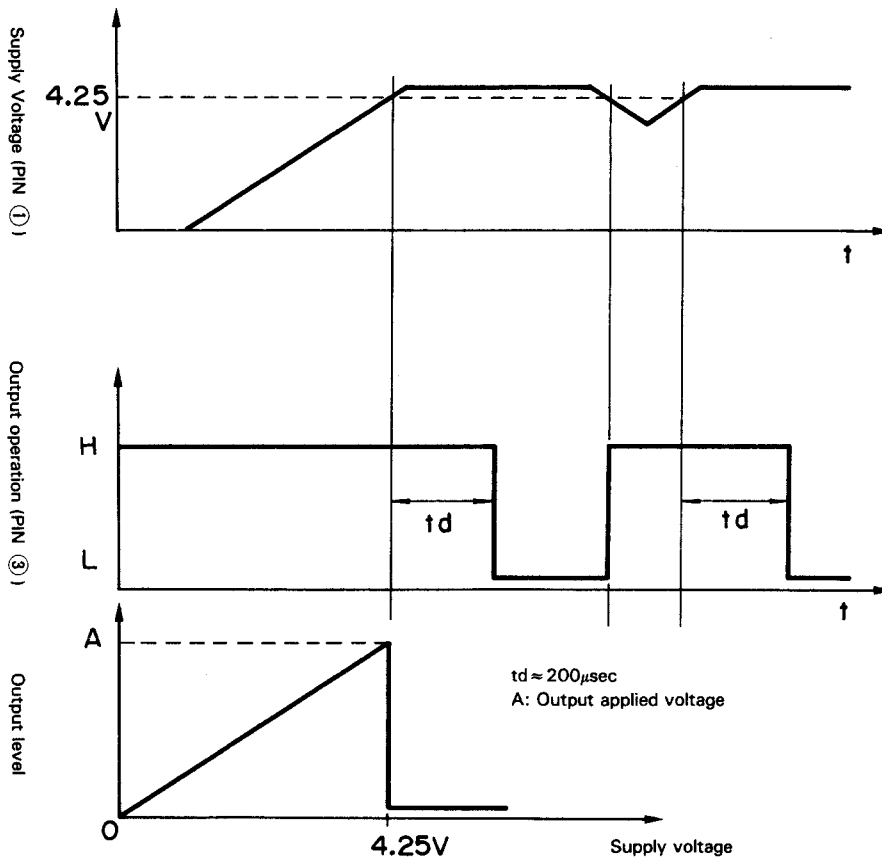
Package



Block diagram



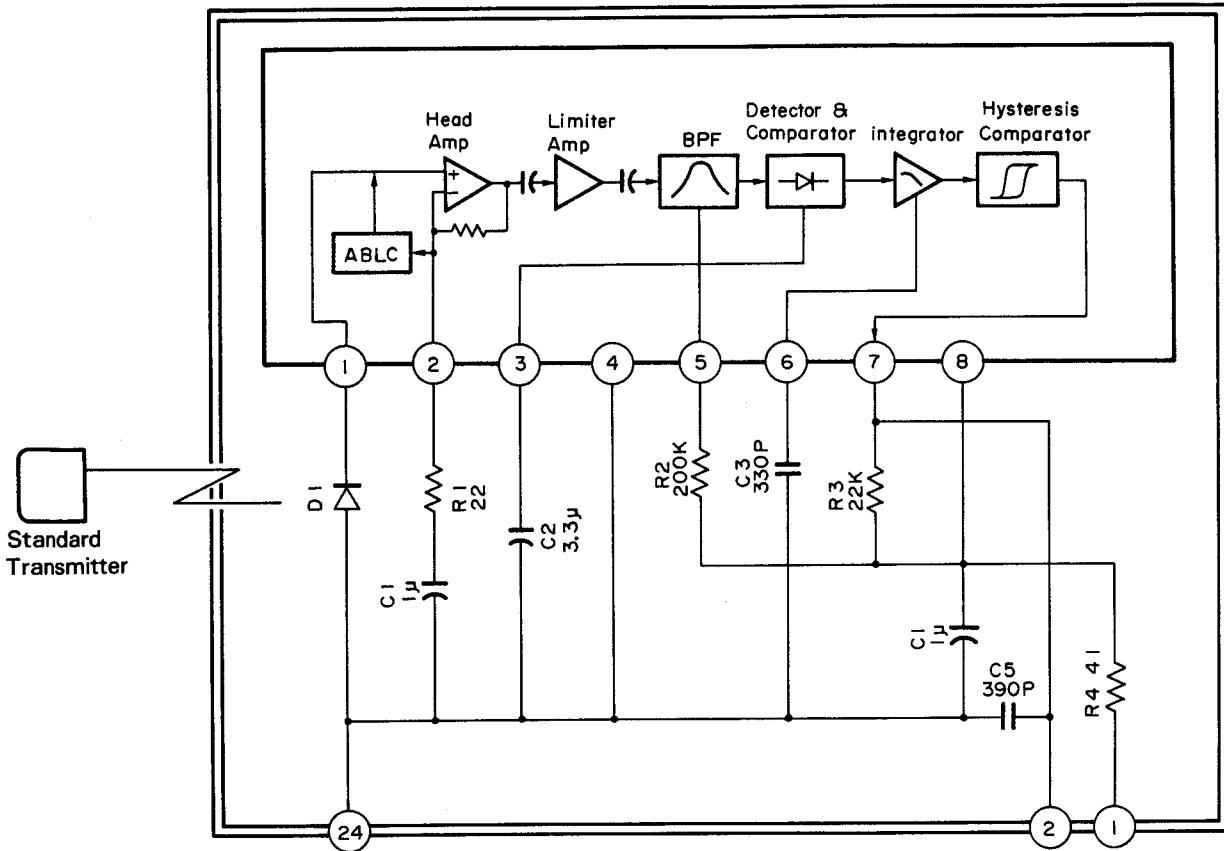
Operation waveform



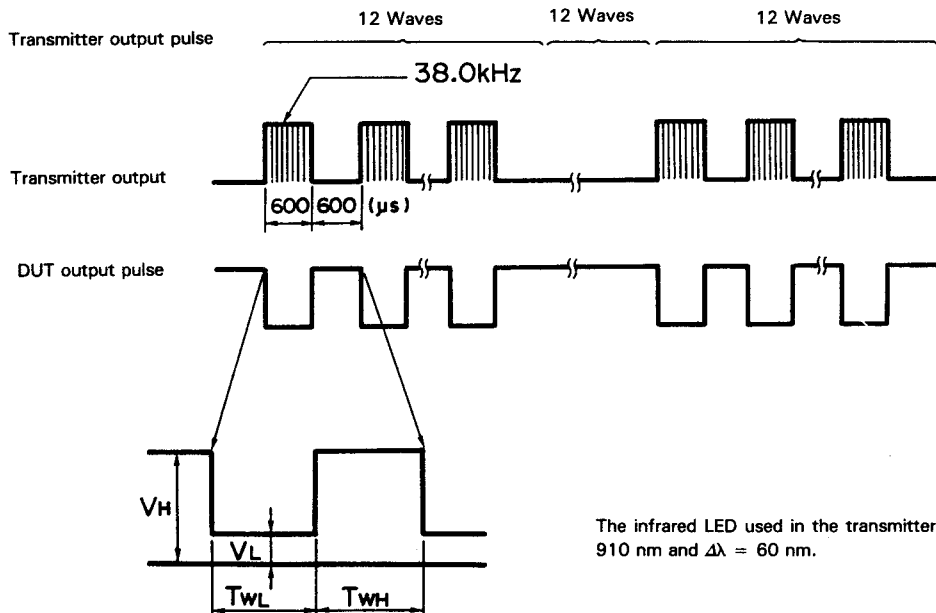
CIRCUIT DESCRIPTION

A1: W02-0776-05 (X11-2452-71)
 Remote control infrared ray reception module

Block diagram



Received pulse waveforms

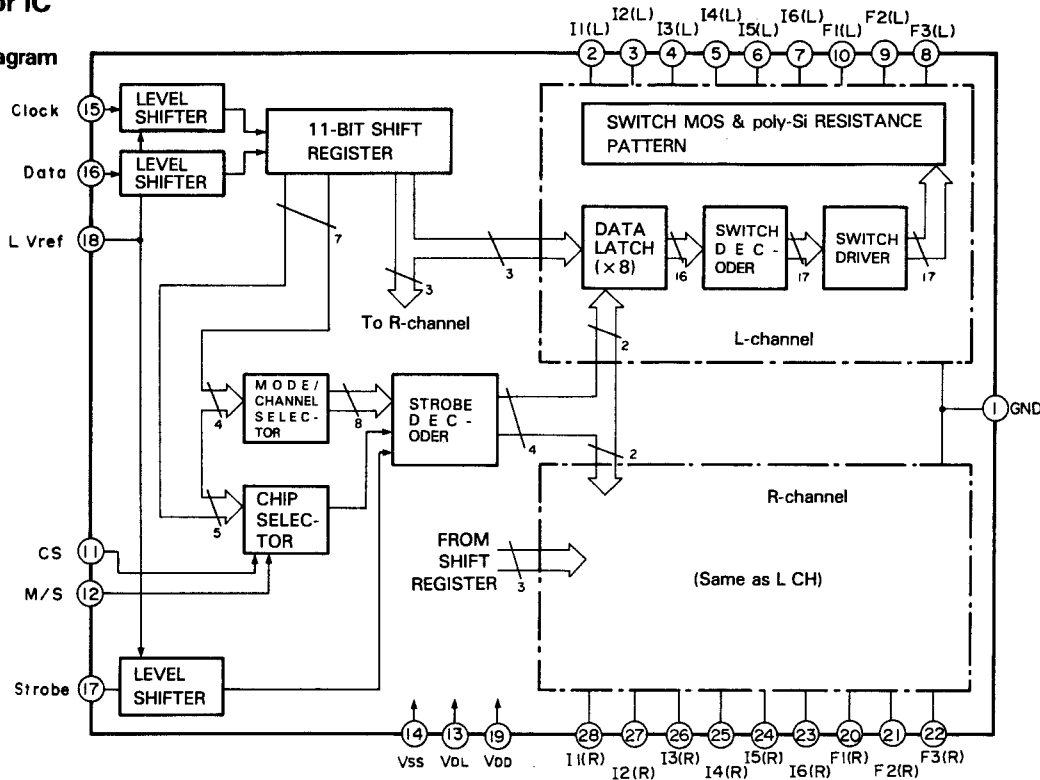


The infrared LED used in the transmitter emits light with $\lambda_{peak} = 910 \text{ nm}$ and $\Delta\lambda = 60 \text{ nm}$.

CIRCUIT DESCRIPTION

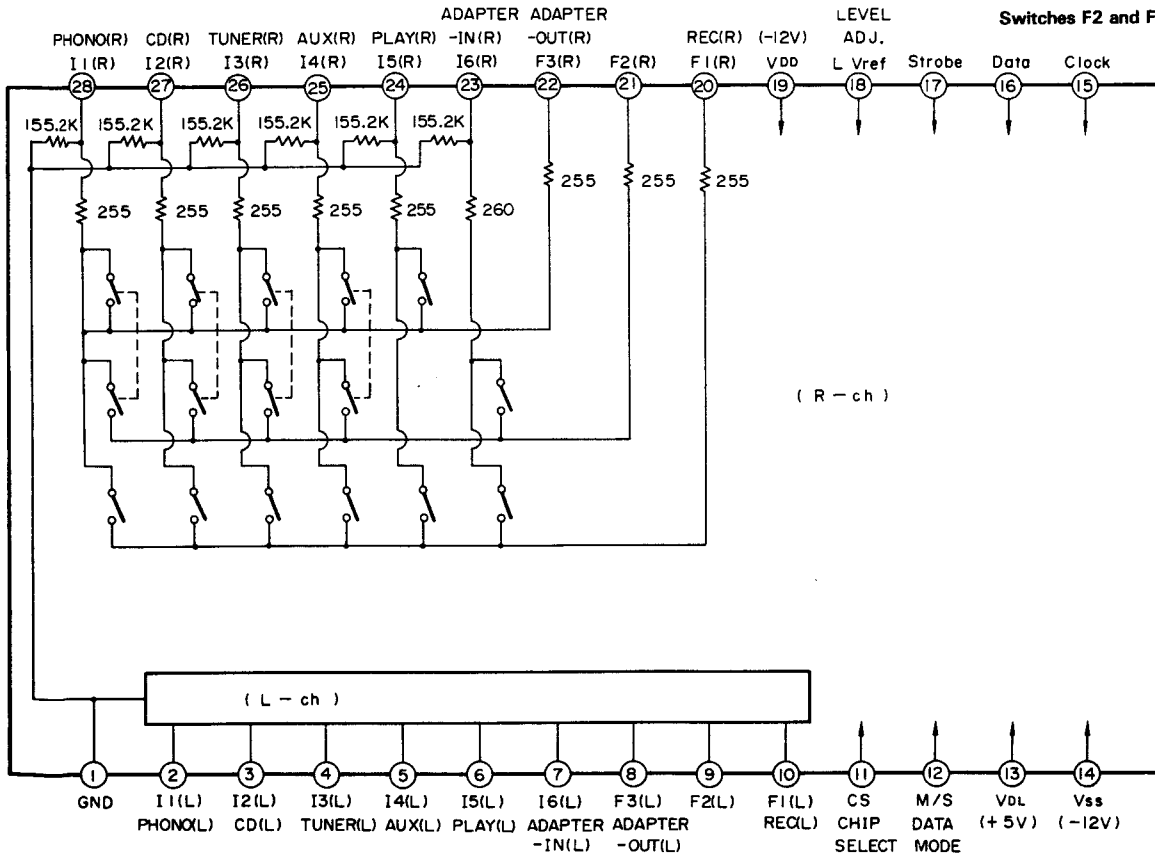
IC1: CX7977 (X13-5520-00)
Selector IC

Block diagram



Equivalent circuit diagram of analog circuitry

Note: Switch MOS (Ron = 240 ohms)
Switches F2 and F3 are interlocked.

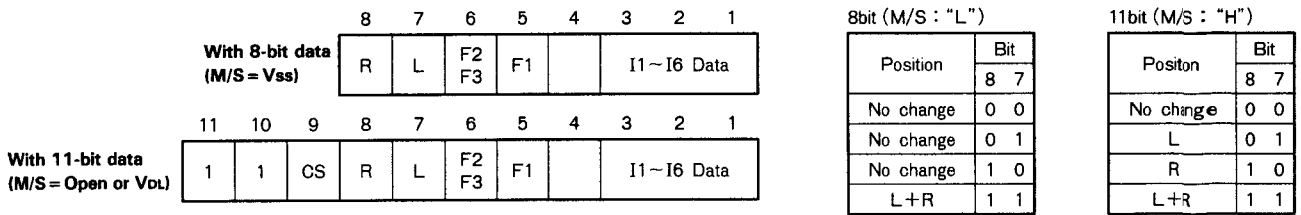


CIRCUIT DESCRIPTION

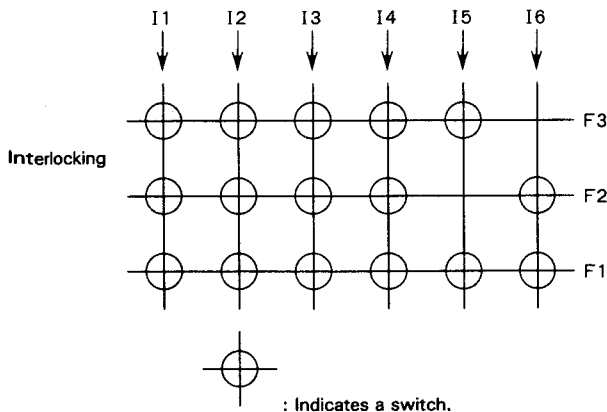
Explanation of pins

Pin Name	Symbol	I/O	Function
1	GND		Audio signal reference voltage (0 V).
2~7	I1 (L)~I6 (L)	I	L ch audio signal input terminals (6 inputs).
8~10	F3 (L)~F1 (L)	O	L ch audio signal output terminals (3 outputs).
11	CS	I	Chip Select terminal. The chip is selected when serial data bit (9) coincides with the level at the CS terminal, that is, when CS = bit (9). CS = Vss when the level is "0", CS = open or VDL when it is "1".
12	M/S	I	Serial data input mode switching terminal. The input is 8-bit when the M/S terminal is fixed at Vss, and 11-bit when it is set to open or VDL.
13	VDL		Logic circuitry power supply (Vss + 5 V).
14	Vss		IC board potential (-14 V).
15	Clock	I	Serial data input clock. The data is 11-bit or 8-bit, and input at the rise of the clock.
16	Data	I	11-bit or 8-bit serial data.
17	Strobe	I	The serial data input in the analog switch status set pulse (1-bit) IC is latched at the rise of the Strobe pulse, turning ON the switch indicated by the data.
18	L Vref	I	Sets the control signal (Clock, Data, Strobe) input level.
19	VDD		Switch driver power (+14 V).
20~22	F1 (R)~F3 (R)	O	R ch audio signal output terminals (3 outputs).
23~28	I6 (R)~I1 (R)	I	R ch audio signal input terminals (6 inputs).

Control data configuration



*: The F2 output control and F3 output control are interlocked to each other. The signal of 15 input is not output from F2, and that of 16 input is not output from F3. The following diagram indicates this relation.



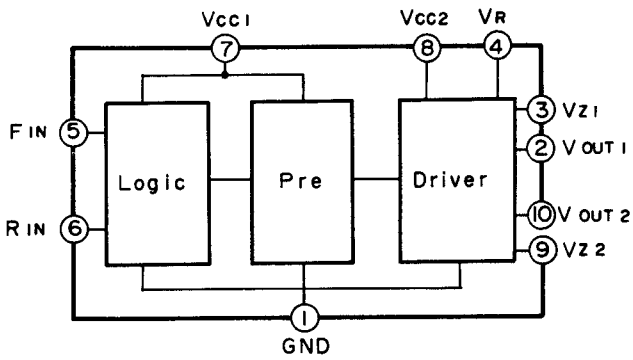
Position	Bit		
	3	2	1
I1	0	0	0
I2	0	0	1
I3	0	1	0
I4	0	1	1
I5	1	0	0
I6	1	0	1

Position	Bit	
	6	5
No change	0	0
Output F1	0	1
Output F1, F2	1	0
Output F1, F2, F3	1	1

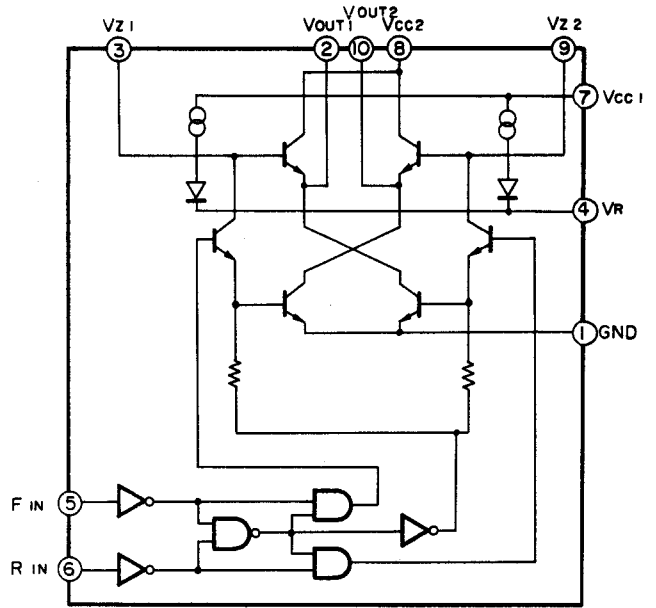
CIRCUIT DESCRIPTION

IC10: BA6109 (X09-2532-71)
Motor driver IC

Block diagram



Equivalent circuit diagram

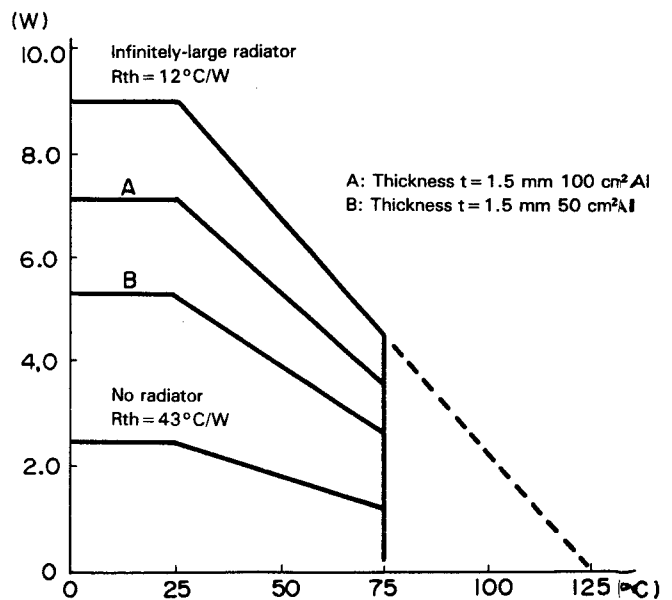


Truth table

F IN	R IN	Vout 1	Vout 2
1	1	L	L
0	1	L	H
1	0	H	L
0	0	L	L

Input level 1 shall be 2.0 V or more.
Input level 2 shall be 0.7 V or less.

Power derating curve



ADJUSTMENT/REGRAGES/ABGLEICH

ADJUSTMENT

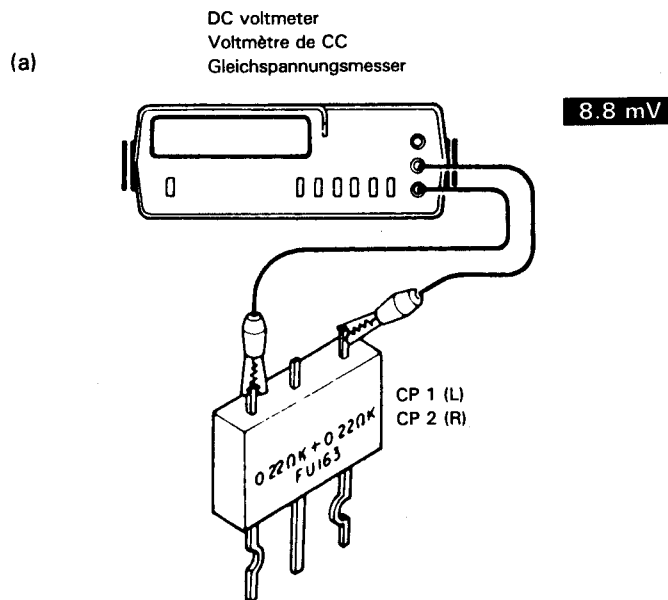
No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	IDLE CURRENT	—	Connect a DC voltmeter across CP1 (L) CP2 (R) (X09-)	VOLUME: 0	VR1 (L) VR2 (R) (X89-)	8.8mV	(a)

REGLAGES

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINT L'ALIGNEMENT	ALIGNER POUR	
1	COURANT DE POLARISATION	—	Connecter un voltmètre de CC sur CP1 (G) CP2 (D) (X09-)	VOLUME: 0	VR1 (G) VR2 (D) (X89-)	8,8mV	(a)

ABGLEICH

NR.	GEGENSTAND	EINGANGS-EINSTELLUNG	AUSGANGS-EINSTELLUNG	VERSTÄRKER EINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
1	LEERLAUFSTROM	—	Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschießen. (X09-)	VOLUME: 0	VR1 (L) VR2 (R) (X89-)	8,8mV	(a)



VOLTAGE TABLES

X09-253***

IC1-4

7	12V
14	11.9V

IC6

3	11.9V
4	2.7V
7	2.7V
8	2.7V
10	2.7V
12	-12V

IC7

3	11.9V
4	2.7V
7	2.7V
9	2.7V
10	2.7V
12	-12V

IC8

4	-12V
6	11.9V

IC9

4	-12V
8	11.9V

IC10

7	12V
8	11.9V

IC11

1	21.8V
3	12.0V

Q1.2

E	0V
B	0V
C	-

Q3.4

E	-
B	0.6V
C	38.0V

Q5

E	-
B	-0.6V
C	-38V

Q6

E	-
B	-0.6V
C	-38V

Q7.8

E	-
B	-0.5V
C	1.2V

Q9

E	3.6V
B	0V
C	0V

Q10

E	-
B	-0.6V
C	-12.6V

Q11

E	-12.1V
B	-12.6V
C	-21.0V

D1-24

Cathode	-12V
Anode	11.9V

X11-2452-71

IC1

1	0V
20	5V
21	5V

IC2

7	-12V
14	12V

IC3

1	12V
2	0V
3	5V

IC4

1	5V
3	0V

Q4.5

E	-1.2V
B	-0.6V
C	11.8V

Q6

E	0V
B	0.6V
C	0V

D18-23

Cathode	-11.9V
Anode	11.8V

X13-5520-00

IC1

14	-12V
19	11.9V

X85-1032-72

IC1

4	-12V
8	11.9

X89-1010-02

Q1.3

E	0.7V
B	-0.1V
C	-35.5V

Q5

E	-36V
B	-35.5V
C	20V

Q8

E	-
B	-
C	1.2V

Q7

E	-36V
B	-35.5V
C	-1.1V

Q9

E	37V
B	36.4V
C	1.2V

Q10

E	-
B	-
C	1.2V

Q11

E	0.6V
B	-
C	38V

Q12

E	-
B	-
C	38.0V

Q13

E	-0.6V
B	-
C	-38V

Q14

E	-
B	-
C	-38V

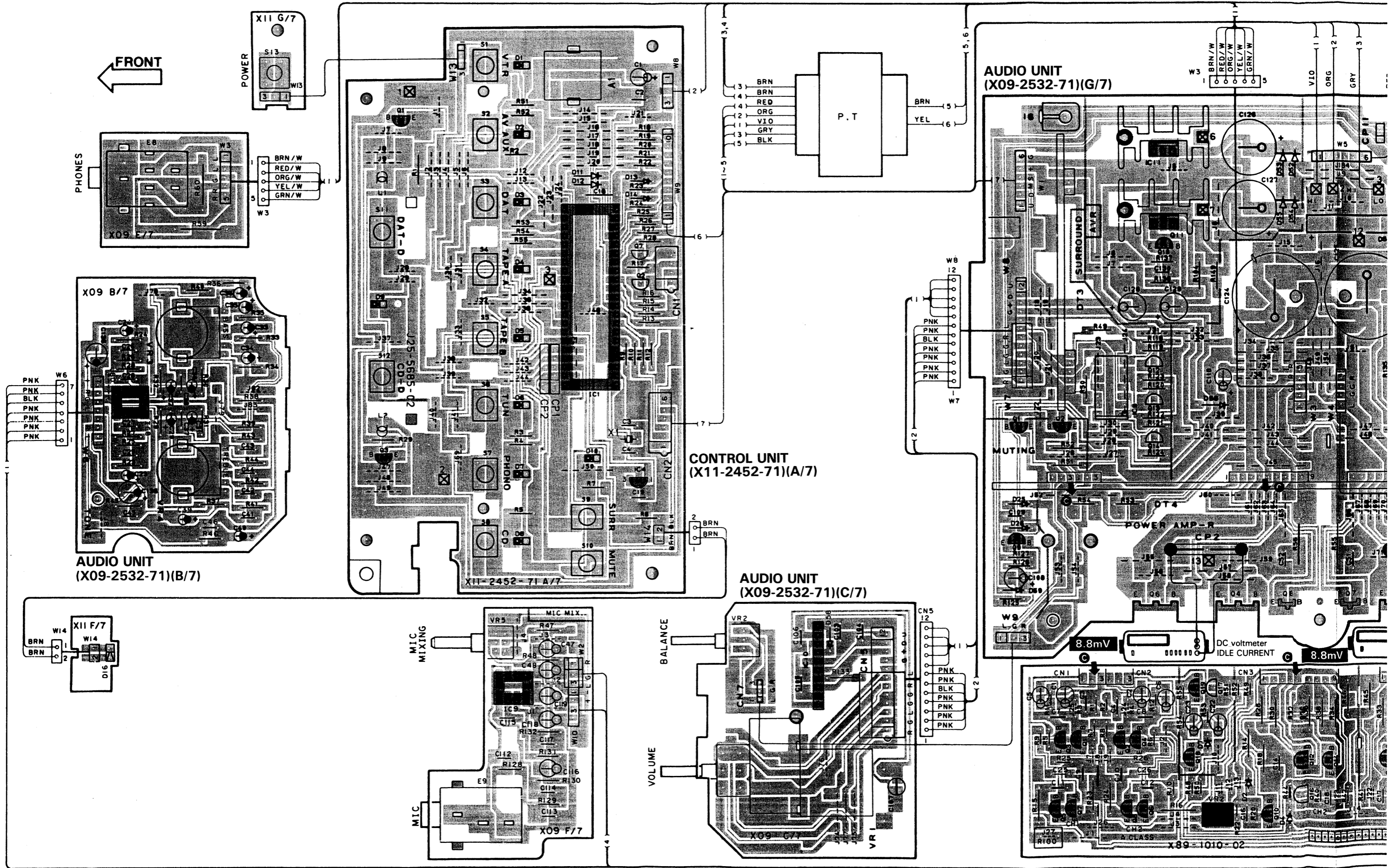
Q18

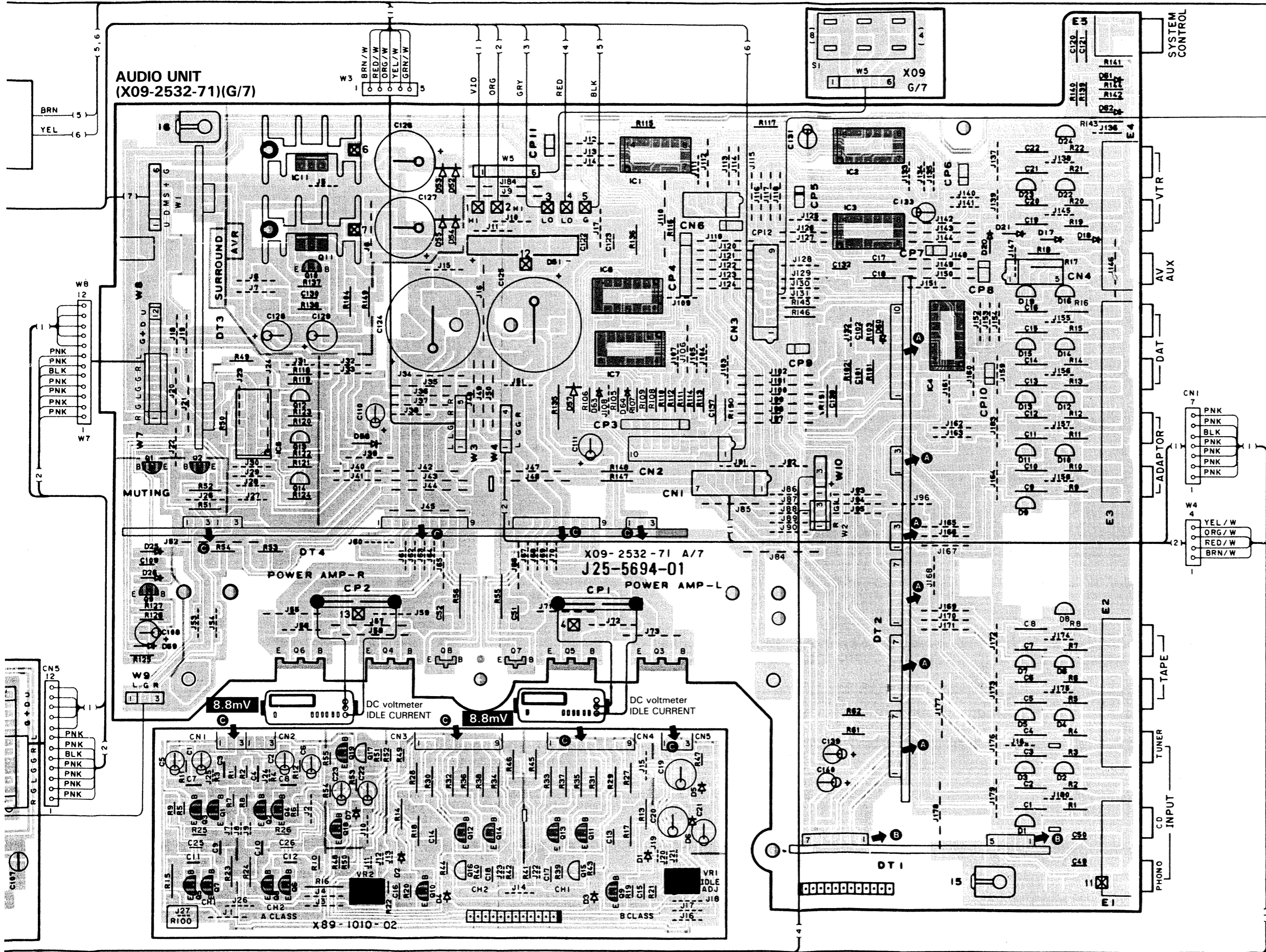
E	14V
B	0V
C	-

Q19

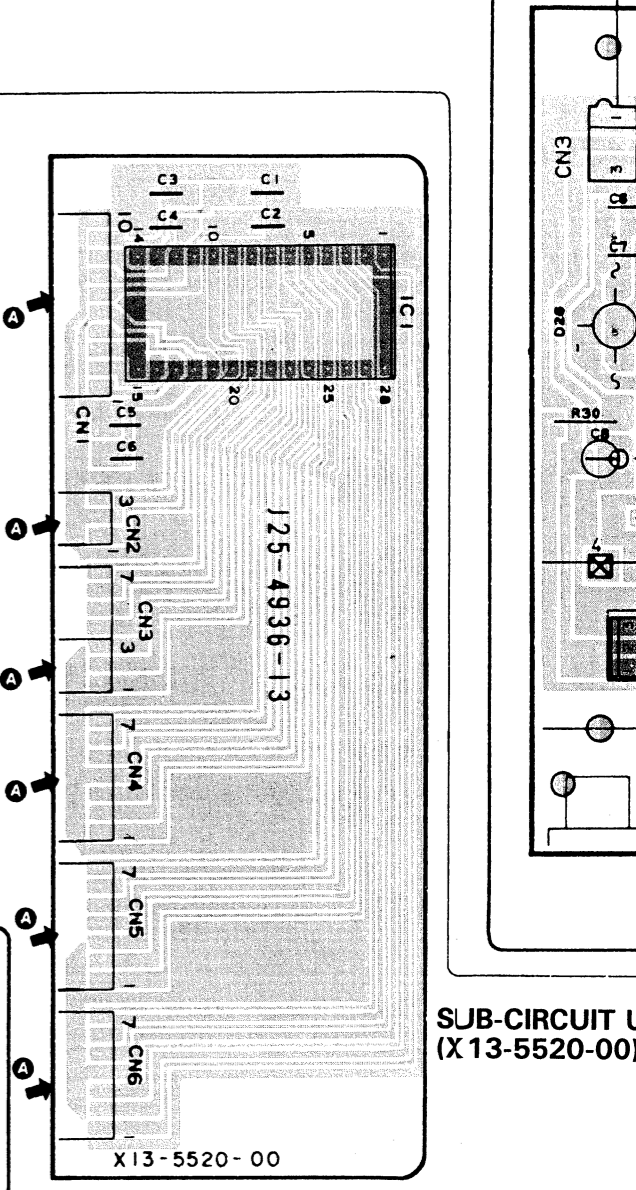
E	10.5V
B	11.3V
C	11.3V

P.C. BOARD (Component side view)

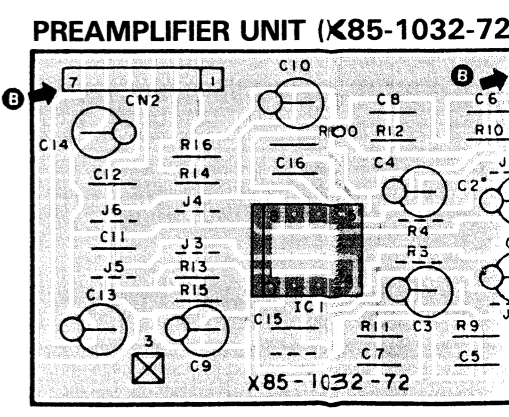




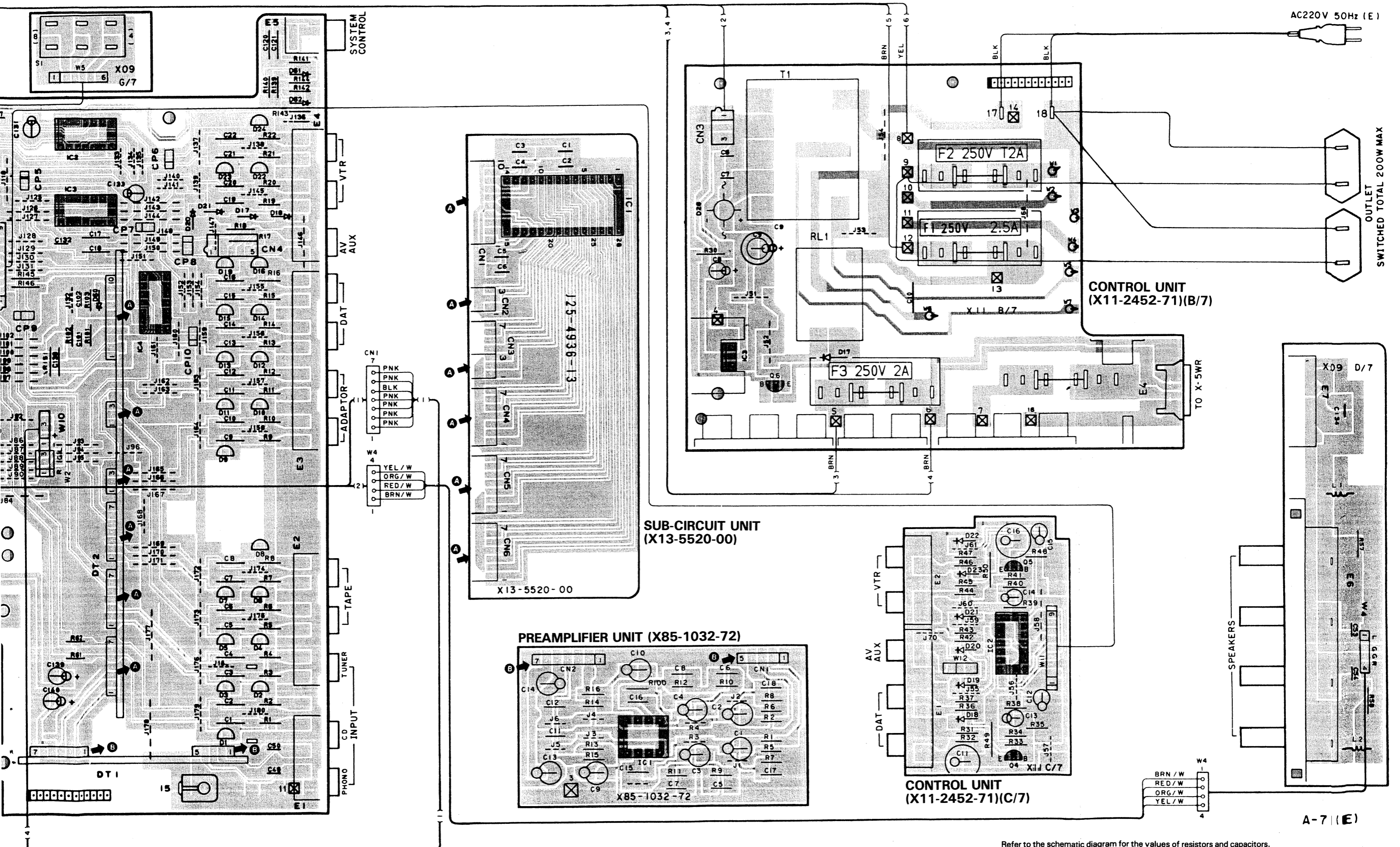
MAIN AMPLIFIER UNIT (X89-1010-02)



SUB-CIRCUIT UNIT (X13-5520-00)



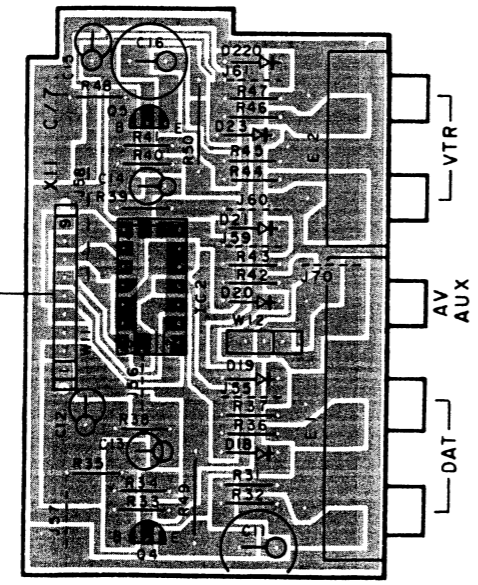
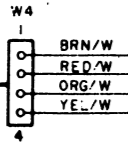
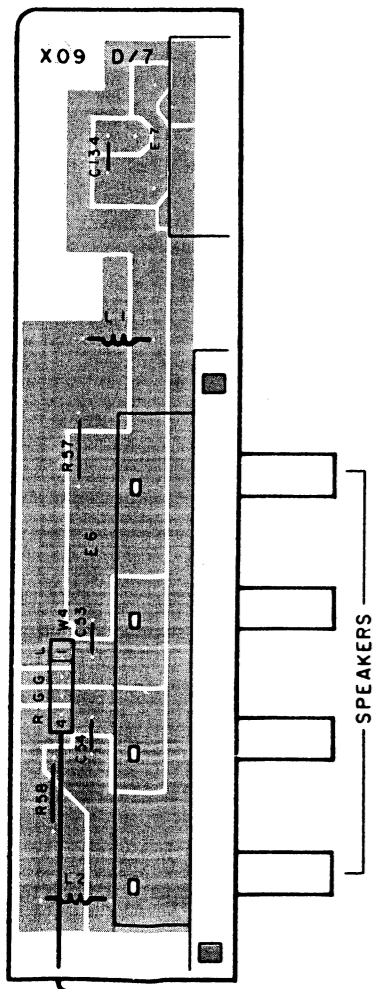
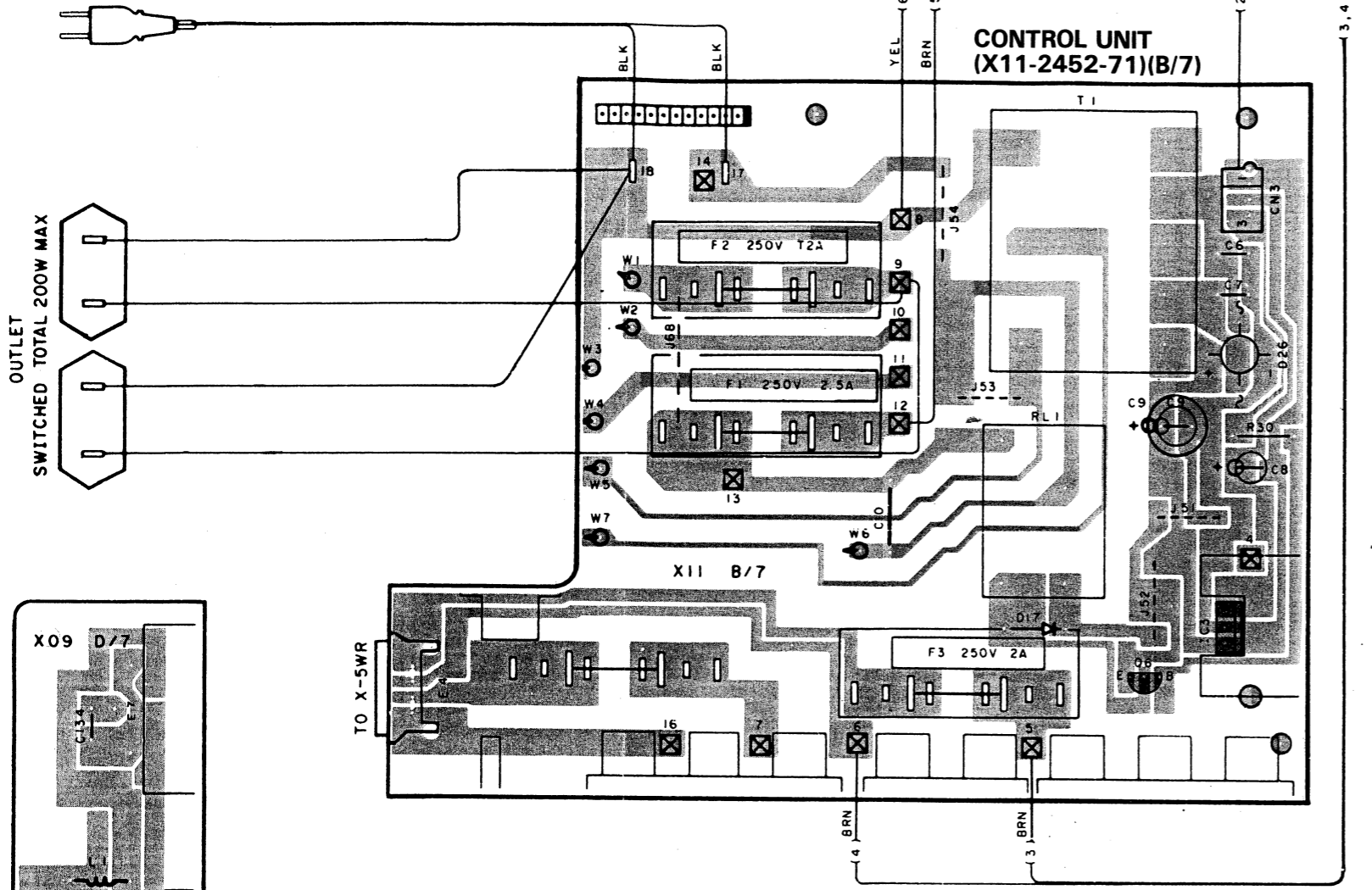
X85-1032-72



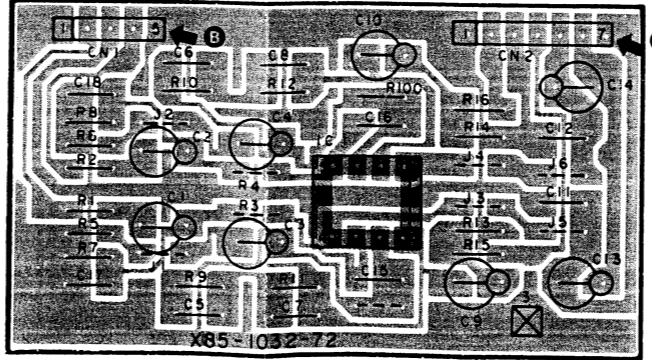
Refer to the schematic diagram for the values of resistors and capacitors.

P.C. BOARD (Foil side view)

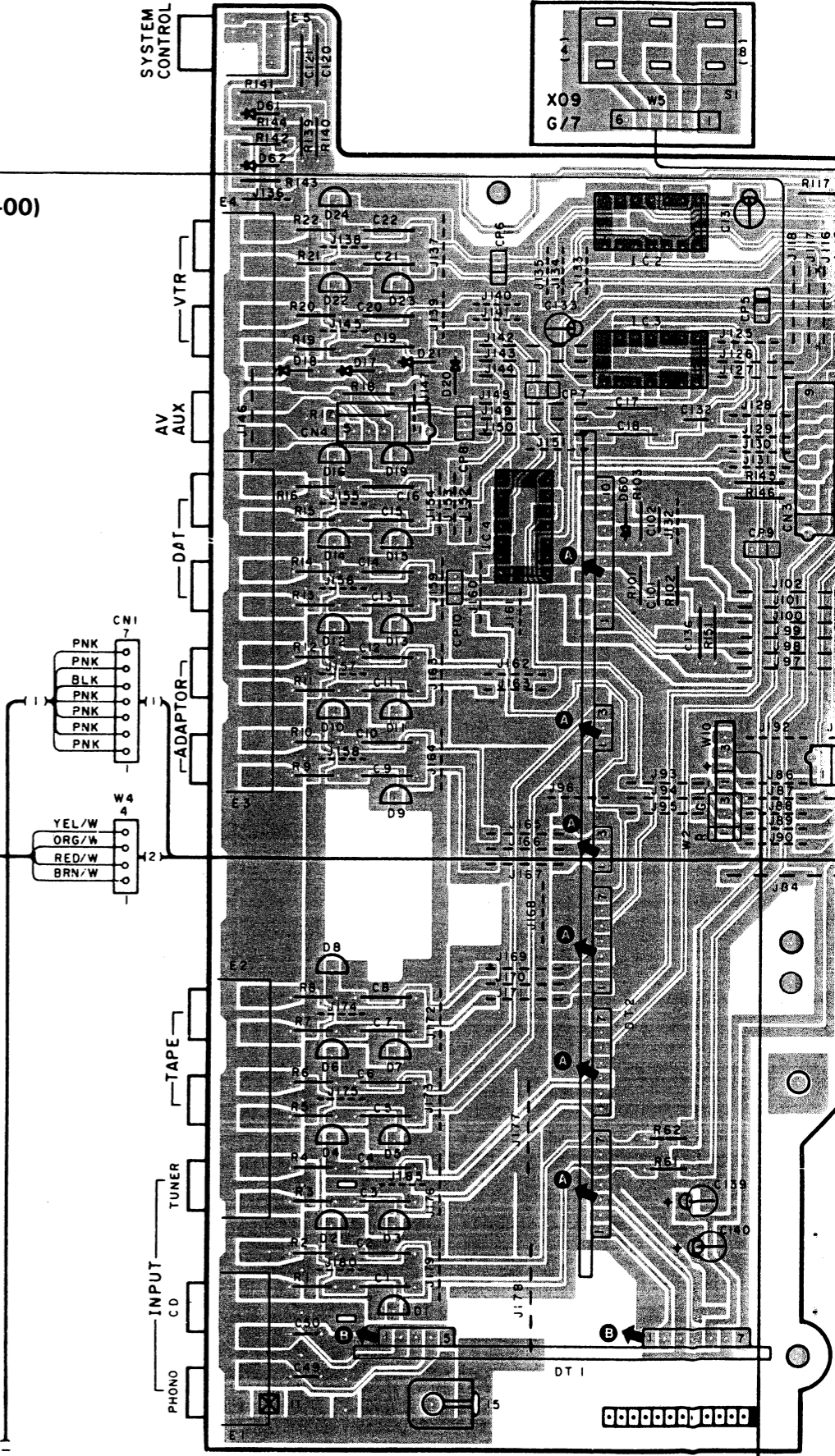
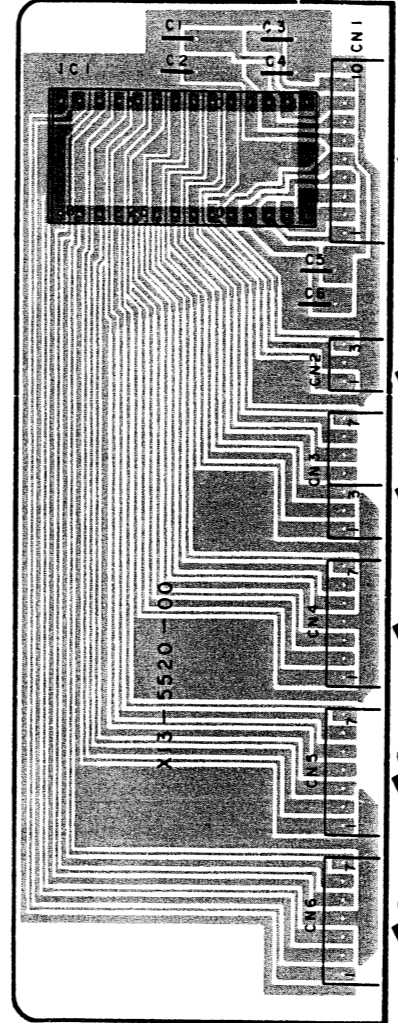
AC220V 50Hz(E)



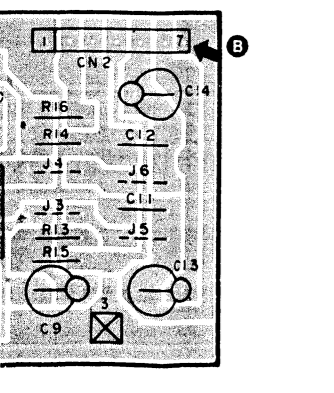
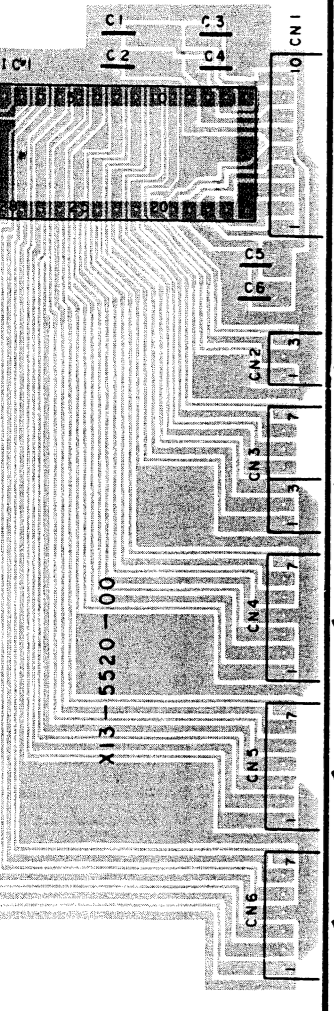
PREAMPLIFIER UNIT (X85-1032-72)



SUB-CIRCUIT UNIT (X13-5520-00)



JB-CIRCUIT UNIT (X13-5520-00)



SYSTEM CONTROL

VTR

AV AUX

DAT

ADAPTOR

TAPE

TUNER

PHONO

CD

INPUT

PHONO

CD

INPUT

PHONO

CD

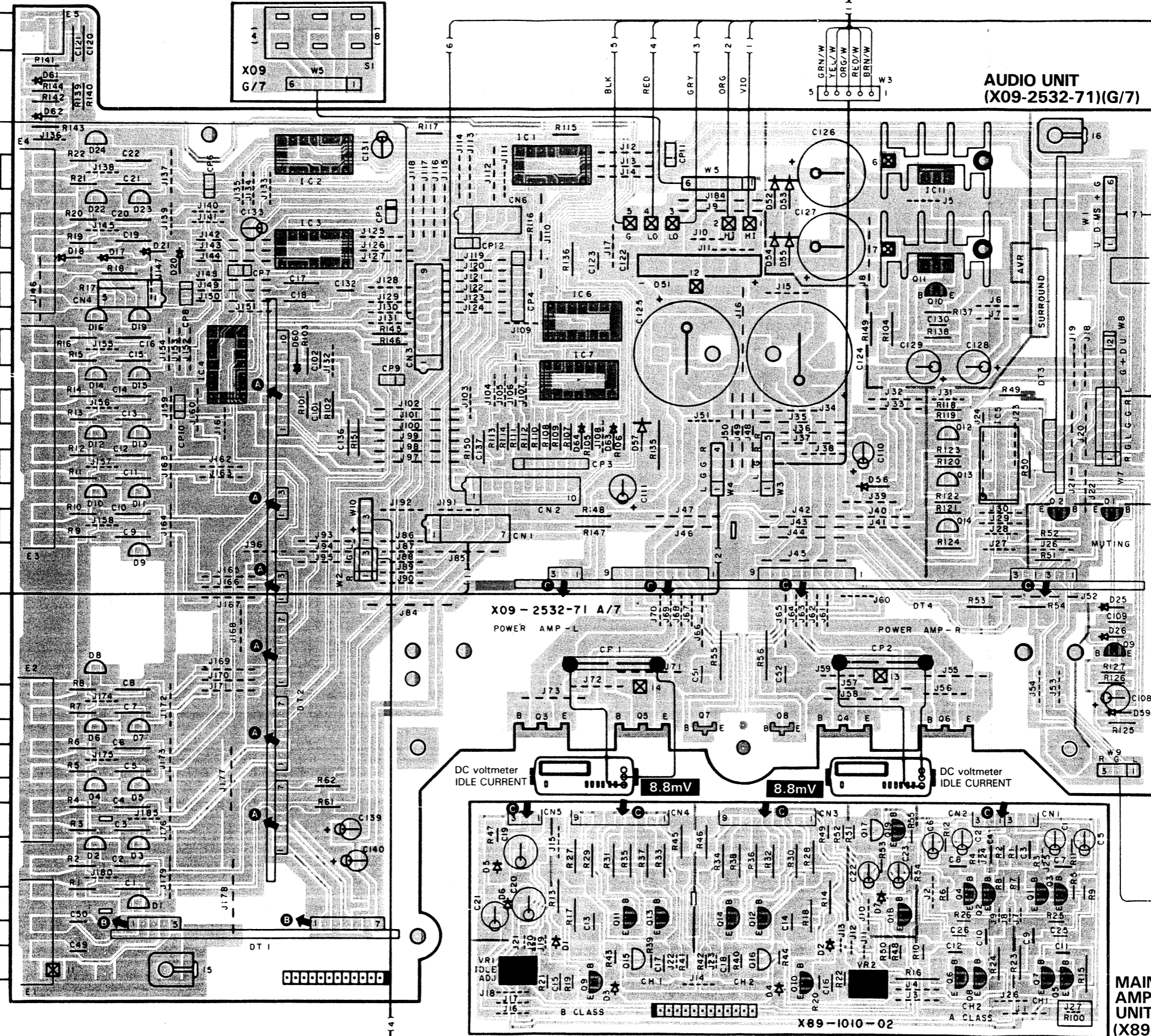
INPUT

PHONO

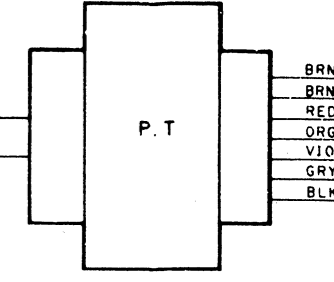
CD

INPUT

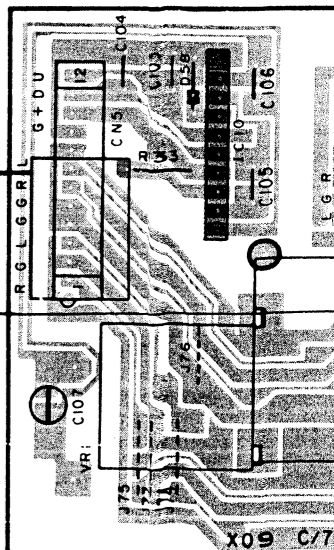
PHONO



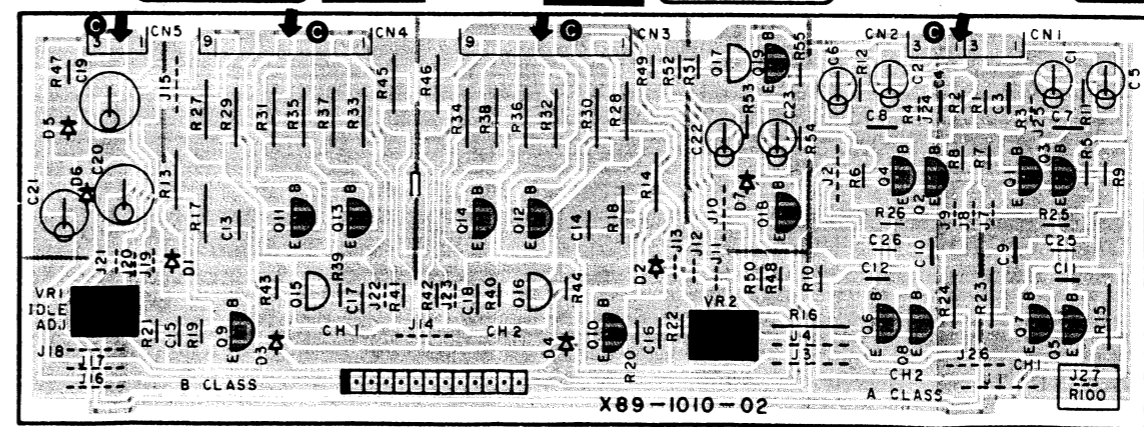
AUDIO UNIT (X09-2532-71)(G/7)

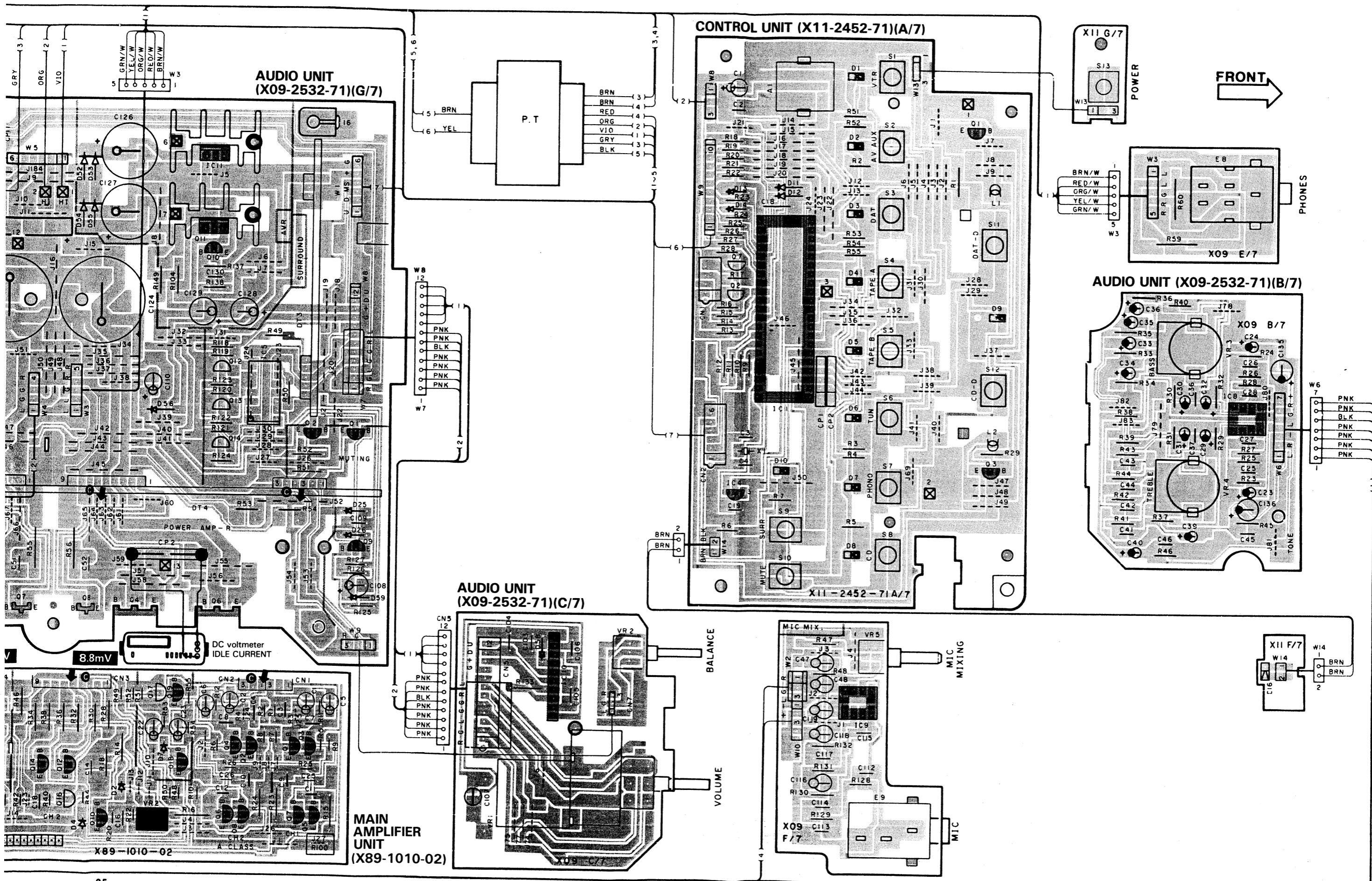


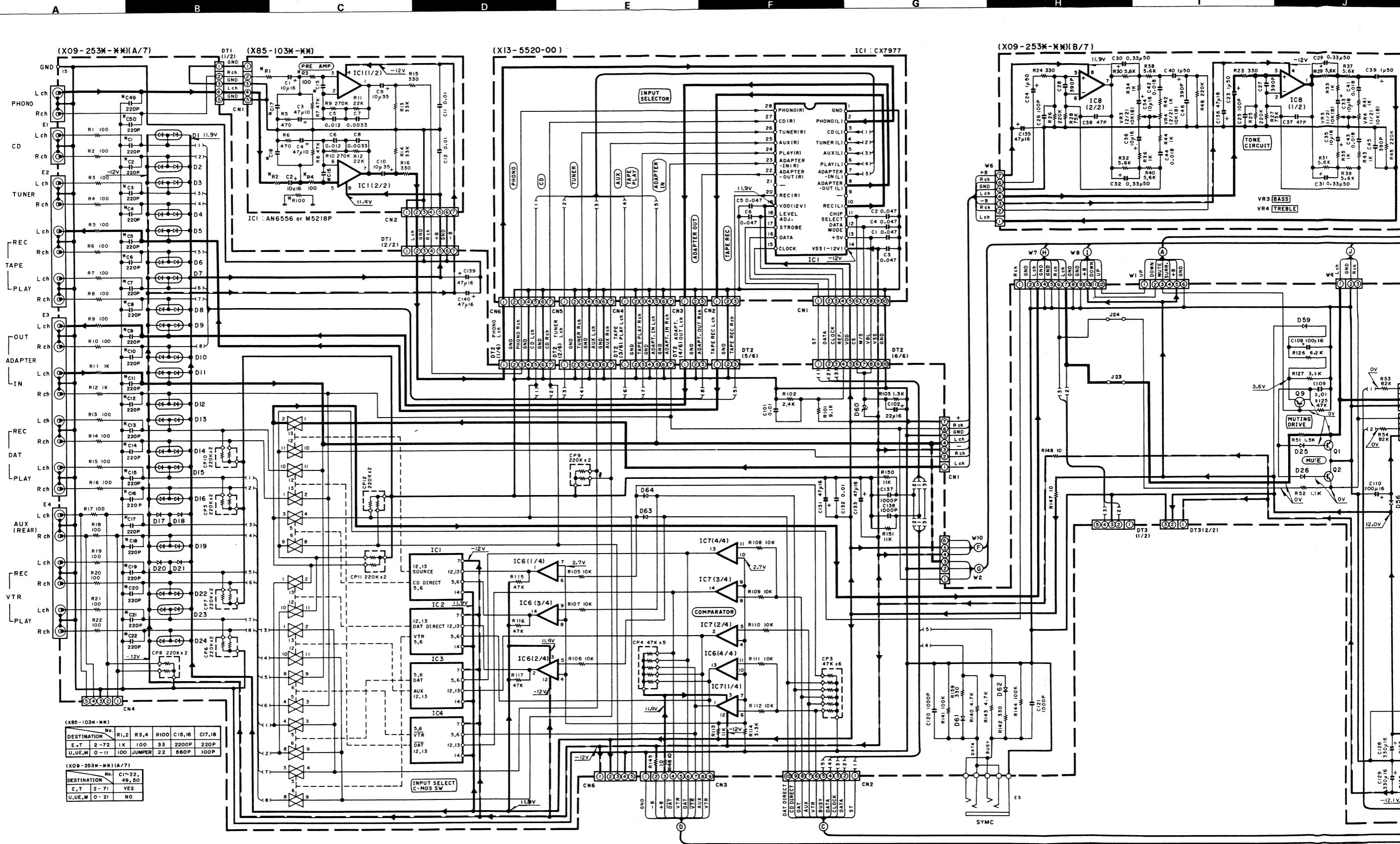
AUDIO UNIT (X09-2532-71)(C/7)



MAIN AMPLIFIER UNIT (X89-1010-02)



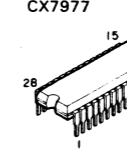
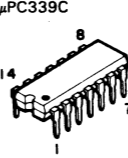
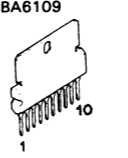
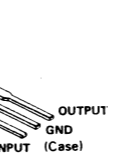
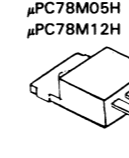
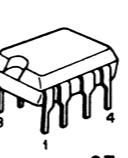
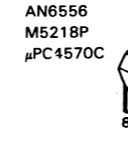
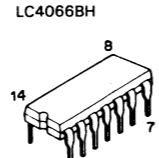
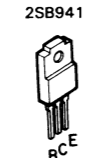
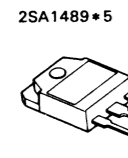


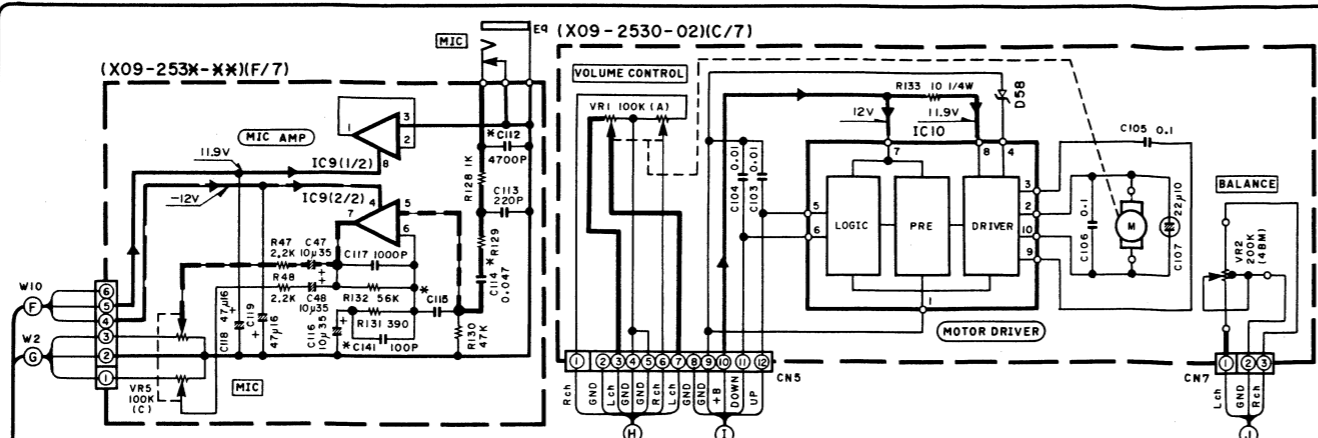
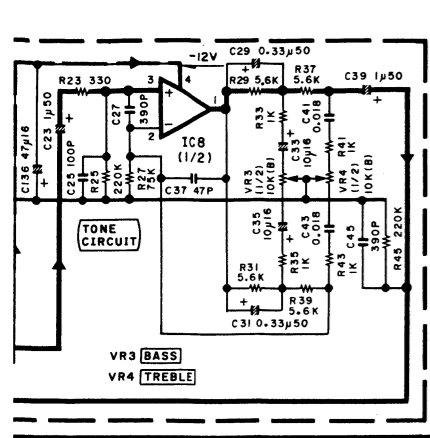


(X85-103K-XX)						
DESTINATION	No.	R1,2	R3,4	R10D	C15,16	C17,18
E,T	2-72	1K	100	33	220P	220P
U,UE,M	0-11	100	JUMPER	22	560P	100P

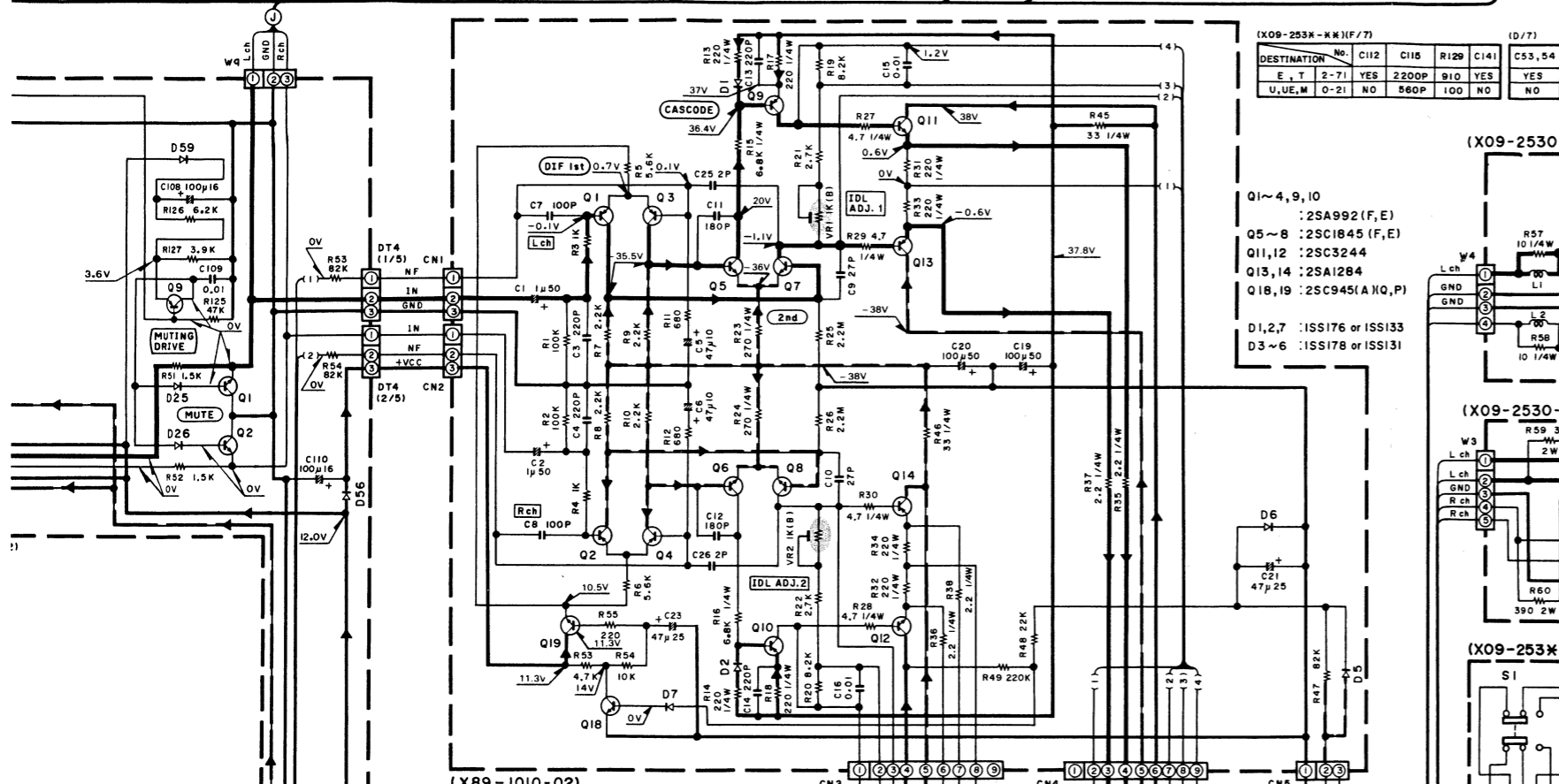
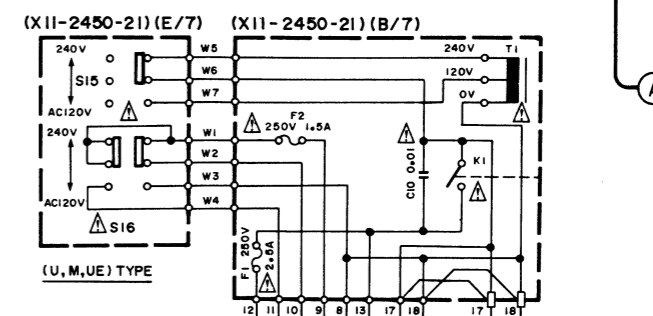
(X09-253K-XX)(A/7)						
DESTINATION	No.	C1-22	49,50			
E,T	2-71	YES				
U,UE,M	0-21	NO				

- 25A1284
- 25A733 (A)
- 25A992
- 25C1845
- 25C2003
- 25C2878
- 25C3244
- 25C3246
- 25C945 (A)

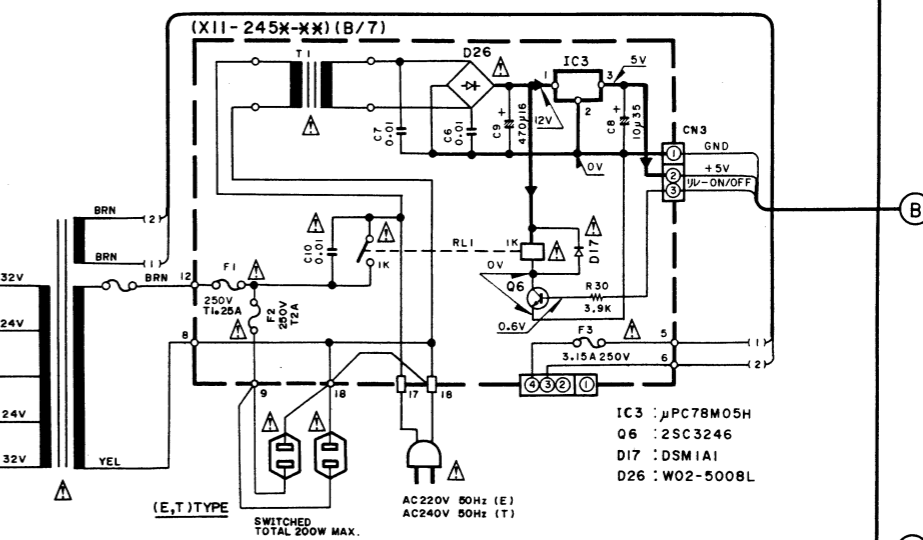
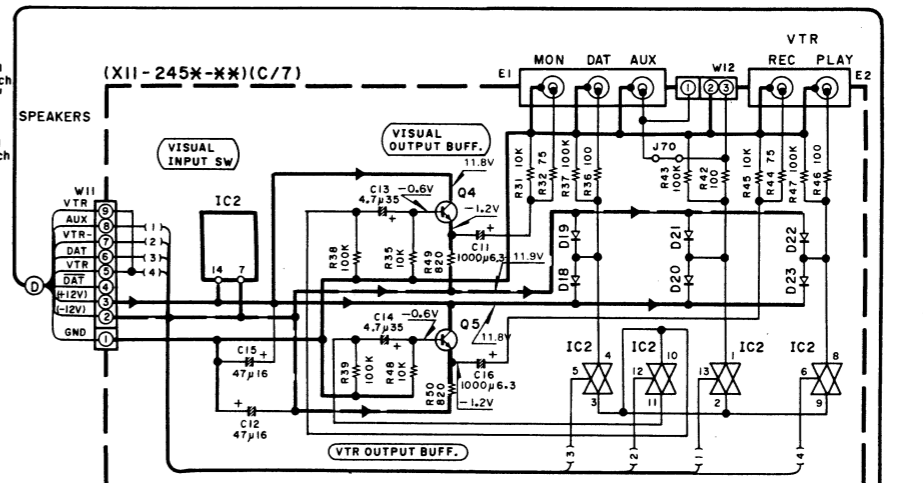




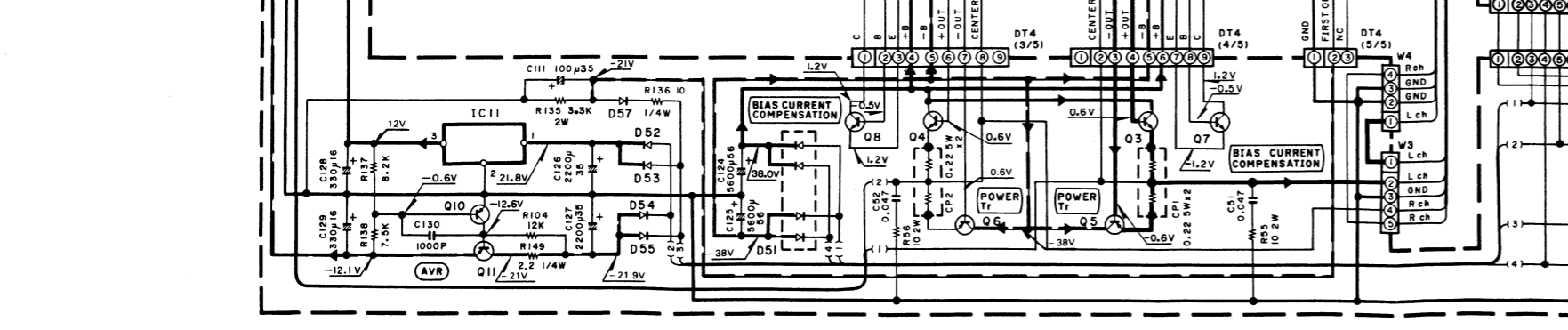
- (X09-253K-*)
 IC1~4 : LC4066BH
 IC6,7 : μ PC339C
 IC8 : μ PC4570C
 IC9 : AN6556
 IC10 : BA6109
 IC11 : μ PC78M12H
- Q7,8 : 2SC945(A)(P)
 Q9,10 : 2SA733(A)(Q,P)
 Q11 : 2SB941(Q,P)
- DI~16,19,22~24 : MC931
 DI7,18,20,21,25, : ISS133
 26,56,59,61~64 :
 D51 : RBV-602LFA
 D52~55,57 : DSM1A1
 D58,60 : RD5.1JS(B2)
- Q1,2 : 2SC2878(B)
 Q3,4 : 2SC3853*5
 Q5,6 : 2SA1489*5



- (X09-253K-*) (F/7)
- | DESTINATION | No. | IC12 | IC15 | R129 | IC141 | C53,54 |
|-------------|------|------|-------|------|-------|--------|
| E, T | 2-71 | YES | 2200P | 91D | YES | YES |
| U, U, E, M | 0-21 | NO | 560P | 10D | NO | NO |
- (D/7)
 Q1~4,9,10 : 2SA992 (F, E)
 Q5~8 : 2SC1845 (F, E)
 Q11,12 : 2SC3244
 Q13,14 : 2SA1284
 Q18,19 : 2SC945(A)(Q,P)
 D1,2,7 : ISS176 or ISS133
 D3~6 : ISS178 or ISS131



- IC3 : μ PC78M05H
 Q6 : 2SC3246
 D17 : DSM1A1
 D26 : WO2-5008L



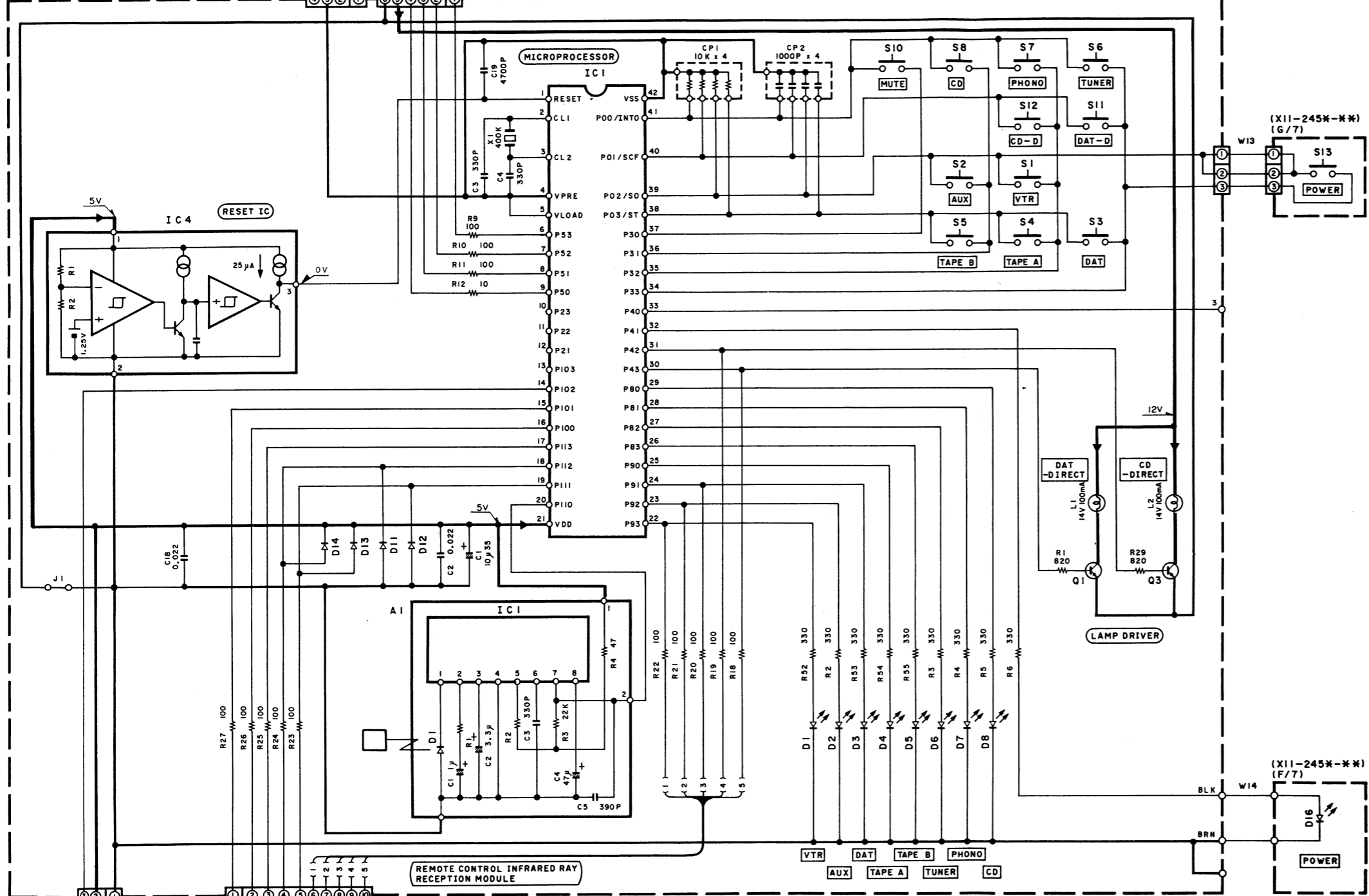
DC voltages are as measured with a high impedance voltmeter with no signal input. Values may vary slightly due to variations between individual instruments or/and units.

Les tensions c.c. doivent être mesurées avec un volt-mètre 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 schwanden die Meßwerte aufgrund von Unterschieden zwischen einzelnen Instrumenten oder Geräten u.U. geringfügig.

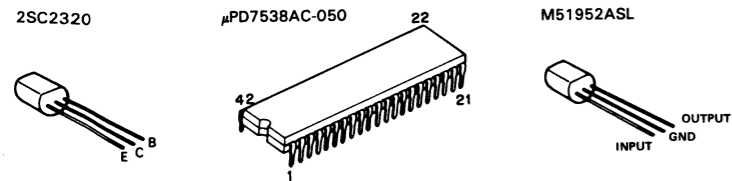
CAUTION: For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list). **⚠** Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably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

(X11-245*-**) (A/7)



- | | | | |
|---------|----------------|----------|------------------|
| IC1 : | μPD7538AC-050 | D1~8 : | B30-0431-05 |
| IC4 : | M51952ASL | D11~14 : | ISS133 or ISS176 |
| Q1, 3 : | 2SC2320 (E, F) | D16 : | B30-1012-05 |
| A1 : | W02-0776-05 | | |

— GND 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.

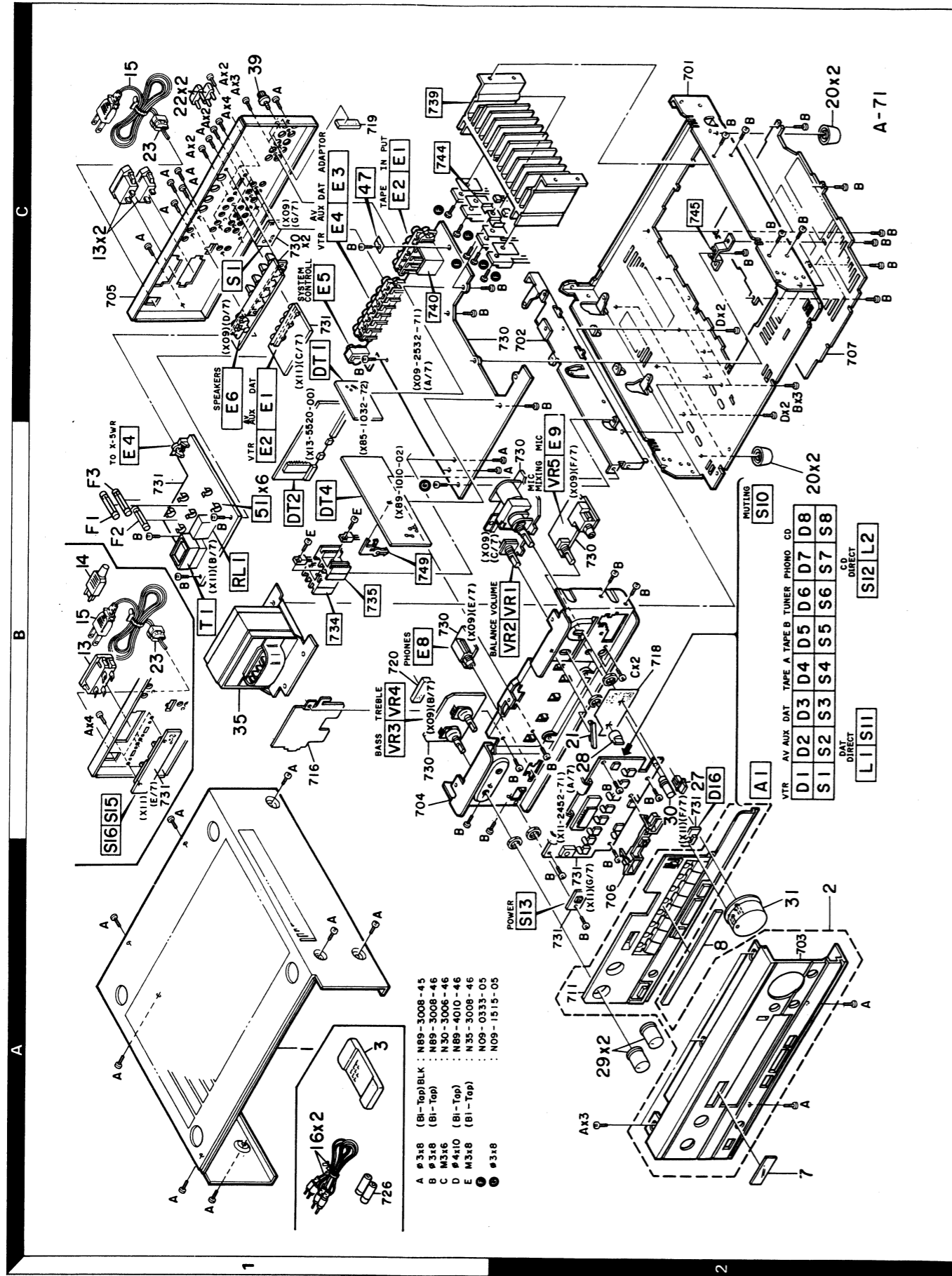
Les tensions c.c. doivent être mesurées avec un voltmètre à haute impédance sans signal d'entrée. Les valeurs peuvent différer légèrement du fait des variations inhérentes aux appareils et aux instruments de mesure individuels.

Die angegebenen Gleichspannungswerte wurden mit einem hochohmigen Spannungsmesser ohne Eingangssignal gemessen. Dabei schwanden 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.

A-71
KENWOOD

EXPLODED VIEW



PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

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

Teile ohne Parts No. werden nicht geliefert.

Ref. No.	Address	New Parts	Parts No.	Description	Destination	Remarks
参照番号	位置	新	部品番号	部品名 / 規格	仕	向備考
A-71						
1	1A		A01-1584-01	METALLIC CABINET		
2	2A	*	A20-5361-02	PANEL ASSY		
3	1A	*	A70-0184-05	REMOTE CONTROLLER ASSY		
7	2A		B03-2323-04	DRESSING PLATE (REMOTE CONTROL)		
8	2A		B03-2334-04	DRESSING PLATE (LED)		
			B46-0094-03	WARRANTY CARD		UUE
			B46-0095-03	WARRANTY CARD		UUE
			B46-0122-13	WARRANTY CARD		E
			B46-0143-03	WARRANTY CARD		T
			B50-6982-00	INSTRUCTION MANUAL(ENGLISH)		
			B50-6983-00	INSTRUCTION MANUAL(FRENCH)		ME
			B50-6984-00	INSTRUCTION MANUAL(SPANISH)		M
			B50-6985-00	INSTRUCTION MANUAL(ARABIC)		M
			B50-6986-00	INSTRUCTION MANUAL(G.D.I)		E
			B52-0254-00	CONNECTING DIAGRAM		
			B58-0223-04	CAUTION CARD (PRE-SET 120V)		U
			B58-0513-04	CAUTION CARD (PRESET220-240)		UE
			B58-0803-03	CAUTION CARD		E
			B59-0092-00	SERVICE DIRECTORY		UUE
△	13	1C	E03-0055-05	AC OUTLET		E
△	13	1C	E03-0068-05	AC OUTLET		UMUE
△	13	1C	E03-0085-05	AC OUTLET		T
△	14	1B	E03-0049-05	AC PLUG		T
△	15	1C	E30-0459-05	AC POWER CORD		E
△	15	1B	E30-0812-05	AC POWER CORD		UMUE
△	15	1C	E30-1416-05	AC POWER CORD		T
△	16	1B	E30-1392-05	CORD WITH PLUG		
△	F1	1B	F05-1222-05	FUSE (SEMΚ) (250V T1.25A)		TE
△	F1	1B	F05-3022-05	FUSE (250V 3A)		UMUE
△	F2	1B	F05-1521-05	FUSE (250V 1.5A)		UMUE
△	F2	1B	F06-2021-05	FUSE (SEMΚ) (250V T2A)		TE
△	F3	1B	F05-3022-05	FUSE (250V 3A)		UMUE
△	F3	1B	F05-3121-05	FUSE (250V 3.15A)		TE
			H01-7644-04	ITEM CARTON CASE		
			H10-3502-02	POLYSTYRENE FOAMED FIXTURE		
			H10-3503-02	POLYSTYRENE FOAMED FIXTURE		
			H25-0181-04	PROTECTION BAG (150X260X0.05)		
			H25-0232-04	PROTECTION BAG (235X350X0.03)		
			H25-0304-04	PROTECTION BAG		
20	2B,2C		J02-0366-05	FOOT		
21	2B		J11-0106-05	CLAMPER		
22	1C		J12-0094-05	PIN		
△	23	1B,1C	J42-0083-05	POWER CORD BUSHING		
			J61-0307-05	WIRE BAND		
28	2B		K29-2201-04	KNOB (BALANCE)		
29	2A		K29-2506-14	KNOB (BASS, TREBLE)		
30	2B		K29-2737-04	KNOB (MIC MIXING)		
31	2A	*	K29-2767-04	KNOB ASSY (VOLUME)		
△	35	1B	L01-4652-05	POWER TRANSFORMER		T
△	35	1B	L01-4655-05	POWER TRANSFORMER		UMUE

E: Scandinavia & Europe K: USA P: Canada

U: PX(Far East, Hawaii) T: England M: Other Areas

UE: AAFES(Europe) X: Australia

△ indicates safety critical components.

PARTS LIST

× New Parts

Parts without Parts No. are not supplied.

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

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
△ 35	1B		L01-4657-05	POWER TRANSFORMER	E	
39 G	1C 2B		N08-0128-35 N09-1515-05	BINDING POST (GND) TAPPING SCREW (Ø3X8)		
-			M50461-057SP	IC(REMOTE CONTROLLER)		
AUDIO UNIT (X09-2532-71)						
C1 -22 C23 ,24 C25 ,26 C27 ,28 C29 -32			C91-0749-05 CE04JW1H010M CC45FSL1H101J CK45FB1H391K CE04JW1HR33M	CERAMIC 220PF K ELECTRO 1.0UF 50WV CERAMIC 100PF J CERAMIC 390PF K ELECTRO 0.33UF 50WV		
C33 -36 C37 ,38 C39 ,40 C41 -44 C45 ,46			CE04JW1C100M CC45FSL1H470J CE04JW1H010M CF92FV1H183J CK45FB1H391K	ELECTRO 10UF 16WV CERAMIC 47PF J ELECTRO 1.0UF 50WV MF 0.018UF J CERAMIC 390PF K		
C47 ,48 C49 ,50 C51 ,52 C53 ,54 C101			CE04KW1V100M CC45FSL1H221J CF92FV1H473J CK45FF1H472Z CK45FF1H103Z	ELECTRO 10UF 35WV CERAMIC 220PF J MF 0.047UF J CERAMIC 4700PF Z CERAMIC 0.010UF Z	TE	
C102 C103,104 C105,106 C107 C108			CE04KW1C220M CK45FF1H103Z CF92FV1H104J C90-1333-05 CE04KW1C101M	ELECTRO 22UF 16WV CERAMIC 0.010UF Z MF 0.10UF J NP-ELEC 22UF 10WV ELECTRO 100UF 16WV	TE	
C109 C110 C111 C112 C113			CK45FF1H103Z CE04KW1C101M CE04KW1V101M CK45FF1H472Z CC45FSL1H221J	CERAMIC 0.010UF Z ELECTRO 100UF 16WV ELECTRO 100UF 35WV CERAMIC 4700PF Z CERAMIC 220PF J	TE	
C114 C115 C115 C116 C117			CF92FV1H473J CK45FB1H222K CK45FB1H561K CE04KW1V100M CK45FB1H102K	MF 0.047UF J CERAMIC 2200PF K CERAMIC 560PF K ELECTRO 10UF 35WV CERAMIC 1000PF K	TE UMUE	
C118,119 C120,121 C122,123 C124,125 C126,127			CE04KW1C470M C91-0757-05 CK45FF1H103Z C90-1315-05 CE04KW1V222M	ELECTRO 47UF 16WV CERAMIC 0.001UF K CERAMIC 0.010UF Z ELECTRO 5600UF 56WV ELECTRO 2200UF 35WV		
C128,129 C130 C131 C132 C133			CE04KW1C331M CK45FB1H102K CE04KW1C470M CK45FF1H103Z CE04KW1C470M	ELECTRO 330UF 16WV CERAMIC 1000PF K ELECTRO 47UF 16WV CERAMIC 0.010UF Z ELECTRO 47UF 16WV		
C135,136 C137,138 C139,140 C141			CE04JW1C470M C91-0757-05 CE04KW1C470M CC45FSL1H101J	ELECTRO 47UF 16WV CERAMIC 0.001UF K ELECTRO 47UF 16WV CERAMIC 100PF J	TE	
47 E1 E2 E3	1C 1C 1C 1C		E23-0149-05 E13-0497-05 E13-0621-05 E13-0814-05	TERMINAL PHONE JACK(4P) PLAYER,CD PHONE JACK(6P) TUNER,TAPE PHONE JACK(8P) ADAPTER,DAT		

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E4	1C		E13-0621-05	PHONE JACK(6P) AV AUX,VTR	UMUE TE	
E5	1C		E11-0165-05	MINIATURE PHONE JACK(SYS CONT)		
E5	1C		E11-0168-05	MINIATURE PHONE JACK(SYS CONT)		
E6	1C		E20-0455-05	SCREW TERMINAL BOARD(4P)SPKR		
E8	1B		E11-0160-05	PHONE JACK(7P) PHONES		
E9	2B		E11-0159-05	PHONE JACK(3P) MIC		
L1 ,2			L39-0085-05	PHASE-COMPENSATION COIL		
F	1C		N09-0333-05	TAPPING SCREW (Ø3X12)		
CP1 ,2			R90-0187-05	MULTI-COMP 0.22X2 K SW		
CP3			R90-0461-05	MULTI-COMP 47KX6 J 1/6W		
CP4			R90-0274-05	MULTI-COMP 47KX5 J 1/6W		
CP5 -12			R90-0490-05	MULTI-COMP 220KX2 J 1/6W		
RS5 ,56			RS14DB3D100J	FL-PROOF RS 10 J 2W		
RS7 ,58			RD14AB2E100J	FL-PROOF RD 10 J 1/4W		
RS9 ,60			RS14DB3D391J	FL-PROOF RS 390 J 2W		
R133			RD14AB2E100J	FL-PROOF RD 10 J 1/4W		
R135			RS14DB3D332J	FL-PROOF RS 3.3K J 2W		
R136			RD14AB2E100J	FL-PROOF RD 10 J 1/4W		
R149			RD14AB2E2R2J	FL-PROOF RD 2.2 J 1/4W		
VR1	2B		R29-5012-05	POTENTIOMETER (VOLUME)		
VR2	2B		R05-5016-05	POTENTIOMETER (BALANCE)		
VR3 ,4	1B		R06-3052-05	POTENTIOMETER(10KB)BASS,TREBLE		
VR5	2B		R10-5025-05	POTENTIOMETER (MIC MIXING)		
S1	1C		S31-2113-05	SLIDE SWITCH (SP IMPEDANCE SEL)		
D1 -16			MC931	DIODE		
D17 ,18			1SS133	DIODE		
D17 ,18			1SS176	DIODE		
D19			MC931	DIODE		
D20 ,21			1SS133	DIODE		
D20 ,21			1SS176	DIODE		
D22 -24			MC931	DIODE		
D25 ,26			1SS133	DIODE		
D25 ,26			1SS176	DIODE		
D51			RBV-602LFA	DIODE		
D52 -55			DSM1A1	DIODE		
D56			1SS133	DIODE		
D56			1SS176	DIODE		
D57			DSM1A1	DIODE		
D58			HZS5. 1S(B2)	ZENER DIODE		
D58			RD5. 1JS(B2)	ZENER DIODE		
D59			1SS133	DIODE		
D59			1SS176	DIODE		
D60			HZS5. 1S(B2)	ZENER DIODE		
D60			RD5. 1JS(B2)	ZENER DIODE		
D61 -64			1SS133	DIODE		
D61 -64			1SS176	DIODE		
IC1 -4			LC4066BH	IC(BILATERAL SWITCH X4)		
IC6 ,7			UPC339C	IC(QUAD COMPARATOR)		
IC8			UPC4570C	IC(OP AMP X2)		
IC9			AN6556	IC(OP AMP X2)		
IC10			BA6109	IC(MOTOR DRIVER)		
IC11			UPC78M12H	IC(VOLTAGE REGULATOR/ +12V)		

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Q1 ,2 Q3 ,4 Q5 ,6 Q7 ,8 Q9 ,10 Q11			2SC2878(B) 2SC3853*5 2SA1489*5 2SC945(A)(P) 2SA733(A)(Q,P) 2SB941(Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		
CONTROL UNIT (X11-2452-71)						
D1 -8 D16 L1 ,2	2B 2B 2B		B30-0431-05 B30-1012-05 B30-1196-05	LED(LN21CPH) VTR,CD,ETC LED(SLP-981C-50)VOLUME LAMP (DAT DIRECT,CD DIRECT)		
C1 C2 C3 ,4 C6 ,7 C8			CE04KW1V100M CK45FF1H223Z CC45FSL1H331J CK45FF1H103Z CE04KW1V100M	ELECTRO 10UF 35WV CERAMIC 0.022UF Z CERAMIC 330PF J CERAMIC 0.010UF Z ELECTRO 10UF 35WV		
C9 C10 C11 C12 C13 ,14			CE04KW1C471M C91-0647-05 CE04KW0J102M CE04KW1C470M CE04KW1V4R7M	ELECTRO 470UF 16WV CERAMIC 0.01UF P ELECTRO 1000UF 6.3WV ELECTRO 47UF 16WV ELECTRO 4.7UF 35WV		
C15 C16 C18 C19 C100			CE04KW1C470M CE04KW0J102M C91-0085-05 CK45FF1H472Z CK45FF1H103Z	ELECTRO 47UF 16WV ELECTRO 1000UF 6.3WV CERAMIC 0.022UF N CERAMIC 4700PF Z CERAMIC 0.010UF Z		
E1 E2 E4	1C 1B 1B		E13-0309-05 E13-0297-05 E08-0411-05	PHONE JACK(MONITOR,DAT,AV AUX) PHONE JACK(VTR) RECTANGULAR RECEPTACLE		
S1 S1	1B 1B		J13-0041-05 J13-0054-05	FUSE CLIP FUSE CLIP		UMUE TE
T1 T1 X1	1B 1B		L01-4782-05 L01-4784-05 L78-0202-05	POWER TRANSFORMER POWER TRANSFORMER RESONATOR (400KHZ)		TE UMUE
CP1 CP2 R49 ,50			R90-0233-05 R90-0478-05 RS14KB3A821J	MULTI-COMP 10KX4 J 1/6W MULTI-COMP 1000PX4 J 1/6W FL-PROOF RS 820 J 1W		
RL1 S1 -8 S10 -13 S15 ,16	1B 2B 2A,2B		S51-1036-05 S40-1064-05 S40-1064-05 S31-2083-05	MAGNETIC RELAY PUSH SWITCH PUSH SWITCH SLIDE SWITCH (POWER TYPE)		UMUE
D11 -14 D11 -14 D17 D18 -23 D18 -23			1SS133 1SS176 DSM1A1 1SS133 1SS176	DIODE DIODE DIODE DIODE DIODE		
D26 IC1 IC2 IC3 IC4		*	W02-5008L UPD7538AC-050 LC4066BH UPC78M05H M51952ASL	DIODE IC(MICROPROCESSOR) IC(BILATERAL SWITCH X4) IC(VOLTAGE REGULATOR/ +5V) IC(SYSTEM RESET)		
Q1 Q3			2SC2320(E,F) 2SC2320(E,F)	TRANSISTOR TRANSISTOR		

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Q4 .5 Q6			2SC2003(L,K) 2SC3246	TRANSISTOR TRANSISTOR		
A1	2B		W02-0776-05	ELECTRIC CIRCUIT MODULE(REMOTE)		
SUB-CIRCUIT UNIT (X13-5520-00)						
C1 -6			CF92FV1H473J	MF 0.047UF J		
IC1		*	CX7977	IC(FUNCTION SW FOR AUDIO)		
PRE AMPLIFIER UNIT (X85-1032-72)						
C1 .2			CE04FW1C100M	ELECTRO 10UF 16WV		
C3 .4			CE04FW1A470M	ELECTRO 47UF 10WV		
C5			CF92FV1H123J	MF 0.012UF J		
C6			CF92FV1H123J	MF 0.012UF J		
C7			CF92FV1H332J	MF 3300PF J		
C8			CF92FV1H332J	MF 3300PF J		
C9 .10			CE04KW1V100M	ELECTRO 10UF 35WV		
C11 .12			CK45FF1H103Z	CERAMIC 0.010UF Z		
C15 .16			CK45FB1H222K	CERAMIC 2200PF K	TE	
C15 .16			CK45FB1H561K	CERAMIC 560PF K	UMUE	
C17 .18			CC45FSL1H101J	CERAMIC 100PF J	UMUE	
C17 .18			CC45FSL1H221J	CERAMIC 220PF J	TE	
IC1			AN6556	IC(OP AMP X2)		
IC1			M5218P	IC(OP AMP X2)		
MAIN AMPLIFIER UNIT (X89-1010-02)						
C1 .2			CE04KW1H010M	ELECTRO 1.0UF 50WV		
C3 .4			CC45FSL1H221J	CERAMIC 220PF J		
C5 .6			CE04KW1A470M	ELECTRO 47UF 10WV		
C7 .8			CC45FSL1H101J	CERAMIC 100PF J		
C9 .10			CC45FSL1H270J	CERAMIC 27PF J		
C11 .12			CC45FSL1H181J	CERAMIC 180PF J		
C13 .14			CC45FSL1H221J	CERAMIC 220PF J		
C15 .16			CK45FF1H103Z	CERAMIC 0.010UF Z		
C19			CE04KW1H101M	ELECTRO 100UF 50WV		
C20			CE04KW1H101M	ELECTRO 100UF 50WV		
C21			CE04KW1E470M	ELECTRO 47UF 25WV		
C23			CE04KW1E470M	ELECTRO 47UF 25WV		
C25 .26			CC45FSL1H020C	CERAMIC 2.0PF C		
R13 .14			RD14AB2E221J	FL-PROOF RD 220 J 1/4W		
R17 .18			RD14AB2E221J	FL-PROOF RD 220 J 1/4W		
R23 .24			RD14AB2E271J	FL-PROOF RD 270 J 1/4W		
R27 -30			RD14AB2E4R7J	FL-PROOF RD 4.7 J 1/4W		
R31 -34			RD14AB2E221J	FL-PROOF RD 220 J 1/4W		
R35 -38			RD14AB2E2R2J	FL-PROOF RD 2.2 J 1/4W		
R45 .46			RD14AB2E330J	FL-PROOF RD 33 J 1/4W		
VR1 .2			R12-1070-05	TRIMMING PNT. (1K) IDLE ADJ.		
D1 .2			1SS133	DIODE		
D1 .2			1SS176	DIODE		
D5 .6			1SS131	DIODE		
D5 .6			1SS178	DIODE		
D7			1SS133	DIODE		
D7			1SS176	DIODE		
Q1 -4			2SA992(F,E)	TRANSISTOR		
Q5 -8			2SC1845(F,E)	TRANSISTOR		

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Q9 ,10 Q11 ,12 Q13 ,14 Q18 ,19			2SA992 (F,E) 2SC3244 2SA1284 2SC945 (A) (Q,P)	TRANSISTOR TRANSISTOR TRANSISTOR TRANSISTOR		

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SPECIFICATIONS

Power Output

45 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.09% total harmonic distortion.

Maximum continuous output power (IEC) from 60 Hz to 12,500 Hz,

0.7% THD at 8 ohms	55 W + 55 W
Total Harmonic Distortion (20 Hz to 20,000 Hz 8 ohms)/	
At rated output	0.09%
At 1/2 rated output	0.04%
Intermodulation distortion (60 Hz: 7 kHz = 4:1)	0.03% at rated output into 8 ohms
Signal-to-Noise ratio (IHF-A)	
PHONO MM (2.5 mV)	75 dB
TUNER, AUX, TAPE PLAY	97 dB
MIC	65 dB
Signal-to-Noise ratio at unweighted, 50 mW output (DIN)	
PHONO (MM)	60 dB
TUNER, AUX, TAPE PLAY	62 dB
Tone Control	
Bass	± 10 dB at 100 Hz
Treble	± 10 dB at 10 kHz
Damping Factor	50 at 50 Hz
Channel Separation (DIN) at 1,000 Hz	
PHONO (Terminated with 2.2 kΩ)	59 dB
AUX (Terminated with 47 kΩ + 250 pF)	68 dB
Input sensitivity/impedance	
PHONO MM	2.5 mV/47 kohms
TUNER, AUX., TAPE PLAY	150 mV/47 kohms
MIC	1.3 mV/47 kohms

General

Power consumption	150 W
Dimensions	W: 340 mm (13-23/64") H: 119 mm (4-11/16") D: 373 mm (14-11/16")
Weight (Net)	7.4 kg (16.3 lb)

Remote control unit (RC-71)

Maximum remote-control label distance	6 m (on an axis of optical sensor)
Remote control system	Infrared control system
Battery for remote control unit	Size "AA" (R6) × 2

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 Europe (E) 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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