

POWER AMPLIFIER

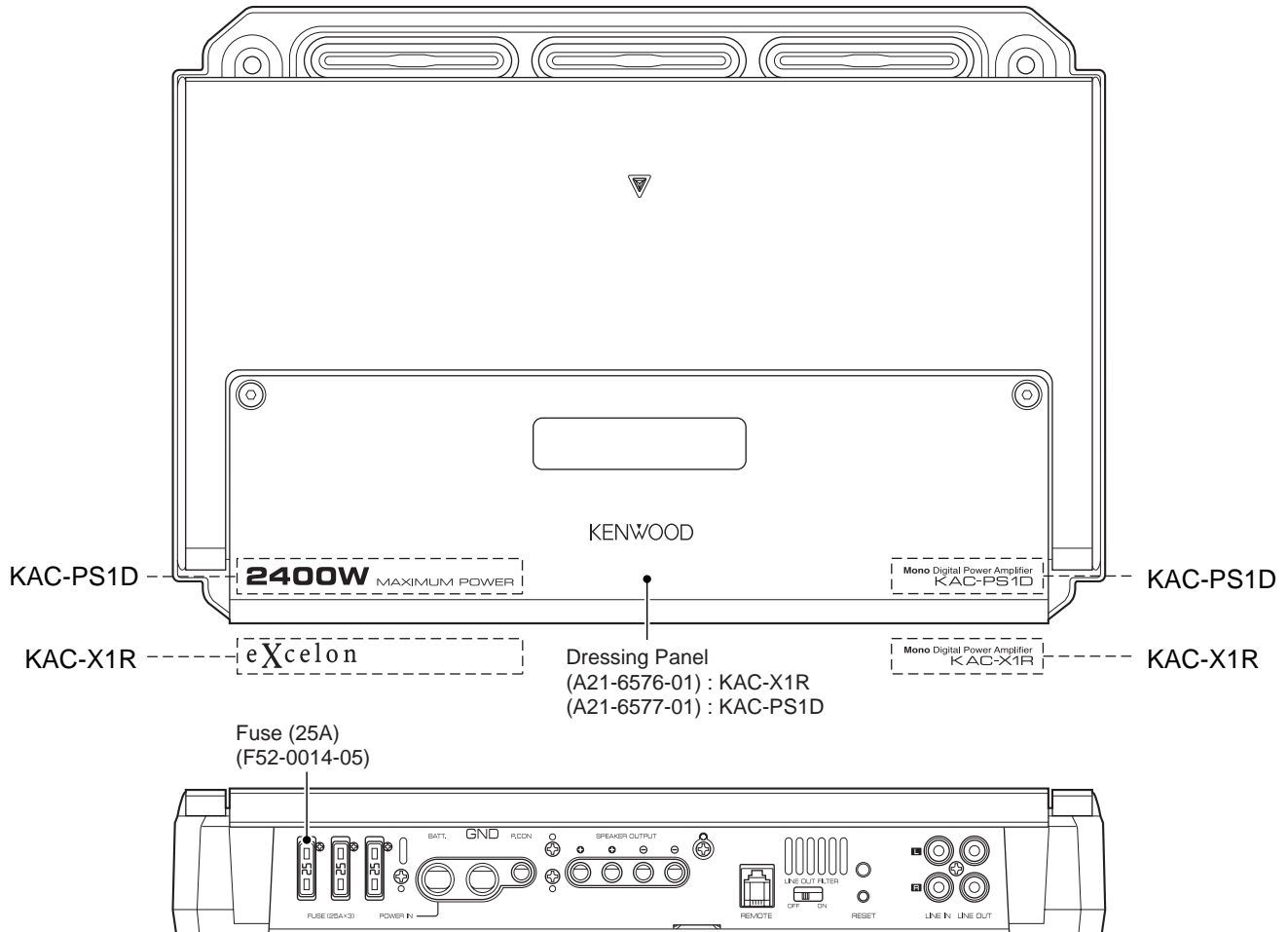
KAC-PS1D/X1R

SERVICE MANUAL

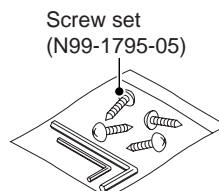
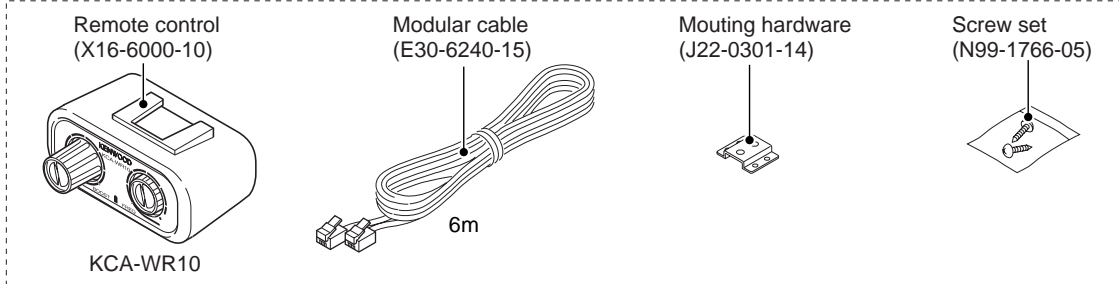
KENWOOD

Kenwood Corporation

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B53-0490-00 (N) 820



KAC-PS1D only

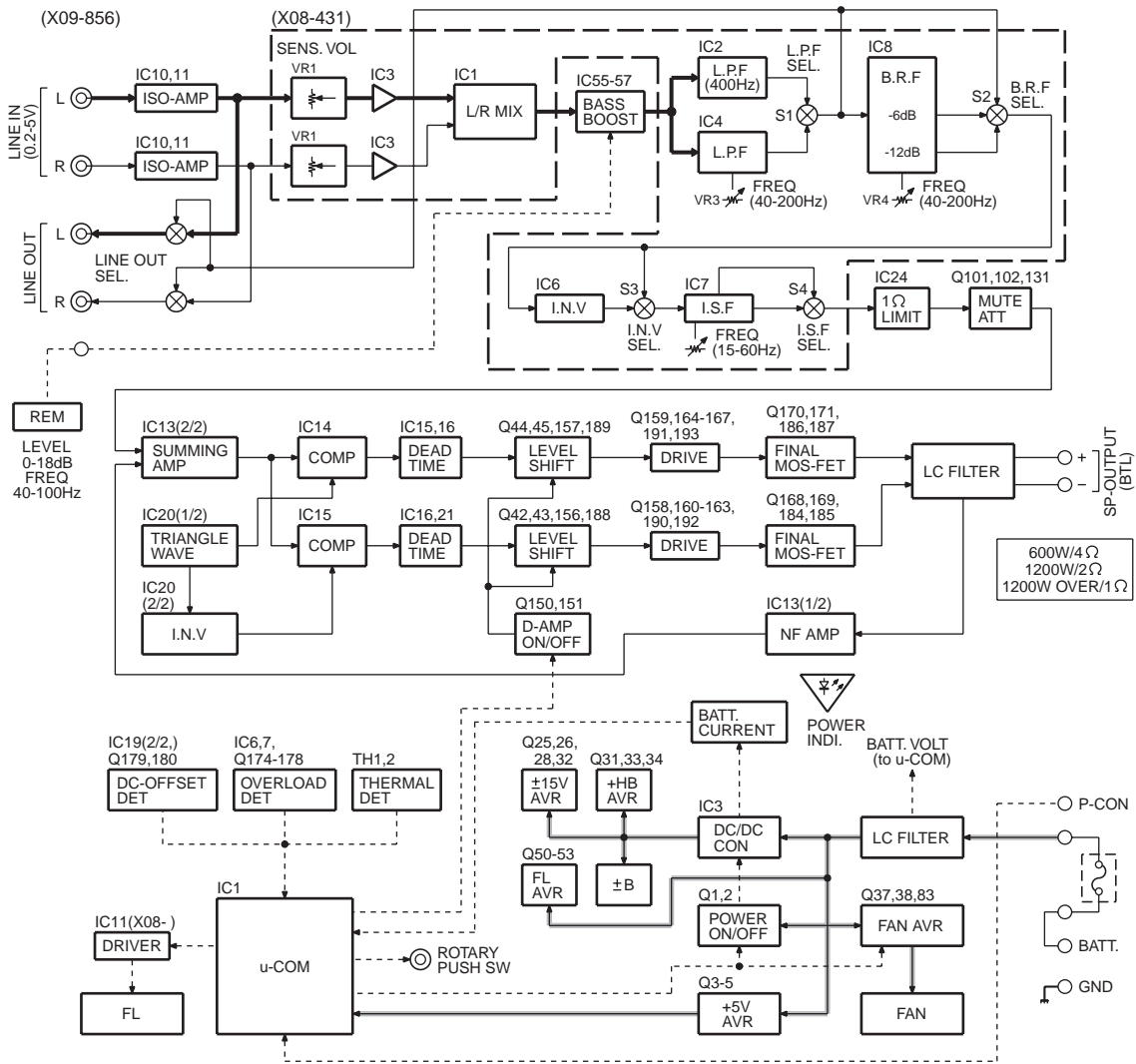


This product uses Lead Free solder.



KAC-PS1D/X1R

BLOCK DIAGRAM



COMPONENTS DESCRIPTION

● AUDIO UNIT (X09-8560-10)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1	μ-com	Overall control.
IC3	DC/DC converter driver	Generates the gate waveform for switching.
IC5 (2/2)	Comparator	Compares the analog signal with the triangular wave and generates the PWM waveform for the minus output-side amplifier of the BTL.
IC6 (1/2)	Comparator	Detects ASO. Compares current with voltage to detect short in the output.
IC6 (2/2)	Comparator	Detects the resonance waveform that is caused when the plus and minus terminals are shorted in the vicinity of the SP terminals, and protects from the short.
IC7 (1/2)	Comparator	Detects over current with the waveform shaped in IC17 and sends the result of the detection to the μ-com and the TR used to control the D-class amplifier.
IC7 (2/2)	Comparator	When SP+ or SP- terminal output is shorted to the ground, the current in the + power supply and that in the - power supply are unbalanced. The unbalance in the current is converted into DC voltage in Q176 and Q177, and when the voltage exceeds the preset value the output is reversed and the protection function is activated.
IC10,11	Isolation AMP	Removes the common mode noises in the input signal.
IC12	Buffer AMP	Buffer AMP for RCA output.
IC13 (1/2)	Signal amplification	Amplifies the output voltage between the SP + and SP - terminals and generates the NF signal.
IC13 (2/2)	Signal amplification	Amplifies differences between the input and feedback signals. Initial stage of the D-class amplifier.
IC14 (1/2), IC20 (1/2)	Comparator, Signal amplification	Triangular wave generation.
IC14 (2/2)	Comparator	Compares the analog signal with the triangular wave and generates the PWM waveform for the plus output + side amplifier of the BTL.
IC15,16,21	NAND gate	To gate pulse of the D-class amplifier.
IC17	NAND gate	Retains the pulse width and keeps holds a certain width when IC6 and IC7 (2/2) detect its individual over current.
IC18	Signal amplification	Amplifies and rectifies the output voltage at the SP + terminal, and generates DC voltage that is proportional to the output.
IC19 (1/2)	Signal amplification	Amplifies the potential differences caused by current running in the GND pattern, and sends it to the μ-com to obtain current.
IC19 (2/2)	Signal amplification	Amplifies the DC offset at the SP + terminal, and applies to the DC servo.
IC20 (2/2)	Signal amplification	Generates the inverted waveform of the triangular wave that is generated in IC14 (1/2) and IC20 (1/2).
IC22	Filter	Filters and rectifies the resonance waveform that is caused when the plus and minus terminals are shorted in the vicinity of the SP terminals, and sends the resultant DC voltage to IC6 (2/2).
IC24	Signal amplification	When 1Ω load is detected, lowers the voltages at pins 1 and 7 and decreases the signal clipping level in order to limit the SP output.
IC55~57	BassBoost circuit (Remote control operation)	Boosts the signal with the operations from the remote control. GAIN=0~+18dB, fc=40~100Hz
Q1,2	POWER ON SWITCH	Turns ON/OFF DC/DC converter power supply in response to the output from pin 8 of the μ-com.
Q3~5	5V constant voltage power supply	It is used as the constant voltage power supply of 5V for the μ-com and the SW5V.
Q6	SW5V control	Turns ON/OFF 5V to the SW5V line in response to the output from pin 20 of the μ-com.
Q7	Pcon over voltage control	Blocks the ON signal to the Pcon and places the Pcon in the OFF condition when the battery voltage is too high.

KAC-PS1D/X1R

COMPONENTS DESCRIPTION

Ref. No.	Application / Function	Operation / Condition / Compatibility
Q8	Pcon Switch	Places the amplifier in the ON condition by sending "L" to pin 1 of the μ -com when the Pcon terminal becomes "H" while the battery voltage is in the normal range.
Q10,11	DD converter gate control	Turns ON/OFF DD converter gate drive pulse in response to the output from pin 8 (Power_On) of the μ -com.
Q13~16	DD converter gate driver	Drives the switching FET gate in the DD converter.
Q17~20, Q22~24,27	DD converter switching FET	Repeats switching the transformer's primary side to generate high voltage at the secondary side.
Q25,26	+15V constant voltage power supply	In order to compensate HFE in Q26, both TRs in Q25 are connected with the Darlington connection and the constant voltage of +15V is obtained.
Q28,32	-15V constant voltage power supply	In order to compensate HFE in Q28, both TRs in Q32 are connected with the Darlington connection and the constant voltage of -15V is obtained.
Q29,30	Tracking when -15V constant voltage power supply is turned OFF	Adjusts the voltage drop in the -15V constant voltage power supply to the voltage in +15V side while the power OFF.
Q31,33,34	+15V constant voltage power supply for high voltage	Power supply for the gate drive signal in the output FET high side.
Q36~38, Q41,83	Power supply for FAN	In order to compensate HFE in Q38 and Q83, Q41 and Q36 are connected with the Darlington connection in Q37 to turn ON/OFF by the μ -com.
Q39	Limiter level control	When 1 Ω load is detected, CEs are ON and the voltages at pins 1 and 7 of IC24 are dropped in order to limit the signal amplitude.
Q42~45, Q156~167, Q188~193	PWM shaping circuit	Generates the pulse signal for the gate drive of the high side and low side.
Q168~171, Q184~187	FET for output	Generates the PWM output waveform by the switching.
Q47,48	Power supply SW for FL	Turns ON/OFF the FL power supply from pin 22 of the μ -com.
Q50~53	Constant voltage power supply for FL filament	Supplies the constant voltage of 2.3V to the FL filament.
Q54,55	Constant voltage power supply SW for FL filament	Turns ON/OFF the FL filament power supply from pin 22 of the μ -com.
Q101,129	MUTE	Mutes the audio signal from pin 56 of the μ -com to prevent applying the shock noise.
Q102, Q131~133	ATT	Lowers the volume when temperature at the output FET or in the vicinity of the transformer increases. For 1.5dB respectively.
Q125,126	ADV	Reads the power supply voltage value to show it with the FL. Turns OFF when the power supply is OFF to save the backup current.
Q150,151	D-SW	Turns ON/OFF the D-class amplifier stage from the μ -com or protection.
Q179,180	DC detection	Turns ON when DC is detected at the SP terminal and sends it to pin 64 of the μ -com.
Q181,182	ASO detection	Voltage amplification circuit used when the ASO is detected
Q174, Q176~178	Ground fault detection	When SP+ or SP- output is shorted to the ground, sends the signal to pin 6 of the IC7 and protects against the ground fault.
Q175	ASO detection	Current amplification circuit used when the ASO is detected
Q603	LOGO-LED	Turns on the LOGO LED from pin 4 of the μ -com.

COMPONENTS DESCRIPTION

● PREAMPLIFIER UNIT (X08-4310-10)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1 (1/2)	Signal amplification	Mixes Lch and Rch to make Mono signal.
IC1 (2/2)	Signal amplification	Buffer to send the signal that comes through LPF and Bass Boost to the Line Out.
IC2	Frequency fixed LPF	LPF fixed at 400Hz.
IC3	Signal amplification	Amplifies the signal that comes through SensVol and outputs it with low impedance.
IC4	Frequency variable LPF	LPF with variable frequency between 40~200Hz.
IC5,6 (1/2)	Band-cut filter	Attenuates the frequency in the specific range between 40~100Hz.
IC6 (2/2)	Reverse circuit	Changes the phase by 180 degrees.
IC7	Frequency variable HPF	Attenuates the frequency in the range of 15~60Hz that is lower than the specific frequency.
IC8 (1/2)	Signal amplification	Amplifies the signal component to reduce noises in the subsequent BRF stages.
IC11	FL driver	Communicate with the μ -com, generates the data for FL display and reads in KEY.

MICROCOMPUTER'S TERMINAL DESCRIPTION

● MICROCOMPUTER: 78F0533GK011A (X09-856: IC1)

Pin No.	Pin Name	I/O	Application	Truth Value Table	Processing Operation Description
1	P_CON	I	Clears the stop mode by turning the P-CON ON		L: Clear the stop mode
2	D_CURENT	I	Detects the D-class over current		Enters into the protection operations.
3	NC	O	Not used		Output L fixed
4	PON_ILLUM	O	LOGO LED+B SW		H: ON, L: OFF, Initial condition "L"
5	FAN1	O	FAN rotation control	①	H: Rotation, L: Stop, Initial condition "L"
6	RESET	I	Reset		
7	D_POWER	O	D-class amplifier power supply control		H: D-class ON, L: D-class OFF
8	POWER_ON_1	O	Amplifier power supply control		H: Amplifier power supply ON, Initial condition "L"
9	FLASH_W	I	Used when writing in the flash		
10,11	NC	O	Not used		Output L fixed
12	REGC	-			
13	VSS	-			
14	EVSS	-			
15	VDD	-			
16	EVDD	-			
17,18	NC	O	Not used		Output L fixed
19	NC	O			
20	5V_SW	O	SW5V ON: L		L: SW5V ON, Initial condition "L"
21	NC	O	Not used		Output L fixed
22	PON_FL	O	FL power supply (Grid and Filament) control		H: ON, L: OFF
23~33	NC	O	Not used		Output L fixed
34	ROTARY_CW	I	Encoder pulse input		Detects pulse width

KAC-PS1D/X1R

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Application	Truth Value Table	Processing Operation Description
35	ROTARY_CCW	I	Encoder pulse input		Detects pulse width
36~38	NC	O	Not used		Output L fixed
39	REF5V_OUT	O	Supplies to AVREF (pin 47)		Output H fixed
40,41	NC	O	Not used		Output L fixed
42	VFD_INH	O	Panel VFD driver INH		Driver output switching
43	VFD_CE	O	Panel VFD driver CE		Command control terminal of the driver
44	VFD_DATA_M	O	Panel VFD driver data line		μ -com \rightarrow driver input
45	VFD_DATA_S	I	Panel VFD driver data line		μ -com \rightarrow driver input
46	VFD_CLK	O	Panel VFD driver communication CLK		Communication clock
47	AVREF	-	DA REF voltage		Receives the reference voltage from pin 39.
48	AVSS	-			
49	IMP_DET	I	Detects load IMP at SP terminal		Reads the impedance and turns on the limiter when it is 1 Ω load.
50	TEMP2	I	Temperature detection 1 (at output TR side) (For display and protection)		Displays the temperature and overheat protection.
51	TEMP1	I	Temperature detection 1 (at power supply side) (For display and protection)		Displays the temperature and overheat protection.
52	NC	O	Not used		Output L fixed
53	AD_V	I	Detects BU voltage (For display)		Displays the voltage and condition.
54	NC	O	Not used		Output L fixed
55	AD_I	I	Detects primary current (For display)		Converts into the current and displays current value.
56	MUTE1	O	Mute control of the amplifier input stage		L: MUTE1 ON, H: MUTE1 OFF, Initial condition "L"
57	NC	O	Not used		
58~60	NC	O	Not used		Output L fixed
61	ATT1	O	Output signal level attenuation control		L: Output attenuation, Initial condition "L"
62	ATT2	O	Output signal level attenuation control		L: Output attenuation, Initial condition "L"
63	LIMIT	O	Limits the peak value of the D-class amplifier input signal	②	Clips the audio signal quickly with "H"
64	DC_DET	I	Output DC OFFSET voltage detection		Enters into the voltage error protection operations.

Truth value table

① FAN (Pin 5)

Calculated temperature based on the detected voltage at TMP_1 (pin 31)		Note
Lower than 35°C	Remains as L	In the case of "H" output, it recovers to "L" when the temperature decreases to 30°C.
35°C or higher	H output	

② LIMIT (Pin 63)

Voltage detected at IMP_DET (pin 49)		Note
Lower than 3.8V	Remains as L	Recovers by P-CON OFF or RST.
3.8V or higher	H output	

TEST MODE

● How to enter the test mode and how to clear the test mode

• How to enter

In the backup connection condition (when the battery is being connected), turn ON the P_CON while keep pushing the rotary push key.

• How to clear

P_CON OFF or reset to clear the mode. (Clear the mode even in case of the protection.)

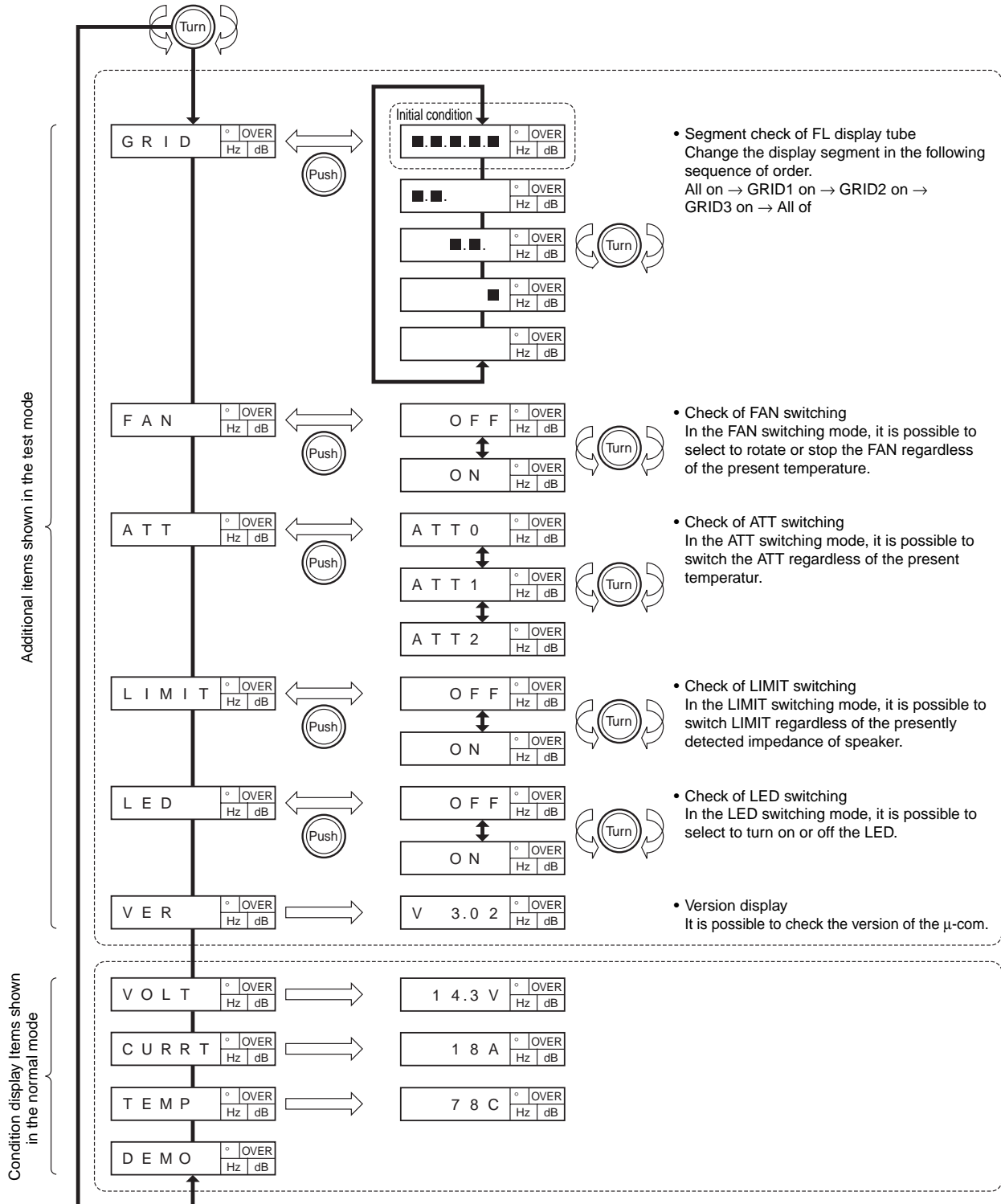
* Do not clear the mode if the protection recovers automatically.

● Items in the test mode and test operations

• INFORMATION display (Display of conditions)

In the test mode, the following items can be checked in addition to the normal INFORMATION display.

Each item can be selected with the rotary encoder and the settings can be changed with the push key.



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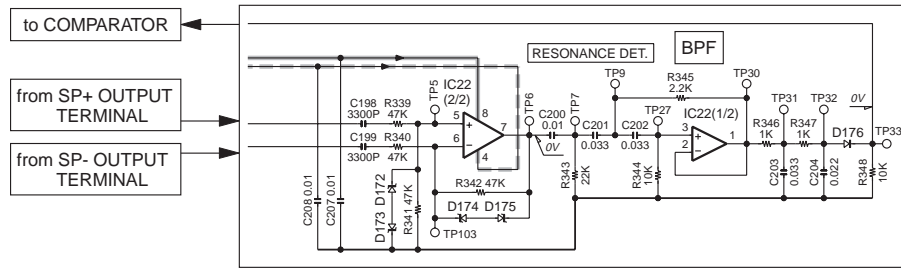
CIRCUIT DESCRIPTION

● Short detection circuit between SP+ and SP- terminals

If the SP+ and SP- terminals are shorted in the vicinity of the terminals, the self oscillation occurs in the D-class amplifier. The oscillation in opposite phase is caused between the + and - terminals of the BTL, and this oscillation is applied to the differential amplifier, IC22 (2/2) to limit the amplitude with the zener diodes such that the voltage does not exceed the withstand voltage.

The output from pin 7 of IC22 is rectified through the band pass filter whose center frequency is about 3kHz.

The DC voltage generated after the rectification is applied to the comparator, (IC6 (2/2)) and generates "L" when the voltage exceeds the preset threshold.



● Power supply circuit for FL

• V-FL

V-FL is the power supply for grid of FL. D48 is used to select either the battery or +15V power supply that has higher voltage.

The power supply voltage is set to constant 13V in D49. The power is turned ON/OFF with Q54 and is applied to FL driver.

• FIL+

Power is supplied by the battery and the voltage is set to 2.3V in D49 so that it is applied to the filament of FL.

The power is turned ON/OFF in Q48 in response to the FL-ON signal from the μ -com.

● Ground fault detection circuit

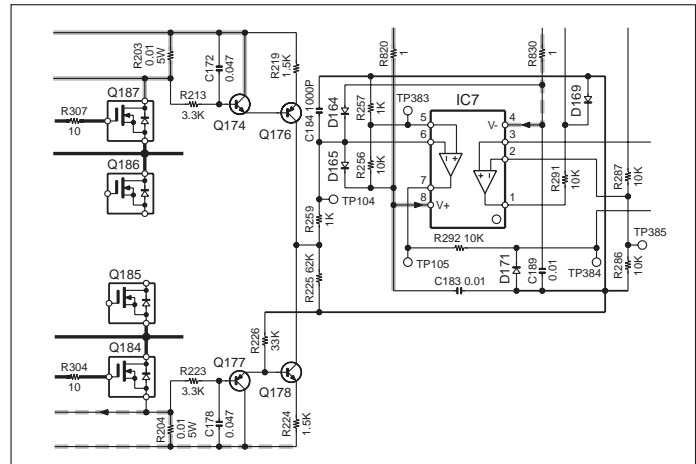
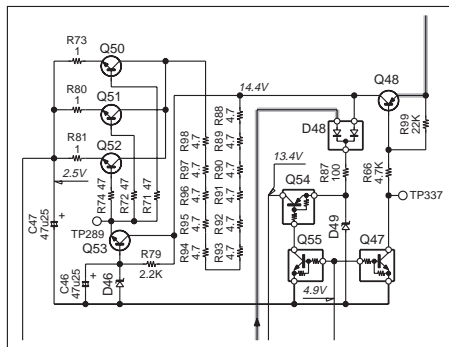
When SP+ or SP- output terminal is shorted to the ground, the current running in the +B power supply and that in the -B power supply are unbalanced.

The current unbalance (\pm) is measured by R203 and R204 and the currents are mixed in R225.

When the currents become out of balance due to the above shorting to the ground, the voltage is caused across R225.

When this voltage exceeds the threshold decided by R256 and R257, the "L" output is generated at pin 7 of IC7.

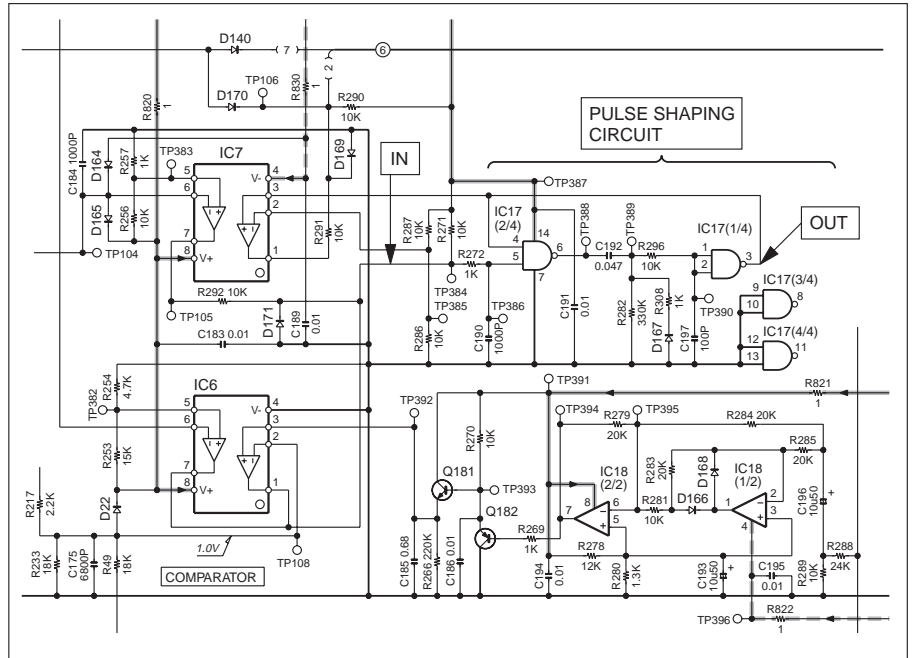
As a result, the over current protection operation is activated.



CIRCUIT DESCRIPTION

● Pulse shaping circuit

When either output from the ASO detection (IC6-pin 1), ground fault detection (IC7-pin 7) or short detection (IC6-pin 7) is "L", the pulse with a constant width of about 10msec is generated even if the input pulse width is small. The input to the pulse shaping circuit is pin 5 of IC17 and the output from the circuit is pin 3 of IC17.

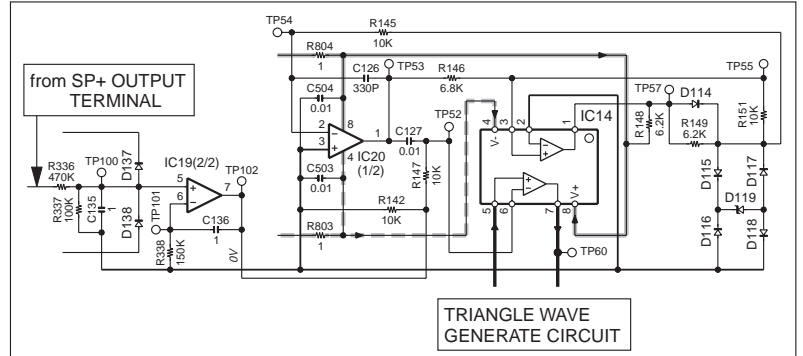


● Servo circuit

Amplifies DC offset voltage that is output to SP+ terminal in IC19 (2/2).

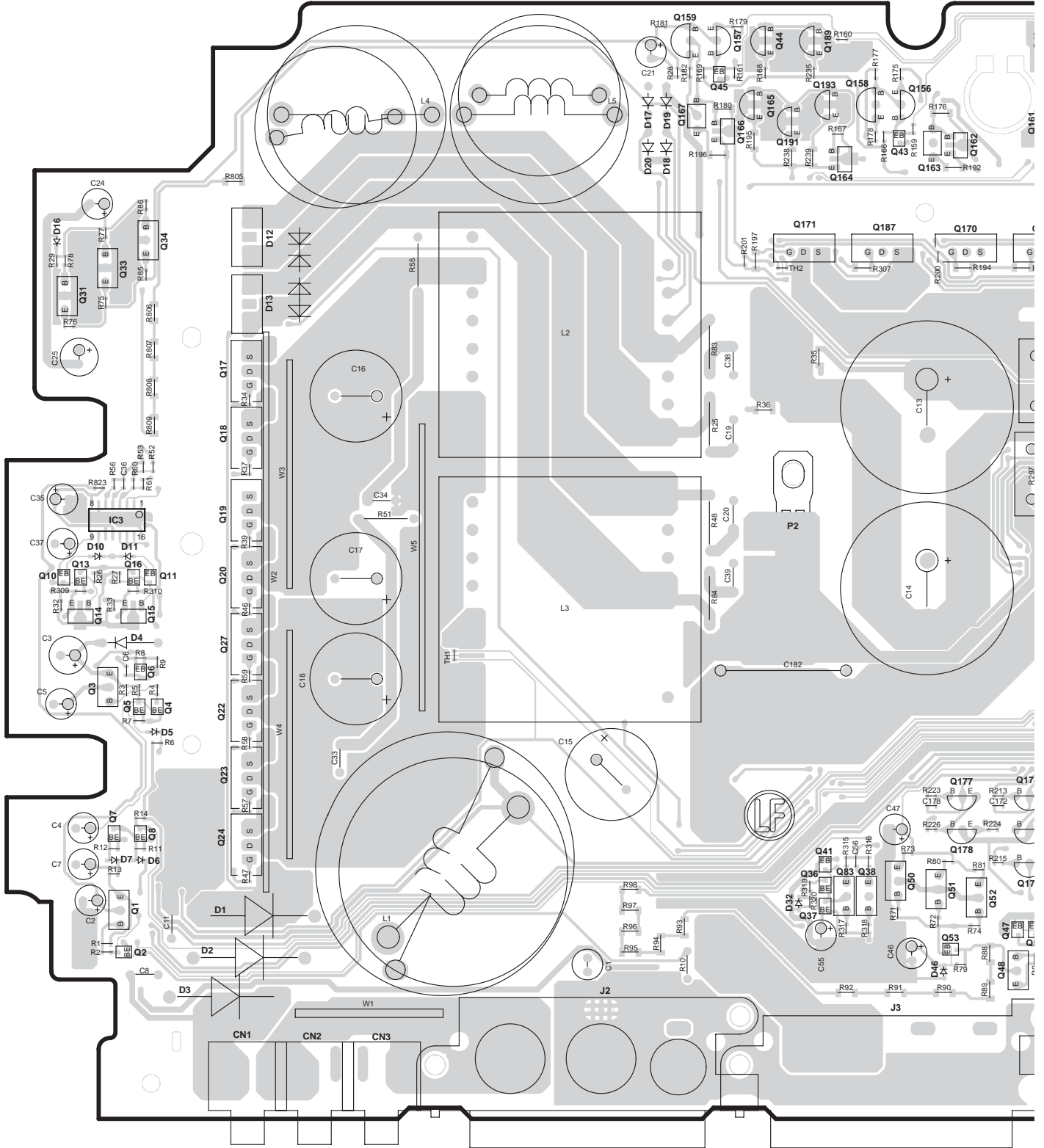
Feeds back the output from pin 7 of IC19 to the triangular wave generation circuit.

Corrects DC offset voltage at SP+ terminal towards 0V by incorporating the feedback in the triangular waves that are applied at pin 6 of IC14.

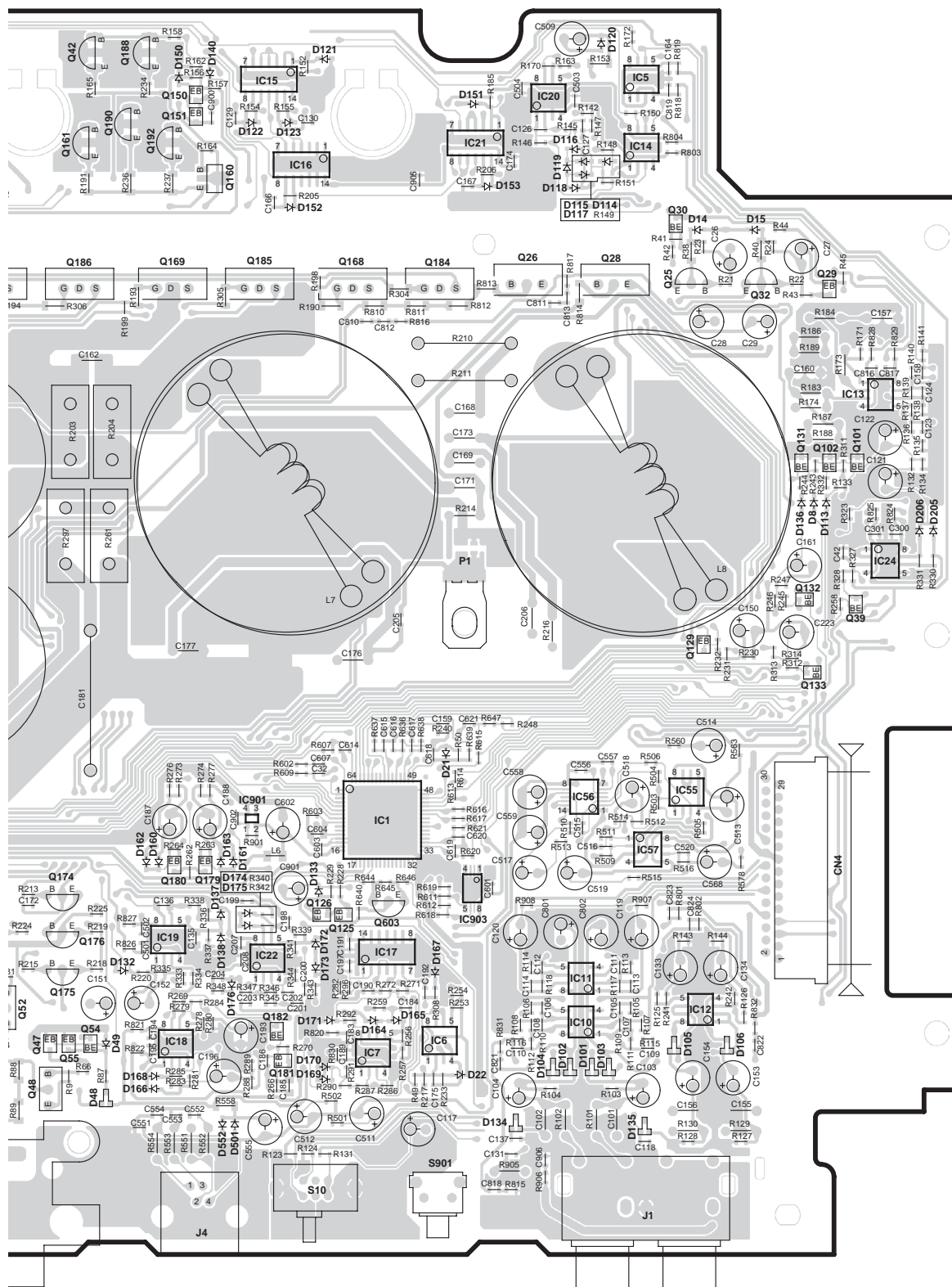


KAC-PS1D/X1R PC BOARD (COMPONENT SIDE VIEW)

AUDIO UNIT X09-8560-10 (J76-0345-01)



KAC-PS1D/X1R



X09-8560-10

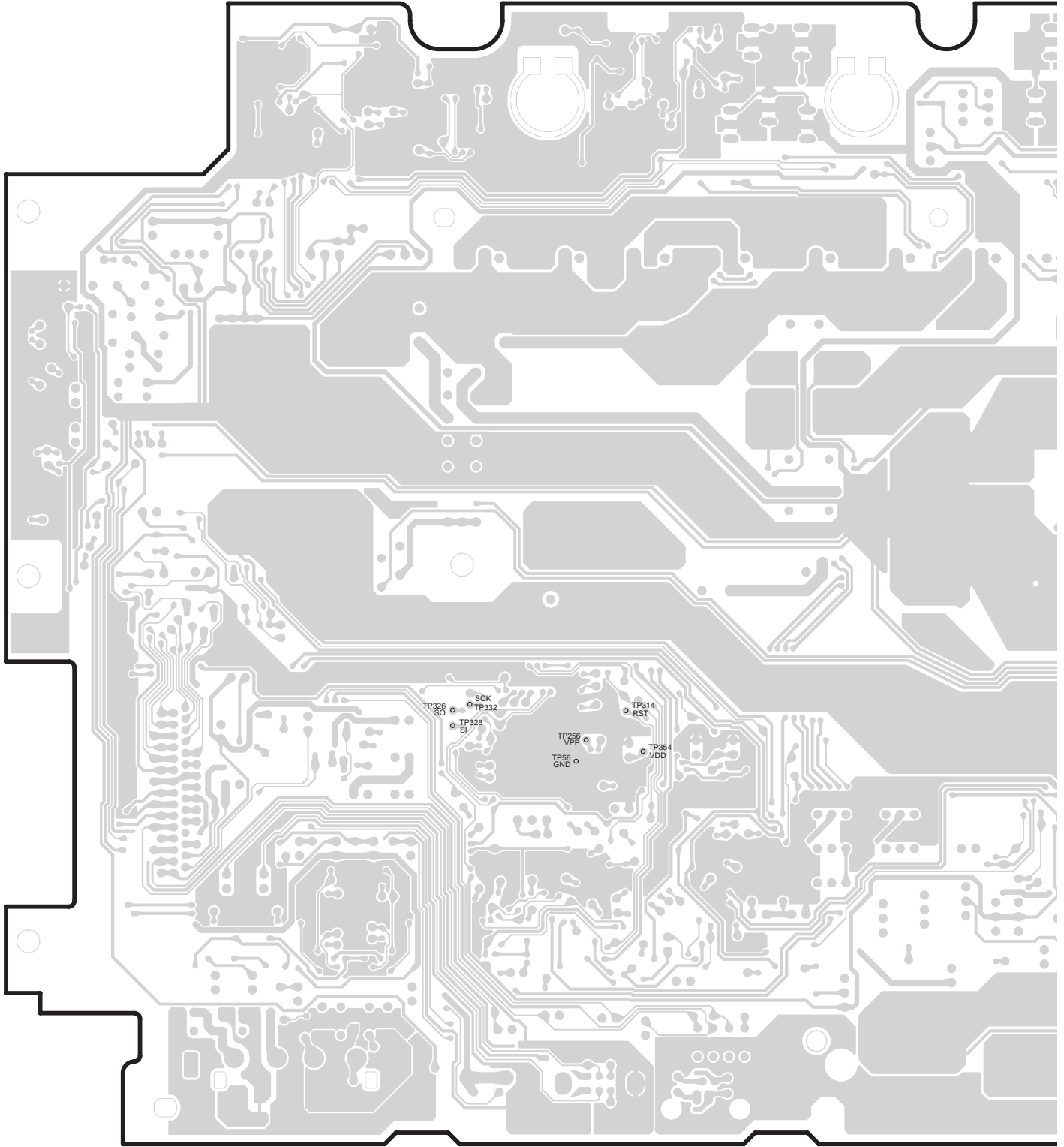
Ref. No.	Address	Ref. No.	Address
IC1	5G	Q43	2E
IC3	4A	Q44	2D
IC5	2H	Q45	2D
IC6	6G	Q47	6E
IC7	6G	Q48	6E
IC10	5H	Q50	5E
IC11	5H	Q51	5E
IC12	5H	Q52	5E
IC13	3I	Q53	6E
IC14	2H	Q54	5F
IC15	2G	Q55	6F
IC16	2G	Q83	5E
IC17	5G	Q101	3I
IC18	6F	Q102	3I
IC19	5F	Q125	5G
IC20	2H	Q126	5G
IC21	2G	Q129	4H
IC22	5G	Q131	3I
IC24	4I	Q132	4I
IC55	5H	Q133	4I
IC56	5H	Q150	2F
IC57	5H	Q151	2F
Q1	5A	Q156	2E
Q2	6A	Q157	2D
Q3	4A	Q158	2E
Q4	5A	Q159	1D
Q5	5A	Q160	2F
Q6	4A	Q161	2F
Q7	5A	Q162	2E
Q8	5A	Q163	2E
Q10	4A	Q164	2E
Q11	4A	Q165	2D
Q13	4A	Q166	2D
Q14	4A	Q167	2D
Q15	4A	Q168	2G
Q16	4A	Q169	2F
Q17	3B	Q170	2E
Q18	3B	Q171	2D
Q19	4B	Q174	5F
Q20	4B	Q175	5F
Q22	5B	Q176	5F
Q23	5B	Q177	5E
Q24	5B	Q178	5E
Q25	2H	Q179	5F
Q26	2H	Q180	5F
Q27	4B	Q181	6G
Q28	2H	Q182	5G
Q29	2I	Q184	2G
Q30	2H	Q185	2G
Q31	3A	Q186	2F
Q32	2I	Q187	2E
Q33	3A	Q188	2F
Q34	2A	Q189	2E
Q36	5D	Q190	2F
Q37	5D	Q191	2D
Q38	5E	Q192	2F
Q39	4I	Q193	2E
Q41	5E	Q603	5G
Q42	2F		

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

KAC-PS1D/X1R

PC BOARD (FOIL SIDE VIEW)

AUDIO UNIT X09-8560-10 (J76-0345-01)



1

2

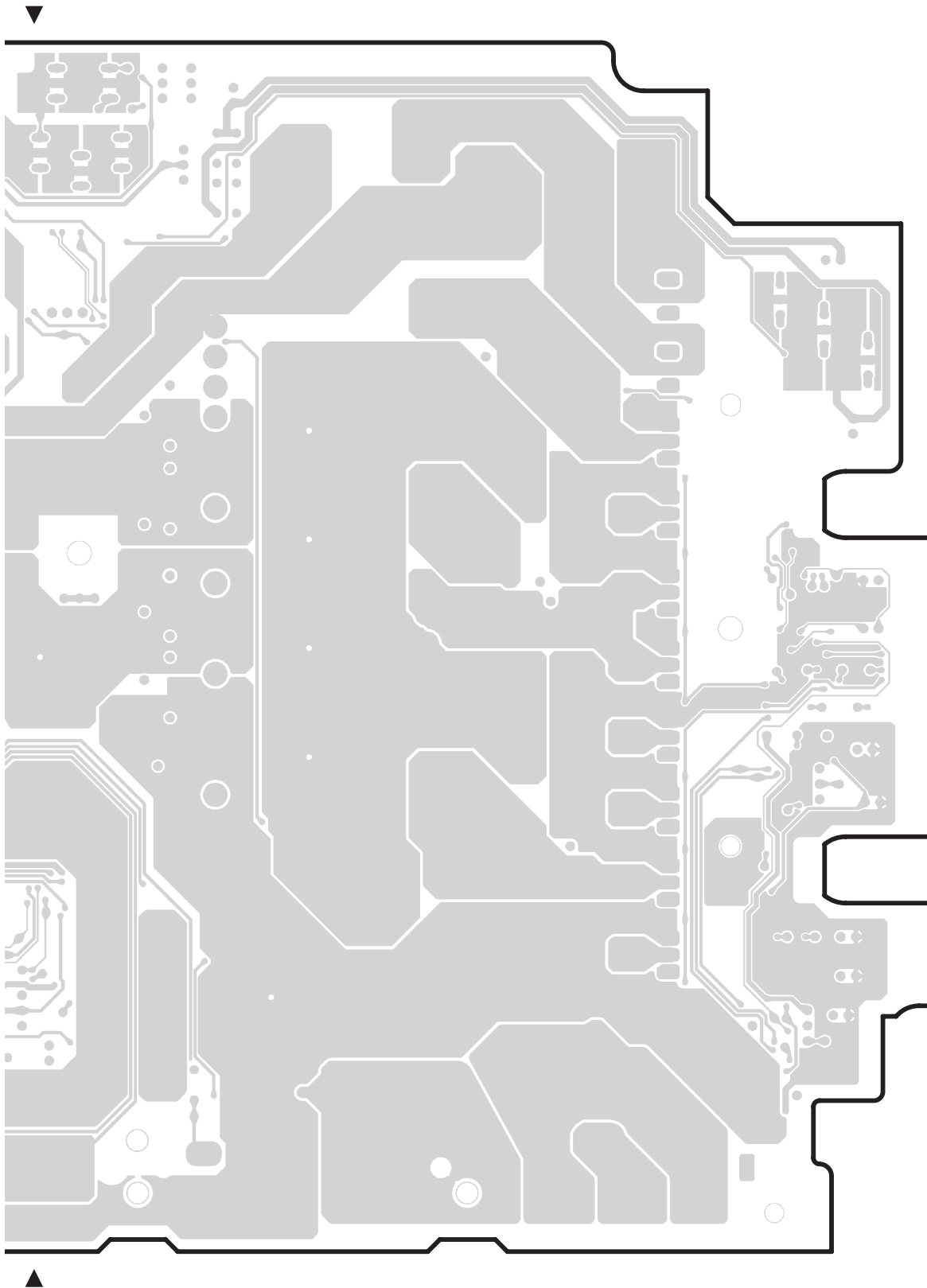
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5

6

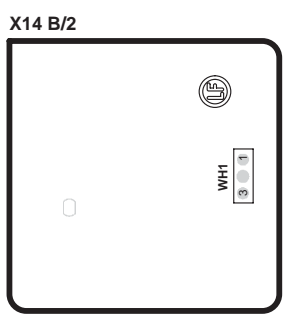
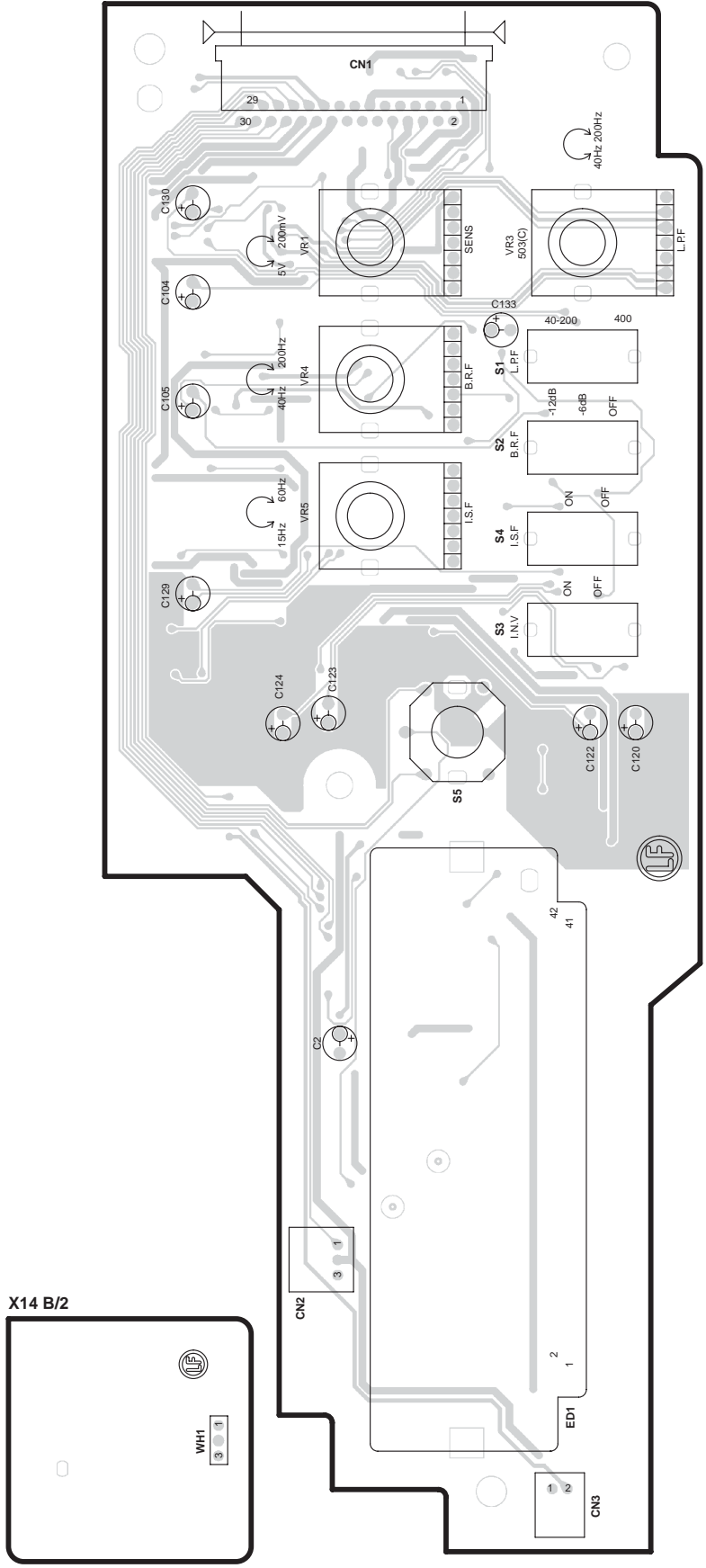
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Refer to the schematic diagram for the values of resistors and capacitors.

KAC-PS1D/X1R PC BOARD (COMPONENT SIDE VIEW)

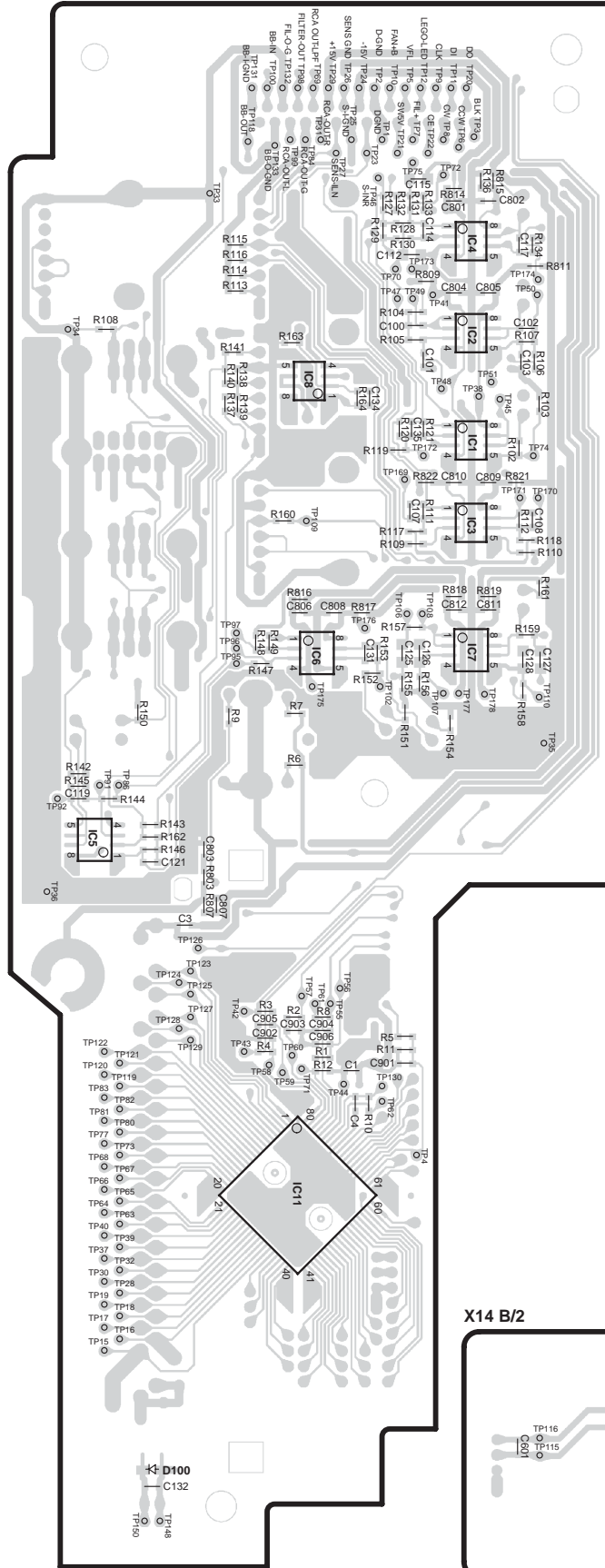
PREAMPLIFIER UNIT X08-4310-10 A/2 (J76-0350-01)



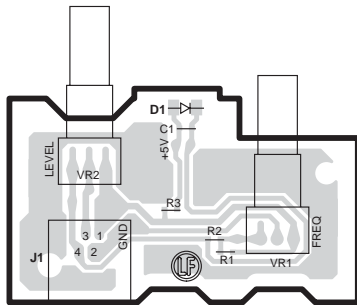
Refer to the schematic diagram for the values of resistors and capacitors.

PC BOARD (FOIL SIDE VIEW)

PREAMPLIFIER UNIT X08-4310-10 A/2 (J76-0350-01)



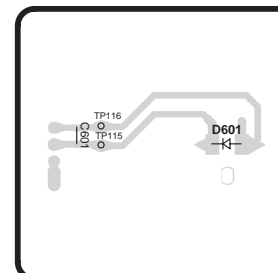
SWITCH UNIT (REMOTE CONTROL) X16-6000-10 (J76-0408-01)



X08-4310-10

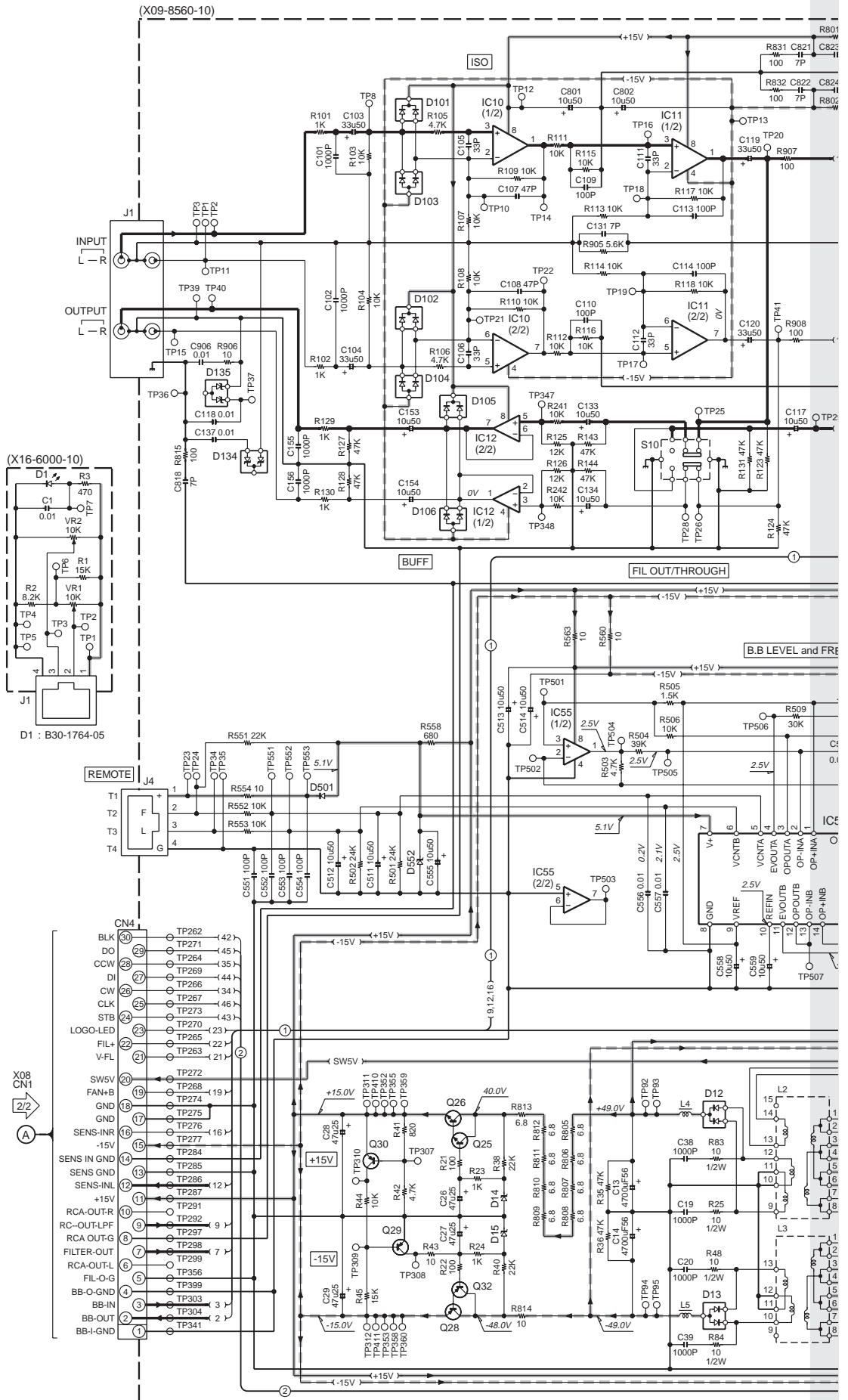
Ref. No.	Address
IC1	3AC
IC2	3AC
IC3	3AC
IC4	2AC
IC5	4AA
IC6	4AB
IC7	4AC
IC8	3AB
IC11	6AB

X14 B/2

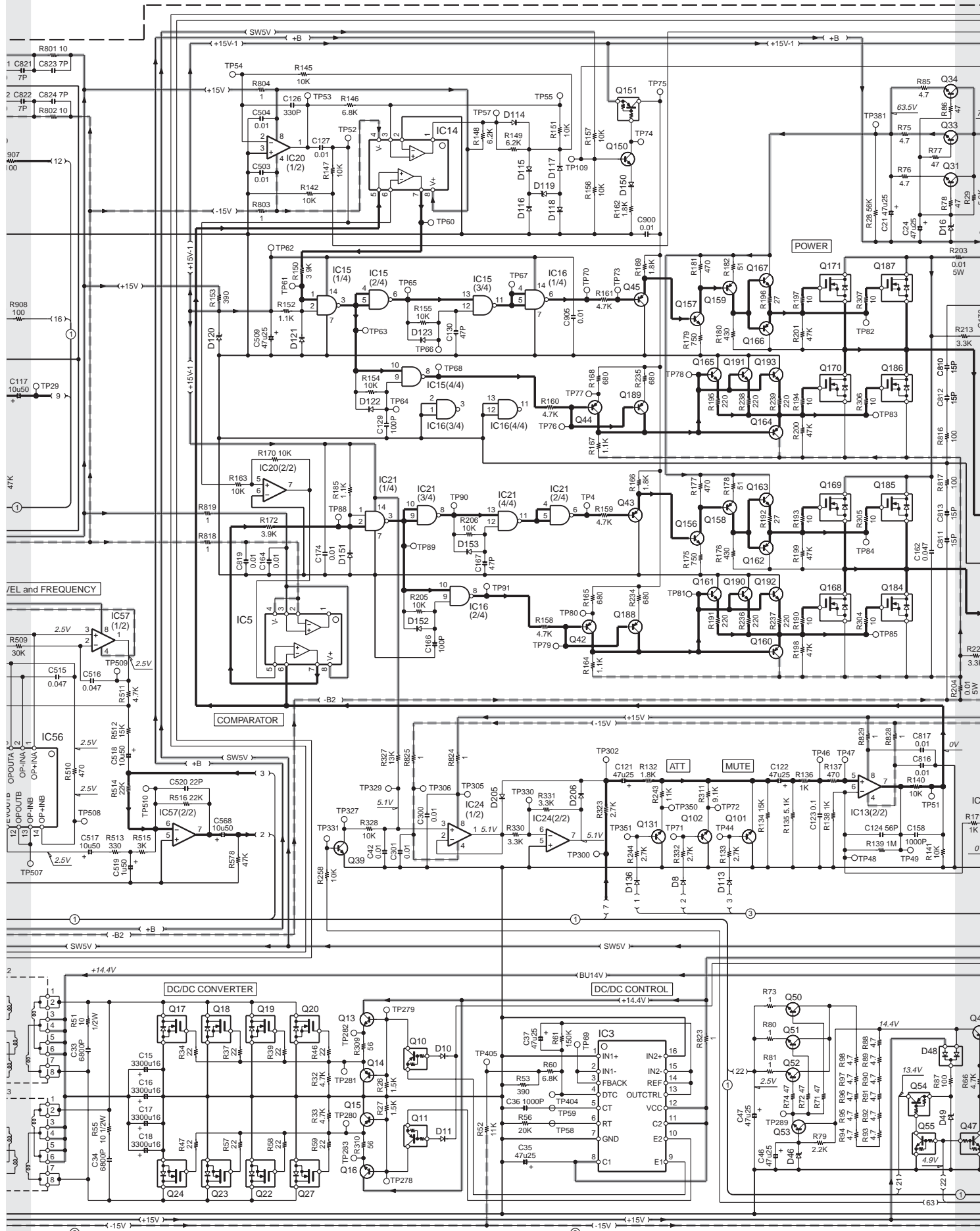


Refer to the schematic diagram for the values of resistors and capacitors.

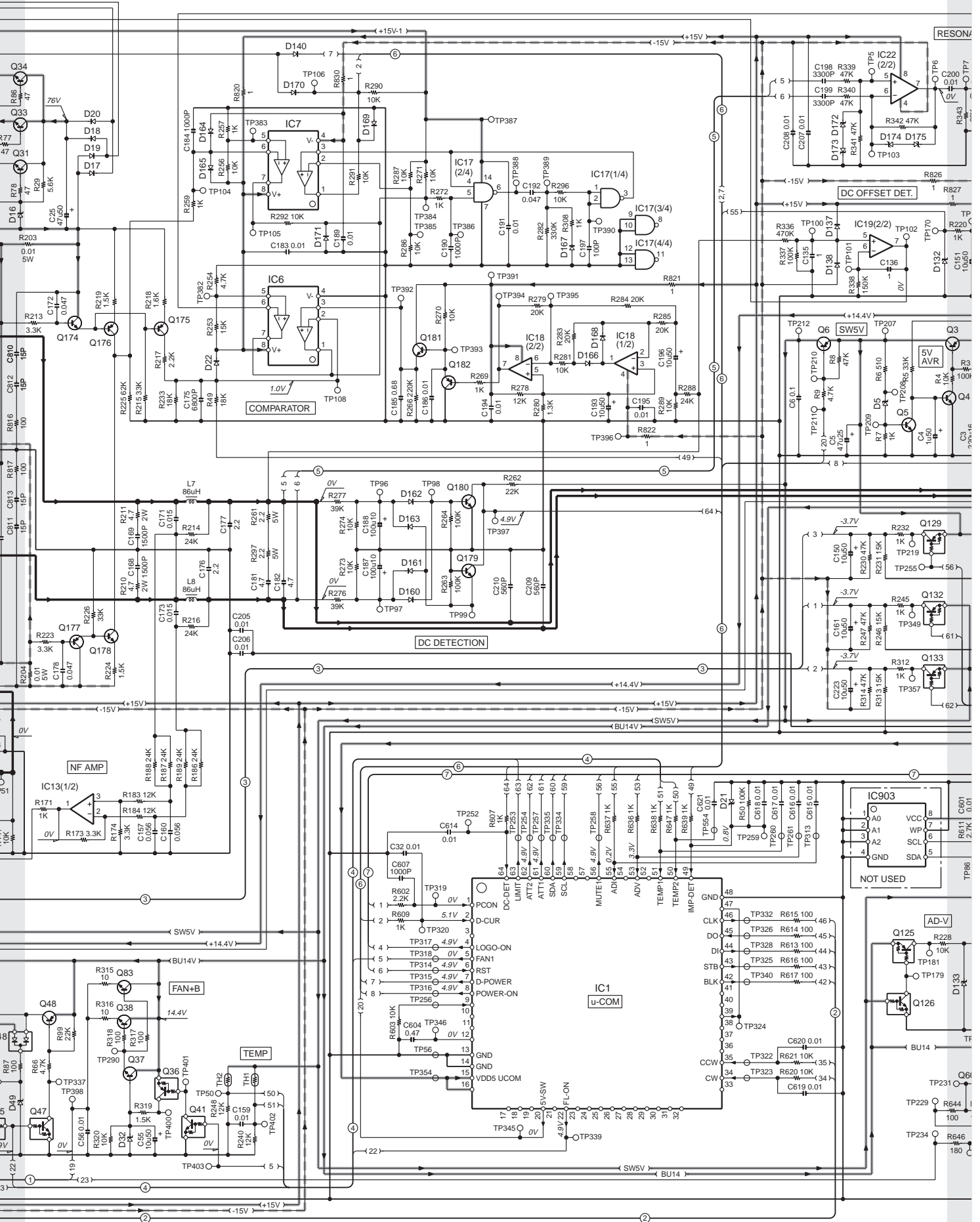
KAC-PS1D/X1R

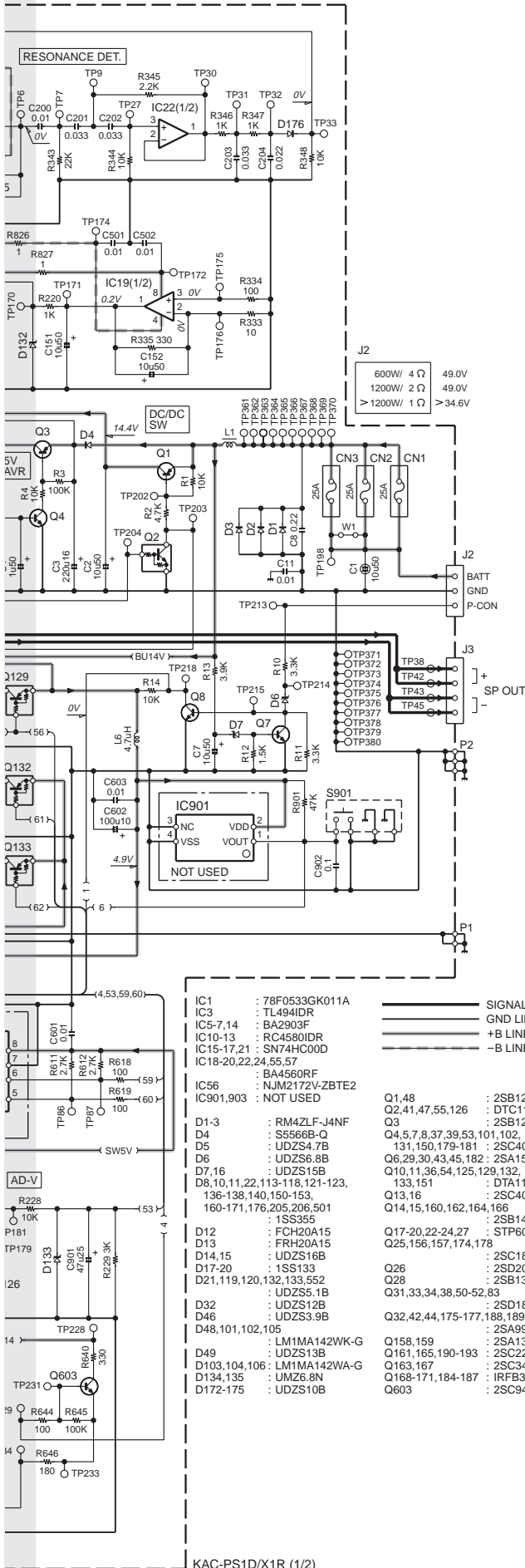


KAC-PS1D/X1R

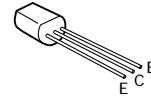


KAC-PS1D/X1R





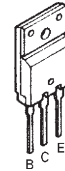
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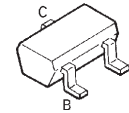
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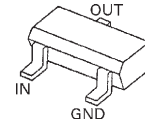
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DTC114EUA

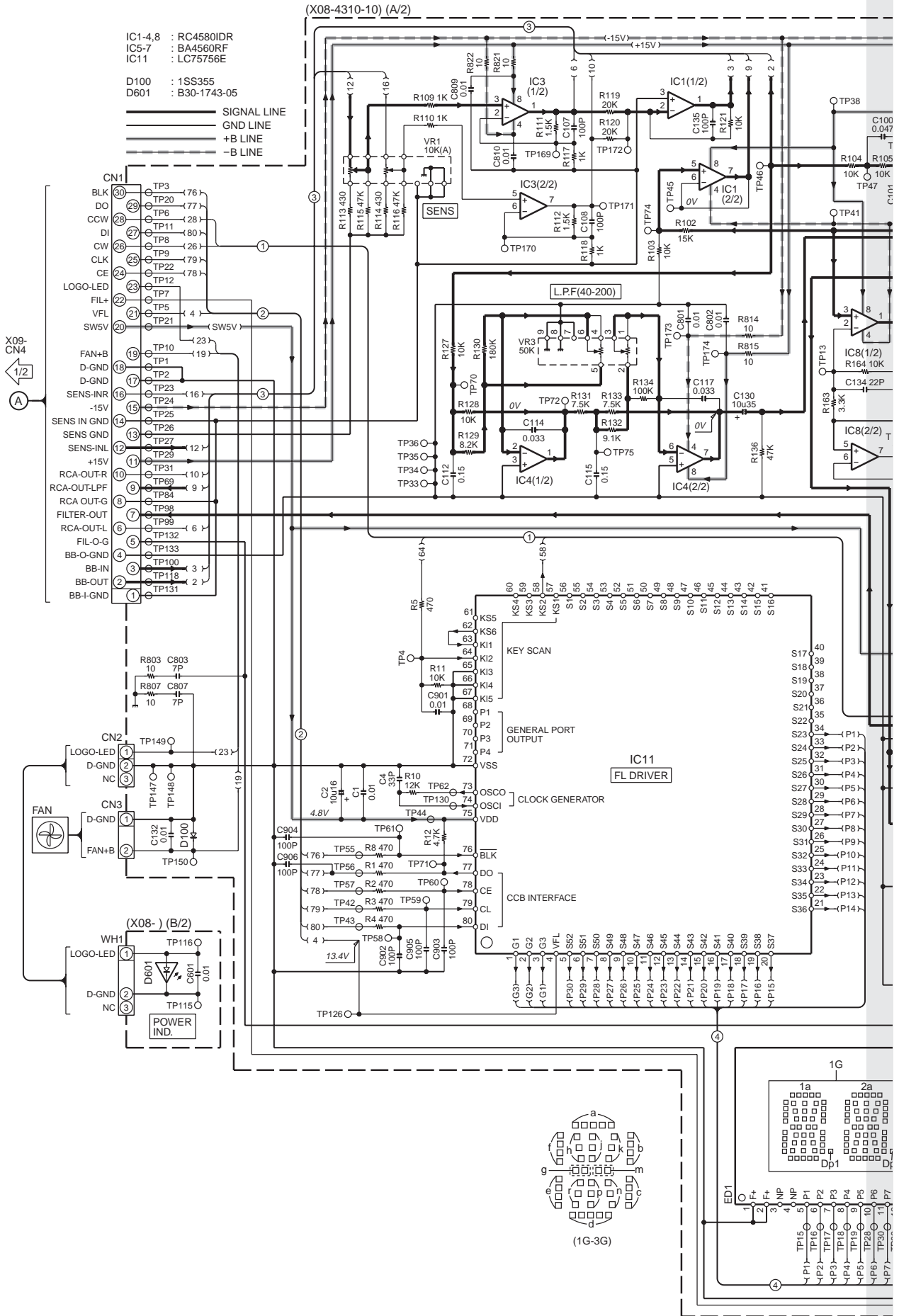


CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).

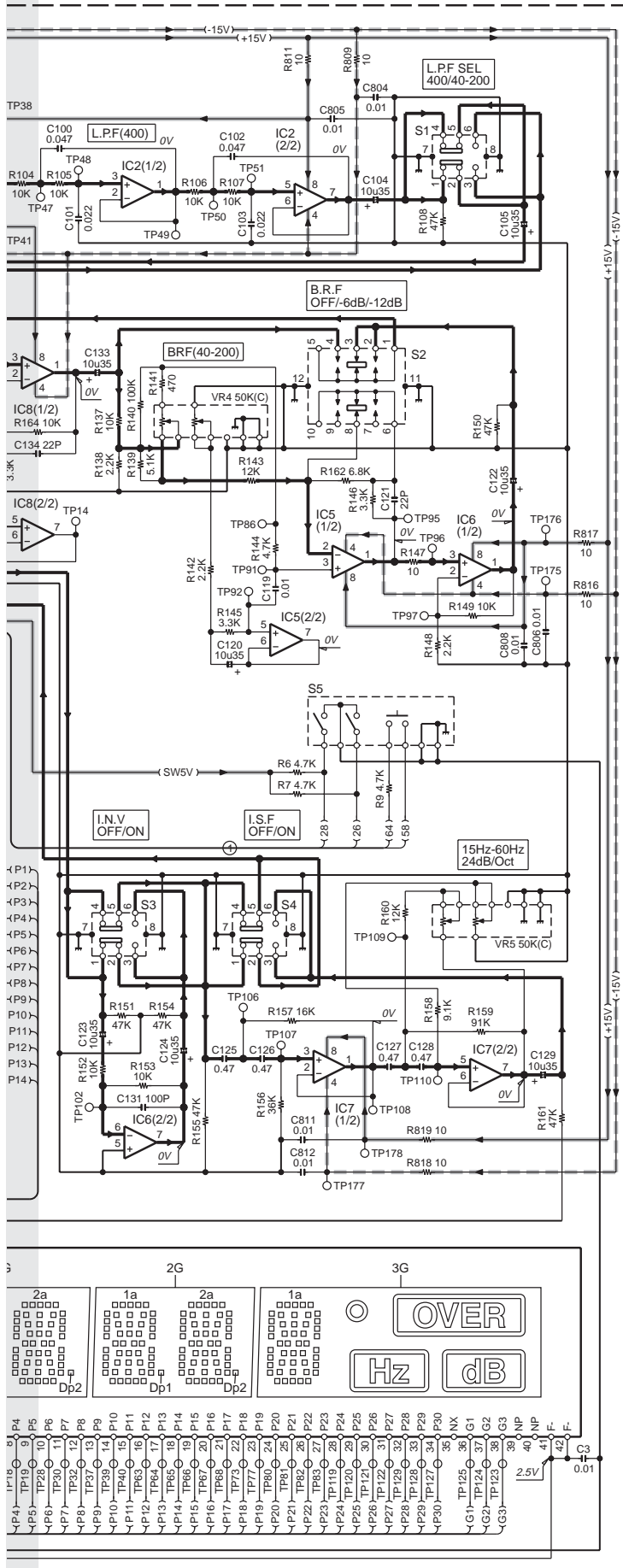
⚠ Indicates safety critical components. To reduce the risk of electric shock, leakage-current or resistance measurements shall be carried out (exposed parts are acceptably insulated from the supply circuit) before the appliance is returned to the customer.

- DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

KAC-PS1D/X1R



KAC-PS1D/X1R



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.

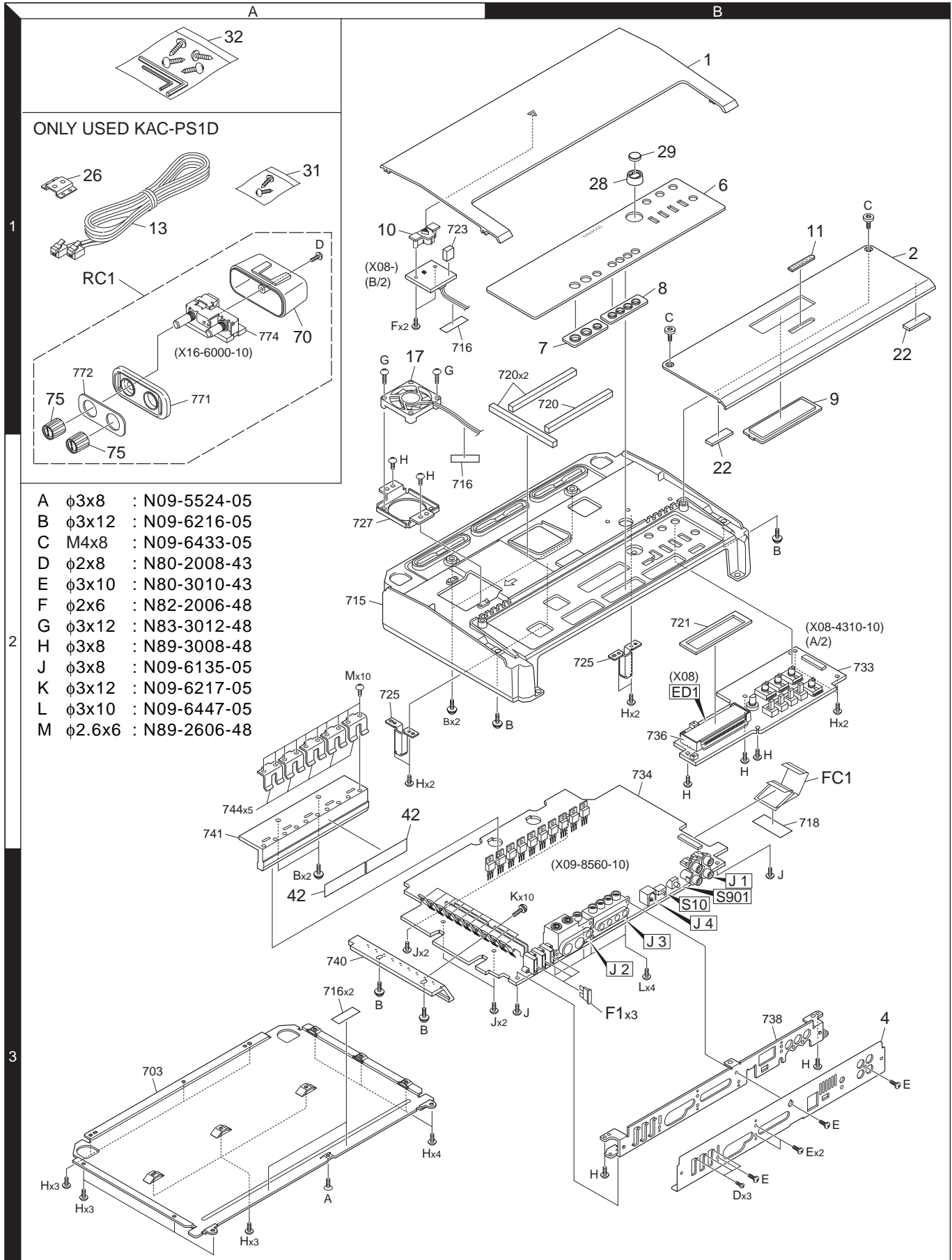
• DC voltages are as measured with a high impedance voltmeter. Values may vary slightly due to variations between individual instruments or/and units.

ANODE CONNECTION

PIN NAME	1G	2G	3G
P1	Dp2	Dp2	—
P2	Dp1	Dp1	—
P3	2d	2d	—
P4	1d	1d	1d
P5	2c	2c	—
P6	1c	1c	1c
P7	2n	2n	—
P8	1n	1n	1n
P9	2r	2r	—
P10	1r	1r	1r
P11	2p	2p	—
P12	1p	1p	1p
P13	2e	2e	—
P14	1e	1e	1e
P15	2m	2m	—
P16	1m	1m	1m
P17	2g	2g	Hz
P18	1g	1g	1g
P19	2b	2b	(Hz)
P20	1b	1b	1b
P21	2k	2k	dB
P22	1k	1k	1k
P23	2h	2h	(dB)
P24	1h	1h	1h
P25	2j	2j	○
P26	1j	1j	1j
P27	2f	2f	OVER
P28	1f	1f	1f
P29	2a	2a	(OVER)
P30	1a	1a	1a

KAC-PS1D/X1R

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.	Add	New	Parts No.	Description	Destination
KAC-PS1D/X1R					
1	1B	*	A21-6574-11	DRESSING PANEL	K
2	1B	*	A21-6576-01	DRESSING PANEL	E1
2	1B	*	A21-6577-01	DRESSING PANEL	
PA1	3B	*	A64-4088-02	PANEL	
6	1B	*	B03-5090-12	DRESSING PLATE	K
6	1B	*	B03-5091-12	DRESSING PLATE	E1
7	1B	*	B07-3198-04	ESCUTCHEON	
8	1B	*	B07-3199-04	ESCUTCHEON	
9	1B	*	B10-4939-13	FRONT GLASS	
10	1A	*	B19-2423-03	LIGHTING BOARD	
11	1B	*	B43-0336-04	BADGE	
-		*	B64-3522-00	INSTRUCTION MANUAL (ENG.FRE.SPA)	
-		*	B64-3523-00	INSTRUCTION MANUAL (GER.DUT.)	E1
-		*	B64-3523-00	INSTRUCTION MANUAL (ITA.POR.)	E1
13	1A	*	E30-6240-15	MODULAR CABLE	E1
FC1	2B	*	E39-0887-05	FLAT CABLE	
17	1A		F09-1846-15	FAN	
△ F1	3B		F52-0014-05	FUSE (BLADE TYPE) 25A	
22	1B	*	G11-3716-04	CUSHION	
-		*	H54-3950-03	ITEM CARTON CASE	K
-		*	H54-3951-03	ITEM CARTON CASE	E1
26	1A		J22-0301-14	MOUNTING HARDWARE	E1
28	1B	*	K28-0222-04	KNOB ASSY	
29	1B	*	K28-0223-04	KEY TOP	
31	1A		N99-1766-05	SCREW SET	E1
32	1A	*	N99-1795-05	SCREW & WRENCH KEY SET	
A	3A		N09-5524-05	SET SCREW (3X8)	
B	2A		N09-6216-05	TAPTITE SCREW (3X12)	
C	1B	*	N09-6433-05	DRESSED SCREW (M4X8)	
D	3B		N80-2008-43	PAN HEAD TAPTITE SCREW	
E	3B		N80-3010-43	PAN HEAD TAPTITE SCREW	
F	1A		N82-2006-48	BINDING HEAD TAPTITE SCREW	
G	1A		N83-3012-48	PAN HEAD TAPTITE SCREW	
H	3A		N89-3008-48	BINDING HEAD TAPTITE SCREW	
RC1	1A	*	X16-6000-10	SWITCH UNIT	E1
PREAMPLIFIER UNIT (X08-4310-10)					
D601			B30-1743-05	LED (RED LED)	
C1			CK73GB1H103K	CHIP C 0.010UF K	
C2			CD04AT1C100M	ELECTRO 10UF 16WV	
C3			CK73GB1H103K	CHIP C 0.010UF K	
C4			CC73GCH1H330J	CHIP C 33PF J	
C100			CK73GB1H473K	CHIP C 0.047UF K	
C101			CK73GB1H223K	CHIP C 0.022UF K	
C102			CK73GB1H473K	CHIP C 0.047UF K	
C103			CK73GB1H223K	CHIP C 0.022UF K	
C104,105			CD04AS1V100M	ELECTRO 10UF 35WV	
C107,108			CC73GCH1H101J	CHIP C 100PF J	
C112			CK73FB1E154K	CHIP C 0.15UF K	

Ref. No.	Add	New	Parts No.	Description	Destination
C114			CK73GB1H333K	CHIP C 0.033UF K	
C115			CK73FB1E154K	CHIP C 0.15UF K	
C117			CK73GB1H333K	CHIP C 0.033UF K	
C119			CK73GB1H103K	CHIP C 0.010UF K	
C120			CD04AS1V100M	ELECTRO 10UF 35WV	
C121			CC73GCH1H220J	CHIP C 22PF J	
C122-124			CD04AS1V100M	ELECTRO 10UF 35WV	
C125-128			CK73FB1E474K	CHIP C 0.47UF K	
C129,130			CD04AS1V100M	ELECTRO 10UF 35WV	
C131			CC73GCH1H101J	CHIP C 100PF J	
C132			CK73GB1H103K	CHIP C 0.010UF K	
C133			CD04AS1V100M	ELECTRO 10UF 35WV	
C134			CC73GCH1H220J	CHIP C 22PF J	
C135			CC73GCH1H101J	CHIP C 100PF J	
C601			CK73GB1H103K	CHIP C 0.010UF K	
C801,802			CK73GB1H103K	CHIP C 0.010UF K	
C803			CC73GCH1H070D	CHIP C 7.0PF D	
C804-806			CK73GB1H103K	CHIP C 0.010UF K	
C807			CC73GCH1H070D	CHIP C 7.0PF D	
C808-812			CK73GB1H103K	CHIP C 0.010UF K	
C901			CK73GB1H103K	CHIP C 0.010UF K	
C902-906			CC73GCH1H101J	CHIP C 100PF J	
CN1			E41-2203-05	FLAT CABLE CONNECTOR	
CN2			E41-1700-05	PIN ASSY	
CN3			E41-1699-05	PIN ASSY	
WH1		*	E39-0921-05	WIRING HARNESS	
R1-5			RK73GB2A471J	CHIP R 470 J 1/10W	
R6,7			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R8			RK73GB2A471J	CHIP R 470 J 1/10W	
R9			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R10			RK73GB2A123J	CHIP R 12K J 1/10W	
R11			RK73GB2A103J	CHIP R 10K J 1/10W	
R12			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R102			RK73GB2A153J	CHIP R 15K J 1/10W	
R103-107			RK73GB2A103J	CHIP R 10K J 1/10W	
R108			RK73GB2A473J	CHIP R 47K J 1/10W	
R109,110			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R111,112			RK73GB2A152J	CHIP R 1.5K J 1/10W	
R113,114			RK73GB2A431J	CHIP R 430 J 1/10W	
R115,116			RK73GB2A473J	CHIP R 47K J 1/10W	
R117,118			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R119,120			RK73GB2A203J	CHIP R 20K J 1/10W	
R121			RK73GB2A103J	CHIP R 10K J 1/10W	
R127,128			RK73GB2A103J	CHIP R 10K J 1/10W	
R129			RK73GB2A822J	CHIP R 8.2K J 1/10W	
R130			RK73GB2A184J	CHIP R 180K J 1/10W	
R131			RK73GB2A752J	CHIP R 7.5K J 1/10W	
R132			RK73GB2A912J	CHIP R 9.1K J 1/10W	
R133			RK73GB2A752J	CHIP R 7.5K J 1/10W	
R134			RK73GB2A104J	CHIP R 100K J 1/10W	
R136			RK73GB2A473J	CHIP R 47K J 1/10W	
R137			RK73GB2A103J	CHIP R 10K J 1/10W	
R138			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R139			RK73GB2A512J	CHIP R 5.1K J 1/10W	

E1 : KAC-PS1D (Europe) K : KAC-X1R (North America)

△ Indicates safety critical components.

KAC-PS1D/X1R

PARTS LIST

PREAMPLIFIER UNIT (X08-4310-10)

Ref. No.	Add	New	Parts No.	Description	Destination
R140			RK73GB2A104J	CHIP R 100K J 1/10W	
R141			RK73GB2A471J	CHIP R 470 J 1/10W	
R142			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R143			RK73GB2A123J	CHIP R 12K J 1/10W	
R144			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R145,146			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R147			RK73GB2A100J	CHIP R 10 J 1/10W	
R148			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R149			RK73GB2A103J	CHIP R 10K J 1/10W	
R150,151			RK73GB2A473J	CHIP R 47K J 1/10W	
R152,153			RK73GB2A103J	CHIP R 10K J 1/10W	
R154,155			RK73GB2A473J	CHIP R 47K J 1/10W	
R156			RK73GB2A363J	CHIP R 36K J 1/10W	
R157			RK73GB2A163J	CHIP R 16K J 1/10W	
R158			RK73GB2A912J	CHIP R 9.1K J 1/10W	
R159			RK73GB2A913J	CHIP R 91K J 1/10W	
R160			RK73GB2A123J	CHIP R 12K J 1/10W	
R161			RK73GB2A473J	CHIP R 47K J 1/10W	
R162			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R163			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R164			RK73GB2A103J	CHIP R 10K J 1/10W	
R803			RK73GB2A100J	CHIP R 10 J 1/10W	
R807			RK73GB2A100J	CHIP R 10 J 1/10W	
R809			RK73GB2A100J	CHIP R 10 J 1/10W	
R811			RK73GB2A100J	CHIP R 10 J 1/10W	
R814-819			RK73GB2A100J	CHIP R 10 J 1/10W	
R821,822			RK73GB2A100J	CHIP R 10 J 1/10W	
VR1			R31-0238-05	VARIABLE RESISTOR	
VR3-5			R31-0241-05	VARIABLE RESISTOR	
S1		*	S62-0879-05	SLIDE SWITCH	
S2		*	S62-0880-05	SLIDE SWITCH	
S3,4		*	S62-0879-05	SLIDE SWITCH	
S5			T99-0474-05	ROTARY ENCODER	
D100			1SS355	DIODE	
ED1		*	CNA-03SS10T	FLUORESCENT INDICATOR TUBE	
IC1-4			RC4580IDR	ANALOGUE IC	
IC5-7			BA4560RF	ANALOGUE IC	
IC8			RC4580IDR	ANALOGUE IC	
IC11		*	LC75756E	MOS-IC	
AUDIO UNIT (X09-8560-10)					
C1			CD04AU1H100M	NP ELEC 10UF 50WV	
C2			CD04BJ1H100M	ELECTRO 10UF 50WV	
C3			CD04AR1C221M	ELECTRO 220UF 16WV	
C4			CD04BJ1H010M	ELECTRO 1.0UF 50WV	
C5			CD04BJ1E470M	ELECTRO 47UF 25WV	
C6			CK73GB1H104K	CHIP C 0.10UF K	
C7			CD04BJ1H100M	ELECTRO 10UF 50WV	
C8			CQ93FMG1H224J	MYLAR 0.22UF J	
C11			CK45FB1H103K	CERAMIC 0.010UF K	
C13,14		*	C90-6838-05	ELECTRO 4700UF 56WV	
C15-18			C90-6816-05	ELECTRO 3300UF 16WV	
C19,20		*	C91-2293-05	MF-C 1000PF 200WV	
C21			CD04BJ1E470M	ELECTRO 47UF 25WV	

Ref. No.	Add	New	Parts No.	Description	Destination
C24			CD04BJ1E470M	ELECTRO 47UF 25WV	
C25			CD04BJ1H470M	ELECTRO 47UF 50WV	
C26-29			CD04BJ1E470M	ELECTRO 47UF 25WV	
C32			CK73GB1H103K	CHIP C 0.010UF K	
C33,34			CK45FB1H682K	CERAMIC 6800PF K	
C35			CD04BJ1E470M	ELECTRO 47UF 25WV	
C36			CK73GB1H102K	CHIP C 1000PF K	
C37			CD04BJ1E470M	ELECTRO 47UF 25WV	
C38,39		*	C91-2293-05	MF-C 1000PF 200WV	
C42			CK73GB1H103K	CHIP C 0.010UF K	
C46,47			CD04BJ1E470M	ELECTRO 47UF 25WV	
C55			CD04BJ1H100M	ELECTRO 10UF 50WV	
C56			CK73GB1H103K	CHIP C 0.010UF K	
C101,102			CK45FB1H102K	CERAMIC 1000PF K	
C103,104			CD04BJ1V330M	ELECTRO 33UF 35WV	
C105,106			CC73GCH1H330J	CHIP C 33PF J	
C107,108			CC73GCH1H470J	CHIP C 47PF J	
C109,110			CC73GCH1H101J	CHIP C 100PF J	
C111,112			CC73GCH1H330J	CHIP C 33PF J	
C113,114			CC73GCH1H101J	CHIP C 100PF J	
C117			CD04BJ1H100M	ELECTRO 10UF 50WV	
C118			CK73GB1H103K	CHIP C 0.010UF K	
C119,120			CD04BJ1V330M	ELECTRO 33UF 35WV	
C121,122			CD04BJ1E470M	ELECTRO 47UF 25WV	
C123			CK73GB1H104K	CHIP C 0.10UF K	
C124			CC73GCH1H560J	CHIP C 56PF J	
C126			CC73GCH1H331J	CHIP C 330PF J	
C127			CK73GB1H103K	CHIP C 0.010UF K	
C129			CC73GCH1H101J	CHIP C 100PF J	
C130			CC73GCH1H470J	CHIP C 47PF J	
C131			CC73GCH1H070D	CHIP C 7.0PF D	
C133,134			CD04BJ1H100M	ELECTRO 10UF 50WV	
C135,136			CK73FB1C105K	CHIP C 1.0UF K	
C137			CK73GB1H103K	CHIP C 0.010UF K	
C150-154			CD04BJ1H100M	ELECTRO 10UF 50WV	
C155,156			CK45FB1H102K	CERAMIC 1000PF K	
C157			CQ93FMG1H563J	MYLAR 0.056UF J	
C158			CK73GB1H102K	CHIP C 1000PF K	
C159			CK73GB1H103K	CHIP C 0.010UF K	
C160			CQ93FMG1H563J	MYLAR 0.056UF J	
C161			CD04BJ1H100M	ELECTRO 10UF 50WV	
C162		*	C91-2292-05	MF-C 0.47UF 200WV	
C164			CK73GB1H103K	CHIP C 0.010UF K	
C166			CC73GCH1H101J	CHIP C 100PF J	
C167			CC73GCH1H470J	CHIP C 47PF J	
C168,169		*	C91-2295-05	MF-C 1500PF 100WV	
C171			CF92FV1H153J	MF-C 0.015UF J	
C172			CK73GB1H473K	CHIP C 0.047UF K	
C173			CF92FV1H153J	MF-C 0.015UF J	
C174			CK73GB1H103K	CHIP C 0.010UF K	
C175			CK73GB1H682K	CHIP C 6800PF K	
C176,177		*	C91-2291-05	MF-C 2.2UF 100WV	
C178			CK73GB1H473K	CHIP C 0.047UF K	
C181,182		*	C91-2290-05	MF-C 4.7UF 250WV	
C183			CK73GB1H103K	CHIP C 0.010UF K	

E1 : KAC-PS1D (Europe) K : KAC-X1R (North America)

△ Indicates safety critical components.

PARTS LIST

AUDIO UNIT (X09-8560-10)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
C184			CK73GB1H102K	CHIP C 1000PF K		42	3A	*	F20-2410-04	INSULATING BOARD	
C185			CK73FB1C684K	CHIP C 0.68UF K		△ CN1-3			J13-0602-05	FUSE HOLDER	
C186			CK73GB1H103K	CHIP C 0.010UF K			L1	*	L33-2406-05	CHOKO COIL	
C187,188			CD04BJ1A101M	ELECTRO 100UF 10WV			L2	*	L19-0803-05	TRANSFORMER FOR CONVERTER	
C189			CK73GB1H103K	CHIP C 0.010UF K			L3	*	L19-0799-05	TRANSFORMER FOR CONVERTER	
C190			CK73GB1H102K	CHIP C 1000PF K			L4,5	*	L33-2409-05	CHOKO COIL	
C191			CK73GB1H103K	CHIP C 0.010UF K			L6	*	L41-4795-33	SMALL FIXED INDUCTOR (4.7U)	
C192			CK73GB1H473K	CHIP C 0.047UF K			L7,8	*	L33-2408-05	CHOKO COIL	
C193			CD04BJ1H100M	ELECTRO 10UF 50WV			E	3B	N80-3010-43	PAN HEAD TAPTITE SCREW	
C194,195			CK73GB1H103K	CHIP C 0.010UF K			J	3B	N09-6135-05	TAPTITE SCREW (3X8 B-T)	
C196			CD04BJ1H100M	ELECTRO 10UF 50WV			K	3B	N09-6217-05	TAPTITE SCREW (3X12)	
C197			CC73GCH1H101J	CHIP C 100PF J		L	3B	N09-6447-05	TAPTITE SCREW (3X10 P-T)		
C198,199			CK73GB1H332K	CHIP C 3300PF K		M	2A	N89-2606-48	BINDING HEAD TAPTITE SCREW		
C200			CK73GB1H103K	CHIP C 0.010UF K		R1		RK73GB2A103J	CHIP R 10K J 1/10W		
C201-203			CK73GB1H333K	CHIP C 0.033UF K		R2		RK73GB2A472J	CHIP R 4.7K J 1/10W		
C204			CK73GB1H223K	CHIP C 0.022UF K		R3		RK73GB2A104J	CHIP R 100K J 1/10W		
C205			CK73GB1H103K	CHIP C 0.010UF K		R4		RK73GB2A103J	CHIP R 10K J 1/10W		
C206			CQ93FMG1H103J	MYLAR 0.010UF J		R5		RK73GB2A333J	CHIP R 33K J 1/10W		
C207,208			CK73GB1H103K	CHIP C 0.010UF K		R6		RK73GB2A511J	CHIP R 510 J 1/10W		
C223			CD04BJ1H100M	ELECTRO 10UF 50WV		R7		RK73GB2A102J	CHIP R 1.0K J 1/10W		
C300,301			CK73GB1H103K	CHIP C 0.010UF K		R8		RK73GB2A473J	CHIP R 47K J 1/10W		
C501-504			CK73GB1H103K	CHIP C 0.010UF K		R9		RK73GB2A472J	CHIP R 4.7K J 1/10W		
C509			CD04BJ1E470M	ELECTRO 47UF 25WV		R10		RD14BB2C332J	RD 3.3K J 1/6W		
C511-514			CD04BJ1H100M	ELECTRO 10UF 50WV		R11		RK73GB2A332J	CHIP R 3.3K J 1/10W		
C515,516			CK73GB1H473K	CHIP C 0.047UF K		R12		RK73GB2A152J	CHIP R 1.5K J 1/10W		
C517,518			CD04BJ1H100M	ELECTRO 10UF 50WV		R13		RK73GB2A392J	CHIP R 3.9K J 1/10W		
C519			CD04BJ1H010M	ELECTRO 1.0UF 50WV		R14		RK73GB2A103J	CHIP R 10K J 1/10W		
C520			CC73GCH1H220J	CHIP C 22PF J		R21,22		RK73GB2A101J	CHIP R 100 J 1/10W		
C551-554			CC73GCH1H101J	CHIP C 100PF J		R23,24		RK73GB2A102J	CHIP R 1.0K J 1/10W		
C555			CD04BJ1H100M	ELECTRO 10UF 50WV		R25		RD14DB2H100J	SMALL-RD 10 J 1/2W		
C556,557			CK73GB1H103K	CHIP C 0.010UF K		R26,27		RK73GB2A152J	CHIP R 1.5K J 1/10W		
C558,559			CD04BJ1H100M	ELECTRO 10UF 50WV		R28		RK73GB2A563J	CHIP R 56K J 1/10W		
C568			CD04BJ1H100M	ELECTRO 10UF 50WV		R29		RK73GB2A562J	CHIP R 5.6K J 1/10W		
C601			CK73GB1H103K	CHIP C 0.010UF K		R32,33		RK73GB2A472J	CHIP R 4.7K J 1/10W		
C602			CD04BJ1A101M	ELECTRO 100UF 10WV		R34		RK73GB2A220J	CHIP R 22 J 1/10W		
C603			CK73GB1H103K	CHIP C 0.010UF K		R35,36		RK73EB2E473J	CHIP R 47K J 1/4W		
C604			CK73FB1E474K	CHIP C 0.47UF K		R37		RK73GB2A220J	CHIP R 22 J 1/10W		
C607			CK73GB1H102K	CHIP C 1000PF K		R38		RK73EB2E223J	CHIP R 22K J 1/4W		
C614-621			CK73GB1H103K	CHIP C 0.010UF K		R39		RK73GB2A220J	CHIP R 22 J 1/10W		
C801,802			CD04BJ1H100M	ELECTRO 10UF 50WV		R40		RK73EB2E223J	CHIP R 22K J 1/4W		
C810-813			CC73GCH1H150J	CHIP C 15PF J		R41		RK73GB2A821J	CHIP R 820 J 1/10W		
C816,817			CK73GB1H103K	CHIP C 0.010UF K		R42		RK73GB2A472J	CHIP R 4.7K J 1/10W		
C818			CC73GCH1H070D	CHIP C 7.0PF D		R43		RK73GB2A100J	CHIP R 10 J 1/10W		
C819			CK73GB1H103K	CHIP C 0.010UF K		R44		RK73GB2A103J	CHIP R 10K J 1/10W		
C821-824			CC73GCH1H070D	CHIP C 7.0PF D		R45		RK73GB2A153J	CHIP R 15K J 1/10W		
C900			CK73GB1H103K	CHIP C 0.010UF K		R46,47		RK73GB2A220J	CHIP R 22 J 1/10W		
C901			CD04BJ1E470M	ELECTRO 47UF 25WV		R48		RD14DB2H100J	SMALL-RD 10 J 1/2W		
C902			CK73GB1H104K	CHIP C 0.10UF K		R49		RK73GB2A223J	CHIP R 22K J 1/10W		
C905,906			CK73GB1H103K	CHIP C 0.010UF K		R50		RK73GB2A104J	CHIP R 100K J 1/10W		
CN4			E41-2203-05	FLAT CABLE CONNECTOR		R51		RD14DB2H100J	SMALL-RD 10 J 1/2W		
J1	*		E63-0948-05	PIN JACK		R52		RK73GB2A113J	CHIP R 11K J 1/10W		
J2	*		E70-0846-05	SCREW TERMINAL BOARD		R53		RK73GB2A391J	CHIP R 390 J 1/10W		
J3	*		E70-0847-05	SCREW TERMINAL BOARD		R55		RD14DB2H100J	SMALL-RD 10 J 1/2W		
J4	*		E58-0966-15	RECTANGULAR RECEPTACLE							

E1 : KAC-PS1D (Europe) K : KAC-X1R (North America)

△ Indicates safety critical components.

KAC-PS1D/X1R

PARTS LIST

AUDIO UNIT (X09-8560-10)

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
R56			RK73GB2A203J	CHIP R 20K J 1/10W	
R57-59			RK73GB2A220J	CHIP R 22 J 1/10W	
R60			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R61			RK73GB2A154J	CHIP R 150K J 1/10W	
R66			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R71,72			RK73GB2A470J	CHIP R 47 J 1/10W	
R73			RK73GB2A1R0J	CHIP R 1.0 J 1/10W	
R74			RK73GB2A470J	CHIP R 47 J 1/10W	
R75,76			RK73GB2A4R7J	CHIP R 4.7 J 1/10W	
R77,78			RK73GB2A470J	CHIP R 47 J 1/10W	
R79			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R80,81			RK73GB2A1R0J	CHIP R 1.0 J 1/10W	
R83,84			RD14DB2H100J	SMALL-RD 10 J 1/2W	
R85			RK73GB2A4R7J	CHIP R 4.7 J 1/10W	
R86			RK73GB2A470J	CHIP R 47 J 1/10W	
R87			RK73GB2A101J	CHIP R 100 J 1/10W	
R88-98			RK73EB2E4R7J	CHIP R 4.7 J 1/4W	
R99			RK73GB2A223J	CHIP R 22K J 1/10W	
R101,102			RD14BB2C102J	RD 1.0K J 1/6W	
R103,104			RK73GB2A103J	CHIP R 10K J 1/10W	
R105,106			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R107-110			RK73GB2A103J	CHIP R 10K J 1/10W	
R111-118			RK73GH2A103D	CHIP R 10K D 1/10W	
R123,124			RK73GB2A473J	CHIP R 47K J 1/10W	
R125,126			RK73GB2A123J	CHIP R 12K J 1/10W	
R127,128			RK73GB2A473J	CHIP R 47K J 1/10W	
R129,130			RD14BB2C102J	RD 1.0K J 1/6W	
R131			RK73GB2A473J	CHIP R 47K J 1/10W	
R132			RK73GB2A182J	CHIP R 1.8K J 1/10W	
R133			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R134			RK73GB2A153J	CHIP R 15K J 1/10W	
R135			RK73GB2A512J	CHIP R 5.1K J 1/10W	
R136			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R137			RK73GB2A471J	CHIP R 470 J 1/10W	
R138			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R139			RK73GB2A105J	CHIP R 1.0M J 1/10W	
R140-142			RK73GB2A103J	CHIP R 10K J 1/10W	
R143,144			RK73GB2A473J	CHIP R 47K J 1/10W	
R145			RK73GB2A103J	CHIP R 10K J 1/10W	
R146			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R147			RK73GB2A103J	CHIP R 10K J 1/10W	
R148,149			RK73GB2A622J	CHIP R 6.2K J 1/10W	
R150			RK73GB2A392J	CHIP R 3.9K J 1/10W	
R151			RK73GB2A103J	CHIP R 10K J 1/10W	
R152			RK73GB2A112J	CHIP R 1.1K J 1/10W	
R153			RK73EB2E391J	CHIP R 390 J 1/4W	
R154-157			RK73GB2A103J	CHIP R 10K J 1/10W	
R158-161			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R162			RK73GB2A182J	CHIP R 1.8K J 1/10W	
R163			RK73GB2A103J	CHIP R 10K J 1/10W	
R164			RK73GB2A112J	CHIP R 1.1K J 1/10W	
R165			RK73GB2A681J	CHIP R 680 J 1/10W	
R166			RK73GB2A182J	CHIP R 1.8K J 1/10W	
R167			RK73GB2A112J	CHIP R 1.1K J 1/10W	
R168			RK73GB2A681J	CHIP R 680 J 1/10W	

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
R169			RK73GB2A182J	CHIP R 1.8K J 1/10W	
R170			RK73GB2A103J	CHIP R 10K J 1/10W	
R171			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R172			RK73GB2A392J	CHIP R 3.9K J 1/10W	
R173,174			RD14BB2C332J	RD 3.3K J 1/6W	
R175			RK73GB2A751J	CHIP R 750 J 1/10W	
R176			RK73EB2E431J	CHIP R 430 J 1/4W	
R177			RK73GB2A471J	CHIP R 470 J 1/10W	
R178			RK73GB2A510J	CHIP R 51 J 1/10W	
R179			RK73GB2A751J	CHIP R 750 J 1/10W	
R180			RK73EB2E431J	CHIP R 430 J 1/4W	
R181			RK73GB2A471J	CHIP R 470 J 1/10W	
R182			RK73GB2A510J	CHIP R 51 J 1/10W	
R183,184			RD14BB2C123J	RD 12K J 1/6W	
R185			RK73GB2A112J	CHIP R 1.1K J 1/10W	
R186-189			RD14BB2C243J	RD 24K J 1/6W	
R190			RK73EB2E100J	CHIP R 10 J 1/4W	
R191			RK73EB2E221J	CHIP R 220 J 1/4W	
R192			RK73EB2E270J	CHIP R 27 J 1/4W	
R193,194			RK73EB2E100J	CHIP R 10 J 1/4W	
R195			RK73EB2E221J	CHIP R 220 J 1/4W	
R196			RK73EB2E270J	CHIP R 27 J 1/4W	
R197			RK73EB2E100J	CHIP R 10 J 1/4W	
R198-201			RK73GB2A473J	CHIP R 47K J 1/10W	
R203,204		*	R92-5169-05	METAL PLATE RESISTOR	
R205,206			RK73GB2A103J	CHIP R 10K J 1/10W	
R210,211			RS14KB3D4R7JP	FL-PROOF RS 4.7 J 2W	
R213			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R214			RD14BB2C243J	RD 24K J 1/6W	
R215			RK73GB2A333J	CHIP R 33K J 1/10W	
R216			RD14BB2C243J	RD 24K J 1/6W	
R217			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R218,219			RK73GB2A302J	CHIP R 3.0K J 1/10W	
R220			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R223			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R224			RK73GB2A302J	CHIP R 3.0K J 1/10W	
R225			RK73GB2A623J	CHIP R 62K J 1/10W	
R226			RK73GB2A333J	CHIP R 33K J 1/10W	
R228			RK73GB2A103J	CHIP R 10K J 1/10W	
R229			RK73GB2A302J	CHIP R 3.0K J 1/10W	
R230			RK73GB2A473J	CHIP R 47K J 1/10W	
R231			RK73GB2A153J	CHIP R 15K J 1/10W	
R232			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R233			RK73GB2A223J	CHIP R 22K J 1/10W	
R234,235			RK73GB2A681J	CHIP R 680 J 1/10W	
R236-239			RK73EB2E221J	CHIP R 220 J 1/4W	
R240			RK73GB2A123J	CHIP R 12K J 1/10W	
R241,242			RK73GB2A103J	CHIP R 10K J 1/10W	
R243			RK73GB2A113J	CHIP R 11K J 1/10W	
R244			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R245			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R246			RK73GB2A153J	CHIP R 15K J 1/10W	
R247			RK73GB2A473J	CHIP R 47K J 1/10W	
R248			RK73GB2A123J	CHIP R 12K J 1/10W	
R253			RK73GB2A153J	CHIP R 15K J 1/10W	

E1 : KAC-PS1D (Europe) K : KAC-X1R (North America)

△ Indicates safety critical components.

PARTS LIST

AUDIO UNIT (X09-8560-10)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
R254			RK73GB2A472J	CHIP R 4.7K J 1/10W		R504			RK73GB2A393J	CHIP R 39K J 1/10W	
R256			RK73GB2A103J	CHIP R 10K J 1/10W		R505			RK73GB2A152J	CHIP R 1.5K J 1/10W	
R257			RK73GB2A102J	CHIP R 1.0K J 1/10W		R506			RK73GB2A103J	CHIP R 10K J 1/10W	
R258			RK73GB2A103J	CHIP R 10K J 1/10W		R509			RK73GB2A303J	CHIP R 30K J 1/10W	
R259			RK73GB2A102J	CHIP R 1.0K J 1/10W		R510			RK73GB2A471J	CHIP R 470 J 1/10W	
R261		*	R92-5142-05	METAL PLATE RESISTOR		R511			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R262			RK73GB2A223J	CHIP R 22K J 1/10W		R512			RK73GB2A153J	CHIP R 15K J 1/10W	
R263,264			RK73GB2A104J	CHIP R 100K J 1/10W		R513			RK73GB2A331J	CHIP R 330 J 1/10W	
R266			RK73GB2A224J	CHIP R 220K J 1/10W		R514			RK73GB2A223J	CHIP R 22K J 1/10W	
R269			RK73GB2A102J	CHIP R 1.0K J 1/10W		R515			RK73GB2A302J	CHIP R 3.0K J 1/10W	
R270,271			RK73GB2A103J	CHIP R 10K J 1/10W		R516			RK73GB2A223J	CHIP R 22K J 1/10W	
R272			RK73GB2A102J	CHIP R 1.0K J 1/10W		R551			RD14BB2C223J	RD 22K J 1/6W	
R273,274			RK73GB2A103J	CHIP R 10K J 1/10W		R552,553			RD14BB2C103J	RD 10K J 1/6W	
R276,277			RK73GB2A393J	CHIP R 39K J 1/10W		R554			RD14BB2C100J	RD 10 J 1/6W	
R278			RK73GB2A123J	CHIP R 12K J 1/10W		R558			RK73EB2E681J	CHIP R 680 J 1/4W	
R279			RK73GB2A203J	CHIP R 20K J 1/10W		R560			RK73GB2A100J	CHIP R 10 J 1/10W	
R280			RK73GB2A132J	CHIP R 1.3K J 1/10W		R563			RK73GB2A100J	CHIP R 10 J 1/10W	
R281			RK73GB2A103J	CHIP R 10K J 1/10W		R578			RK73GB2A473J	CHIP R 47K J 1/10W	
R282			RK73GB2A334J	CHIP R 330K J 1/10W		R602			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R283-285			RK73GB2A203J	CHIP R 20K J 1/10W		R603			RK73GB2A103J	CHIP R 10K J 1/10W	
R286,287			RK73GB2A103J	CHIP R 10K J 1/10W		R607			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R288			RK73GB2A243J	CHIP R 24K J 1/10W		R609			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R289-292			RK73GB2A103J	CHIP R 10K J 1/10W		R611,612			RK73GB2A272J	CHIP R 2.7K J 1/10W	
R296			RK73GB2A103J	CHIP R 10K J 1/10W		R613-619			RK73GB2A101J	CHIP R 100 J 1/10W	
R297		*	R92-5142-05	METAL PLATE RESISTOR		R620,621			RK73GB2A103J	CHIP R 10K J 1/10W	
R304-307			RK73EB2E100J	CHIP R 10 J 1/4W		R636-639			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R308			RK73GB2A102J	CHIP R 1.0K J 1/10W		R640			RK73GB2A331J	CHIP R 330 J 1/10W	
R309,310			RK73GB2A560J	CHIP R 56 J 1/10W		R644			RK73GB2A101J	CHIP R 100 J 1/10W	
R311			RK73GB2A912J	CHIP R 9.1K J 1/10W		R645			RK73GB2A104J	CHIP R 100K J 1/10W	
R312			RK73GB2A102J	CHIP R 1.0K J 1/10W		R646			RK73GB2A181J	CHIP R 180 J 1/10W	
R313			RK73GB2A153J	CHIP R 15K J 1/10W		R647			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R314			RK73GB2A473J	CHIP R 47K J 1/10W		R801,802			RK73GB2A100J	CHIP R 10 J 1/10W	
R315,316			RK73GB2A100J	CHIP R 10 J 1/10W		R803,804			RK73GB2A1R0J	CHIP R 1.0 J 1/10W	
R317,318			RK73GB2A101J	CHIP R 100 J 1/10W		R805-813			RK73EB2E6R8J	CHIP R 6.8 J 1/4W	
R319			RK73GB2A152J	CHIP R 1.5K J 1/10W		R814			RK73EB2E100J	CHIP R 10 J 1/4W	
R320			RK73GB2A103J	CHIP R 10K J 1/10W		R815-817			RK73GB2A101J	CHIP R 100 J 1/10W	
R323			RK73GB2A272J	CHIP R 2.7K J 1/10W		R818-830			RK73GB2A1R0J	CHIP R 1.0 J 1/10W	
R327			RK73GB2A133J	CHIP R 13K J 1/10W		R831,832			RK73GB2A101J	CHIP R 100 J 1/10W	
R328			RK73GB2A103J	CHIP R 10K J 1/10W		R901			RK73GB2A473J	CHIP R 47K J 1/10W	
R330,331			RK73GB2A332J	CHIP R 3.3K J 1/10W		R905			RD14BB2C562J	RD 5.6K J 1/6W	
R332			RK73GB2A272J	CHIP R 2.7K J 1/10W		R906			RK73GB2A100J	CHIP R 10 J 1/10W	
R333			RK73GB2A100J	CHIP R 10 J 1/10W		R907,908			RK73GB2A101J	CHIP R 100 J 1/10W	
R334			RK73GB2A101J	CHIP R 100 J 1/10W		S10			S62-0842-05	SLIDE SWITCH	
R335			RK73GB2A331J	CHIP R 330 J 1/10W		S901			S68-0806-05	PUSH SWITCH	
R336			RK73GB2A474J	CHIP R 470K J 1/10W		D1-3			RM4ZLF-J4NF	DIODE	
R337			RK73GB2A104J	CHIP R 100K J 1/10W		D4			S5566B-Q	DIODE	
R338			RK73GB2A154J	CHIP R 150K J 1/10W		D5			UDZS4.7B	ZENER DIODE	
R339-342			RK73GB2A473J	CHIP R 47K J 1/10W		D6			UDZS6.8B	ZENER DIODE	
R343			RK73GB2A223J	CHIP R 22K J 1/10W		D7			UDZS15B	ZENER DIODE	
R344			RK73GB2A103J	CHIP R 10K J 1/10W		D8			1SS355	DIODE	
R345			RK73GB2A222J	CHIP R 2.2K J 1/10W		D10,11			1SS355	DIODE	
R346,347			RK73GB2A102J	CHIP R 1.0K J 1/10W		D12		*	FCH20A15	DIODE	
R348			RK73GB2A103J	CHIP R 10K J 1/10W		D13		*	FRH20A15	DIODE	
R501,502			RK73GB2A243J	CHIP R 24K J 1/10W		D14,15			UDZS16B	ZENER DIODE	
R503			RK73GB2A472J	CHIP R 4.7K J 1/10W							

E1 : KAC-PS1D (Europe) K : KAC-X1R (North America)

△ Indicates safety critical components.

KAC-PS1D/X1R

PARTS LIST

AUDIO UNIT (X09-8560-10)

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
D16			UDZS15B	ZENER DIODE	
D17-20			1SS133	DIODE	
D21			UDZS5.1B	ZENER DIODE	
D22			1SS355	DIODE	
D32			UDZS12B	ZENER DIODE	
D46			UDZS3.9B	ZENER DIODE	
D48			LM1MA142WK-G	DIODE	
D49			UDZS13B	ZENER DIODE	
D101,102			LM1MA142WK-G	DIODE	
D103,104			LM1MA142WA-G	DIODE	
D105			LM1MA142WK-G	DIODE	
D106			LM1MA142WA-G	DIODE	
D113-118			1SS355	DIODE	
D119,120			UDZS5.1B	ZENER DIODE	
D121-123			1SS355	DIODE	
D132,133			UDZS5.1B	ZENER DIODE	
D134,135			UMZ6.8N	ZENER DIODE	
D136-138			1SS355	DIODE	
D140			1SS355	DIODE	
D150-153			1SS355	DIODE	
D160-171			1SS355	DIODE	
D172-175			UDZS10B	ZENER DIODE	
D176			1SS355	DIODE	
D205,206			1SS355	DIODE	
D501			1SS355	DIODE	
D552			UDZS5.1B	ZENER DIODE	
IC1		*	78F0533GK011A	MICROCONTROLLER IC	
IC3			TL494IDR	ANALOGUE IC	
IC5-7			BA2903F	ANALOGUE IC	
IC10-13			RC4580IDR	ANALOGUE IC	
IC14			BA2903F	ANALOGUE IC	
IC15-17			SN74HC00D	MOS-IC	
IC18-20			BA4560RF	ANALOGUE IC	
IC21			SN74HC00D	MOS-IC	
IC22			BA4560RF	ANALOGUE IC	
IC24			BA4560RF	ANALOGUE IC	
IC55			BA4560RF	ANALOGUE IC	
IC56			NJM2172V-ZBTE2	ANALOGUE IC	
IC57			BA4560RF	ANALOGUE IC	
Q1			2SB1241	TRANSISTOR	
Q2			DTA114EUA	DIGITAL TRANSISTOR	
Q3			2SB1238	TRANSISTOR	
Q4,5			2SC4081	TRANSISTOR	
Q6			2SA1576A	TRANSISTOR	
Q7,8			2SC4081	TRANSISTOR	
Q10,11			DTA114EUA	DIGITAL TRANSISTOR	
Q13			2SC4097	TRANSISTOR	
Q14,15			2SB1427	TRANSISTOR	
Q16			2SC4097	TRANSISTOR	
Q17-20			STP60NF06FP	FET	
Q22-24			STP60NF06FP	FET	
Q25			2SC1845-A(F,E)	TRANSISTOR	
Q26			2SD2012-F	TRANSISTOR	
Q27			STP60NF06FP	FET	
Q28			2SB1375-F	TRANSISTOR	

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
Q29,30			2SA1576A	TRANSISTOR	
Q31			2SD1863	TRANSISTOR	
Q32			2SA992-A(F,E)	TRANSISTOR	
Q33,34			2SD1863	TRANSISTOR	
Q36			DTA114EUA	DIGITAL TRANSISTOR	
Q37			2SC4081	TRANSISTOR	
Q38			2SD1863	TRANSISTOR	
Q39			2SC4081	TRANSISTOR	
Q41			DTC114EUA	DIGITAL TRANSISTOR	
Q42			2SA992-A(F,E)	TRANSISTOR	
Q43			2SA1576A	TRANSISTOR	
Q44			2SA992-A(F,E)	TRANSISTOR	
Q45			2SA1576A	TRANSISTOR	
Q47			DTC114EUA	DIGITAL TRANSISTOR	
Q48			2SB1241	TRANSISTOR	
Q50-52			2SD1863	TRANSISTOR	
Q53			2SC4081	TRANSISTOR	
Q54			DTA114EUA	DIGITAL TRANSISTOR	
Q55			DTC114EUA	DIGITAL TRANSISTOR	
Q83			2SD1863	TRANSISTOR	
Q101,102			2SC4081	TRANSISTOR	
Q125			DTA114EUA	DIGITAL TRANSISTOR	
Q126			DTC114EUA	DIGITAL TRANSISTOR	
Q129			DTA114EUA	DIGITAL TRANSISTOR	
Q131			2SC4081	TRANSISTOR	
Q132,133			DTA114EUA	DIGITAL TRANSISTOR	
Q150			2SC4081	TRANSISTOR	
Q151			DTA114EUA	DIGITAL TRANSISTOR	
Q156,157			2SC1845-A(F,E)	TRANSISTOR	
Q158,159			2SA1370	TRANSISTOR	
Q160			2SB1427	TRANSISTOR	
Q161			2SC2235-F	TRANSISTOR	
Q162			2SB1427	TRANSISTOR	
Q163			2SC3415S	TRANSISTOR	
Q164			2SB1427	TRANSISTOR	
Q165			2SC2235-F	TRANSISTOR	
Q166			2SB1427	TRANSISTOR	
Q167			2SC3415S	TRANSISTOR	
Q168-171		*	IRFB33N15DPBF	FET	
Q174			2SC1845-A(F,E)	TRANSISTOR	
Q175-177			2SA992-A(F,E)	TRANSISTOR	
Q178			2SC1845-A(F,E)	TRANSISTOR	
Q179-181			2SC4081	TRANSISTOR	
Q182			2SA1576A	TRANSISTOR	
Q184-187		*	IRFB33N15DPBF	FET	
Q188,189			2SA992-A(F,E)	TRANSISTOR	
Q190-193			2SC2235-F	TRANSISTOR	
Q603			2SC945AA(Q,P)	TRANSISTOR	
TH1,2			NCP18XH103J0S	THERMISTOR	
SWITCH UNIT (REMOTE CON.) (X16-6000-10)					
70		1A	A02-2738-02	PLASTIC CABINET	E1
D1		*	B30-1764-05	LED (3216 RED)	E1
C1			CK73GB1H103K	CHIP C 0.010UF K	E1

E1 : KAC-PS1D (Europe) K : KAC-X1R (North America)

△ Indicates safety critical components.

PARTS LIST

SWITCH UNIT (REMOTE CON.) (X16-6000-10)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
J1			E58-0966-15	RECTANGULAR RECEPTACLE	E1						
75	1A		K23-1093-03	KNOB	E1						
D	1A		N80-2008-43	PAN HEAD TAPTITE SCREW	E1						
R1			RK73GB2A153J	CHIP R 15K J 1/10W	E1						
R2			RK73GB2A822J	CHIP R 8.2K J 1/10W	E1						
R3			RK73GB2A471J	CHIP R 470 J 1/10W	E1						
VR1,2			R31-0243-05	VARIABLE RESISTOR	E1						

E1 : KAC-PS1D (Europe) K : KAC-X1R (North America)

△ Indicates safety critical components.

KAC-PS1D/X1R

SPECIFICATIONS

CEA-2006

RMS Watts per channel @ 4Ω, 1% THD+N 600W x 1
Signal to Noise Ratio (Reference: 1W into 4Ω) 80dBA

Audio Section

Max Power Output 2400W
Rated Power Output (+B=12.0V)
(4Ω) (20Hz~200Hz, 0.5% THD) 400W x 1
(2Ω) (100Hz, 0.5% THD) 800W x 1
(1Ω) ≥800W x 1
Rated Power Output (+B=14.4V)
(4Ω) (20Hz~200Hz, 0.5% THD) 600W x 1
(4Ω) (DIN45324, +B=14.4V) 600W x 1
(2Ω) (100Hz, 0.5% THD) 1200W x 1
(1Ω) ≥1000W x 1
Frequency Response (+0, -3dB) 5Hz~400Hz
Sensitivity (rated output)
MAX 0.2V
MIN 5.0V
Input Impedance 10kΩ

Signal to Noise Ratio 105dB
Low Pass Filter Frequency (-24dB/oct.) ... 40~200Hz (variable)
Infrasonic Filter Frequency (-24dB/oct.) .. 15~60Hz (variable)
Band Reject Filter OFF/ -6dB/ -12dB
Band Reject Filter Frequency 40~200Hz (variable)
Phase Inverter 0° (Normal)/ 180° (Reverse)
Bass Boost Circuit 0~18dB (variable)
Bass Boost Frequency 40~100Hz (variable)

General

Operating Voltage 14.4V (11~16V allowable)
Current Consumption 75A
Installation Size (W x H x D)
..... 340 x 60 x 225mm (13-3/8 x 2-3/8 x 8-7/8 inch)
Weight 3.8kg (8.38 lbs)

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

INSTALLATION

