

POWER AMPLIFIER

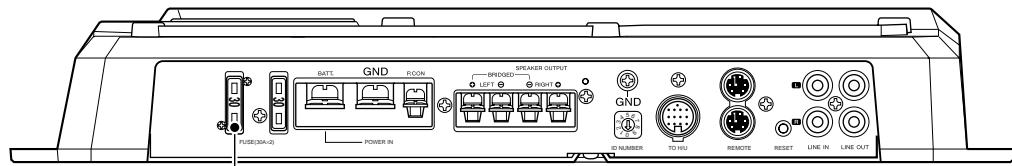
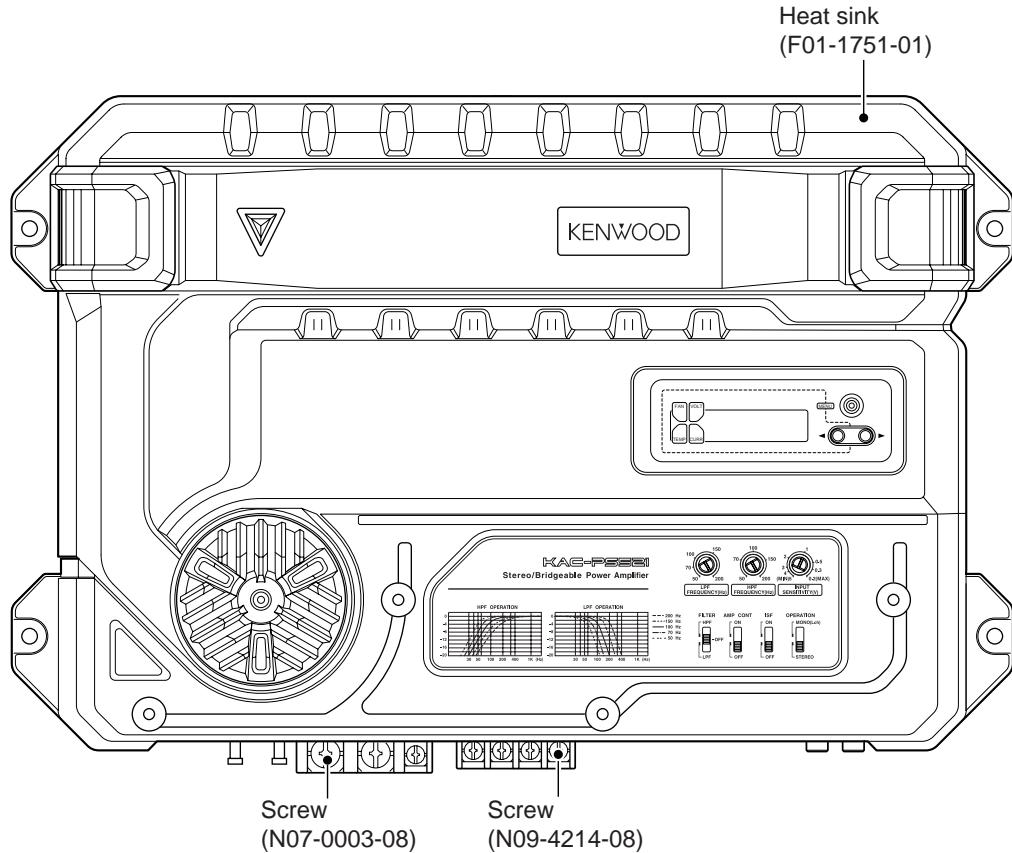
KAC-PS521

KAC-X521

SERVICE MANUAL

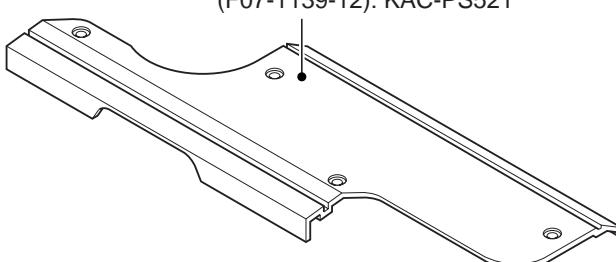
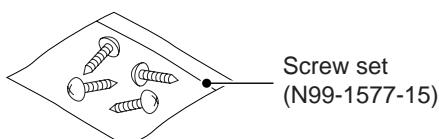
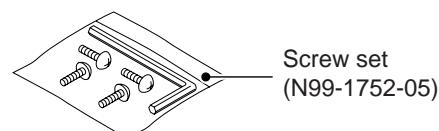
KENWOOD

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B53-0139-00 (N) 2439



Fuse (30A)
(F52-0015-05)

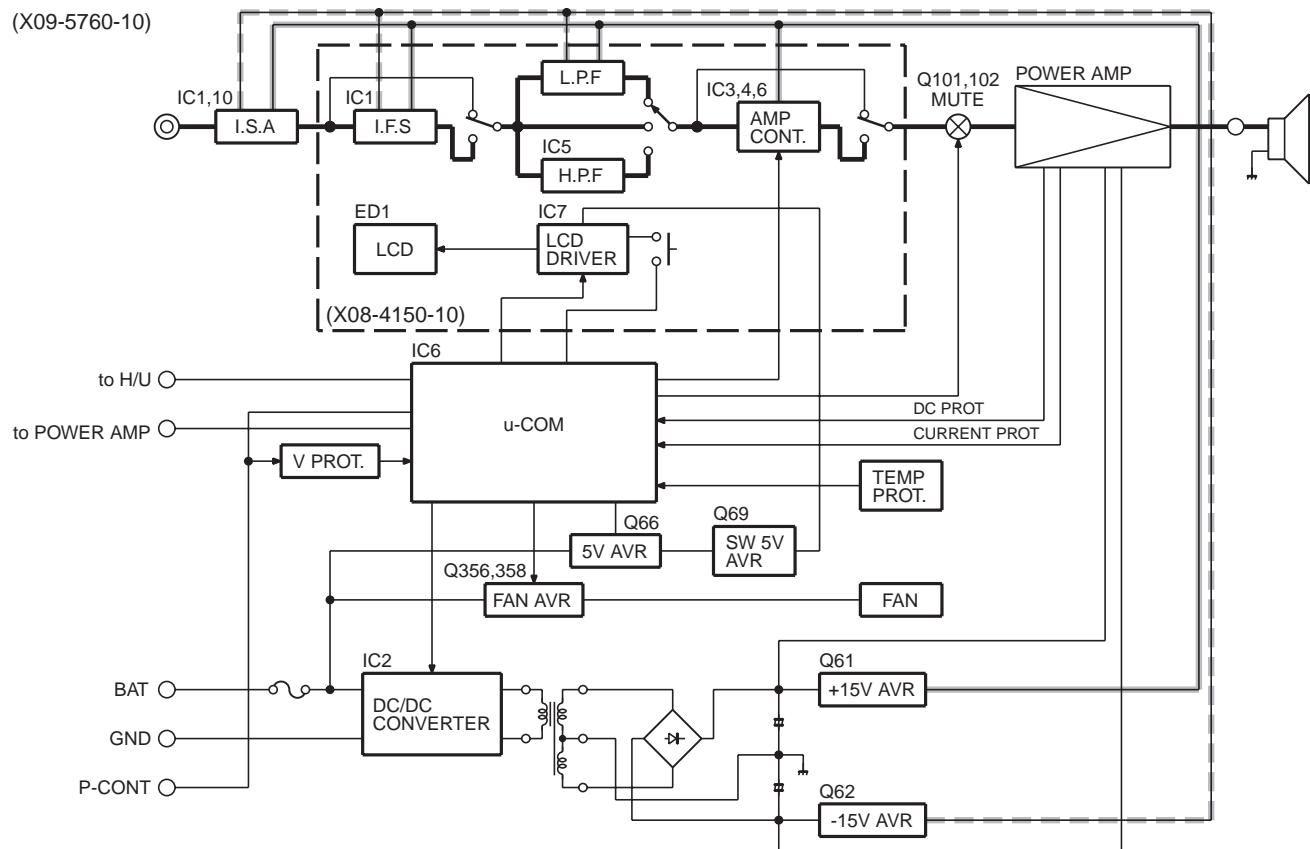
Cover
(F07-1138-12): KAC-X521
(F07-1139-12): KAC-PS521



Accessory
(W01-1606-05)



BLOCK DIAGRAM



COMPONENTS DESCRIPTION

● PREAMPLIFIER UNIT (X08-4150-10)

Ref. No	Application / Function	Operation / Condition / Compatibility
IC1	Infrasonic filter	Controlled by microprocessor
IC3	Tone and volume variable	
IC4	6dB voltage amplification	
IC5	HPF	
	LPF	
IC6	Lch : 6dB voltage amplification	
	Rch : Signal 180 reverse and 6dB voltage amplification	
IC7	LCD driver	Controlled by microprocessor

● AUDIO UNIT (X09-5760-10)

Ref. No	Application / Function	Operation / Condition / Compatibility
IC1	Buffer	
IC2	DC/DC converter	
IC3	AMP communication buffer	

COMPONENTS DESCRIPTION

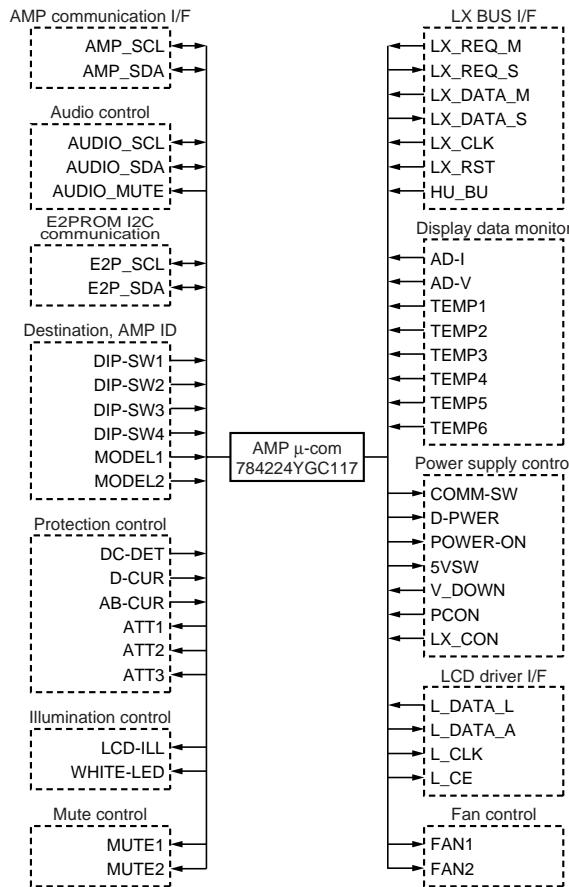
Ref. No	Application / Function	Operation / Condition / Compatibility
IC5	H/U communication buffer	
IC6	Microprocessor	
IC7	Reset IC	
IC8	E2PROM	
IC9	Current detection	
IC10	Isolation amplifier	
Q50	5V AVR	
Q51~54	DC/DC output driver	
Q55~60	DC/DC	
Q61	+15V AVR	
Q62,63	-15V AVR	
Q64,65	DC/DC converter (IC2) ON/OFF	Controlled by microprocessor
Q66,68	5V AVR	
Q69	5V AVR ON/OFF	
Q70,71	Power supply detection	
Q81	+15V AVR	
Q91,92	When P-CON is OFF, DC/DC driver stop speedy	
Q97	AMP communication stability power supply	
Q101,102	Mute	
Q103~112	A class first stage amplifier	
Q113~118	A class 2nd stage amplifier	
Q119,120	Final temperature compensation	
Q121~124	Amplifier current detection	
Q125~132	Final driver	
Q133~140	Final	
Q141	Mute control	
Q142~145	Amplifier limiter	
Q146,147	Amplifier current detection	
Q148,149	DC detection	
Q301~307	H/U communication output driver	
Q313	H/U communication output driver	
Q314	H/U communication ON/OFF	
Q341~344	H/U communication input driver	
Q346	H/U communication output driver	
Q347~349	AMP and H/U communication ON/OFF control	
Q351,352	BATT voltage output	
Q353~358	Fan stability power supply	
Q403	LCD backlight LED control	
Q404	LED control	

KAC-PS521/X521

MICROCOMPUTER'S TERMINAL DESCRIPTION

● MICROPROCESSOR : 784224YGC117 (X09 : IC6)

◊ Block Diagram



◊ Terminal Function

Pin No.	Pin Name	I/O	Function	Processing Operation Description
1~3	TEMP4~TEMP6	I	Temperature detection 4~6	
4	AVSS	-	GND	
5	L_CE	O	CE output to LCD driver	H : LCD driver CE
6	LX_REQ_S	O	Data transmit request to H/U	H : OFF, L : ON
7	AVREF1	-	DA reference voltage	
8	L_DATA_L	I	Data input from LCD driver	
9	L_DATA_A	O	Data output to LCD driver	
10	L_CLK	O	CLK output to LCD driver	
11	LX_DATA_M	I	Data input from H/U	
12	LX_DATA_S	O	Data output to H/U	
13	LX_CLK	I	CLK input from H/U	
14	LX_BU	I	LX BUS communication, H/U connect detection	H : Not connect (Except master amplifier), L : Connect
15	NC	O	Not used	
16	SDA_AMP	I/O	Data input/output AMP communication	
17	NC	O	Not used	

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Function	Processing Operation Description
18	SCL_AMP	I/O	CLK input/output AMP communication	
19	AUDIO_SCL	I/O	CLK input/output with audio chip	
20	AUDIO_SDA	I/O	Data input/output with audio chip	
21	AUDIO_MUTE	O	Mute output to audio chip	H : Mute OFF, L : Mute ON
22	E2P_SCL	I/O	CLK input/output with E2PROM	
23	E2P_SDA	I/O	Data input/output with E2PROM	
24	NC	O	Not used	
25~28	DIP-SW1~DIP-SW4	I	AMP address setting	
29	MODEL1	I	Model setting 1	
30	MODEL2	I	Model setting 2	
31,32	NC	O	Not used	
33	VSS1	-	GND	
34~37	NC	O	Not used	
38	LCD-ILL	O	LCD backlight switch	H : ON, L : OFF
39	WHITE-LED	O	Triangle illumination switch	H : ON, L : OFF
40	NC	O	Not used	
41~43	ATT1~ATT3	O	Output attenuate due to rise in temperature 1~3	H : Attenuate, L : Not attenuate
44,45	NC	O	Not used	
46	COMM-SW	O	Communication IC power switch	H : ON, L : OFF
47~50	NC	O	Not used	
51	D-PWER	O	D class amplifier power supply control	H : ON, L : OFF (2ch/4ch L fixed)
52	DC-DET	I	Speaker output DC voltage detection	H : Normal, L : Abnormal
53	NC	O	Not used	
54	POWER-ON	O	Amplifier power supply control	H : ON (D/AB class), L : OFF
55	5VSW	O	5VSW	H : OFF, L : ON
56	MUTE1	O	Amplifier section input stage mute control	H : OFF, L : ON
57	MUTE2	O	Driver stage pop-noise mute control	H : OFF, L : ON
58	FAN1	O	Fan rotation control	H : Operate, L : Stop
59	FAN2	O	Fan speed control	H : Low speed, L : High speed
60	RESET	-	Hard reset	H : Normal, L : Reset
61	PCON	I	Amplifier power control	H : OFF, L : ON
62	LX_CON	I	LX-BUS communication control	H : OFF, L : ON
63	LX_REQ_M	I	Data receive request from H/U	H : ON, L : OFF
64	NC	O	Not used	
65	V_DOWN	I	Momentary power down detection	H : ON (Power down detection), L : OFF (L fixed)
66	NC	O	Not used	
67	VSS0	-	GND	
68	VD1	-	VDD	
69	X2	-	Main clock input 1	
70	X1	-	Main clock input 2	

KAC-PS521/X521

MICROCOMPUTER'S TERMINAL DESCRIPTION

Pin No.	Pin Name	I/O	Function	Processing Operation Description
71	TEST	-	Flash ROM writing	
72	XT2	-	Not used	
73	XT1	-	Not used	
74	VDD0	-	VDD	
75	AVDD	-	VDD	
76	AD-I	I	First current detection (for display)	
77	AD-V	I	BU voltage detection (for display)	
78~80	TEMP1~TEMP3	I	Temperature detection 1~3	

◊ Logic Table

1) Destination

The destination in AMP does not mean the sales regions but specific models.

The following are the models. When reset is released, it is checked only once.

Model name	MODEL1 (29pin)	MODEL2 (30pin)
KAC-PS811D/X811D	Low	Low
KAC-PS521/X521	Low	High
KAC-PS621/X621	High	Low
KAC-PS541/X541	High	High

2) AMP ID

AMP ID is checked only once at the time reset is released or when the microcomputer is released from the low consumption mode.

When set to AMP ID 8/9 no remote control is possible.

AMP ID	DIP-SW1 (25pin)	DIP-SW2 (26pin)	DIP-SW3 (27pin)	DIP-SW4 (28pin)
0	High	High	High	High
1	Low	High	High	High
2	High	Low	High	High
3	Low	Low	High	High
4	High	High	Low	High
5	Low	High	Low	High
6	High	Low	Low	High
7	Low	Low	Low	High
8	High	High	High	Low
9	Low	High	High	Low

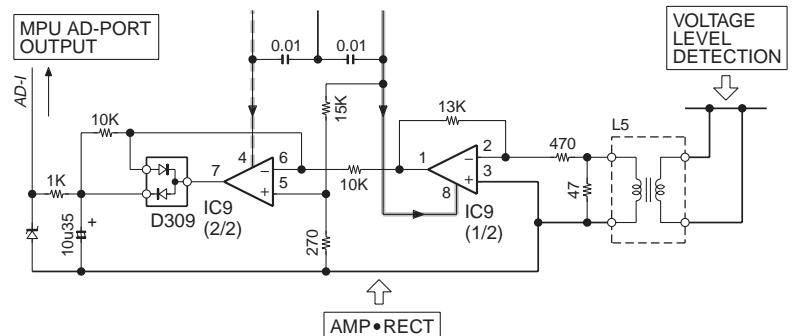
3) Fan speed

Operation	FAN1 (58pin)	FAN2 (59pin)
Stop	Low	High/Low
Low speed	High	High
High speed	High	Low

CIRCUIT DESCRIPTION

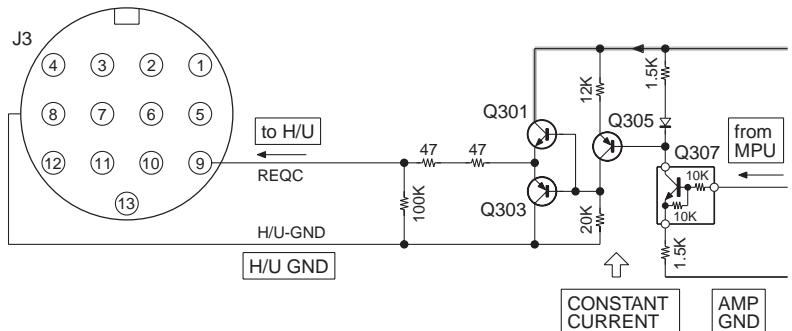
● Current detection circuit

Amplify and rectify potential differences at two points in the primary-side current circuit and send it to the AD-port of the MPU and obtain data for displaying current value.



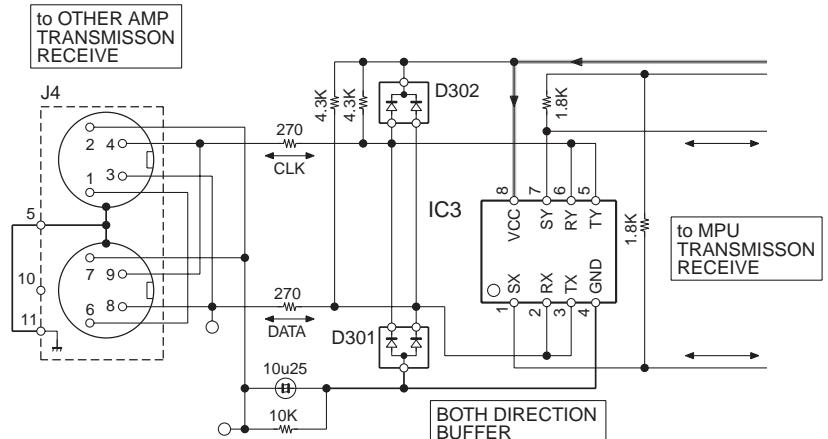
● Constant current output circuit

Remove troubles caused by the potential differences between the constant current output and the GND, so that the GND potential differences between the H/U and the AMP is not overlapped in the AMP to H/U communication.



● I2C buffer

Using an IC for I2C communication, between-AMP communication is conducted so that there will be no trouble from GND potential differences.



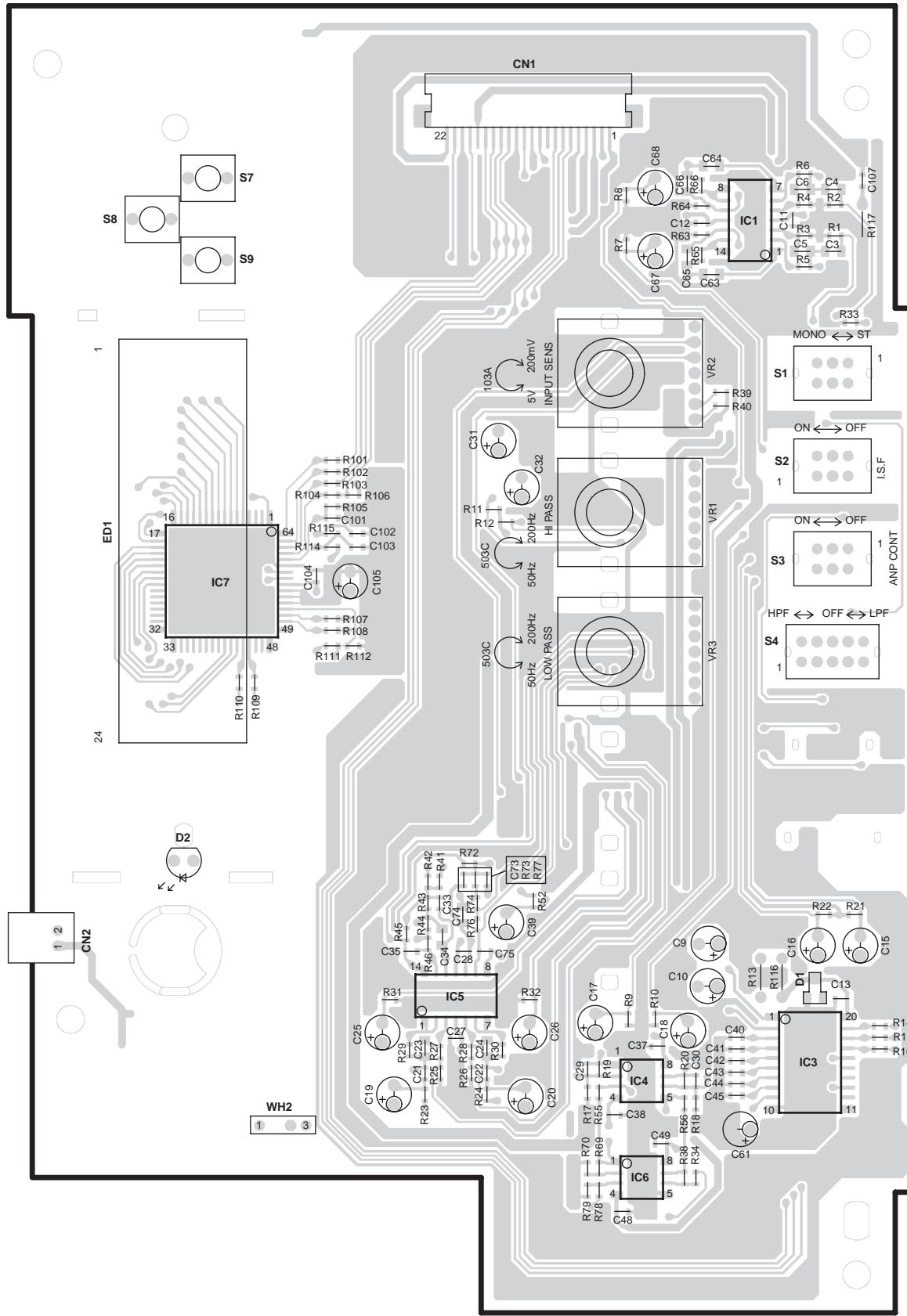
ADJUSTMENT

No.	Item	Alignment Point	Method	Align For	Note	Fig.
1	IDEAL CURRENT	VR1 (Lch) VR2 (Rch)	Connect a DC voltmeter between check land A, B.	2.5mV	After Power on 2 minutes	PC board (X09-576)

KAC-PS521/X521

PC BOARD (COMPONENT SIDE VIEW)

PREAMPLIFIER UNIT X08-4150-10 (J76-0010-12)



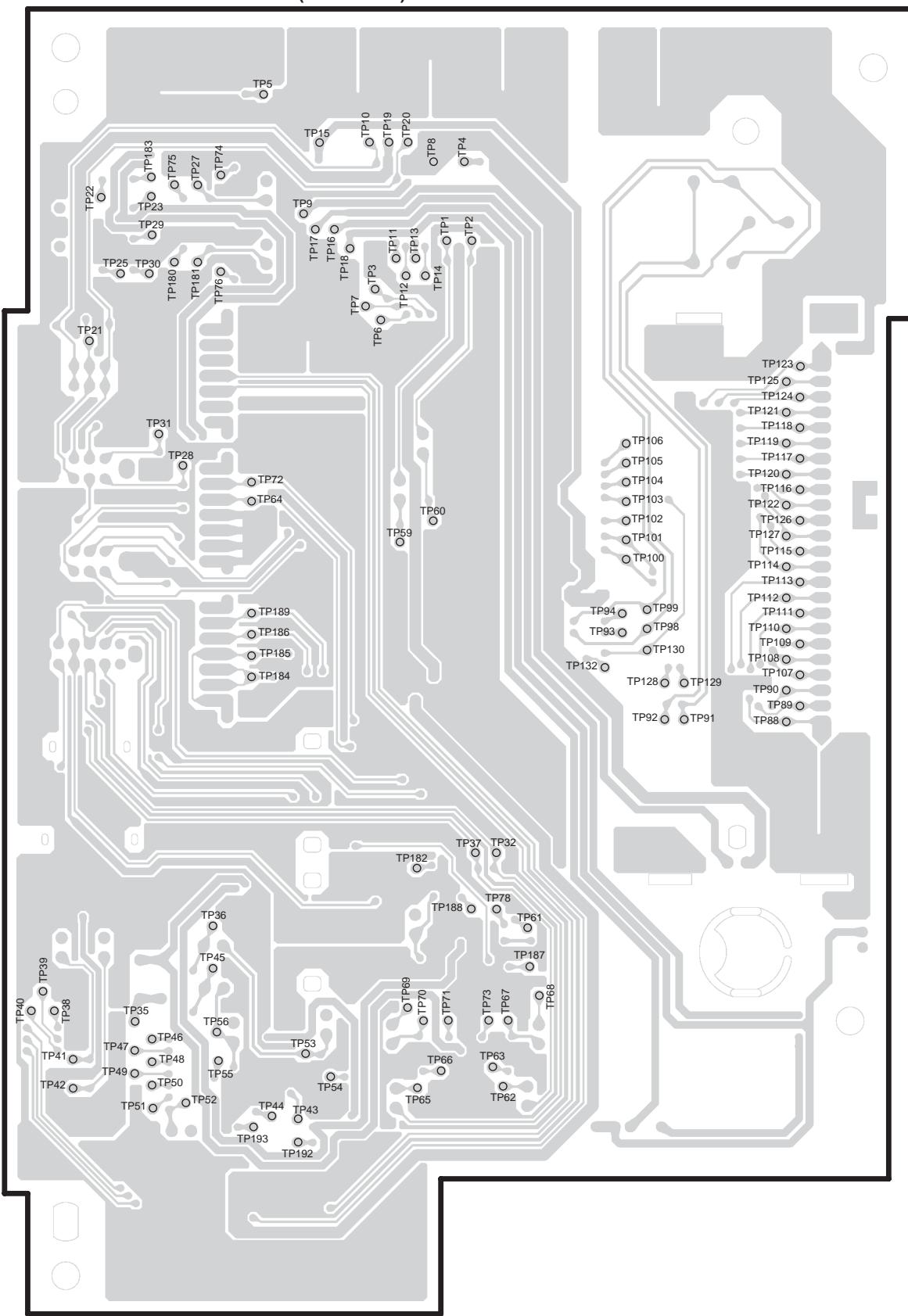
X08-4150-10

Ref. No.	Address
IC1	2D
IC3	6D
IC4	6D
IC5	6C
IC6	6D
IC7	4B

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

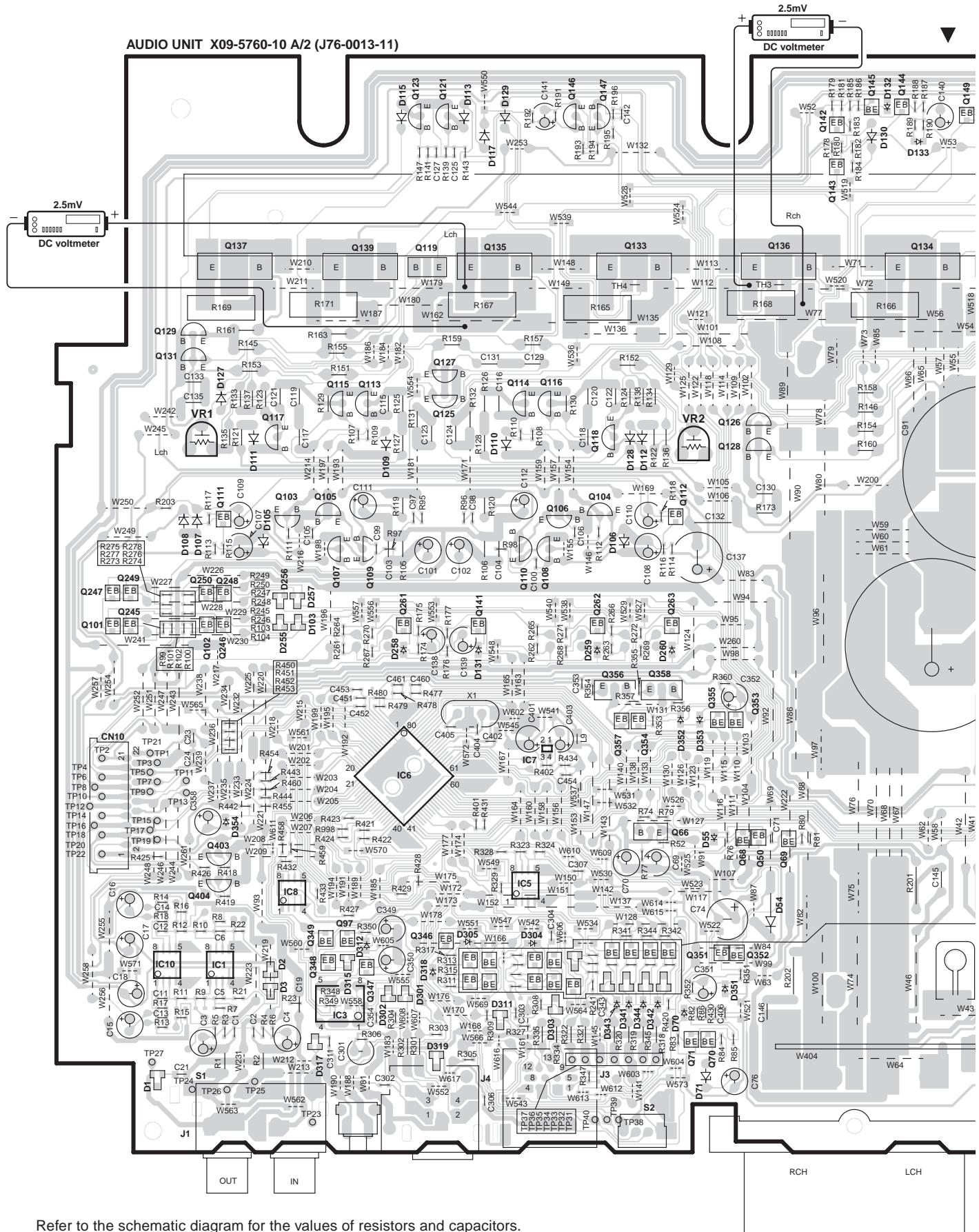
PC BOARD (FOIL SIDE VIEW)

PEAMPLIFIER UNIT X08-4150-10 (J76-0010-12)



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

PC BOARD (FOIL SIDE VIEW)



P

Q

R

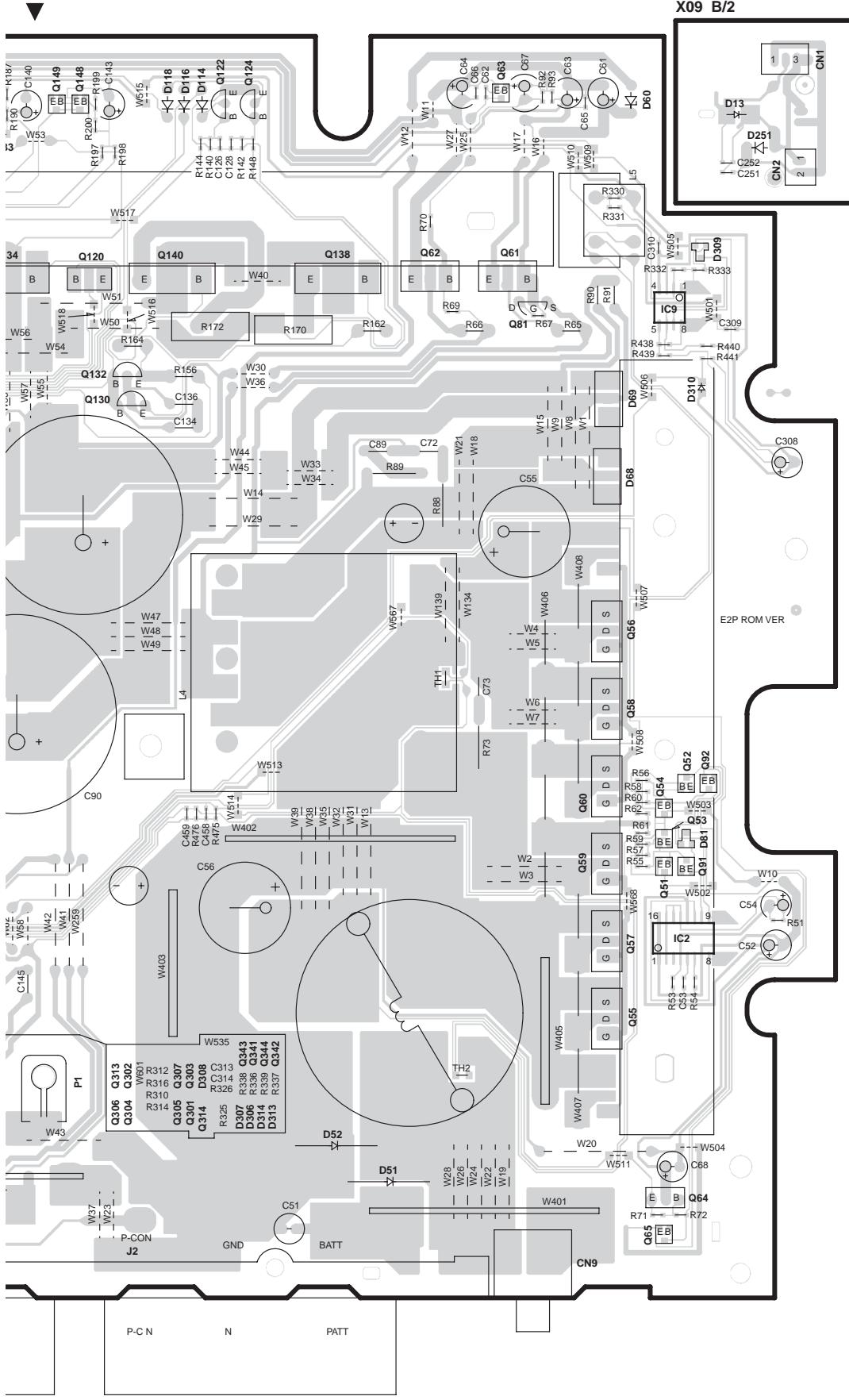
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KAC-PS521/X521

X09-5760-10

Ref. No.	Address	Ref. No.	Address
IC1	6L	Q123	2M
IC2	5R	Q124	2Q
IC3	6L	Q125	3M
IC5	5M	Q126	3N
IC6	5M	Q127	3M
IC7	5M	Q128	3N
IC9	3R	Q129	3L
IC10	6L	Q130	3P
Q50	5N	Q131	3L
Q51	5R	Q132	3P
Q52	4R	Q133	2N
Q53	5R	Q134	2O
Q54	5R	Q135	2M
Q55	6R	Q136	2O
Q56	4R	Q137	2L
Q57	5R	Q138	2Q
Q58	4R	Q139	2L
Q59	5R	Q140	2P
Q60	5R	Q141	4M
Q61	2R	Q142	2O
Q62	2Q	Q143	2O
Q63	2R	Q144	2O
Q64	6R	Q145	2O
Q65	6R	Q146	2N
Q66	5N	Q147	2N
Q68	5N	Q148	2P
Q69	5O	Q149	2P
Q70	6N	Q301	6P
Q71	6N	Q302	6P
Q81	3R	Q303	6P
Q91	5R	Q304	6P
Q92	4R	Q305	6P
Q97	6L	Q306	6P
Q101	4K	Q307	6P
Q102	4L	Q313	6P
Q103	4L	Q314	6P
Q104	4N	Q341	6Q
Q105	4L	Q342	6Q
Q106	4M	Q343	6Q
Q107	4L	Q344	6Q
Q108	4M	Q345	6M
Q109	4M	Q346	6M
Q110	4M	Q347	6M
Q111	4L	Q348	6L
Q112	4N	Q349	6L
Q113	3M	Q351	6N
Q114	3M	Q352	6N
Q115	3L	Q353	5N
Q116	3M	Q354	5N
Q117	3L	Q355	5N
Q118	3N	Q356	4N
Q119	2M	Q357	5N
Q120	2P	Q403	5L
Q121	2M	Q404	5L
Q122	2P		

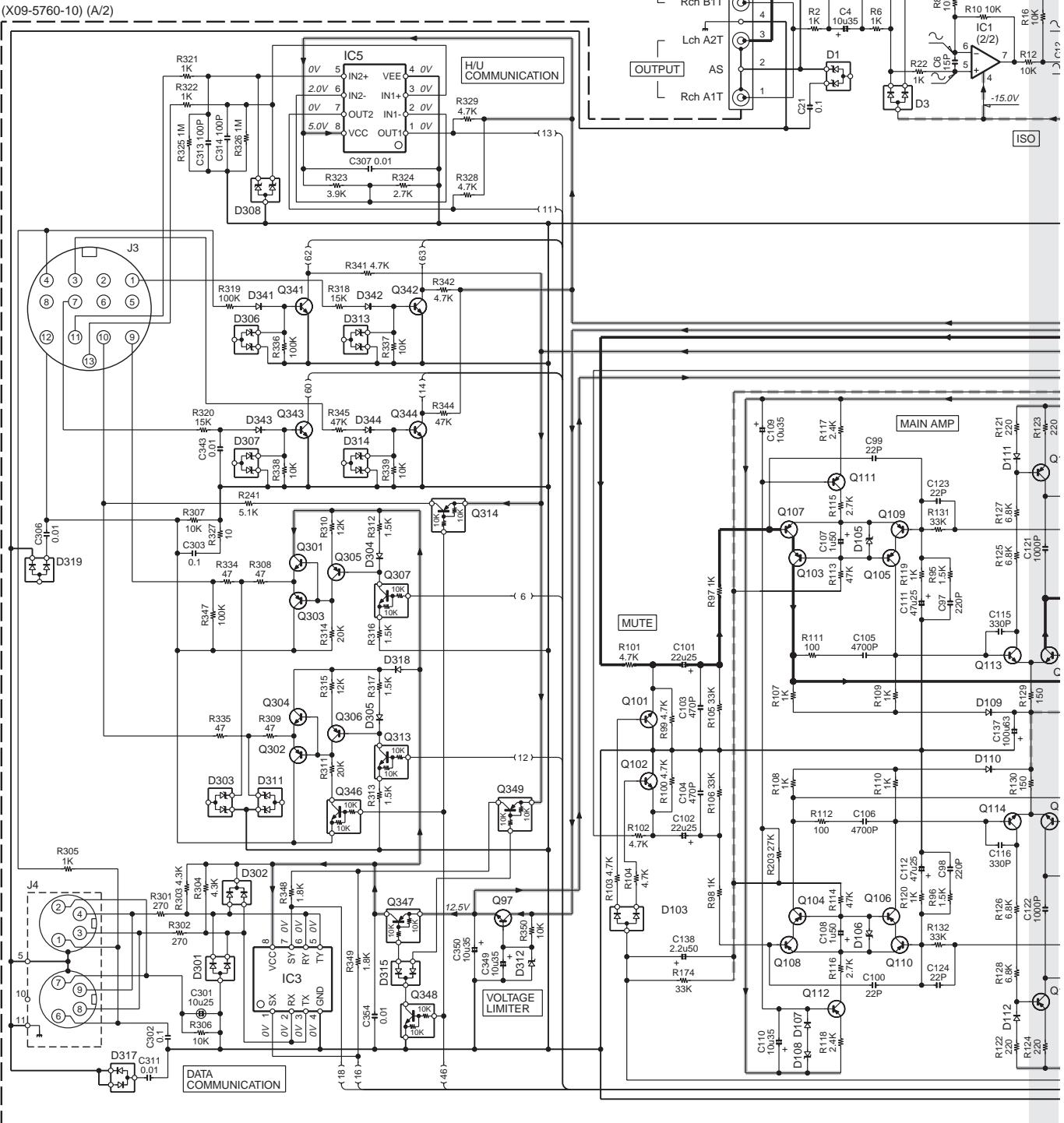
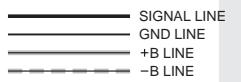


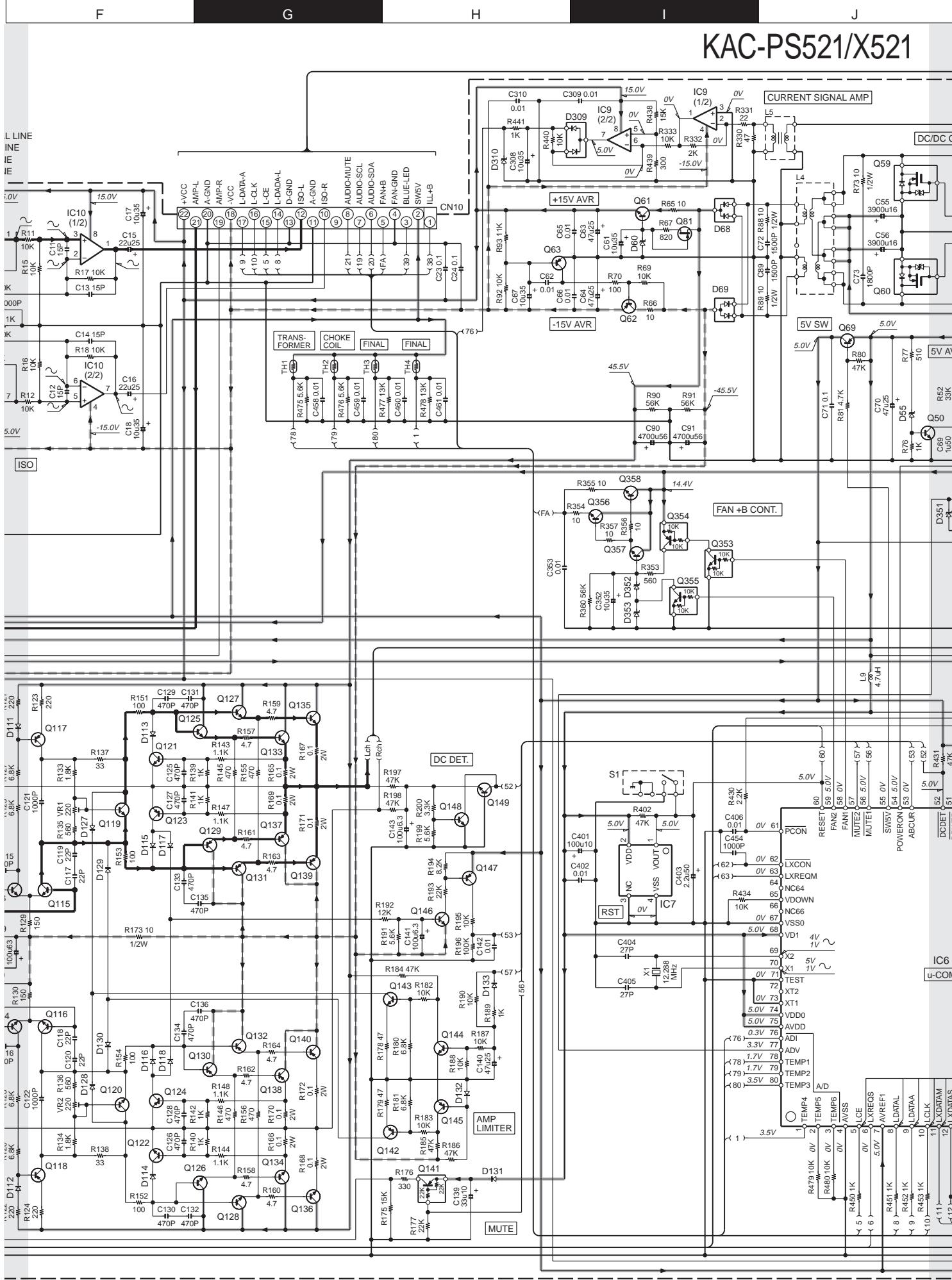
KAC-PS521/X521

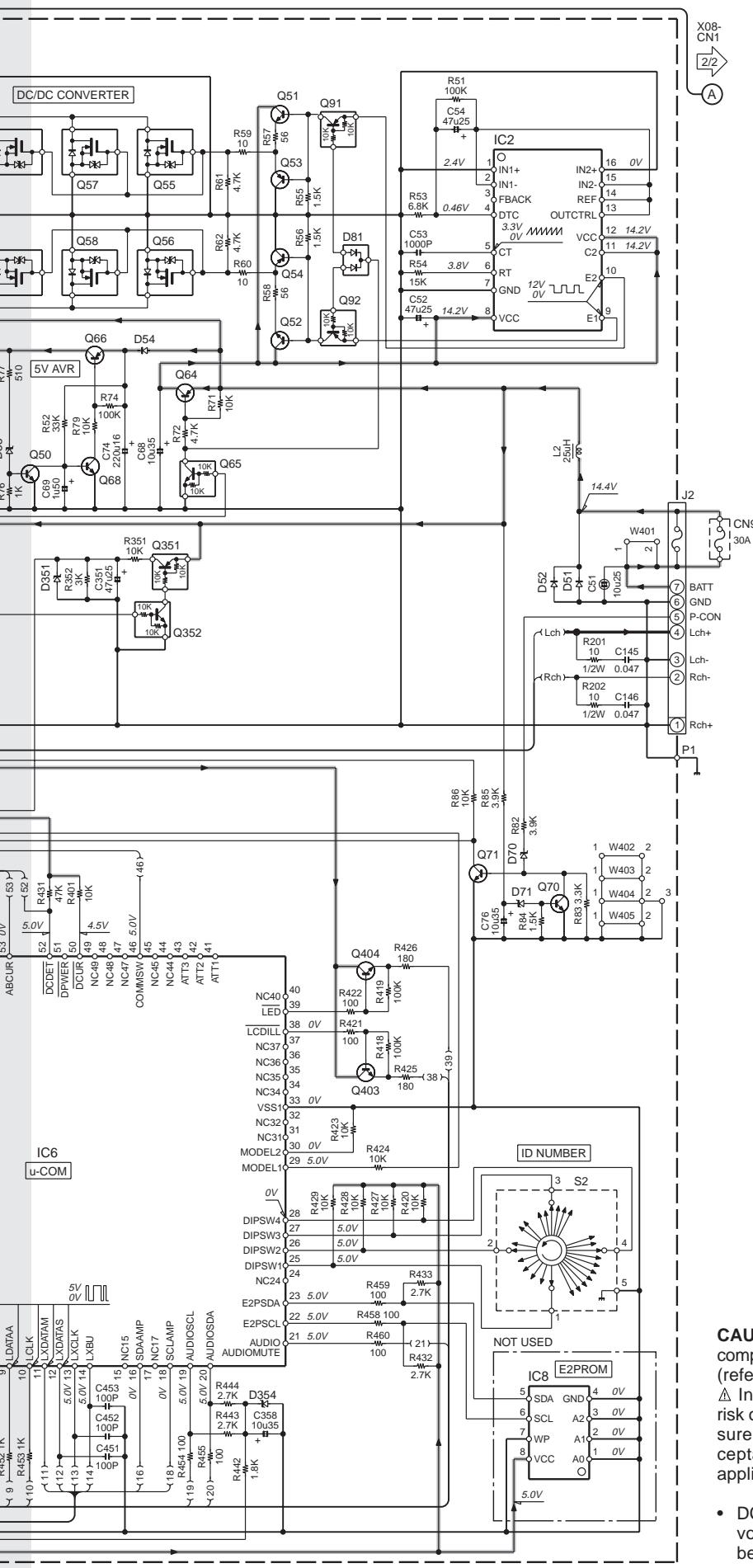
Q50,68,70,71,97,101,102,143,144,148, 149,301,304,341-344,357	: 2SC4081
Q51,52	: 2SC4097
Q53,54	: 2SA1577
Q55-60	: 2SK3662-F
Q61	: 2SD2012-F
Q62	: 2SB1375-F
Q63,69,111,112,142,145,302,303,305,306	: 2SA1576A
Q64	: 2SB1241
Q65,307,313,346,348,352,353,355	: DTC114EUA
Q66	: 2SB1238
Q81	: 2SK246(BL)-F
Q1,92,314,347,349,351,354	: DTA114EUA
Q103-110,123,124,147	: 2SA992(F.E)
Q113-116	: 2SC3478A(L.K)
Q117,118	: 2SA1376A(L.K)
Q119,120	: 2SC3419(Y)
Q121,122	: 2SC1845(F.E)
Q125-128	: 2SC2235-F
Q129-132	: 2SA965-F
Q133-136	: 2SC3856NF
Q137-140	: 2SA1492NF
Q141	: DTA124EUA
Q146	: 2SC1845(F.E)
Q356,358	: 2SC3902
Q403,404	: 2SC945(A)(Q.P.)

D1,303,306-308,311,313,314,319	:	STZ6.8N
D2,81,302,315	:	LM1M1A42WK
D3,103,301	:	LM1M1A42WA
D51,52	:	RM4ZLF-J1NF
D54	:	S5566B-Q
D55	:	UDZS4.7B
D60	:	RD16JS(B)
D68	:	FCH10A20
D69	:	FRH10A20
D70	:	UDZS6.8B
D71	:	RD15JS(B)
D105,106,108	:	RD5,1JS(B2)
D107,109-118,127-130	:	1SS133
D131-133,304,305,318,341-344	:	1SS355
D309,317	:	DA204U
D310,351,354	:	UDZS5.1B
D312	:	UDZS16B
D352	:	UDZS10B
D353	:	UDZS3.3B

IC1,9,10	: BA4560F
IC2	: UPC494GS
IC3	: P82B96PN
IC5	: BA1039F
IC6	: 784224YGC117
IC7	: PST3436UL-E
IC8	: BR24C01AF-W







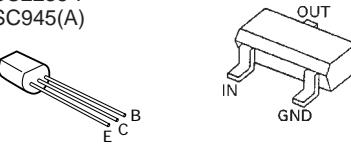
CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).

△ 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.

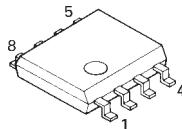
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2SA992	DTA124E
2SC1845	DTC114E
2SC2235-F	
2SC945(A)	



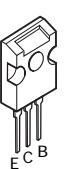
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DTA124EUA
DTC114EUA

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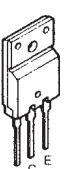


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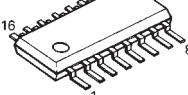


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2SD2012-F

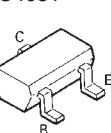


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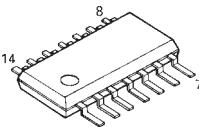


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2SC4081



NJM2058M-ZB



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(X08-4150-10)

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X09-A/2
CN10
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BMS

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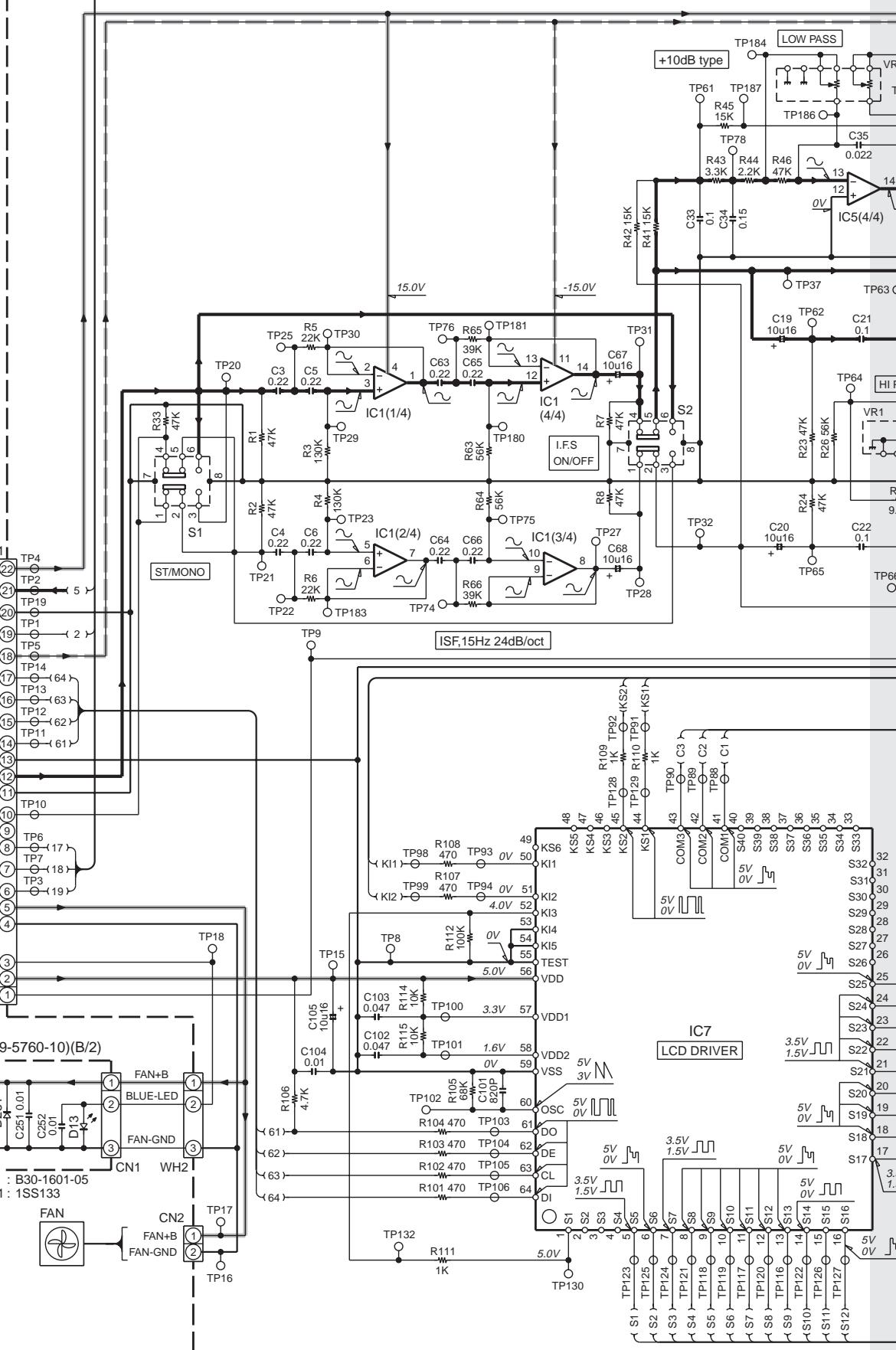


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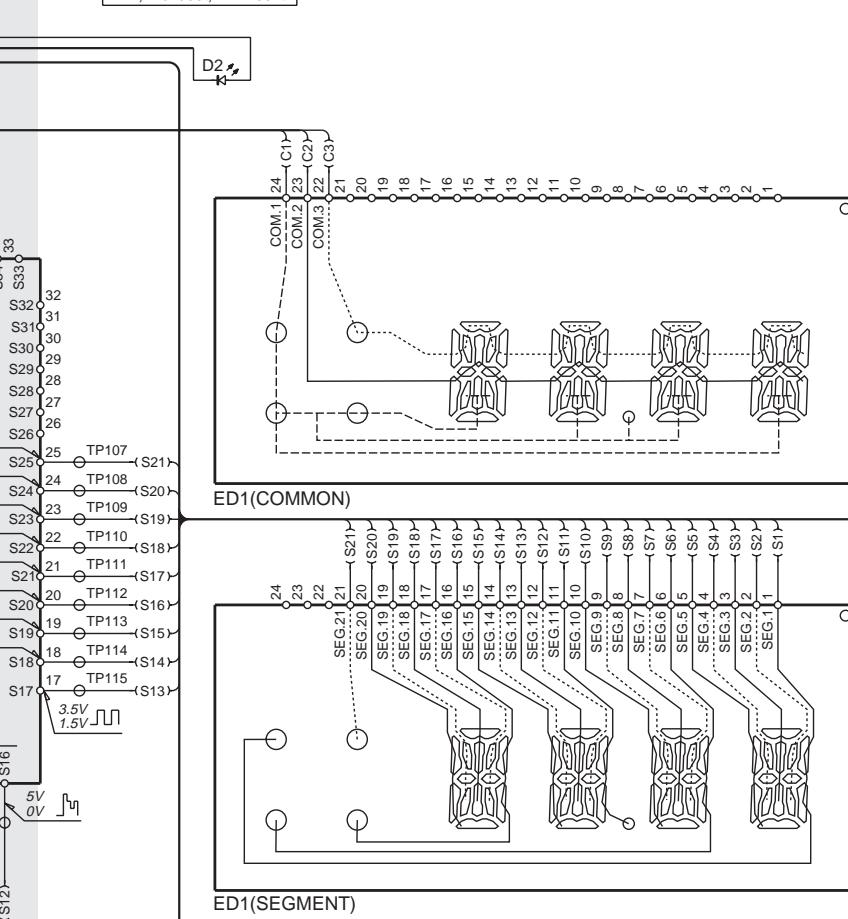
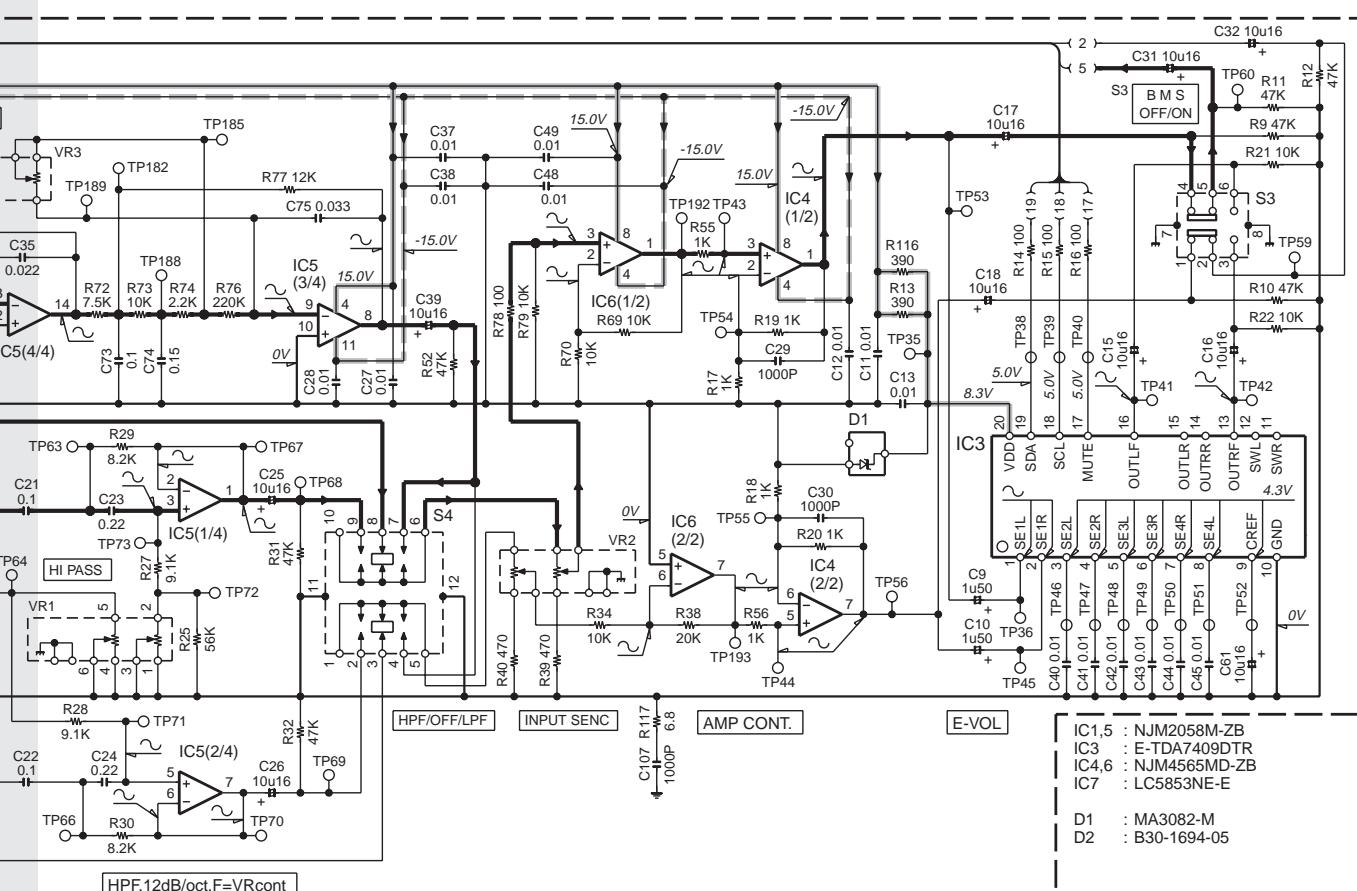
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(X08-4150-10)



KAC-PS521/X521



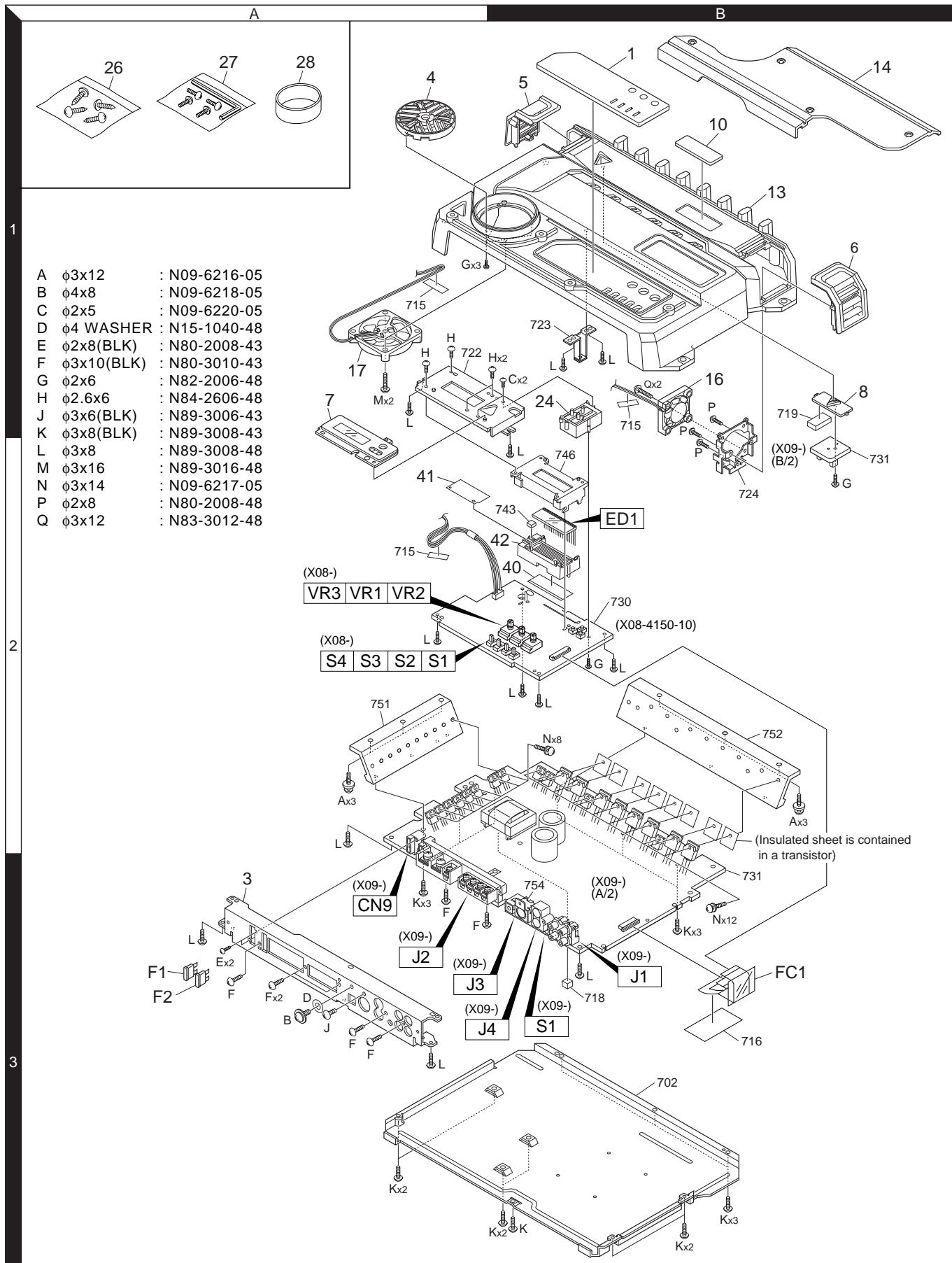
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KAC-PS521/X521 (2/2)

EXPLODED VIEW



KAC-PS521/X521

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.	A d d	N e w	Parts No.	Description	Desti- nation
KAC-PS521/X521					
1	1B	*	A21-4337-02	DRESSING PANEL	
1	1B	*	A21-4338-02	DRESSING PANEL	
3	3A	*	A64-3297-02	PANEL	K E1
4	1A	*	B07-3102-03	ESCUTCHEON	
5	1B	*	B07-3103-02	ESCUTCHEON	
6	1B	*	B07-3104-02	ESCUTCHEON	
7	1A	*	B10-4544-03	FRONT GLASS	
8	1B	*	B19-2257-03	LIGHTING BOARD	
10	1B	*	B43-1521-04	BADGE	K
10	1B	*	B43-1522-04	BADGE	E1
-			B46-0100-50	WARRANTY CARD	
-			B46-0648-13	USER CARD	K
-		*	B64-2795-00	INSTRUCT.MANUAL (ENG.FRE.SPA.)	
-		*	B64-2796-00	INST.MANUAL (GER.DUT.ITA.POR.)	E1
FC1	3B	*	E39-0642-05	FLAT CABLE	
13	1B	*	F01-1751-01	HEAT SINK	
14	1B	*	F07-1138-12	COVER	K
14	1B	*	F07-1139-12	COVER	E1
16	1B		F09-1846-05	FAN (40X40X10) SIDE	
17	1A	*	F09-1885-05	FAN (60X60X11.5) TOP	
△ F1,2	3A		F52-0015-05	FUSE (BLADE TYPE) 30A	
-		*	H10-4894-13	POLYSTYRENE FOAMED FIXTURE	
-		*	H13-2055-04	CARTON BOARD	
-		*	H25-1199-04	PROTECTION BAG	
-		*	H25-1200-04	PROTECTION BAG (250X350X0.03)	
-		*	H54-3131-03	ITEM CARTON CASE	K
-		*	H54-3132-03	ITEM CARTON CASE	E1
24	2B	*	K24-4146-03	KNOB (VR CAP)	
26	1A		N99-1577-15	SCREW SET	
27	1A	*	N99-1752-05	SCREW SET	
A	2A	*	N09-6216-05	TAPITITE SCREW (3X12)	
B	3A	*	N09-6218-05	TAPITITE SCREW (4X8)	
C	2B	*	N09-6220-05	TAPITITE SCREW (2X5)	
D	3A	*	N15-1040-48	FLAT WASHER (4)	
E	3A	*	N80-2008-43	PAN HEAD TAPITITE SCREW	
F	3A		N80-3010-43	PAN HEAD TAPITITE SCREW	
G	1A		N82-2006-48	BINDING HEAD TAPITITE SCREW	
H	2A	*	N84-2606-48	PAN HEAD TAPITITE SCREW	
J	3A		N89-3006-43	BINDING HEAD TAPITITE SCREW	
K	3A	*	N89-3008-43	BINDING HEAD TAPITITE SCREW	
L	2A		N89-3008-48	BINDING HEAD TAPITITE SCREW	
M	2A	*	N89-3016-48	BINDING HEAD TAPITITE SCREW	
P	2B	*	N80-2008-48	PAN HEAD TAPITITE SCREW	
Q	2B	*	N83-3012-48	PAN HEAD TAPITITE SCREW	
28	1A		W01-1606-05	ACCESSORY	

PREAMPLIFIER UNIT (X08-4150-10)

40	2B	*	B11-1446-04	REFLECTION SHEET	
41	2A	*	B11-1447-04	OPTICAL DIFFUSER	

E1 : KAC-PS521 K : KAC-X521 (E : Europe K : North America)

Ref. No.	A d d	N e w	Parts No.	Description			Desti- nation
42	2B	*	B19-2258-12	LIGHTING BOARD			
D2		*	B30-1694-05	LED			
ED1		*	B38-1150-05	LCD DISPLAY ASSY			
C3-6			CK73FB1C224K	CHIP C	0.22UF	K	
C9,10			CD04AS1H010M	ELECTRO	1UF	50WV	
C11-13			CK73GB1H103K	CHIP C	0.010UF	K	
C15-20			CD04AS1C100M	ELECTRO	10UF	16WV	
C21,22			CK73GB1C104K	CHIP C	0.10UF	K	
C23,24			CK73FB1C224K	CHIP C	0.22UF	K	
C25,26			CD04AS1C100M	ELECTRO	10UF	16WV	
C27,28			CK73GB1H103K	CHIP C	0.010UF	K	
C29,30			CK73GB1H102K	CHIP C	1000PF	K	
C31,32			CD04AS1C100M	ELECTRO	10UF	16WV	
C33			CK73GB1C104K	CHIP C	0.10UF	K	
C34			CK73FB1C154K	CHIP C	0.15UF	K	
C35			CK73GB1E223K	CHIP C	0.022UF	K	
C37,38			CK73GB1H103K	CHIP C	0.010UF	K	
C39			CD04AS1C100M	ELECTRO	10UF	16WV	
C40-45			CK73GB1H103K	CHIP C	0.010UF	K	
C48,49			CK73GB1H103K	CHIP C	0.010UF	K	
C61			CD04AS1C100M	ELECTRO	10UF	16WV	
C63-66			CK73FB1C224K	CHIP C	0.22UF	K	
C67,68			CD04AS1C100M	ELECTRO	10UF	16WV	
C73			CK73GB1C104K	CHIP C	0.10UF	K	
C74			CK73FB1C154K	CHIP C	0.15UF	K	
C75			CK73GB1E333K	CHIP C	0.033UF	K	
C101			CK73GB1H821K	CHIP C	820PF	K	
C102,103			CK73GB1H473K	CHIP C	0.047UF	K	
C104			CK73GB1H103K	CHIP C	0.010UF	K	
C105			CD04AS1C100M	ELECTRO	10UF	16WV	
C107			CK73GB1H102K	CHIP C	1000PF	K	
CN1		*	E41-2178-05	FLAT CABLE CONNECTOR (22P)			
CN2		*	E41-0941-05	PIN ASSY (2P)			
WH2		*	E39-0655-05	WIRING HARNESS			
R1,2			RK73GB2A473J	CHIP R	47K	J	1/10W
R3,4			RK73GB2A134J	CHIP R	130K	J	1/10W
R5,6			RK73GB2A223J	CHIP R	22K	J	1/10W
R7-12			RK73GB2A473J	CHIP R	47K	J	1/10W
R13			RD14BB2C391J	RD	390	J	1/6W
R14-16			RK73GB2A101J	CHIP R	100	J	1/10W
R17-20			RK73GB2A102J	CHIP R	1.0K	J	1/10W
R21,22			RK73GB2A103J	CHIP R	10K	J	1/10W
R23,24			RK73GB2A473J	CHIP R	47K	J	1/10W
R25,26			RK73GB2A563J	CHIP R	56K	J	1/10W
R27,28			RK73GB2A912J	CHIP R	9.1K	J	1/10W
R29,30			RK73GB2A822J	CHIP R	8.2K	J	1/10W
R31-33			RK73GB2A473J	CHIP R	47K	J	1/10W
R34			RK73GB2A103J	CHIP R	10K	J	1/10W
R38			RK73GB2A203J	CHIP R	20K	J	1/10W
R39,40			RK73GB2A471J	CHIP R	470	J	1/10W
R41,42			RK73GB2A153J	CHIP R	15K	J	1/10W
R43			RK73GB2A332J	CHIP R	3.3K	J	1/10W
R44			RK73GB2A222J	CHIP R	2.2K	J	1/10W
R45			RK73GB2A153J	CHIP R	15K	J	1/10W

△ Indicates safety critical components.

PARTS LIST

* New parts

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PREAMPLIFIER UNIT (X08-4150-10)

Ref. No.	A d d	N e w	Parts No.	Description			Desti- nation	Ref. No.	A d d	N e w	Parts No.	Description			Desti- nation
R46			RK73GB2A473J	CHIP R	47K	J	1/10W	C67,68	*		C90-5592-05	ELECTRO	10UF	35WV	
R52			RK73GB2A473J	CHIP R	47K	J	1/10W	C69			C90-5601-05	ELECTRO	1UF	50WV	
R55,56			RK73GB2A102J	CHIP R	1.0K	J	1/10W	C70	*		C90-5588-05	ELECTRO	47UF	25WV	
R63,64			RK73GB2A563J	CHIP R	56K	J	1/10W	C71			CK73GB1C104K	CHIP C	0.10UF	K	
R65,66			RK73GB2A393J	CHIP R	39K	J	1/10W	C72			CF92FV1H152J	MF-C	1500PF	J	
R69,70			RK73GB2A103J	CHIP R	10K	J	1/10W	C73			CF92FV1H182J	MF-C	1800PF	J	
R72			RK73GB2A752J	CHIP R	7.5K	J	1/10W	C74	*		C90-5590-05	ELECTRO	220UF	25WV	
R73			RK73GB2A103J	CHIP R	10K	J	1/10W	C76	*		C90-5592-05	ELECTRO	10UF	35WV	
R74			RK73GB2A222J	CHIP R	2.2K	J	1/10W	C89			CF92FV1H152J	MF-C	1500PF	J	
R76			RK73GB2A224J	CHIP R	220K	J	1/10W	C90,91	*		C90-5690-05	ELECTRO	4700UF	56WV	
R77			RK73GB2A123J	CHIP R	12K	J	1/10W	C97,98			CK73GB1H221K	CHIP C	220PF	K	
R78			RK73GB2A101J	CHIP R	100	J	1/10W	C99,100			CC73GCH1H220J	CHIP C	22PF	J	
R79			RK73GB2A103J	CHIP R	10K	J	1/10W	C101,102	*		C90-5586-05	ELECTRO	22UF	25WV	
R101-104			RK73GB2A471J	CHIP R	470	J	1/10W	C103,104			CK45FB1H471K	CERAMIC	470PF	K	
R105			RK73GB2A683J	CHIP R	68K	J	1/10W	C105,106			CK73GB1H472K	CHIP C	4700PF	K	
R106			RK73GB2A472J	CHIP R	4.7K	J	1/10W	C107,108			C90-5601-05	ELECTRO	1UF	50WV	
R107,108			RK73GB2A471J	CHIP R	470	J	1/10W	C109,110	*		C90-5592-05	ELECTRO	10UF	35WV	
R109-111			RK73GB2A102J	CHIP R	1.0K	J	1/10W	C111,112	*		C90-5588-05	ELECTRO	47UF	25WV	
R112			RK73GB2A104J	CHIP R	100K	J	1/10W	C115,116			CC45FSL1H331J	CERAMIC	330PF	J	
R114,115			RK73GB2A103J	CHIP R	10K	J	1/10W	C117-120			CC45FSL1H220J	CERAMIC	22PF	J	
R116			RD14BB2C391J	RD	390	J	1/6W	C121,122			CK45FB1H102K	CERAMIC	1000PF	K	
R117			RD14BB2C6R8J	RD	6.8	J	1/6W	C123,124			CC45FSL1H220J	CERAMIC	22PF	J	
VR1			R31-0225-05	VARIABLE RESISTOR	50K (C)			C125-128			CK73GB1H471K	CHIP C	470PF	K	
VR2	*		R31-0238-05	VARIABLE RESISTOR				C129-136			CK45FB1H471K	CERAMIC	470PF	K	
VR3	*		R31-0225-05	VARIABLE RESISTOR	50K (C)			C137	*		C90-5695-05	ELECTRO	100UF	63WV	
S1-3	*		S62-0873-05	SLIDE SWITCH				C138			C90-5602-05	ELECTRO	2.2UF	50WV	
S4	*		S62-0874-05	SLIDE SWITCH				C139	*		C90-5570-05	ELECTRO	33UF	10WV	
S7-9	*		S70-0922-05	TACT SWITCH				C140	*		C90-5588-05	ELECTRO	47UF	25WV	
D1			MA3082-M	ZENER DIODE				C141			C90-5566-05	ELECTRO	100UF	6.3WV	
IC1	*		NJM2058M-ZB	ANALOGUE IC				C142			CK73GB1H103K	CHIP C	0.010UF	K	
IC3	*		E-TDA7409DTR	ANALOGUE IC				C143			C90-5566-05	ELECTRO	100UF	6.3WV	
IC4	*		NJM4565MD-ZB	ANALOGUE IC				C145,146			CF92FV1H473J	MF-C	0.047UF	J	
IC5	*		NJM2058M-ZB	ANALOGUE IC				C251,252			CK73GB1H103K	CHIP C	0.010UF	K	
IC6	*		NJM4565MD-ZB	ANALOGUE IC				C301	*		C90-5557-05	ELECTRO	10UF	25WV	
IC7	*		LC75853NE-E	MOS-IC				C302,303			CK73GB1C104K	CHIP C	0.10UF	K	
AUDIO UNIT (X09-5760-10)								C306,307			CK73GB1H103K	CHIP C	0.010UF	K	
C1,2			CK73GB1H471K	CHIP C	470PF	K		C308	*		C90-5592-05	ELECTRO	10UF	35WV	
C3,4	*		C90-5592-05	ELECTRO	10UF			C309-311			CK73GB1H103K	CHIP C	0.010UF	K	
C5,6			CC73GCH1H150J	CHIP C	15PF	J		C313,314			CC73GCH1H101J	CHIP C	100PF	J	
C11-14			CC73GCH1H150J	CHIP C	15PF	J		C343			CK73GB1H103K	CHIP C	0.010UF	K	
C15,16	*		C90-5586-05	ELECTRO	22UF			C349,350	*		C90-5592-05	ELECTRO	10UF	35WV	
C17,18	*		C90-5592-05	ELECTRO	10UF			C351	*		C90-5588-05	ELECTRO	47UF	25WV	
C19			CF92FV1H102J	MF-C	1000PF	J		C352	*		C90-5592-05	ELECTRO	10UF	35WV	
C21			CK73FB1H104K	CHIP C	0.10UF	K		C353,354			CK73GB1H103K	CHIP C	0.010UF	K	
C23,24			CK73FB1H104K	CHIP C	0.10UF	K		C358	*		C90-5592-05	ELECTRO	10UF	35WV	
C51	*		C90-5557-05	ELECTRO	10UF			C401			C90-5572-05	ELECTRO	100UF	10WV	
C52	*		C90-5588-05	ELECTRO	47UF			C402			CK73GB1H103K	CHIP C	0.010UF	K	
C53			CK73GB1H102K	CHIP C	1000PF	K		C403			C90-5602-05	ELECTRO	2.2UF	50WV	
C54	*		C90-5588-05	ELECTRO	47UF			C404,405			CC73GCH1H270J	CHIP C	27PF	J	
C55,56	*		CD04BC1C392M	ELECTRO	3900UF			C406			CK73GB1H103K	CHIP C	0.010UF	K	
C61	*		C90-5592-05	ELECTRO	10UF			C451-453			CC73GCH1H101J	CHIP C	100PF	J	
C62			CK73GB1H103K	CHIP C	0.010UF	K		C454			CK73GB1H102K	CHIP C	1000PF	K	
C63,64	*		C90-5588-05	ELECTRO	47UF			C458-461			CK73GB1H103K	CHIP C	0.010UF	K	
C65,66	*		CK73GB1H103K	CHIP C	0.010UF	K		CN1			E41-0928-05	PIN ASSY (3P)			

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AUDIO UNIT (X09-5760-10)

Ref. No.	A d d	N e w	Parts No.	Description			Desti- nation
CN2			E41-0927-05	PIN ASSY (2P)			
CN10		*	E41-2202-05	FLAT CABLE CONNECTOR (22P)			
J1		*	E63-0901-05	PIN JACK (4P)			
J2			E70-0838-05	SCREW TERMINAL BOARD (7P)			
J3		*	E56-0856-05	CYLINDRICAL RECEPTACLE (13P)			
J4		*	E56-0853-05	CYLINDRICAL RECEPTACLE (M-D4P)			
△ CN9			J13-0602-05	FUSE HOLDER			
L2		*	L33-1972-05	CHOKE COIL 25UH			
L4		*	L19-0764-05	TRANSFORMER FOR CONVERTER			
L5		*	L19-0758-05	TRANSFORMER FOR CONVERTER			
L9		*	L41-4795-33	SMALL FIXED INDUCTOR 4.7U			
X1			L77-2844-05	CRYSTAL RESONATOR 12.288MHZ			
F	3A		N80-3010-43	PAN HEAD TAPITTE SCREW			
K	3A	*	N89-3008-43	BINDING HEAD TAPITTE SCREW			
N	2B	*	N09-6217-05	TAPITTE SCREW			
R1,2			RD14BB2C102J	RD	1.0K	J	1/6W
R3,4			RK73GB2A103J	CHIP R	10K	J	1/10W
R5,6			RK73GB2A102J	CHIP R	1.0K	J	1/10W
R7-10			RK73GB2A103J	CHIP R	10K	J	1/10W
R11-18			RN73GH1J103D	CHIP R	10K	D	1/16W
R21-23			RK73GB2A102J	CHIP R	1.0K	J	1/10W
R51			RK73GB2A104J	CHIP R	100K	J	1/10W
R52			RK73GB2A333J	CHIP R	33K	J	1/10W
R53			RK73GB2A682J	CHIP R	6.8K	J	1/10W
R54			RK73GB2A153J	CHIP R	15K	J	1/10W
R55,56			RK73GB2A152J	CHIP R	1.5K	J	1/10W
R57,58			RK73GB2A560J	CHIP R	56	J	1/10W
R59,60			RK73GB2A100J	CHIP R	10	J	1/10W
R61,62			RK73GB2A472J	CHIP R	4.7K	J	1/10W
R65,66			RD14NB2E100J	RD	10	J	1/4W
R67			RK73GB2A821J	CHIP R	820	J	1/10W
R69			RK73GB2A103J	CHIP R	10K	J	1/10W
R70			RK73GB2A101J	CHIP R	100	J	1/10W
R71			RK73GB2A103J	CHIP R	10K	J	1/10W
R72			RK73GB2A472J	CHIP R	4.7K	J	1/10W
R73			RD14DB2H100J	SMALL-RD	10	J	1/2W
R74			RK73GB2A104J	CHIP R	100K	J	1/10W
R76			RK73GB2A102J	CHIP R	1.0K	J	1/10W
R77			RK73GB2A511J	CHIP R	510	J	1/10W
R79			RK73GB2A103J	CHIP R	10K	J	1/10W
R80			RK73GB2A473J	CHIP R	47K	J	1/10W
R81			RK73GB2A472J	CHIP R	4.7K	J	1/10W
R82			RK73GB2A392J	CHIP R	3.9K	J	1/10W
R83			RK73GB2A332J	CHIP R	3.3K	J	1/10W
R84			RK73GB2A152J	CHIP R	1.5K	J	1/10W
R85			RK73GB2A392J	CHIP R	3.9K	J	1/10W
R86			RK73GB2A103J	CHIP R	10K	J	1/10W
R88,89			RD14DB2H100J	SMALL-RD	10	J	1/2W
R90,91			RD14BB2C563J	RD	56K	J	1/6W
R92			RK73GB2A103J	CHIP R	10K	J	1/10W
R93			RK73GB2A113J	CHIP R	11K	J	1/10W
R95,96			RK73GB2A152J	CHIP R	1.5K	J	1/10W
R97,98			RK73GB2A102J	CHIP R	1.0K	J	1/10W

Ref. No.	A d d	N e w	Parts No.	Description			Desti- nation
R99-104			RK73GB2A472J	CHIP R	4.7K	J	1/10W
R105,106			RD14BB2C333J	RD	33K	J	1/6W
R107-110			RK73GB2A102J	CHIP R	1.0K	J	1/10W
R111,112			RK73GB2A101J	CHIP R	100	J	1/10W
R113,114			RK73GB2A473J	CHIP R	47K	J	1/10W
R115,116			RK73GB2A272J	CHIP R	2.7K	J	1/10W
R117,118			RK73GB2A242J	CHIP R	2.4K	J	1/10W
R119,120			RD14BB2C102J	RD	1.0K	J	1/6W
R121-124			RD14BB2C221J	RD	220	J	1/6W
R125-128			RD14BB2C682J	RD	6.8K	J	1/6W
R129,130			RD14BB2C151J	RD	150	J	1/6W
R131,132			RD14BB2C333J	RD	33K	J	1/6W
R133,134			RD14BB2C182J	RD	1.8K	J	1/6W
R135,136			RD14BB2C561J	RD	560	J	1/6W
R137,138			RD14BB2C330J	RD	33	J	1/6W
R139-142			RK73GB2A102J	CHIP R	1.0K	J	1/10W
R143,144			RK73GB2A112J	CHIP R	1.1K	J	1/10W
R145,146			RD14NB2E471J	RD	470	J	1/4W
R147,148			RK73GB2A112J	CHIP R	1.1K	J	1/10W
R151-154			RD14NB2E101J	RD	100	J	1/4W
R155,156			RD14NB2E471J	RD	470	J	1/4W
R157-164			RD14NB2E4R7J	RD	4.7	J	1/4W
R165-172			R92-0205-05	METAL-PLATE	0.1	K	2W
R173			RD14DB2H100J	SMALL-RD	10	J	1/2W
R174			RK73GB2A333J	CHIP R	33K	J	1/10W
R175			RK73GB2A153J	CHIP R	15K	J	1/10W
R176			RK73GB2A331J	CHIP R	330	J	1/10W
R177			RK73GB2A223J	CHIP R	22K	J	1/10W
R178,179			RK73GB2A470J	CHIP R	47	J	1/10W
R180,181			RK73GB2A682J	CHIP R	6.8K	J	1/10W
R182,183			RK73GB2A103J	CHIP R	10K	J	1/10W
R184-186			RK73GB2A473J	CHIP R	47K	J	1/10W
R187,188			RK73GB2A103J	CHIP R	10K	J	1/10W
R189			RK73GB2A102J	CHIP R	1.0K	J	1/10W
R190			RK73GB2A103J	CHIP R	10K	J	1/10W
R191			RK73GB2A562J	CHIP R	5.6K	J	1/10W
R192			RK73GB2A123J	CHIP R	12K	J	1/10W
R193			RK73GB2A223J	CHIP R	22K	J	1/10W
R194			RK73GB2A822J	CHIP R	8.2K	J	1/10W
R195			RK73GB2A103J	CHIP R	10K	J	1/10W
R196			RK73GB2A104J	CHIP R	100K	J	1/10W
R197,198			RK73GB2A473J	CHIP R	47K	J	1/10W
R199			RK73GB2A562J	CHIP R	5.6K	J	1/10W
R200			RK73GB2A332J	CHIP R	3.3K	J	1/10W
R201,202			RD14DB2H100J	SMALL-RD	10	J	1/2W
R203			RK73GB2A273J	CHIP R	27K	J	1/10W
R241			RK73GB2A512J	CHIP R	5.1K	J	1/10W
R301,302			RD14BB2C271J	RD	270	J	1/6W
R303,304			RK73GB2A443J	CHIP R	4.3K	J	1/10W
R305			RK73GB2A102J	CHIP R	1.0K	J	1/10W
R306,307			RN73GH1J103D	CHIP R	10K	D	1/16W
R308,309			RK73GB2A447J	CHIP R	47	J	1/10W
R310			RK73GB2A123J	CHIP R	12K	J	1/10W
R311			RK73GB2A203J	CHIP R	20K	J	1/10W
R312,313			RK73GB2A152J	CHIP R	1.5K	J	1/10W

PARTS LIST

* New parts

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AUDIO UNIT (X09-5760-10)

Ref. No.	A d d	N e w	Parts No.	Description			Desti- nation	Ref. No.	A d d	N e w	Parts No.	Description			Desti- nation
R314			RK73GB2A203J	CHIP R	20K	J	1/10W	W513-532			R92-2053-05	CHIP R	0	J	1/8W
R315			RK73GB2A123J	CHIP R	12K	J	1/10W	W534-545			R92-2053-05	CHIP R	0	J	1/8W
R316,317			RK73GB2A152J	CHIP R	1.5K	J	1/10W	W547-558			R92-2053-05	CHIP R	0	J	1/8W
R318			RD14BB2C153J	RD	15K	J	1/6W	W560-573			R92-2053-05	CHIP R	0	J	1/8W
R319			RD14BB2C104J	RD	100K	J	1/6W	W601-617			R92-1252-05	CHIP R	0 OHM	J	1/16W
R320			RD14BB2C153J	RD	15K	J	1/6W	S1		*	S68-0806-05	PUSH SWITCH			
R321,322			RD14BB2C102J	RD	1.0K	J	1/6W	S2		*	S79-0843-05	DIP SWITCHES			
R323			RK73GB2A392J	CHIP R	3.9K	J	1/10W	D1		*	STZ6.8N	ZENER DIODE			
R324			RK73GB2A272J	CHIP R	2.7K	J	1/10W	D2		*	LM1MA142WK-G	DIODE			
R325,326			RK73GB2A105J	CHIP R	1.0M	J	1/10W	D3		*	LM1MA142WA-G	DIODE			
R327			RK73GB2A100J	CHIP R	10	J	1/10W	D13		*	B30-1601-05	LED			
R328,329			RK73GB2A472J	CHIP R	4.7K	J	1/10W	D51,52		*	RM4ZLF-J1NF	DIODE			
R330			RK73GB2A470J	CHIP R	47	J	1/10W	D54		*	S5566B-Q	DIODE			
R331			RK73GB2A220J	CHIP R	22	J	1/10W	D55		*	UDZS4.7B	ZENER DIODE			
R332			RK73GB2A202J	CHIP R	2.0K	J	1/10W	D60		*	RD16JS(B)	ZENER DIODE			
R333			RK73GB2A103J	CHIP R	10K	J	1/10W	D68		*	FCH10A20	DIODE			
R334,335			RD14BB2C470J	RD	47	J	1/6W	D69		*	FRH10A20	DIODE			
R336			RK73GB2A104J	CHIP R	100K	J	1/10W	D70		*	UDZS6.8B	ZENER DIODE			
R337-339			RK73GB2A103J	CHIP R	10K	J	1/10W	D71		*	RD15JS(B)	ZENER DIODE			
R341,342			RK73GB2A472J	CHIP R	4.7K	J	1/10W	D81		*	LM1MA142WK-G	DIODE			
R344			RK73GB2A473J	CHIP R	47K	J	1/10W	D103		*	LM1MA142WA-G	DIODE			
R345			RD14BB2C473J	RD	47K	J	1/6W	D105,106		*	RD5.1JS(B2)	ZENER DIODE			
R347			RK73GB2A104J	CHIP R	100K	J	1/10W	D107			1SS133	DIODE			
R348,349			RK73GB2A182J	CHIP R	1.8K	J	1/10W	D108			RD5.1JS(B2)	ZENER DIODE			
R350,351			RK73GB2A103J	CHIP R	10K	J	1/10W	D109-118			1SS133	DIODE			
R352			RK73GB2A302J	CHIP R	3.0K	J	1/10W	D127-130			1SS133	DIODE			
R353			RK73GB2A561J	CHIP R	560	J	1/10W	D131-133			1SS355	DIODE			
R354-357			RK73GB2A100J	CHIP R	10	J	1/10W	D251		*	1SS133	DIODE			
R360			RK73GB2A563J	CHIP R	56K	J	1/10W	D301		*	LM1MA142WA-G	DIODE			
R401			RK73GB2A103J	CHIP R	10K	J	1/10W	D302		*	LM1MA142WK-G	DIODE			
R402			RK73GB2A473J	CHIP R	47K	J	1/10W	D303		*	STZ6.8N	ZENER DIODE			
R418,419			RK73GB2A104J	CHIP R	100K	J	1/10W	D304,305		*	1SS355	DIODE			
R420			RK73GB2A103J	CHIP R	10K	J	1/10W	D306-308		*	STZ6.8N	ZENER DIODE			
R421,422			RK73GB2A101J	CHIP R	100	J	1/10W	D309		*	DA204U	DIODE			
R423,424			RK73GB2A103J	CHIP R	10K	J	1/10W	D310		*	UDZS5.1B	ZENER DIODE			
R425,426			RK73GB2A181J	CHIP R	180	J	1/10W	D311		*	STZ6.8N	ZENER DIODE			
R427-429			RK73GB2A103J	CHIP R	10K	J	1/10W	D312		*	UDZS16B	ZENER DIODE			
R430			RK73GB2A222J	CHIP R	2.2K	J	1/10W	D313,314		*	1SS355	DIODE			
R431			RK73GB2A473J	CHIP R	47K	J	1/10W	D315		*	LM1MA142WK-G	ZENER DIODE			
R432,433			RK73GB2A272J	CHIP R	2.7K	J	1/10W	D317		*	DA204U	DIODE			
R434			RK73GB2A103J	CHIP R	10K	J	1/10W	D318		*	1SS355	ZENER DIODE			
R438			RK73GB2A153J	CHIP R	15K	J	1/10W	D319		*	STZ6.8N	ZENER DIODE			
R439			RK73GB2A301J	CHIP R	300	J	1/10W	D341-344			1SS355	DIODE			
R440			RK73GB2A103J	CHIP R	10K	J	1/10W	D351		*	UDZS5.1B	ZENER DIODE			
R441			RK73GB2A102J	CHIP R	1.0K	J	1/10W	D352		*	UDZS10B	ZENER DIODE			
R442			RK73GB2A182J	CHIP R	1.8K	J	1/10W	D353		*	UDZS3.3B	ZENER DIODE			
R443,444			RK73GB2A272J	CHIP R	2.7K	J	1/10W	D354		*	UDZS5.1B	ZENER DIODE			
R450-453			RK73GB2A102J	CHIP R	1.0K	J	1/10W	IC1			BA4560F	IC			
R454,455			RK73GB2A101J	CHIP R	100	J	1/10W	IC2			UPC494GS	ANALOGUE IC			
R458-460			RK73GB2A101J	CHIP R	100	J	1/10W	IC3		*	P82B96PN	ANALOGUE IC			
R475,476			RK73GB2A562J	CHIP R	5.6K	J	1/10W	IC4		*	BA10393F	ANALOGUE IC			
R477,478			RK73GB2A133J	CHIP R	13K	J	1/10W	IC5		*	784224YGC117	MICROCONTROLLER IC			
R479,480			RK73GB2A103J	CHIP R	10K	J	1/10W	IC6		*	PST3436UL-E	MOS-IC			
VR1,2			R12-0092-05	SEMI FIXED VARIABLE RESIST 220				IC7			BA4560F	IC			
W501-511			R92-2053-05	CHIP R	0	J	1/8W	IC9,10							

KAC-PS521/X521

PARTS LIST

* New parts

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Teile ohne **Parts No.** werden nicht geliefert.

AUDIO UNIT (X09-5760-10)

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
Q50			2SC4081	TRANSISTOR	
Q51,52			2SC4097	TRANSISTOR	
Q53,54			2SA1577	TRANSISTOR	
Q55-60	*		2SK3662-F	FET	
Q61	*		2SD2012-F	TRANSISTOR	
Q62	*		2SB1375-F	TRANSISTOR	
Q63			2SA1576A	TRANSISTOR	
Q64			2SB1241	TRANSISTOR	
Q65			DTC114EUA	DIGITAL TRANSISTOR	
Q66			2SB1238	TRANSISTOR	
Q68			2SC4081	TRANSISTOR	
Q69			2SA1576A	TRANSISTOR	
Q70,71			2SC4081	TRANSISTOR	
Q81	*		2SK246(BL)-F	FET	
Q91,92			DTA114EUA	DIGITAL TRANSISTOR	
Q97			2SC4081	TRANSISTOR	
Q101,102			2SC4081	TRANSISTOR	
Q103-110			2SA992(F,E)	TRANSISTOR	
Q111,112			2SA1576A	TRANSISTOR	
Q113-116			2SC3478A(L,K)	TRANSISTOR	
Q117,118			2SA1376A(L,K)	TRANSISTOR	
Q119,120			2SC3419(Y)	TRANSISTOR	
Q121,122			2SC1845(F,E)	TRANSISTOR	
Q123,124			2SA992(F,E)	TRANSISTOR	
Q125-128	*		2SC2235-F	TRANSISTOR	
Q129-132	*		2SA965-F	TRANSISTOR	
Q133-136	*		2SC3856NF	TRANSISTOR	
Q137-140	*		2SA1492NF	TRANSISTOR	
Q141			DTA124EUA	DIGITAL TRANSISTOR	
Q142			2SA1576A	TRANSISTOR	
Q143,144			2SC4081	TRANSISTOR	
Q145			2SA1576A	TRANSISTOR	
Q146			2SC1845(F,E)	TRANSISTOR	
Q147			2SA992(F,E)	TRANSISTOR	
Q148,149			2SC4081	TRANSISTOR	
Q301			2SC4081	TRANSISTOR	
Q302,303			2SA1576A	TRANSISTOR	
Q304			2SC4081	TRANSISTOR	
Q305,306			2SA1576A	TRANSISTOR	
Q307			DTC114EUA	DIGITAL TRANSISTOR	
Q313			DTC114EUA	DIGITAL TRANSISTOR	
Q314			DTA114EUA	DIGITAL TRANSISTOR	
Q341-344			2SC4081	TRANSISTOR	
Q346			DTC114EUA	DIGITAL TRANSISTOR	
Q347			DTA114EUA	DIGITAL TRANSISTOR	
Q348			DTC114EUA	DIGITAL TRANSISTOR	
Q349			DTA114EUA	DIGITAL TRANSISTOR	
Q351			DTA114EUA	DIGITAL TRANSISTOR	
Q352,353			DTC114EUA	DIGITAL TRANSISTOR	
Q354			DTA114EUA	DIGITAL TRANSISTOR	
Q355			DTC114EUA	DIGITAL TRANSISTOR	
Q356	*		2SC3902	TRANSISTOR	
Q357			2SC4081	TRANSISTOR	
Q358	*		2SC3902	TRANSISTOR	
Q403,404			2SC945(A)(Q,P)	TRANSISTOR	

Ref. No.	A d d	N e w	Parts No.	Description	Desti- nation
TH1-4		*	NT732ATTD103J	THERMISTOR	

PARTS LIST

CAPACITORS

CC 45 TH 1H 220 J
 1 2 3 4 5 6

1 = Type ... ceramic, electrolytic, etc.

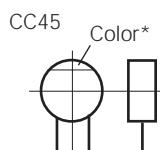
2 = Shape ... round, square, etc.

3 = Temp. coefficient

4 = Voltage rating

5 = Value

6 = Tolerance



• Capacitor value

010 = 1pF

100 = 10pF

101 = 100pF

102 = 1000pF = 0.001μF

103 = 0.01μF

2 2 0 = 22pF

Multiplier

2nd number

1st number

• Temperature coefficient

1st Word	C	L	P	R	S	T	U
Color*	Black	Red	Orange	Yellow	Green	Blue	Violet
ppm/°C	0	-80	-150	-220	-330	-470	-750

2nd Word	G	H	J	K	L
ppm/°C	±30	±60	±120	±250	±500

Example : CC45TH = -470±60ppm/°C

• Tolerance (More than 10pF)

Code	C	D	G	J	K	M	X	Z	P	No code	
(%)	±0.25	±0.5	±2	±5	±10	±20	+40	+80	+100	More than 10μF : -10~+50	
							-20	-20	-0	Less than 4.7μF : -10~+75	

(Less than 10pF)

Code	B	C	D	F	G
(pF)	±0.1	±0.25	±0.5	±1	±2

• Voltage rating

2nd word	A	B	C	D	E	F	G	H	J	K	V
1st word											
0	1.0	1.25	1.6	2.0	2.5	3.15	4.0	5.0	6.3	8.0	-
1	10	12.5	16	20	25	31.5	40	50	63	80	35
2	100	125	160	200	250	315	400	500	630	800	-
3	1000	1250	1600	2000	2500	2150	4000	5000	6300	8000	-

CHIP CAPACITORS

(EX) CC 73 F SL 1H 000 J
 1 2 3 4 5 6 7

Refer to the table above.

1 = Type

2 = Shape

3 = Dimension

4 = Temp. coefficient

5 = Voltage rating

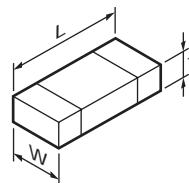
6 = Value

7 = Tolerance

(Chip) (CH, RH, UJ, SL)
 CK 73 F F 1H 000 Z
 1 2 3 4 5 6 7

(Chip) (B, F)

• Dimension



Chip capacitor

Code	L	W	T
Empty	5.6±0.5	5.0±0.5	Less than 2.0
A	4.5±0.5	3.2±0.4	Less than 2.0
B	4.5±0.5	2.0±0.3	Less than 2.0
C	4.5±0.5	1.25±0.2	Less than 1.25
D	3.2±0.4	2.5±0.3	Less than 1.5
E	3.2±0.2	1.6±0.2	Less than 1.25
F	2.0±0.3	1.25±0.2	Less than 1.25
G	1.6±0.2	0.8±0.2	Less than 1.0
H	1.0±0.05	0.5±0.05	0.5±0.05

RESISTORS

• Chip resistor (Carbon)

(EX) RD 73 E B 2B 000 J
 1 2 3 4 5 6 7

(Chip) (B, F)

• Carbon resistor (Normal type)

(EX) RD 14 B B 2C 000 J
 1 2 3 4 5 6 7

(Chip) (B, F)

1 = Type ... ceramic, electrolytic, etc.

2 = Shape ... round, square, etc.

3 = Dimension

4 = Temp. coefficient

5 = Voltage rating

6 = Value

7 = Tolerance

Chip resistor

Code	L	W	T
E	3.2±0.2	1.6±0.2	1.0
F	2.0±0.3	1.25±0.2	1.0
G	1.6±0.2	0.8±0.2	0.5±0.1
H	1.0±0.05	0.5±0.05	0.35±0.05

• Rating wattage

Code	Wattage	Code	Wattage	Code	Wattage
1J	1/16W	2C	1/6W	3A	1W
2A	1/10W	2E	1/4W	3D	2W
2B	1/8W	2H	1/2W		

KAC-PS521/X521

SPECIFICATIONS

KAC-PS521

AUDIO SECTION

Rated Power Output (4Ω, 20Hz~20kHz, 12V) ... 80W x 2 (0.05% THD)
(2Ω, 1kHz, 12V) 160W x 2 (0.5% THD)
Bridged Power (4Ω, 1kHz, 12V) 320W x 1 (0.5% THD)
Rated Power Output (4Ω, 20Hz~20kHz, 14.4V) ... 125W x 2 (0.05% THD)
(4Ω, DIN45324, 14.4V) 125W x 2
(2Ω, 1kHz, 14.4V) 250W x 2 (0.5% THD)
Bridged Power (4Ω, 1kHz, 14.4V) 500W x 1 (0.5% THD)
MAX Power Output 1000W
Low-Pass Filter 50Hz~200Hz (24dB/oct)
High-Pass Filter 50Hz~200Hz (12dB/oct)
Infrasonic Filter 15Hz (24dB/oct)
Frequency Response 5Hz~70kHz (+0, -3dB)
S/N Ratio 105dB
Sensitivity (Max) 0.2V (Rated Output)
Sensitivity (Min) 5V (Rated Output)
Input Impedance 10kΩ

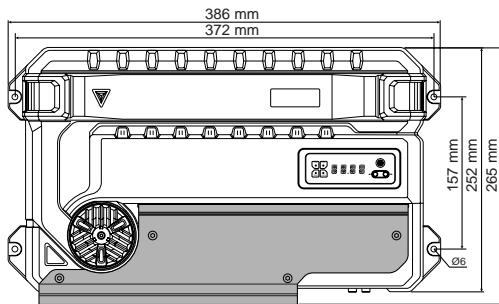
AMP CONTROL SECTION (EQ)

Bass Frequency Control 60Hz, 80Hz, 100Hz, 200Hz
Bass Level Control -15dB to +15dB
Bass Q Factor Control 1.00, 1.25, 1.50, 2.00
Treble Frequency Control 10kHz, 12kHz, 15kHz, 17kHz
Treble Level Control -15dB to +15dB

GENERAL

Operating Voltage (11~16V allowable) 14.4V
Current Consumption (1kHz, 10% THD) at 4Ω 37A
Size (with out dress plate) (W x H x D) 386 x 61 x 259.5 (mm), 15-1/5 x 2-2/5 x 10-1/5 (inch)
Installation Size (foot point) (W x H x D) 386 x 61 x 265 (mm), 15-1/5 x 2-2/5 x 10-2/5 (inch)
Weight 3.83kg (8.44 lbs)

Installation



KENWOOD CORPORATION

2967-3, Ishikawa-machi, Hachioji-shi, Tokyo, 192-8525 Japan

KENWOOD USA CORPORATION

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KENWOOD ELECTRONICS BELGIUM N.V.

Leuvensesteenweg 248 J, 1800 Vilvoorde, Belgium

KAC-X521

AUDIO SECTION

RMS Power Output (4Ω/2ch, 14.4V) 165W (1.0% THD+N)
(2Ω/2ch, 14.4V) 254W (1.0% THD+N) 1kHz
RMS Bridged Output (4Ω, 14.4V) 505W (1.0% THD+N)
Dynamic Power Under 0.3dB (4Ω)
Output Regulation 81dBA (w/4Ω)
Signal to Noise Ratio (Bypass) 82dBA (w/4Ω)
Rated Power Output (4Ω, 20Hz~20kHz, 12V) ... 80W x 2 (0.05% THD)
(2Ω, 1kHz, 12V) 160W x 2 (0.5% THD)
Bridged Power (4Ω, 1kHz, 12V) 320W x 1 (0.5% THD)
Rated Power Output (4Ω, 20Hz~20kHz, 14.4V) ... 125W x 2 (0.05% THD)
(4Ω, DIN45324, 14.4V) 125W x 2
(2Ω, 1kHz, 14.4V) 250W x 2 (0.5% THD)
Bridged Power (4Ω, 1kHz, 14.4V) 500W x 1 (0.5% THD)
MAX Power Output 1000W
Low-Pass Filter 50Hz~200Hz (24dB/oct)
High-Pass Filter 50Hz~200Hz (12dB/oct)
Infrasonic Filter 15Hz (24dB/oct)
Frequency Response 5Hz~70kHz (+0, -3dB)
S/N Ratio 105dB
Sensitivity (Max) 0.2V (Rated Output)
Sensitivity (Min) 5V (Rated Output)
Input Impedance 10kΩ

AMP CONTROL SECTION (EQ)

Bass Frequency Control 60Hz, 80Hz, 100Hz, 200Hz
Bass Level Control -15dB to +15dB
Bass Q Factor Control 1.00, 1.25, 1.50, 2.00
Treble Frequency Control 10kHz, 12kHz, 15kHz, 17kHz
Treble Level Control -15dB to +15dB

GENERAL

Operating Voltage (11~16V allowable) 14.4V
Current Consumption (1kHz, 10% THD) at 4Ω 37A
Size (with out dress plate) (W x H x D) 386 x 61 x 259.5 (mm), 15-1/5 x 2-2/5 x 10-1/5 (inch)
Installation Size (foot point) (W x H x D) 386 x 61 x 265 (mm), 15-1/5 x 2-2/5 x 10-2/5 (inch)
Weight 3.83kg (8.44 lbs)

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

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