

CLASS D MONO POWER AMPLIFIER

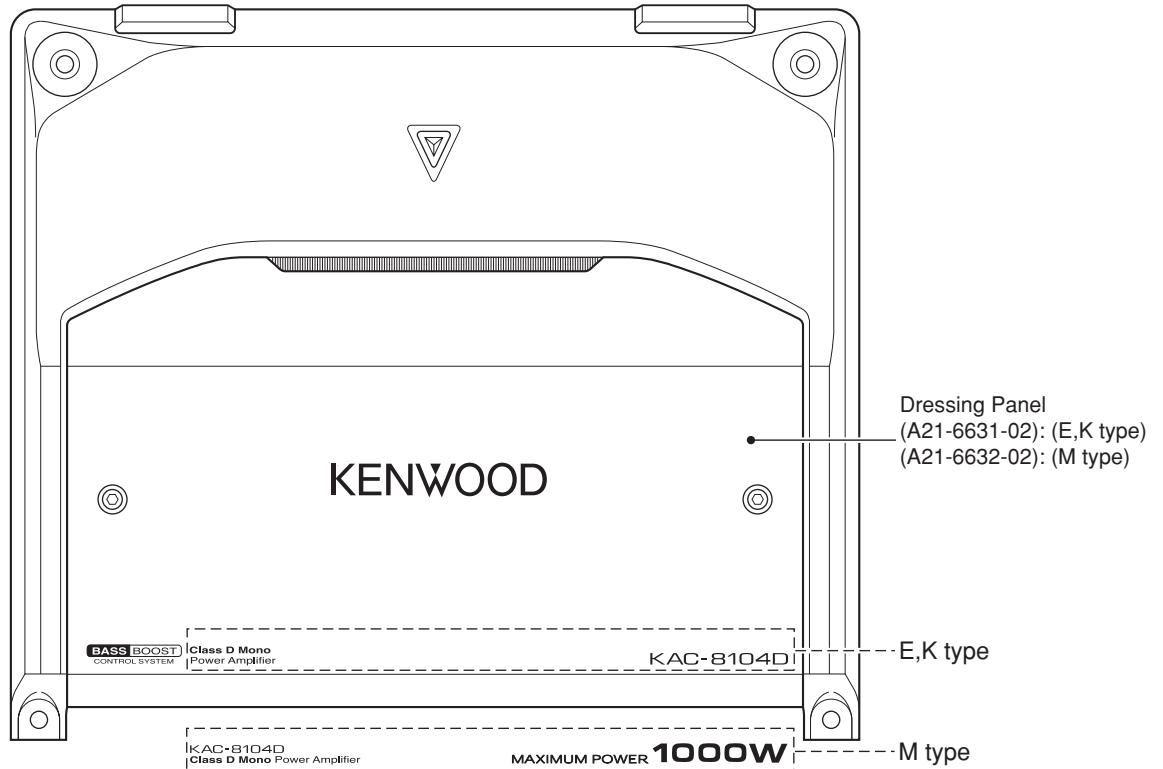
KAC-8104D

SERVICE MANUAL

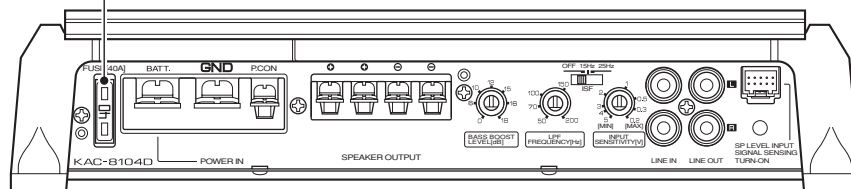
KENWOOD

Kenwood Corporation

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B53-0602-00 (N) 519



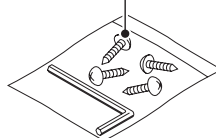
Fuse (40A)
(F52-0016-05)



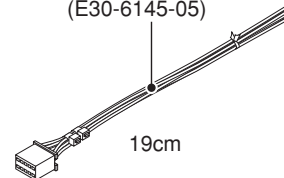
Accessories
(W01-1606-05)



Screw & wrench key set
(N99-1820-05)

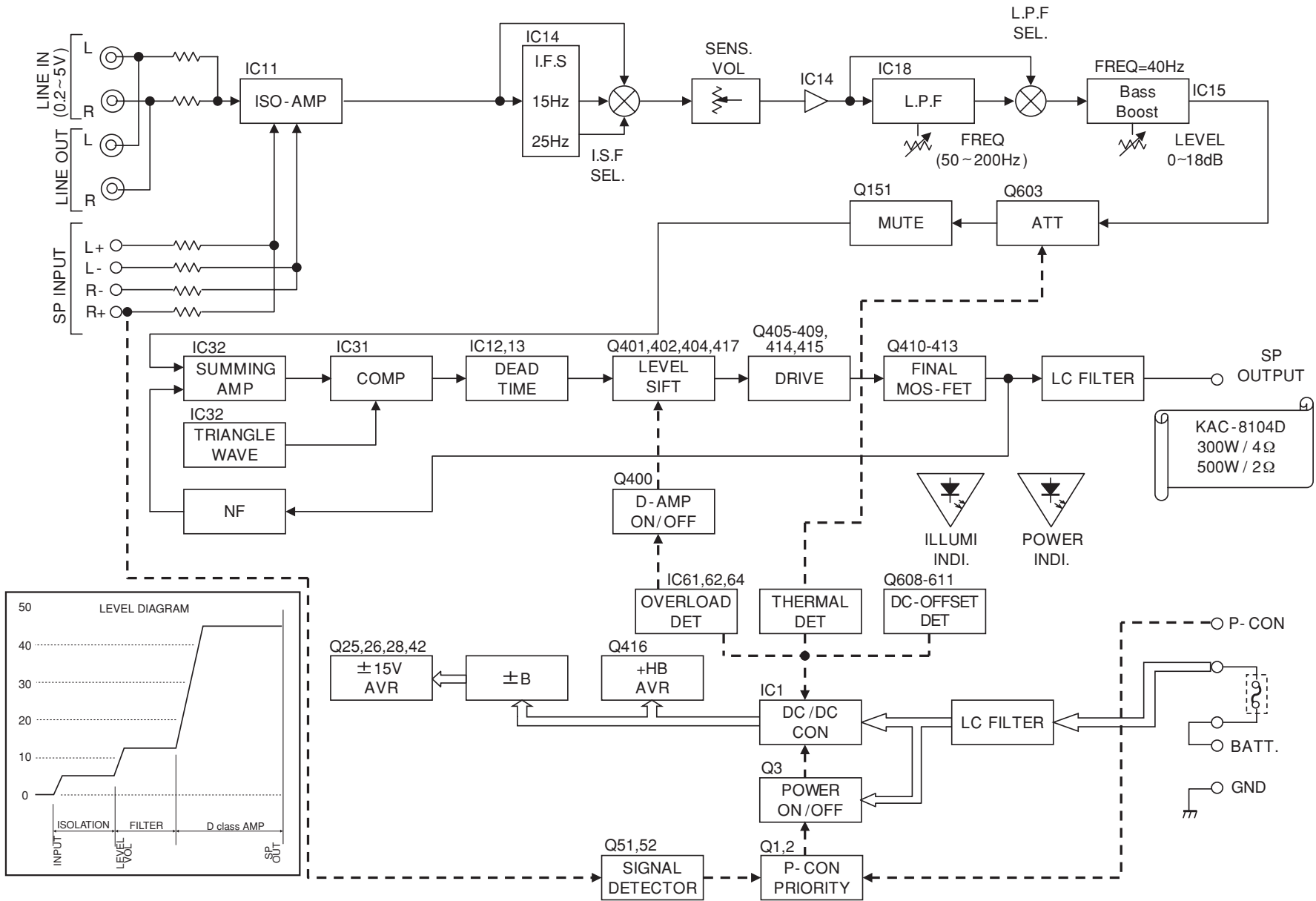


Connecting cord assy
(E30-6145-05)



This product uses Lead Free solder.
This product complies with the **RoHS** directive for the European market.

BLOCK DIAGRAM



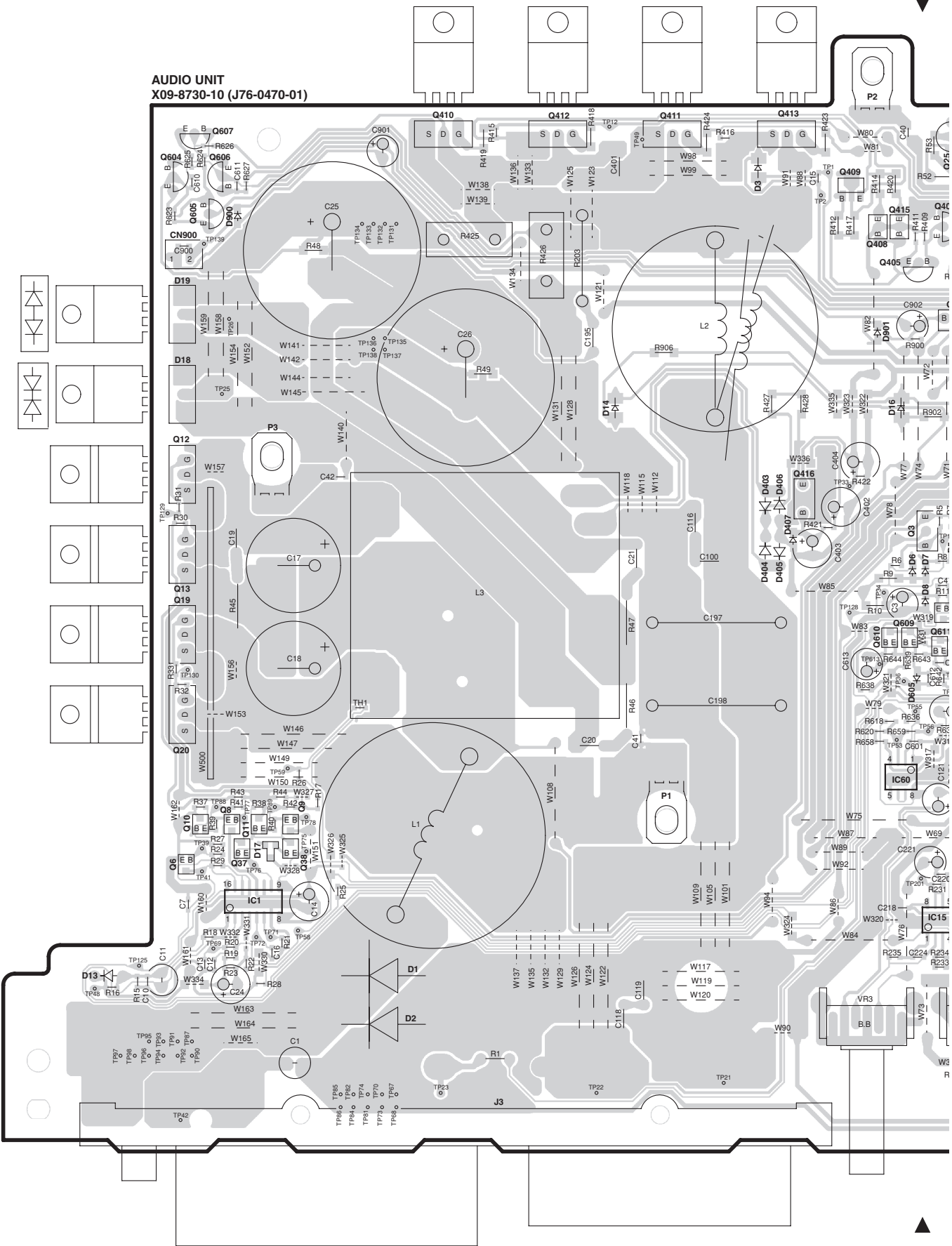
COMPONENTS DESCRIPTION

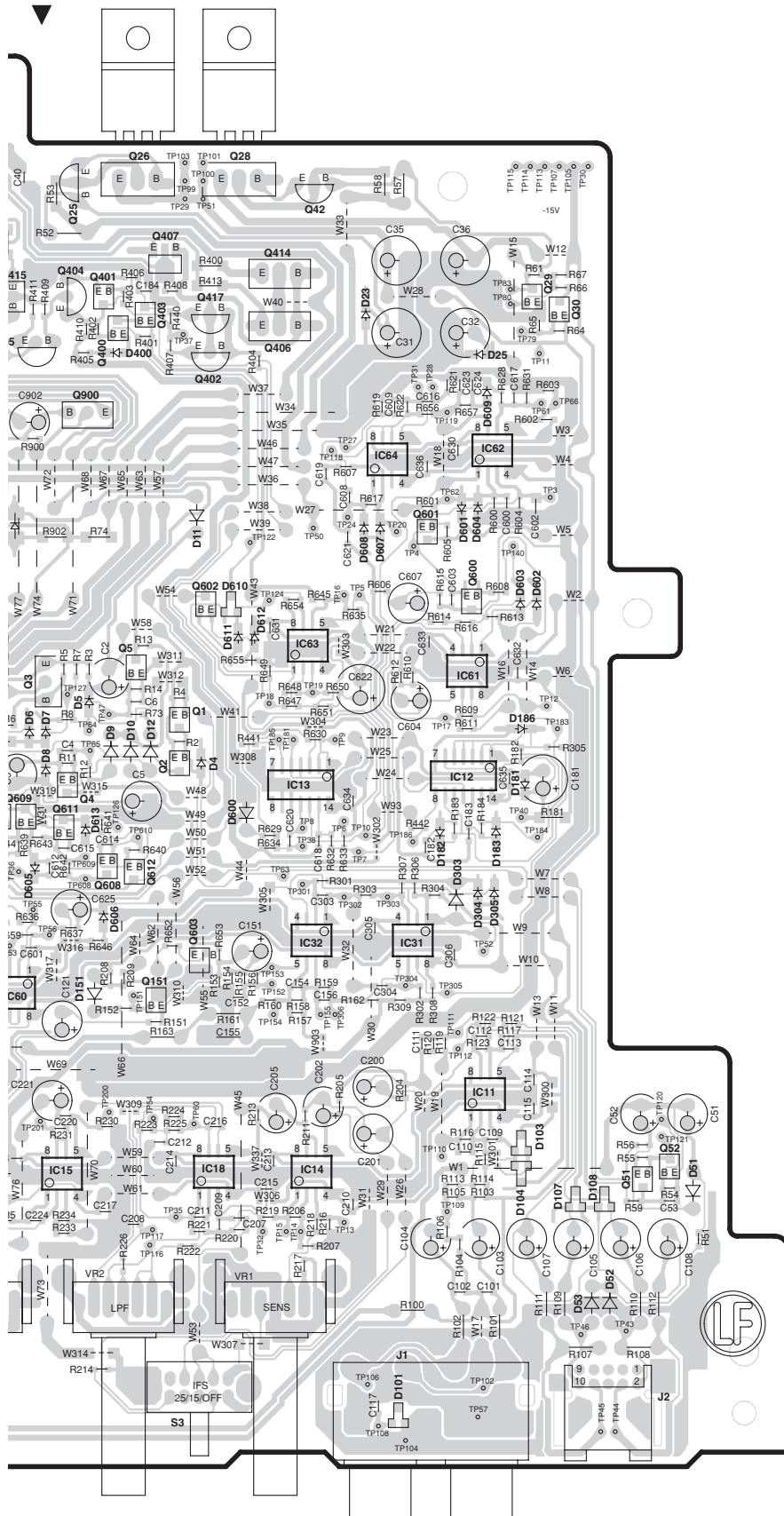
● AUDIO UNIT (X09-8730-10)

Ref. No.	Application / Function	Operation / Condition / Compatibility
IC1	DC/DC converter IC	Generates drive signal for switching component
IC11	Isolation amplifier	Isolates noises caused by potential differences in GND
IC12,13	NAND	Generates and shapes the inverted waveform and to create dead time in D-class section
IC14	INFRA SONIC FILTER	Cuts off ultra low frequency of audio signal
IC15	BASS BOOST	Bass boost (Variable level)
IC18	LOW PASS FILTER	Cuts off high frequency of audio signal
IC31 (1/2)	Triangular wave generation	Generates reference signal for digitalizing analog signal
IC31 (2/2)	Comparator	Digitalizes by comparing analog signal with triangular waves
IC32 (1/2)	Triangular wave generation	Generates reference signal for digitalizing analog signal
IC32 (2/2)	Error amplifier	Compensates errors by feedback from the output
IC60	Attenuation circuit to attenuate input signal by 1.5dB	Attenuates output when temperature in the set becomes too high
IC61,62,64	Resonance detecting circuit	Detects short in SP output circuit, measures over current in the circuit, and activates protection operation
IC63	Comparator	Controls D/D CON and D-class On/Off with the over current detection and Pcon control signals
Q1-3	PCON switch	Turns on the circuit when ON signal is applied to the PCON circuit
Q4,5	Mute	Generates mute drive signal and turns off LED
Q6	DC/DC converter ON/OFF control	Turns off DC/DC converter when protection is detected
Q8-11	Gate driver	Gate driver in DC/DC converter FET
Q12,13,19,20	DC/DC converter	DC/DC converter switching
Q25,26,28,42	AVR	±15V AVR
Q29,30	Tracking when ±15V AVR is turned OFF	Matches the trailing edge of "-15V" AVR with that of "+15V" AVR
Q37,38	DC/DC converter pulse ON/OFF control	ON or OFF of DC/DC converter drive waveform
Q51,52	AUTO Pcon	Sends DC voltage from SP IN to Pcon control circuit
Q151	Mute	Turns off audio signal
Q400,403	D-class amplifier switch	Turns on or off D-class amplifier
Q401,402 Q404-409,414 Q415,417	Pulse amplification, shaping and level shift	Generates the signal that drives the D-class final FET
Q410-413	Power amplification	High-current switching in D-class
Q416	HB 15V AVR	Stacking AVR to obtain High+B for D-class
Q600,601	Resonance detecting circuit	Detects short in SP output circuit, measures over current in the circuit, and activates protection operation
Q602,612	Protection	Turns off DC/DC converter when protection is detected
Q603	Attenuation circuit to attenuate input signal by 1.5dB	Attenuates output when temperature in the set becomes too high
Q604-607	Current-voltage conversion	Converts current to voltage to detect over current and sends it to the comparator
Q608-611	Latch circuit	Detects over voltage in output and retains the current
Q900	FAN drive	Limit FAN power supply voltage under the rated voltage

A B C D E
1
KAC-8104D
PC BOARD (FOIL SIDE VIEW)

AUDIO UNIT
X09-8730-10 (J76-0470-01)





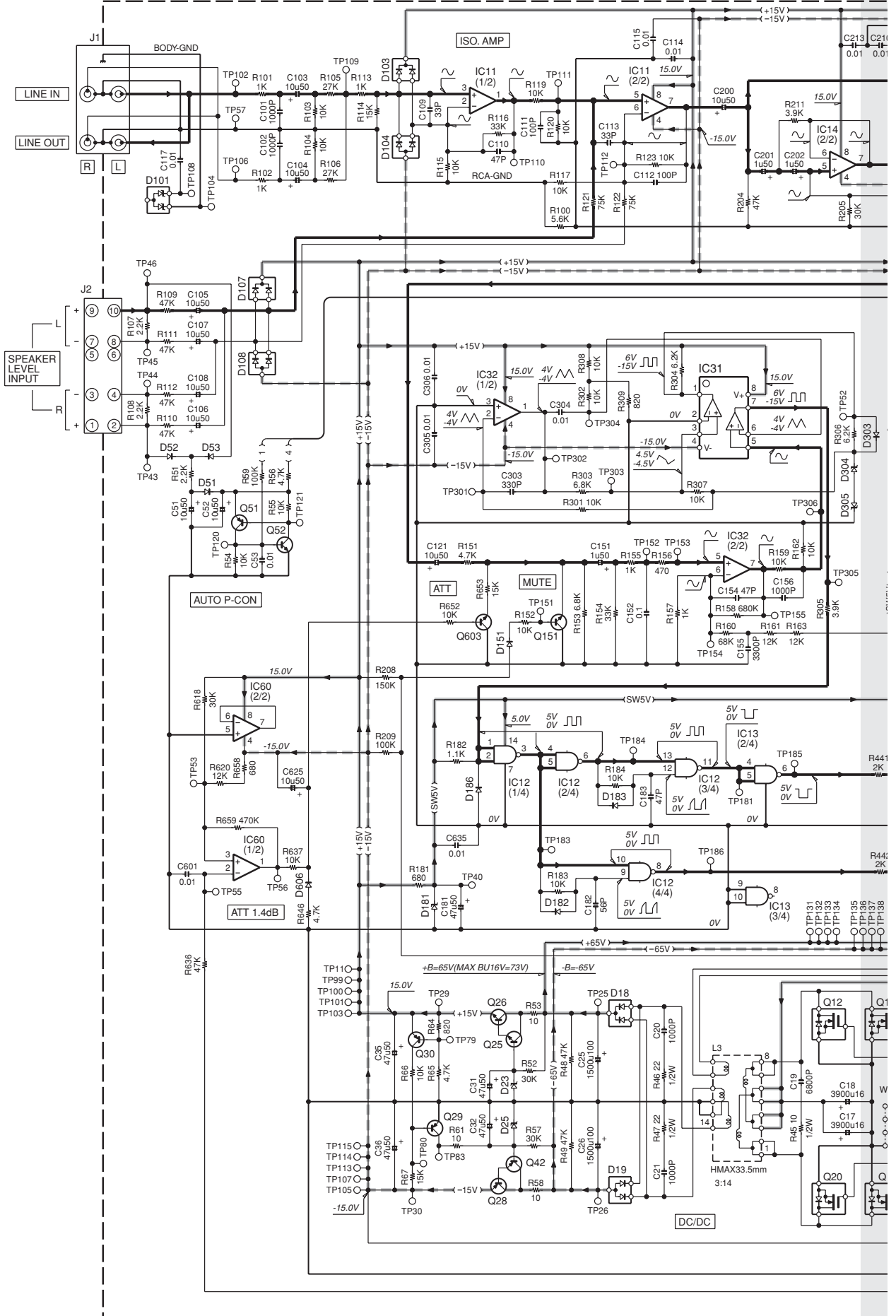
X09-8730-10

Ref. No.	Address	Ref. No.	Address
IC1	6B	Q51	6H
IC11	5G	Q52	6H
IC12	4G	Q151	5F
IC13	4G	Q400	3F
IC14	6G	Q401	2F
IC15	6F	Q402	3F
IC18	6F	Q403	2F
IC31	5G	Q404	2F
IC32	5G	Q405	3E
IC60	5E	Q406	3G
IC61	4G	Q407	2F
IC62	3G	Q408	2E
IC63	4G	Q409	2E
IC64	3G	Q410	2C
Q1	4F	Q411	2D
Q2	4F	Q412	2D
Q3	4E	Q413	2E
Q4	4F	Q414	2G
Q5	4F	Q415	2E
Q6	5B	Q416	4E
Q8	5B	Q417	2F
Q9	5B	Q600	3G
Q10	5B	Q601	3G
Q11	5B	Q602	3F
Q12	3B	Q603	5F
Q13	4B	Q604	2B
Q19	4B	Q605	2B
Q20	5B	Q606	2B
Q25	2F	Q607	2B
Q26	2F	Q608	5F
Q28	2F	Q609	4E
Q29	2H	Q610	4E
Q30	2H	Q611	4F
Q37	5B	Q612	4F
Q38	5B	Q900	3F
Q42	2G		

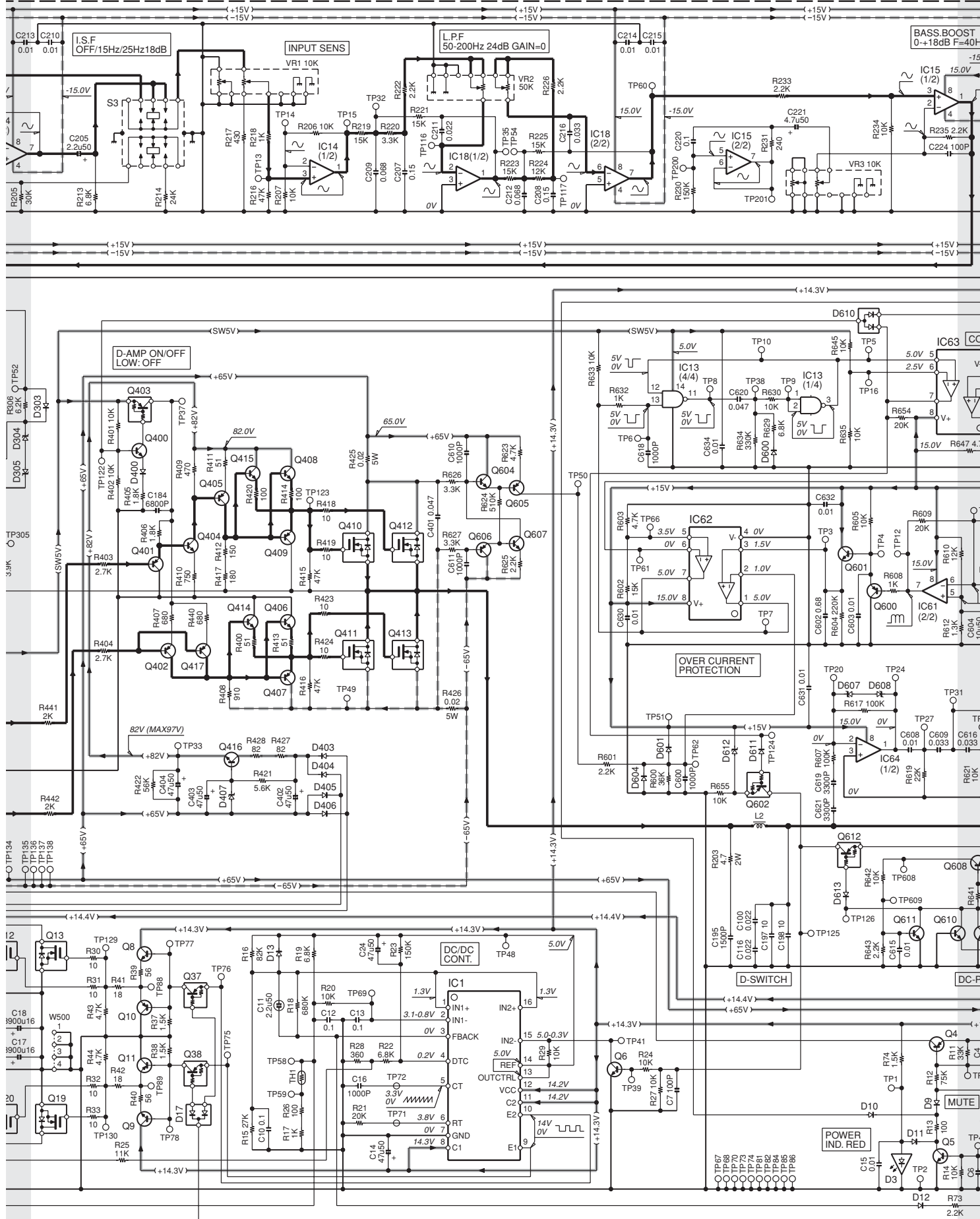
Refer to the schematic diagram for the values of resistors and capacitors.

KAC-8104D

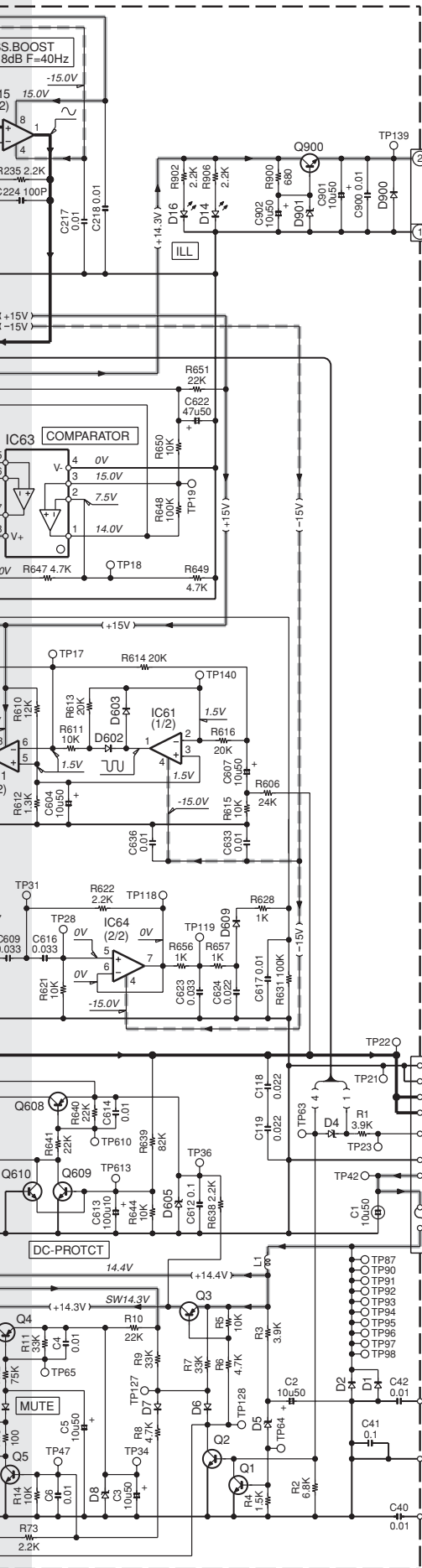
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KAC-8104D



KAC-8104D



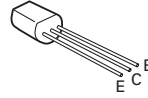
IC1 : TL494IDR
 IC11,14,15,18,32,60,61,
 64 : BA4560RF
 IC12,13 : SN74HC00D
 IC31,62,63 : BA2903F

Q1,2,5,6,52,151,400,601,
 603,609-611 : 2SC4081
 Q3 : 2SB1241
 Q4,29,30,51,401,600,608
 : 2SA1576A
 Q8,9 : 2SC4097
 Q10,11 : 2SA1577
 Q12,13,19,20 : STP60NF06FP
 Q25,404 : 2SC1845-A(F,E)
 Q26 : 2SC4883ANF
 Q28 : 2SA1859ANF
 Q37,38,403,602 : DTA114EUA
 Q42,402,417 : 2SA992-A(F,E)
 Q405 : 2SA1370
 Q406,414 : 2SC3902
 Q407,409 : 2SB1427
 Q408,415 : 2SC3415S
 Q410-413 : IRFB31N20DPBF
 Q416,900 : 2SD1863
 Q604,607 : 2SC3478AA(L,K)
 Q605,606 : 2SA1376AA(L,K)
 Q612 : DTA124EUA

D1,2 : 1N5406-TSC
 D3 : B30-1743-05
 D4 : UDZS6.8B
 D5,407 : UDZS15B
 D6,7,182,183,186,400,
 601-604,606,609,611,
 613,900 : 1SS355
 D8,605,607,608 : UDZS10B
 D9-13,51-53,151,303,
 403-406,600 : 1SS133
 D14,16 : B30-1770-05
 D17,103,107 : LM1MA142WK-G
 D18 : FCH10A20
 D19 : FRH10A20
 D23,25 : UDZS16B
 D101 : UMZ6.8N
 D104,108,610 : LM1MA142WA-G
 D181 : UDZS5.1B
 D304,305 : UDZS5.6B
 D612 : UDZS6.2B
 D901 : UDZS12B

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

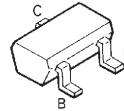
2SA992-A
 2SC1845-A



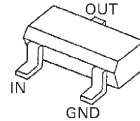
2SA1576A



2SC4081



DTA114EUA
 DTA124EUA



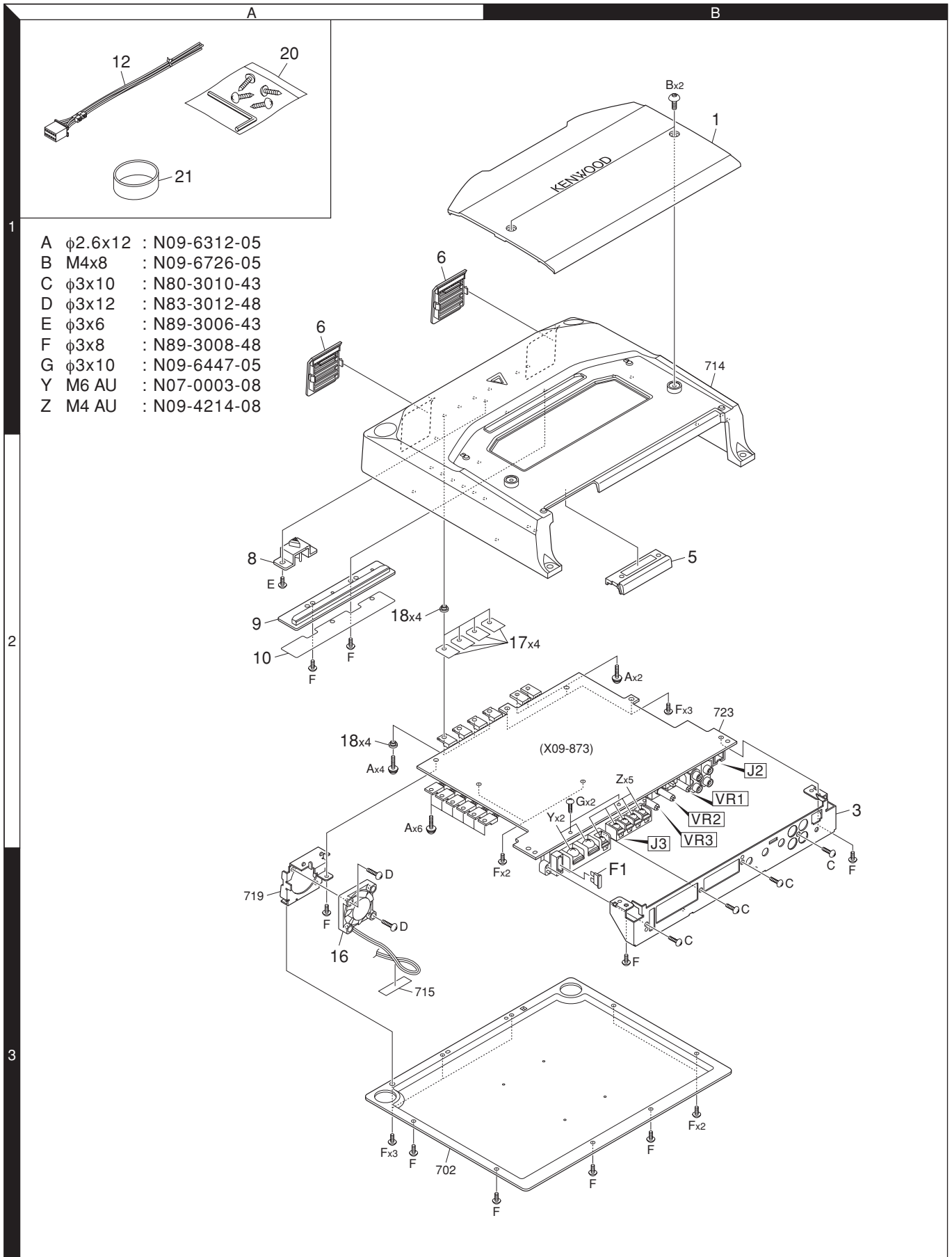
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CAUTION : For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).

△ 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.

EXPLODED VIEW



- A $\phi 2.6 \times 12$: N09-6312-05
- B M4x8 : N09-6726-05
- C $\phi 3 \times 10$: N80-3010-43
- D $\phi 3 \times 12$: N83-3012-48
- E $\phi 3 \times 6$: N89-3006-43
- F $\phi 3 \times 8$: N89-3008-48
- G $\phi 3 \times 10$: N09-6447-05
- Y M6 AU : N07-0003-08
- Z M4 AU : N09-4214-08

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

KAC-8104D

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-8104D					
1	1B	*	A21-6631-02	DRESSING PANEL	KE1
1	1B	*	A21-6632-02	DRESSING PANEL	M1
3	2B	*	A64-4418-02	PANEL	
5	2B	*	B07-3231-03	ESCUTCHEON (DENGEN)	
6	1A	*	B07-3232-02	ESCUTCHEON (FAN)	
8	2A	*	B19-2324-03	LIGHTING BOARD (TRIANGLE)	
9	2A	*	B19-2468-03	LIGHTING BOARD	
10	2A	*	B19-2502-03	LIGHTING BOARD	
-		*	B64-3931-00	INSTRUCTION MANUAL (ENG.FRE.SPA)	KE1
-		*	B64-3932-00	INSTRUCTION MANUAL (GE.DU.IT.PO)	E1
-		*	B64-3933-00	INSTRUCTION MANUAL (ENG.S-CHI.)	M1
12	1A		E30-6145-05	CONNECTING CORD ASSY	
16	3A	*	F09-2974-05	FAN	
17	2B	*	F20-2443-04	INSULATING SHEET	
18	2A		F29-0112-05	INSULATING WASHER	
F1	3B		F52-0016-05	FUSE (BLADE TYPE) 40A	
-		*	H54-4234-03	ITEM CARTON CASE	K
-		*	H54-4235-03	ITEM CARTON CASE	E1
-		*	H54-4236-03	ITEM CARTON CASE	M1
20	1A	*	N99-1820-05	SCREW & WRENCH KEY SET	
A	2B		N09-6312-05	SEMS (TAPTITE SCREW) (2.6X12)	
B	1B	*	N09-6726-05	DRESSED SCREW (M4X8)	
C	3B		N80-3010-43	PAN HEAD TAPTITE SCREW	
D	3A		N83-3012-48	PAN HEAD TAPTITE SCREW	
E	2A		N89-3006-43	BINDING HEAD TAPTITE SCREW	
F	2A		N89-3008-48	BINDING HEAD TAPTITE SCREW	
Y	2B		N07-0003-08	TERMINAL SCREW (M6 AU)	
Z	2B		N09-4214-08	TERMINAL SCREW (M4 AU)	
21	1A		W01-1606-05	ACCESSORIES	
AUDIO UNIT (X09-8730-10)					
D3			B30-1743-05	LED (RED LED)	
D14			B30-1770-05	LED (BLUE)	
D16			B30-1770-05	LED (BLUE)	
C1			CD04AU1H100M	NP-ELEC 10UF 50WV	
C2,3			CD04BJ1H100M	ELECTRO 10UF 50WV	
C4			CK73GB1H103K	CHIP C 0.010UF K	
C5			CD04BJ1H100M	ELECTRO 10UF 50WV	
C6			CK73GB1H103K	CHIP C 0.010UF K	
C7			CC73GCH1H101J	CHIP C 100PF J	
C10			CK73GB1H104K	CHIP C 0.10UF K	
C11			CD04AU1H2R2M	NP-ELEC 2.2UF 50WV	
C12,13			CK73GB1H104K	CHIP C 0.10UF K	
C14			CD04BJ1H470M	ELECTRO 47UF 50WV	
C15			CK73GB1H103K	CHIP C 0.010UF K	
C16			CK73GB1H102K	CHIP C 1000PF K	
C17,18			CD04BC1C392M	ELECTRO 3900UF 16WV	
C19			CQ93FMG1H682J	MYLAR 6800PF J	
C20,21			C91-2293-05	MP-F C 1000PF 200WV	
C24			CD04BJ1H470M	ELECTRO 47UF 50WV	
C25,26			C90-5688-05	ELECTRO 1500UF 100WV	

Ref. No.	Add	New	Parts No.	Description	Destination
C31,32			CD04BJ1H470M	ELECTRO 47UF 50WV	
C35,36			CD04BJ1H470M	ELECTRO 47UF 50WV	
C40			CK73GB1H103K	CHIP C 0.010UF K	
C41			CK73GB1H104K	CHIP C 0.10UF K	
C42			CK73GB1H103K	CHIP C 0.010UF K	
C51,52			CD04BJ1H100M	ELECTRO 10UF 50WV	
C53			CK73GB1H103K	CHIP C 0.010UF K	
C100			CK45FF1H223Z	CERAMIC 0.022UF Z	
C101,102			CK73GB1H102K	CHIP C 1000PF K	
C103-108			CD04BJ1H100M	ELECTRO 10UF 50WV	
C109			CC73GCH1H330J	CHIP C 33PF J	
C110			CC73GCH1H470J	CHIP C 47PF J	
C111,112			CC73GCH1H101J	CHIP C 100PF J	
C113			CC73GCH1H330J	CHIP C 33PF J	
C114,115			CK73GB1H103K	CHIP C 0.010UF K	
C116			CK45FF1H223Z	CERAMIC 0.022UF Z	
C117			CK73GB1H103K	CHIP C 0.010UF K	
C118,119			CK45FF1H223Z	CERAMIC 0.022UF Z	
C121			CD04BJ1H100M	ELECTRO 10UF 50WV	
C151			CD04BJ1H010M	ELECTRO 1.0UF 50WV	
C152			CK73GB1H104K	CHIP C 0.10UF K	
C154			CC73GCH1H470J	CHIP C 47PF J	
C155			CQ93FMG1H332J	MYLAR 3300PF J	
C156			CK73GB1H102K	CHIP C 1000PF K	
C181			CD04BJ1H470M	ELECTRO 47UF 50WV	
C182			CC73GCH1H560J	CHIP C 56PF J	
C183			CC73GCH1H470J	CHIP C 47PF J	
C184			CK73GB1H682K	CHIP C 6800PF K	
C195			C91-2295-05	MP-F C 1500PF K	
C197,198		*	C91-2304-05	MP-F C 10UF J	
C200			CD04BJ1H100M	ELECTRO 10UF 50WV	
C201,202			CD04BJ1H010M	ELECTRO 1.0UF 50WV	
C205			CD04BJ1H2R2M	ELECTRO 2.2UF 50WV	
C207,208			CK73GB1E154K	CHIP C 0.15UF K	
C209			CK73GB1H683K	CHIP C 0.068UF K	
C210			CK73GB1H103K	CHIP C 0.010UF K	
C211			CK73GB1H223K	CHIP C 0.022UF K	
C212			CK73GB1H683K	CHIP C 0.068UF K	
C213-215			CK73GB1H103K	CHIP C 0.010UF K	
C216			CK73GB1H333K	CHIP C 0.033UF K	
C217,218			CK73GB1H103K	CHIP C 0.010UF K	
C220			CK73GB1H104K	CHIP C 0.10UF K	
C221			CD04BJ1H4R7M	ELECTRO 4.7UF 50WV	
C224			CC73GCH1H101J	CHIP C 100PF J	
C303			CC73GCH1H331J	CHIP C 330PF J	
C304-306			CK73GB1H103K	CHIP C 0.010UF K	
C401			C91-2292-05	MP-F C 0.047UF 200WV	
C402-404			CD04BJ1H470M	ELECTRO 47UF 50WV	
C600			CK73GB1H102K	CHIP C 1000PF K	
C601			CK73GB1H103K	CHIP C 0.010UF K	
C602			CK73FB1C684K	CHIP C 0.68UF K	
C603			CK73GB1H103K	CHIP C 0.010UF K	
C604			CD04BJ1H100M	ELECTRO 10UF 50WV	
C607			CD04BJ1H100M	ELECTRO 10UF 50WV	
C608			CK73GB1H103K	CHIP C 0.010UF K	

E1 : KAC-8104D (Europe) K : KAC-8104D (North America) M1 : KAC-8104D (Other Areas)

△ Indicates safety critical components.

PARTS LIST

AUDIO UNIT (X09-8730-10)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
C609			CK73GB1H333K	CHIP C 0.033UF K		R28			RK73GB2A361J	CHIP R 360 J 1/10W	
C610,611			CK73GB1H102K	CHIP C 1000PF K		R29			RK73GB2A103J	CHIP R 10K J 1/10W	
C612			CK73GB1H104K	CHIP C 0.10UF K		R30-33			RK73GB2A100J	CHIP R 10 J 1/10W	
C613			CD04BJ1A101M	ELECTRO 100UF 10WV		R37,38			RK73GB2A152J	CHIP R 1.5K J 1/10W	
C614,615			CK73GB1H103K	CHIP C 0.010UF K		R39,40			RK73GB2A560J	CHIP R 56 J 1/10W	
C616			CK73GB1H333K	CHIP C 0.033UF K		R41,42			RK73GB2A180J	CHIP R 18 J 1/10W	
C617			CK73GB1H103K	CHIP C 0.010UF K		R43,44			RK73GB2A472J	CHIP R 4.7K J 1/10W	
C618			CK73GB1H102K	CHIP C 1000PF K		R45			RD14DB2H100J	SMALL-RD 10 J 1/2W	
C619			CK73GB1H332K	CHIP C 3300PF K		R46,47			RD14DB2H220J	SMALL-RD 22 J 1/2W	
C620			CK73GB1H473K	CHIP C 0.047UF K		R48,49			RK73EB2E473J	CHIP R 47K J 1/4W	
C621			CK73GB1H332K	CHIP C 3300PF K		R51			RK73GB2A222J	CHIP R 2.2K J 1/10W	
C622			CD04BJ1H470M	ELECTRO 47UF 50WV		R52			RD14BB2C303J	RD 30K J 1/6W	
C623			CK73GB1H333K	CHIP C 0.033UF K		R53			RK73EB2E100J	CHIP R 10 J 1/4W	
C624			CK73GB1H223K	CHIP C 0.022UF K		R54,55			RK73GB2A103J	CHIP R 10K J 1/10W	
C625			CD04BJ1H100M	ELECTRO 10UF 50WV		R56			RK73GB2A472J	CHIP R 4.7K J 1/10W	
C630-636			CK73GB1H103K	CHIP C 0.010UF K		R57			RD14BB2C303J	RD 30K J 1/6W	
C900			CK73GB1H103K	CHIP C 0.010UF K		R58			RK73EB2E100J	CHIP R 10 J 1/4W	
C901,902			CD04BJ1H100M	ELECTRO 10UF 50WV		R59			RK73GB2A104J	CHIP R 100K J 1/10W	
CN900			E41-1682-05	PIN ASSY		R61			RK73GB2A100J	CHIP R 10 J 1/10W	
J1			E63-0947-05	PIN JACK		R64			RK73GB2A821J	CHIP R 820 J 1/10W	
J2			E58-1031-05	RECTANGULAR RECEPTACLE		R65			RK73GB2A472J	CHIP R 4.7K J 1/10W	
J3			E70-0832-15	SCREW TERMINAL BOARD		R66			RK73GB2A103J	CHIP R 10K J 1/10W	
L1		*	L33-2443-05	CHOKE COIL		R67			RK73GB2A153J	CHIP R 15K J 1/10W	
L2		*	L33-2458-05	CHOKE COIL		R73			RK73GB2A222J	CHIP R 2.2K J 1/10W	
L3			L19-0779-05	TRANSFORMER FOR CONVERTER		R74			RK73EB2E152J	CHIP R 1.5K J 1/4W	
G	2B		N09-6447-05	TAPTITE SCREW (3X10 PT)		R100			RD14BB2C562J	RD 5.6K J 1/6W	
R1			RD14BB2C392J	RD 3.9K J 1/6W		R101,102			RD14BB2C102J	RD 1.0K J 1/6W	
R2			RK73GB2A682J	CHIP R 6.8K J 1/10W		R103,104			RK73GB2A103J	CHIP R 10K J 1/10W	
R3			RK73GB2A392J	CHIP R 3.9K J 1/10W		R105,106			RK73GB2A273J	CHIP R 27K J 1/10W	
R4			RK73GB2A152J	CHIP R 1.5K J 1/10W		R107,108			RD14BB2C222J	RD 2.2K J 1/6W	
R5			RK73GB2A103J	CHIP R 10K J 1/10W		R109-112			RD14BB2C473J	RD 47K J 1/6W	
R6			RK73GB2A472J	CHIP R 4.7K J 1/10W		R113			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R7			RK73GB2A333J	CHIP R 33K J 1/10W		R114			RK73GB2A153J	CHIP R 15K J 1/10W	
R8			RK73GB2A472J	CHIP R 4.7K J 1/10W		R115			RK73GB2A103J	CHIP R 10K J 1/10W	
R9			RK73EB2E333J	CHIP R 33K J 1/4W		R116			RK73GB2A333J	CHIP R 33K J 1/10W	
R10			RK73EB2E223J	CHIP R 22K J 1/4W		R117			RK73GH2A103D	CHIP R 10K D 1/10W	
R11			RK73GB2A333J	CHIP R 33K J 1/10W		R119,120			RK73GH2A103D	CHIP R 10K D 1/10W	
R12			RK73GB2A753J	CHIP R 75K J 1/10W		R121,122			RK73GB2A753J	CHIP R 75K J 1/10W	
R13			RK73GB2A101J	CHIP R 100 J 1/10W		R123			RK73GH2A103D	CHIP R 10K D 1/10W	
R14			RK73GB2A103J	CHIP R 10K J 1/10W		R151			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R15			RK73GB2A273J	CHIP R 27K J 1/10W		R152			RK73GB2A103J	CHIP R 10K J 1/10W	
R16			RK73GB2A823J	CHIP R 82K J 1/10W		R153			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R17			RK73GB2A102J	CHIP R 1.0K J 1/10W		R154			RK73GB2A333J	CHIP R 33K J 1/10W	
R18			RK73GB2A684J	CHIP R 680K J 1/10W		R155			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R19			RK73GB2A682J	CHIP R 6.8K J 1/10W		R156			RK73GB2A471J	CHIP R 470 J 1/10W	
R20			RK73GB2A103J	CHIP R 10K J 1/10W		R157			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R21			RK73GB2A203J	CHIP R 20K J 1/10W		R158			RK73GB2A684J	CHIP R 680K J 1/10W	
R22			RK73GB2A682J	CHIP R 6.8K J 1/10W		R159			RK73GB2A103J	CHIP R 10K J 1/10W	
R23			RK73GB2A154J	CHIP R 150K J 1/10W		R160			RK73GB2A683J	CHIP R 68K J 1/10W	
R24			RK73GB2A103J	CHIP R 10K J 1/10W		R161			RD14BB2C123J	RD 12K J 1/6W	
R25			RK73GB2A113J	CHIP R 11K J 1/10W		R162			RK73GB2A103J	CHIP R 10K J 1/10W	
R26			RK73GB2A101J	CHIP R 100 J 1/10W		R163			RD14BB2C123J	RD 12K J 1/6W	
R27			RK73GB2A103J	CHIP R 10K J 1/10W		R181			RK73EB2E681J	CHIP R 680 J 1/4W	
						R182			RK73GB2A112J	CHIP R 1.1K J 1/10W	
						R183,184			RK73GB2A103J	CHIP R 10K J 1/10W	

E1 : KAC-8104D (Europe) K : KAC-8104D (North America) M1 : KAC-8104D (Other Areas)

△ Indicates safety critical components.

KAC-8104D

PARTS LIST

AUDIO UNIT (X09-8730-10)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
R203			RS14KB3D4R7JP	FL-PROOF RS 4.7 J 2W		R600			RK73GB2A363J	CHIP R 36K J 1/10W	
R204			RK73GB2A473J	CHIP R 47K J 1/10W		R601			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R205			RK73GB2A303J	CHIP R 30K J 1/10W		R602			RK73GB2A153J	CHIP R 15K J 1/10W	
R206,207			RK73GB2A103J	CHIP R 10K J 1/10W		R603			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R208			RK73GB2A154J	CHIP R 150K J 1/10W		R604			RK73GB2A224J	CHIP R 220K J 1/10W	
R209			RK73GB2A104J	CHIP R 100K J 1/10W		R605			RK73GB2A103J	CHIP R 10K J 1/10W	
R211			RK73GB2A392J	CHIP R 3.9K J 1/10W		R606			RK73GB2A243J	CHIP R 24K J 1/10W	
R213			RK73GB2A682J	CHIP R 6.8K J 1/10W		R607			RK73GB2A104J	CHIP R 100K J 1/10W	
R214			RK73GB2A243J	CHIP R 24K J 1/10W		R608			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R216			RK73GB2A473J	CHIP R 47K J 1/10W		R609			RK73GB2A203J	CHIP R 20K J 1/10W	
R217			RK73GB2A431J	CHIP R 430 J 1/10W		R610			RK73GB2A123J	CHIP R 12K J 1/10W	
R218			RK73GB2A102J	CHIP R 1.0K J 1/10W		R611			RK73GB2A103J	CHIP R 10K J 1/10W	
R219			RK73GB2A153J	CHIP R 15K J 1/10W		R612			RK73GB2A132J	CHIP R 1.3K J 1/10W	
R220			RK73GB2A332J	CHIP R 3.3K J 1/10W		R613,614			RK73GB2A203J	CHIP R 20K J 1/10W	
R221			RK73GB2A153J	CHIP R 15K J 1/10W		R615			RK73GB2A103J	CHIP R 10K J 1/10W	
R222			RK73GB2A222J	CHIP R 2.2K J 1/10W		R616			RK73GB2A203J	CHIP R 20K J 1/10W	
R223			RK73GB2A153J	CHIP R 15K J 1/10W		R617			RK73GB2A104J	CHIP R 100K J 1/10W	
R224			RK73GB2A123J	CHIP R 12K J 1/10W		R618			RK73GB2A103J	CHIP R 10K J 1/10W	
R225			RK73GB2A153J	CHIP R 15K J 1/10W		R619			RK73GB2A223J	CHIP R 22K J 1/10W	
R226			RK73GB2A222J	CHIP R 2.2K J 1/10W		R620			RK73GB2A123J	CHIP R 12K J 1/10W	
R230			RK73GB2A154J	CHIP R 150K J 1/10W		R621			RK73GB2A103J	CHIP R 10K J 1/10W	
R231			RK73GB2A241J	CHIP R 240 J 1/10W		R622			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R233			RK73GB2A222J	CHIP R 2.2K J 1/10W		R623			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R234			RK73GB2A103J	CHIP R 10K J 1/10W		R624			RK73GB2A514J	CHIP R 510K J 1/10W	
R235			RK73GB2A222J	CHIP R 2.2K J 1/10W		R625			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R301,302			RK73GB2A103J	CHIP R 10K J 1/10W		R626,627			RK73GB2A332J	CHIP R 3.3K J 1/10W	
R303			RK73GB2A682J	CHIP R 6.8K J 1/10W		R628			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R304			RK73GB2A622J	CHIP R 6.2K J 1/10W		R629			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R305			RK73GB2A392J	CHIP R 3.9K J 1/10W		R630			RK73GB2A103J	CHIP R 10K J 1/10W	
R306			RK73GB2A622J	CHIP R 6.2K J 1/10W		R631			RK73GB2A104J	CHIP R 100K J 1/10W	
R307,308			RK73GB2A103J	CHIP R 10K J 1/10W		R632			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R309			RK73GB2A821J	CHIP R 820 J 1/10W		R633			RK73GB2A103J	CHIP R 10K J 1/10W	
R400			RK73EB2E510J	CHIP R 51 J 1/4W		R634			RK73GB2A334J	CHIP R 330K J 1/10W	
R401,402			RK73GB2A103J	CHIP R 10K J 1/10W		R635			RK73GB2A103J	CHIP R 10K J 1/10W	
R403,404			RK73GB2A272J	CHIP R 2.7K J 1/10W		R636			RK73GB2A473J	CHIP R 47K J 1/10W	
R405,406			RK73GB2A182J	CHIP R 1.8K J 1/10W		R637			RK73GB2A103J	CHIP R 10K J 1/10W	
R407			RK73GB2A681J	CHIP R 680 J 1/10W		R638			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R408			RK73GB2A911J	CHIP R 910 J 1/10W		R639			RK73GB2A823J	CHIP R 82K J 1/10W	
R409			RK73GB2A471J	CHIP R 470 J 1/10W		R640,641			RK73GB2A223J	CHIP R 22K J 1/10W	
R410			RK73GB2A751J	CHIP R 750 J 1/10W		R642			RK73GB2A103J	CHIP R 10K J 1/10W	
R411			RK73GB2A510J	CHIP R 51 J 1/10W		R643			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R412			RK73EB2E151J	CHIP R 150 J 1/4W		R644,645			RK73GB2A103J	CHIP R 10K J 1/10W	
R413			RK73EB2E510J	CHIP R 51 J 1/4W		R646,647			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R414			RK73EB2E101J	CHIP R 100 J 1/4W		R648			RK73GB2A104J	CHIP R 100K J 1/10W	
R415,416			RK73GB2A473J	CHIP R 47K J 1/10W		R649			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R417			RK73EB2E181J	CHIP R 180 J 1/4W		R650			RK73GB2A103J	CHIP R 10K J 1/10W	
R418,419			RK73EB2E100J	CHIP R 10 J 1/4W		R651			RK73GB2A223J	CHIP R 22K J 1/10W	
R420			RK73EB2E101J	CHIP R 100 J 1/4W		R652			RK73GB2A103J	CHIP R 10K J 1/10W	
R421			RK73GB2A562J	CHIP R 5.6K J 1/10W		R653			RK73GB2A153J	CHIP R 15K J 1/10W	
R422			RK73GB2A563J	CHIP R 56K J 1/10W		R654			RK73GB2A203J	CHIP R 20K J 1/10W	
R423,424			RK73EB2E100J	CHIP R 10 J 1/4W		R655			RK73GB2A103J	CHIP R 10K J 1/10W	
R425,426			R92-5161-05	MP R 0.02 5W		R656,657			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R427,428			RK73EB2E820J	CHIP R 82 J 1/4W		R658			RK73GB2A681J	CHIP R 680 J 1/10W	
R440			RK73GB2A681J	CHIP R 680 J 1/10W		R659			RK73GB2A474J	CHIP R 470K J 1/10W	
R441,442			RK73GB2A202J	CHIP R 2.0K J 1/10W		R900			RK73GB2A681J	CHIP R 680 J 1/10W	

E1 : KAC-8104D (Europe) K : KAC-8104D (North America) M1 : KAC-8104D (Other Areas)

△ Indicates safety critical components.

PARTS LIST

AUDIO UNIT (X09-8730-10)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
R902			RK73EB2E222J	CHIP R 2.2K J 1/4W		D605			UDZS10B	ZENER DIODE	
R906			RK73EB2E222J	CHIP R 2.2K J 1/4W		D606			1SS355	DIODE	
VR1		*	R31-0253-05	VARIABLE RESISTOR 10K A		D607,608			UDZS10B	ZENER DIODE	
VR2		*	R31-0255-05	VARIABLE RESISTOR 50K C		D609			1SS355	DIODE	
VR3		*	R31-0254-05	VARIABLE RESISTOR 10K C		D610			LM1MA142WA-G	DIODE	
W300			R92-2053-05	CHIP R 0 OHM J 1/8W		D611			1SS355	DIODE	
W301-304			R92-1252-05	CHIP R 0 OHM J 1/16W		D612			UDZS6.2B	ZENER DIODE	
W305			R92-2053-05	CHIP R 0 OHM J 1/8W		D613			1SS355	DIODE	
W306			R92-1252-05	CHIP R 0 OHM J 1/16W		D900			1SS355	DIODE	
W307			R92-2053-05	CHIP R 0 OHM J 1/8W		D901			UDZS12B	ZENER DIODE	
W308-310			R92-1252-05	CHIP R 0 OHM J 1/16W		IC1			TL494IDR	ANALOGUE IC	
W311,312			R92-2053-05	CHIP R 0 OHM J 1/8W		IC11			BA4560RF	ANALOGUE IC	
W314			R92-2053-05	CHIP R 0 OHM J 1/8W		IC12,13			SN74HC00D	MOS-IC	
W315,316			R92-1252-05	CHIP R 0 OHM J 1/16W		IC14,15			BA4560RF	ANALOGUE IC	
W317			R92-2053-05	CHIP R 0 OHM J 1/8W		IC18			BA4560RF	ANALOGUE IC	
W318-320			R92-1252-05	CHIP R 0 OHM J 1/16W		IC31			BA2903F	ANALOGUE IC	
W321-324			R92-2053-05	CHIP R 0 OHM J 1/8W		IC32			BA4560RF	ANALOGUE IC	
W325			R92-1252-05	CHIP R 0 OHM J 1/16W		IC60,61			BA4560RF	ANALOGUE IC	
W326			R92-2053-05	CHIP R 0 OHM J 1/8W		IC62,63			BA2903F	ANALOGUE IC	
W327,328			R92-1252-05	CHIP R 0 OHM J 1/16W		IC64			BA4560RF	ANALOGUE IC	
W330			R92-2053-05	CHIP R 0 OHM J 1/8W		Q1,2			2SC4081	TRANSISTOR	
W331,332			R92-1252-05	CHIP R 0 OHM J 1/16W		Q3			2SB1241	TRANSISTOR	
W334-336			R92-2053-05	CHIP R 0 OHM J 1/8W		Q4			2SA1576A	TRANSISTOR	
W337			R92-1252-05	CHIP R 0 OHM J 1/16W		Q5,6			2SC4081	TRANSISTOR	
W903			R92-1252-05	CHIP R 0 OHM J 1/16W		Q8,9			2SC4097	TRANSISTOR	
S3			S31-2630-05	SLIDE SWITCH		Q10,11			2SA1577	TRANSISTOR	
D1,2		*	1N5406-TSC	DIODE		Q12,13			STP60NF06FP	FET	
D4			UDZS6.8B	ZENER DIODE		Q19,20			STP60NF06FP	FET	
D5			UDZS15B	ZENER DIODE		Q25			2SC1845-A(F,E)	TRANSISTOR	
D6,7			1SS355	DIODE		Q26			2SC4883ANF	TRANSISTOR	
D8			UDZS10B	ZENER DIODE		Q28			2SA1859ANF	TRANSISTOR	
D9-13			1SS133	DIODE		Q29,30			2SA1576A	TRANSISTOR	
D17			LM1MA142WK-G	DIODE		Q37,38			DTA114EUA	DIGITAL TRANSISTOR	
D18			FCH10A20	DIODE		Q42			2SA992-A(F,E)	TRANSISTOR	
D19			FRH10A20	DIODE		Q51			2SA1576A	TRANSISTOR	
D23			UDZS16B	ZENER DIODE		Q52			2SC4081	TRANSISTOR	
D25			UDZS16B	ZENER DIODE		Q151			2SC4081	TRANSISTOR	
D51-53			1SS133	DIODE		Q400			2SC4081	TRANSISTOR	
D101			UMZ6.8N	ZENER DIODE		Q401			2SA1576A	TRANSISTOR	
D103			LM1MA142WK-G	DIODE		Q402			2SA992-A(F,E)	TRANSISTOR	
D104			LM1MA142WA-G	DIODE		Q403			DTA114EUA	DIGITAL TRANSISTOR	
D107			LM1MA142WK-G	DIODE		Q404			2SC1845-A(F,E)	TRANSISTOR	
D108			LM1MA142WA-G	DIODE		Q405			2SA1370	TRANSISTOR	
D151			1SS133	DIODE		Q406			2SC3902	TRANSISTOR	
D181			UDZS5.1B	ZENER DIODE		Q407			2SB1427	TRANSISTOR	
D182,183			1SS355	DIODE		Q408			2SC3415S	TRANSISTOR	
D186			1SS355	DIODE		Q409			2SB1427	TRANSISTOR	
D303			1SS133	DIODE		Q410-413			IRFB31N20DPBF	FET	
D304,305			UDZS5.6B	ZENER DIODE		Q414			2SC3902	TRANSISTOR	
D400			1SS355	DIODE		Q415			2SC3415S	TRANSISTOR	
D403-406			1SS133	DIODE		Q416			2SD1863	TRANSISTOR	
D407			UDZS15B	ZENER DIODE		Q417			2SA992-A(F,E)	TRANSISTOR	
D600			1SS133	DIODE		Q600			2SA1576A	TRANSISTOR	
D601-604			1SS355	DIODE		Q601			2SC4081	TRANSISTOR	
						Q602			DTA114EUA	DIGITAL TRANSISTOR	

E1 : KAC-8104D (Europe) K : KAC-8104D (North America) M1 : KAC-8104D (Other Areas)

△ Indicates safety critical components.

KAC-8104D

PARTS LIST

AUDIO UNIT (X09-8730-10)

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
Q603			2SC4081	TRANSISTOR							
Q604			2SC3478AA(L,K)	TRANSISTOR							
Q605,606			2SA1376AA(L,K)	TRANSISTOR							
Q607			2SC3478AA(L,K)	TRANSISTOR							
Q608			2SA1576A	TRANSISTOR							
Q609-611			2SC4081	TRANSISTOR							
Q612			DTA124EUA	DIGITAL TRANSISTOR							
Q900			2SD1863	TRANSISTOR							
TH1			NCP18XH103J0S	THERMISTOR							

E1 : KAC-8104D (Europe) K : KAC-8104D (North America) M1 : KAC-8104D (Other Areas)

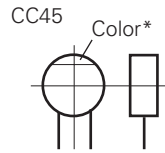
△ Indicates safety critical components.

PARTS LIST

CAPACITORS

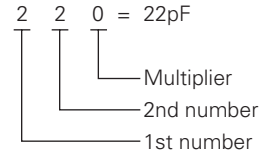
$\frac{C}{1} \frac{C}{2} \frac{45}{3} \frac{TH}{4} \frac{1H}{5} \frac{220}{6} \frac{J}{7}$

- 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



• 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 -20	+80 -20	+100 -0	More than 10μF : -10~+50 Less than 4.7μF : -10~+75

(Less than 10pF)

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

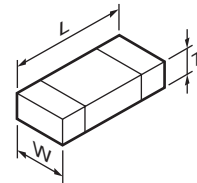
• Voltage rating

2nd word \ 1st word	A	B	C	D	E	F	G	H	J	K	V
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) $\frac{C}{1} \frac{C}{2} \frac{73}{3} \frac{F}{4} \frac{SL}{5} \frac{1H}{6} \frac{000}{7} \frac{J}{8}$ 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)
- (EX) $\frac{C}{1} \frac{K}{2} \frac{73}{3} \frac{F}{4} \frac{F}{5} \frac{1H}{6} \frac{000}{7} \frac{Z}{8}$
- (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

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		

RESISTORS

• Chip resistor (Carbon)

- (EX) $\frac{R}{1} \frac{D}{2} \frac{73}{3} \frac{E}{4} \frac{B}{5} \frac{2B}{6} \frac{000}{7} \frac{J}{8}$
- (Chip) (B, F)

• Carbon resistor (Normal type)

- (EX) $\frac{R}{1} \frac{D}{2} \frac{14}{3} \frac{B}{4} \frac{B}{5} \frac{2C}{6} \frac{000}{7} \frac{J}{8}$

- 1 = Type
- 2 = Shape
- 3 = Dimension
- 4 = Temp. coefficient
- 5 = Rating wattage
- 6 = Value
- 7 = Tolerance

KAC-8104D

SPECIFICATIONS

KAC-8104D K,E

CEA-2006

Primary Power Output Ratings

(RMS Watts per channel @ 4 ohms, 1 % THD+N)

..... 300 W × 1
Signal to Noise Ratio (Reference: 1Watt into 4 ohms)
..... 83 dBA

Audio Section

Max Power Output 1000 W
Rated Power Output (+B = 14.4 V)
 (4 Ω) (20 Hz – 200 Hz, 0.5 % THD) 300 W × 1
 (4 Ω) (DIN45324, +B = 14.4 V) 300 W × 1
 (2 Ω) (100 Hz, 0.8 % THD) 500 W × 1
Frequency Response (+0, -3 dB) 5 Hz – 200 Hz
Sensitivity (rated output) 0.2 V – 5.0 V
Input Impedance 10 kΩ
Signal to Noise Ratio 100 dB
Low Pass Filter Frequency (-24 dB/oct.)
 50 – 200 Hz (variable)
Infrasonic Filter Frequency (-18 dB/oct.) 15 / 25 Hz
Bass Boost Circuit (40 Hz) 0 – +18 dB (variable)

General

Operating Voltage 14.4 V (11 – 16 V allowable)
Current Consumption 40 A
Installation Size (W × H × D)
 280 × 59 × 238 mm (11 × 2-5/16 × 9-3/8 inch)
Weight 2.6 kg (5.7 lbs)

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

KAC-8104D M

Audio Section

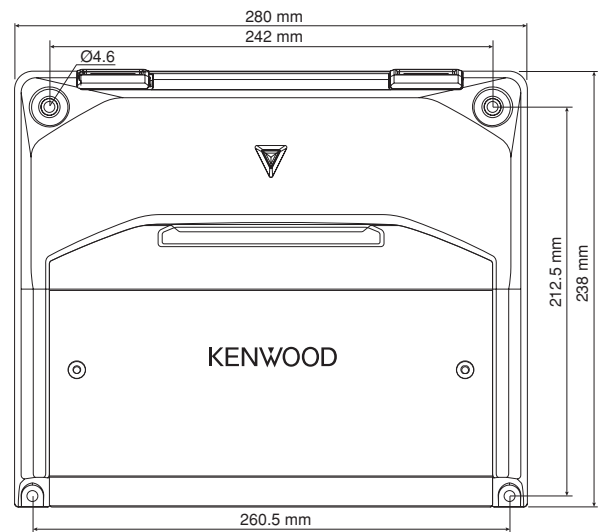
Max Power Output 1000 W
Rated Power Output (+B = 14.4 V)
 (4 Ω) (20 Hz – 200 Hz, 0.5 % THD) 300 W × 1
 (2 Ω) (100 Hz, 0.8 % THD) 500 W × 1
Frequency Response (+0, -3 dB) 5 Hz – 200 Hz
Sensitivity (rated output) 0.2 V – 5.0 V
Input Impedance 10 kΩ
Signal to Noise Ratio 100 dB
Low Pass Filter Frequency (-24 dB/oct.)
 50 – 200 Hz (variable)
Infrasonic Filter Frequency (-18 dB/oct.) 15 / 25 Hz
Bass Boost Circuit (40 Hz) 0 – +18 dB (variable)

General

Operating Voltage 14.4 V (11 – 16 V allowable)
Current Consumption 40 A
Installation Size (W × H × D) 280 × 59 × 238 mm
Weight 2.6 kg

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

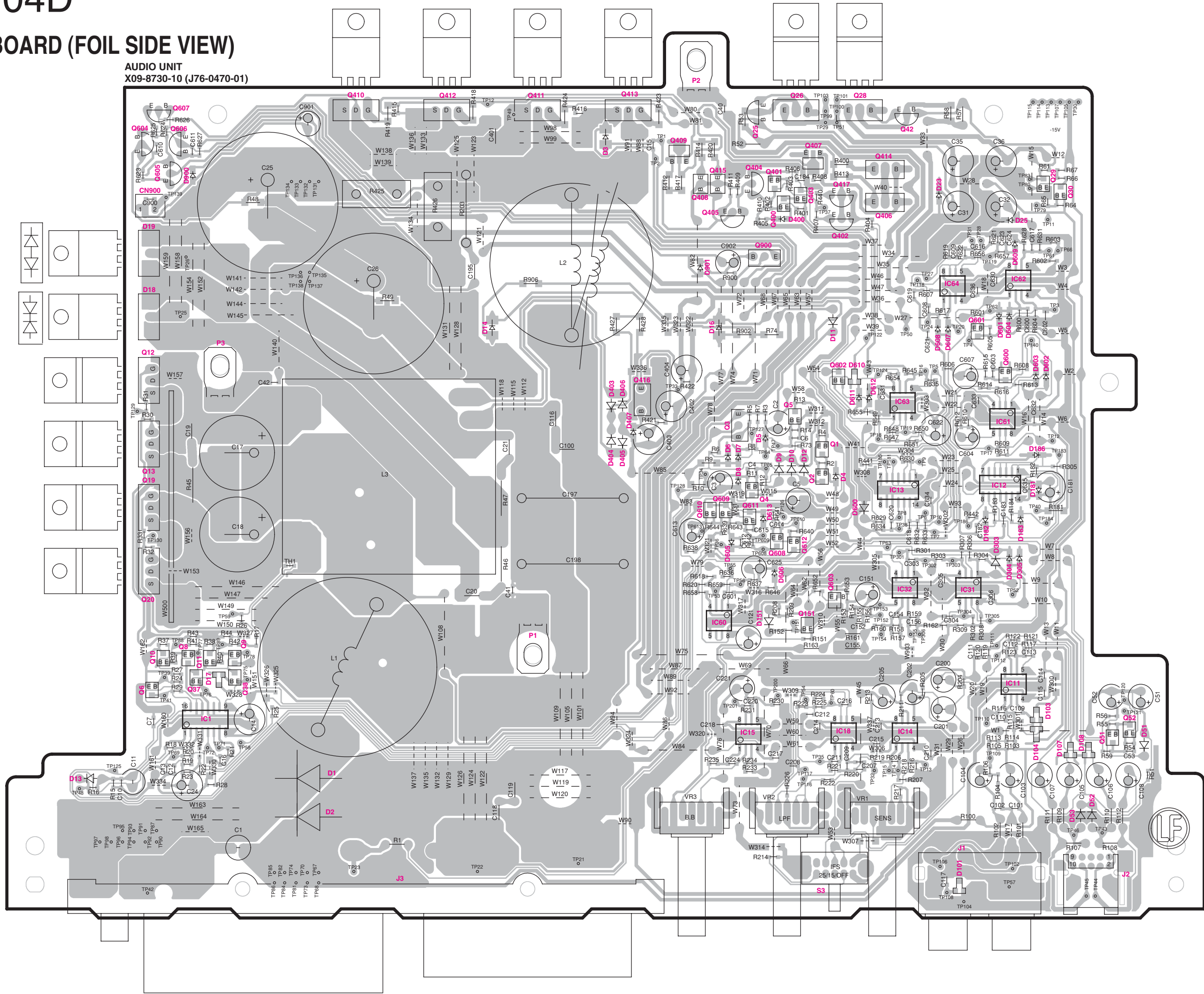
INSTALLATION

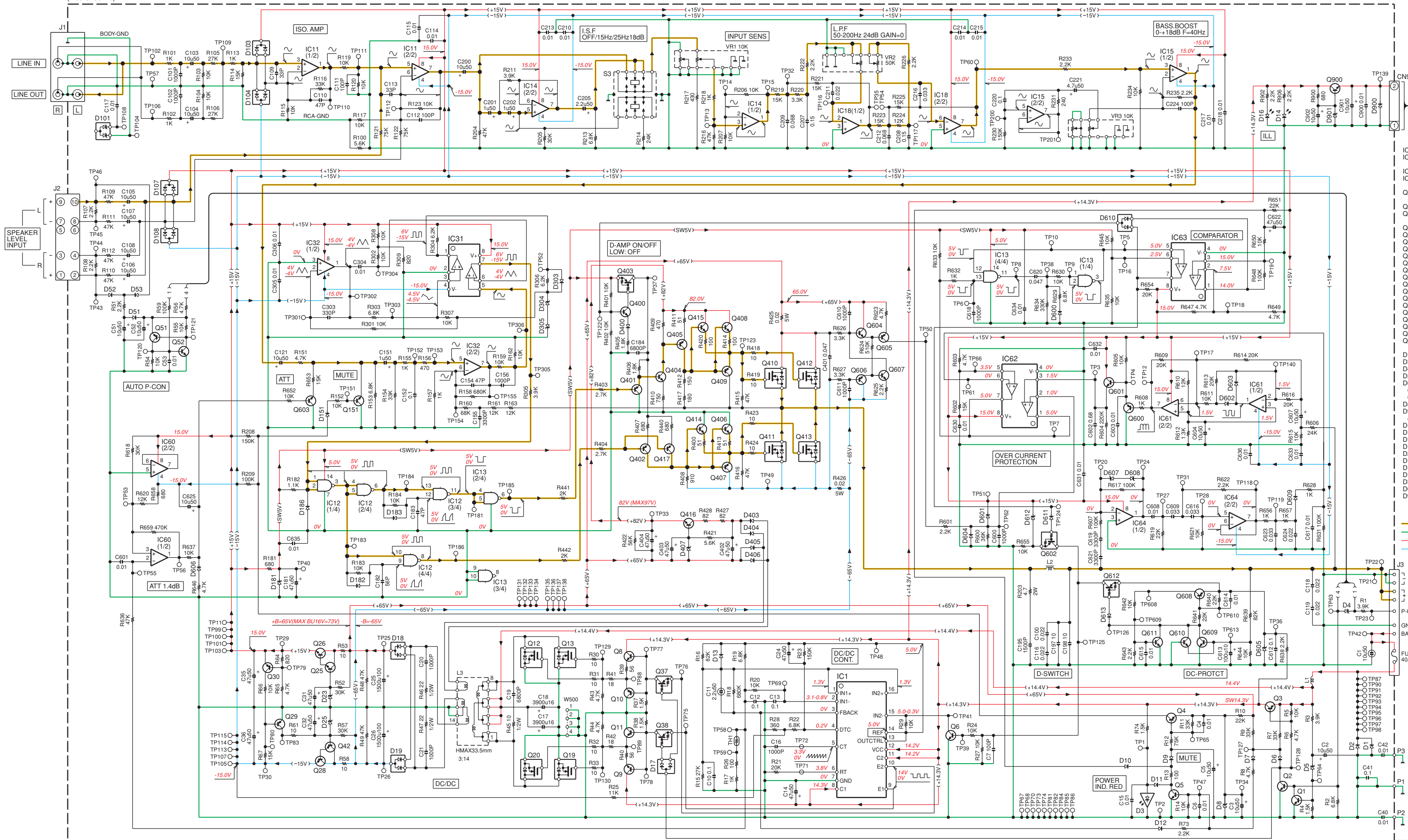


KAC-8104D

PC BOARD (FOIL SIDE VIEW)

AUDIO UNIT
X09-8730-10 (J76-0470-01)





- IC1 : TL494IDR
- IC11,14,15,18,32,60,61,64 : BA4560RF
- IC12,13 : SN74HC00D
- IC31,62,63 : BA2903F
- Q1,2,5,6,52,151,400,601,603,609-611 : 2SC4081
- Q3 : 2SB1241
- Q4,29,30,51,401,600,608 : 2SA1576A
- Q8,9 : 2SC4097
- Q10,11 : 2SA1577
- Q12,13,19,20 : STP60NF06FP
- Q25,40,4 : 2SC1845-A(FE)
- Q26 : 2SC4883ANF
- Q28 : 2SA1859ANF
- Q37,38,403,602 : DT114EUJA
- Q42,402,417 : 2SA992-A(FE)
- Q45 : 2SA1370
- Q46,414 : 2SC3902
- Q47,409 : 2SB1427
- Q48,415 : 2SC3415S
- Q410-413 : IRFB31N20DPBF
- Q416,900 : 2SD1863
- Q604,607 : 2SC3478AA(L,K)
- Q605,606 : 2SA1376AA(L,K)
- Q612 : DT124EUJA
- D1,2 : 1N5406-TSC
- D3 : B30-1743-05
- D4 : UDZ56.8B
- D5,407 : UDZ515B
- D6,7,182,183,186,400,601-604,606,609,611,613,900 : 1SS355
- D8,605,607,608 : UDZ510B
- D9-13,51-53,151,303,403-406,600 : 1SS133
- D14,16 : B30-1770-05
- D17,103,107 : LM1MA142WK-G
- D18 : FCH10A20
- D19 : FRH10A20
- D23,25 : UDZ516B
- D101 : UMZ6.8N
- D104,108,610 : LM1MA142WA-G
- D181 : UDZ55.1B
- D304,305 : UDZ55.6B
- D612 : UDZ56.2B
- D901 : UDZ512B

