

POWER AMPLIFIER

# KAC-6404/7404 KAC-M645/M845

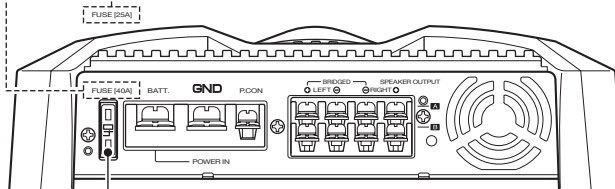
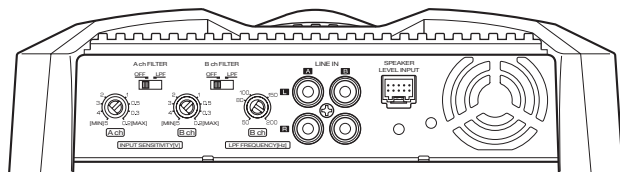
## SERVICE MANUAL

# KENWOOD

Kenwood Corporation

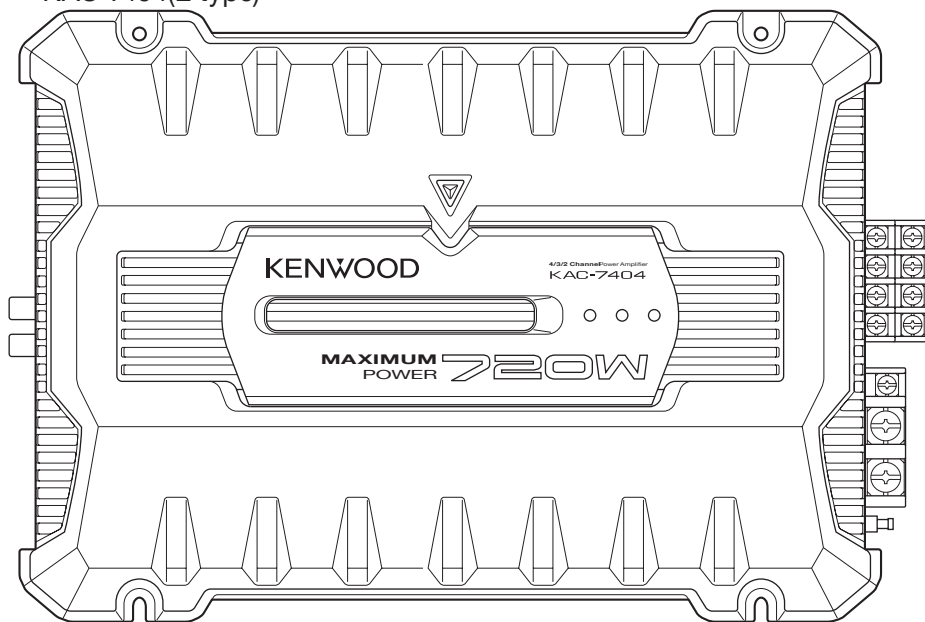
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B53-0606-00 (N) 519

KAC-7404/M845    KAC-6404/M645

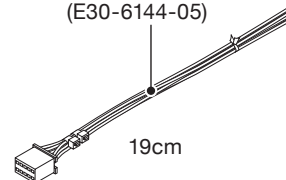


KAC-7404/M845:Fuse (40A):(F52-0016-05)  
KAC-6404/M645:Fuse (25A):(F52-0014-05)

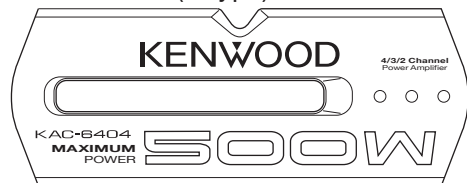
KAC-7404(E type)



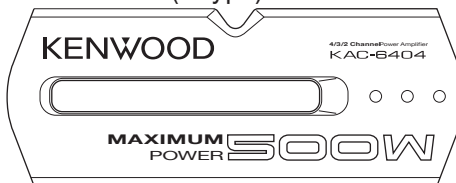
Connecting cord assy  
(E30-6144-05)



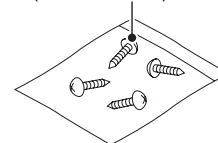
KAC-6404(K type)



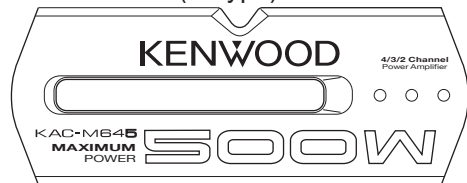
KAC-6404(E type)



Screw & wrench key set  
(N99-1587-15)



KAC-M645(M type)



KAC-M845(M type)

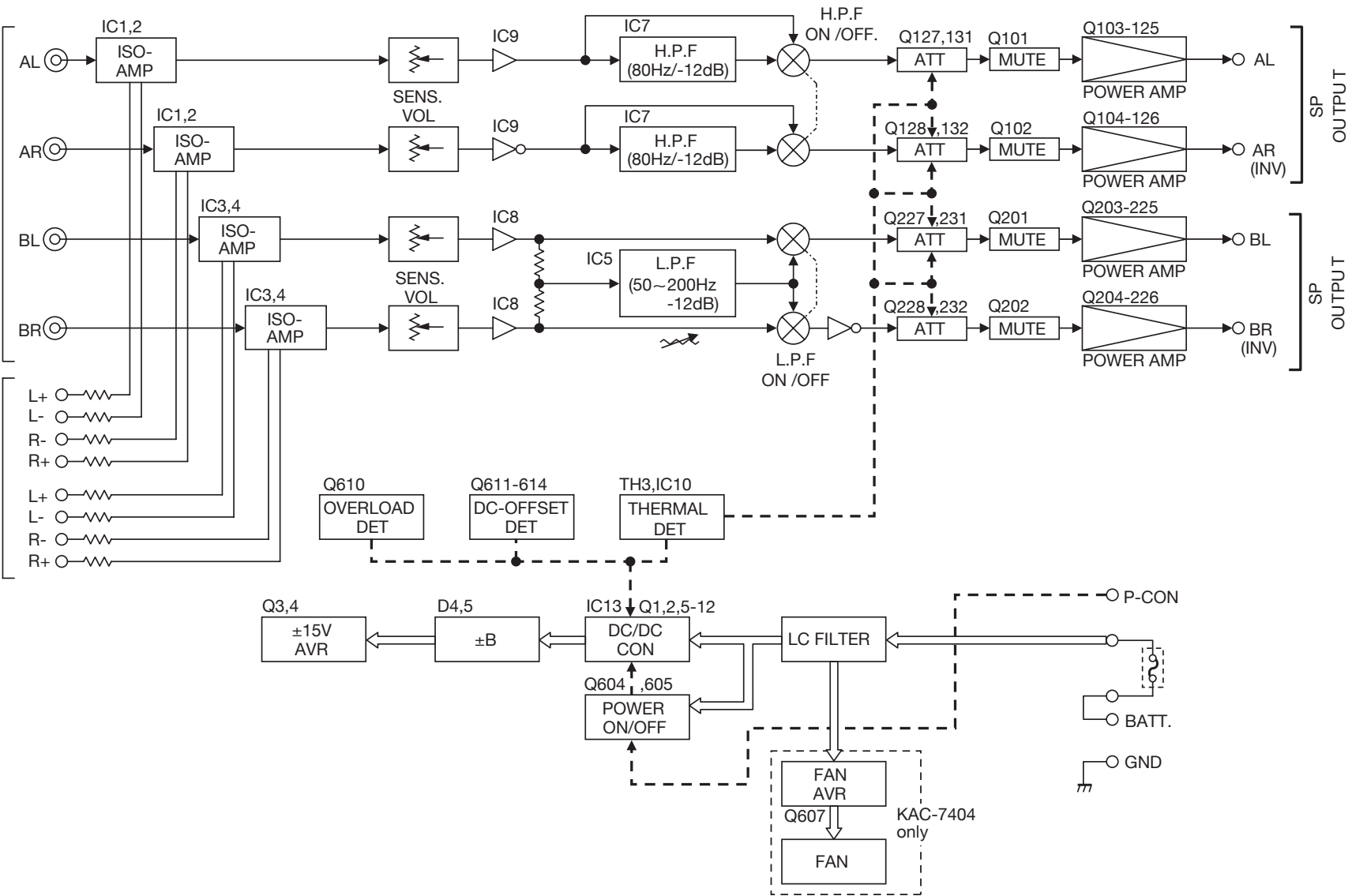


Accessories  
(W01-1606-05)



This product uses Lead Free solder.

This product complies with the **RoHS** directive for the European market.



KAC-6404/7404/M645/M845  
**BLOCK DIAGRAM**

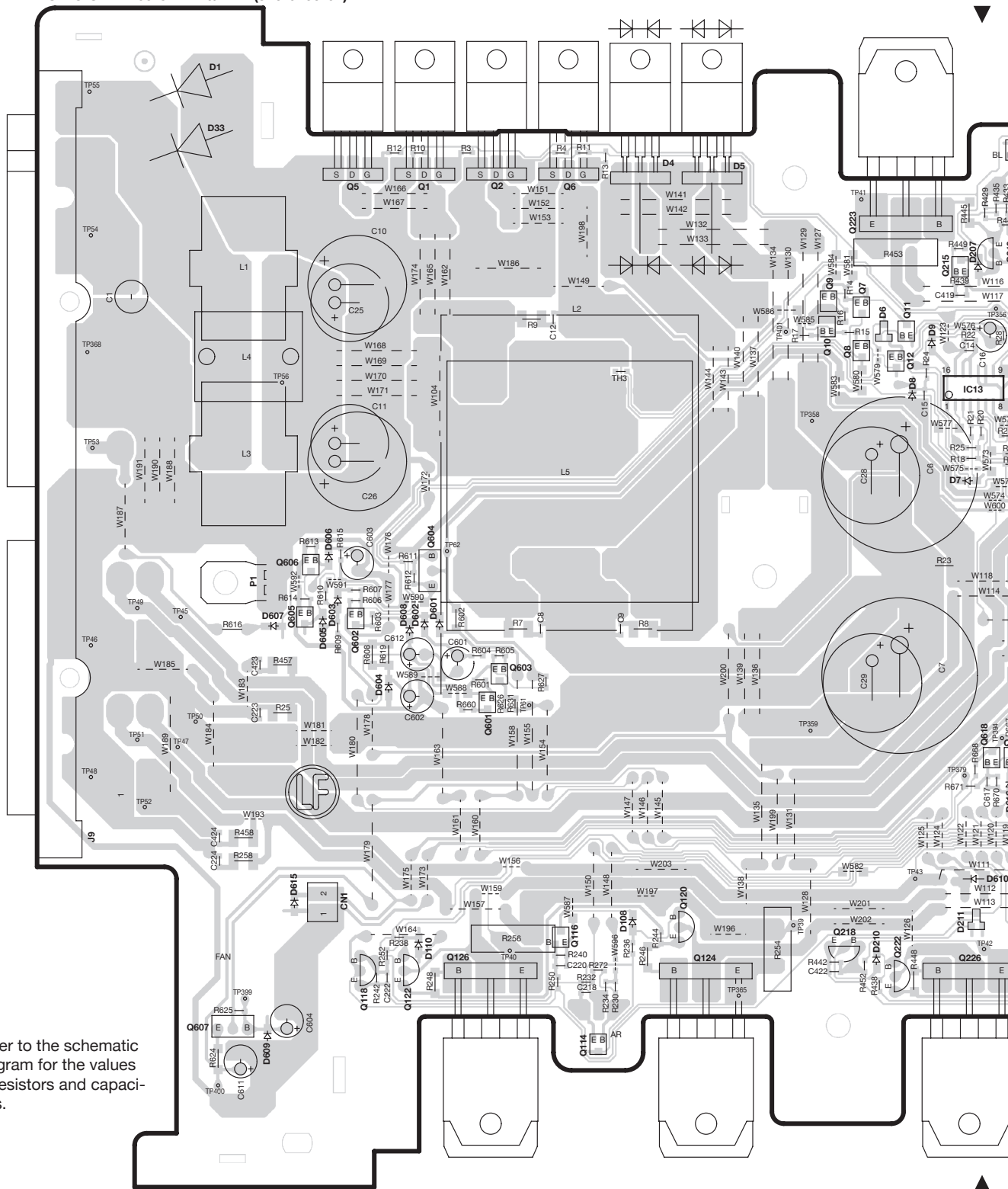
## COMPONENTS DESCRIPTION

### ● AUDIO UNIT (X09-8722-70/2-71)

Ref. No.	Application / Function
IC1-4	Isolation circuit
IC5	LPF Phase inversion
IC7	HPF
IC8,9	Buffer amplifier
IC10	Temperature detection comparator
IC13	DC/DC converter
Q1,2,5,6	DC/DC converter power driver
Q3,4	Constant voltage circuit ( $\pm 15V$ ) power driver
Q7-10	DC/DC converter gate driver
Q11,12	DC/DC converter control
Q101,102,201,202	Signal mute
Q103-106,203-206	Differential first stage amplifier
Q107-110,207-210	Differential second stage amplifier
Q111,112,211,212	Differential second stage current mirror
Q113,114,213,214	Idling temperature detection
Q115-118,215-218	Current limiter
Q119-122,219-222	Power amplifier driver
Q123-126,223-226	Power amplifier final
Q127,128,131,132,227,228,231,232	Protector ATT
Q601	Shock noise prevention circuit control
Q602,603	Mute circuit control
Q604-606	P-Con control
Q607	FAN power supply drive
Q610	Over current detection
Q611-614	DC protector control
Q615-618	Shock noise prevention circuit control

# PC BOARD (FOIL SIDE VIEW)

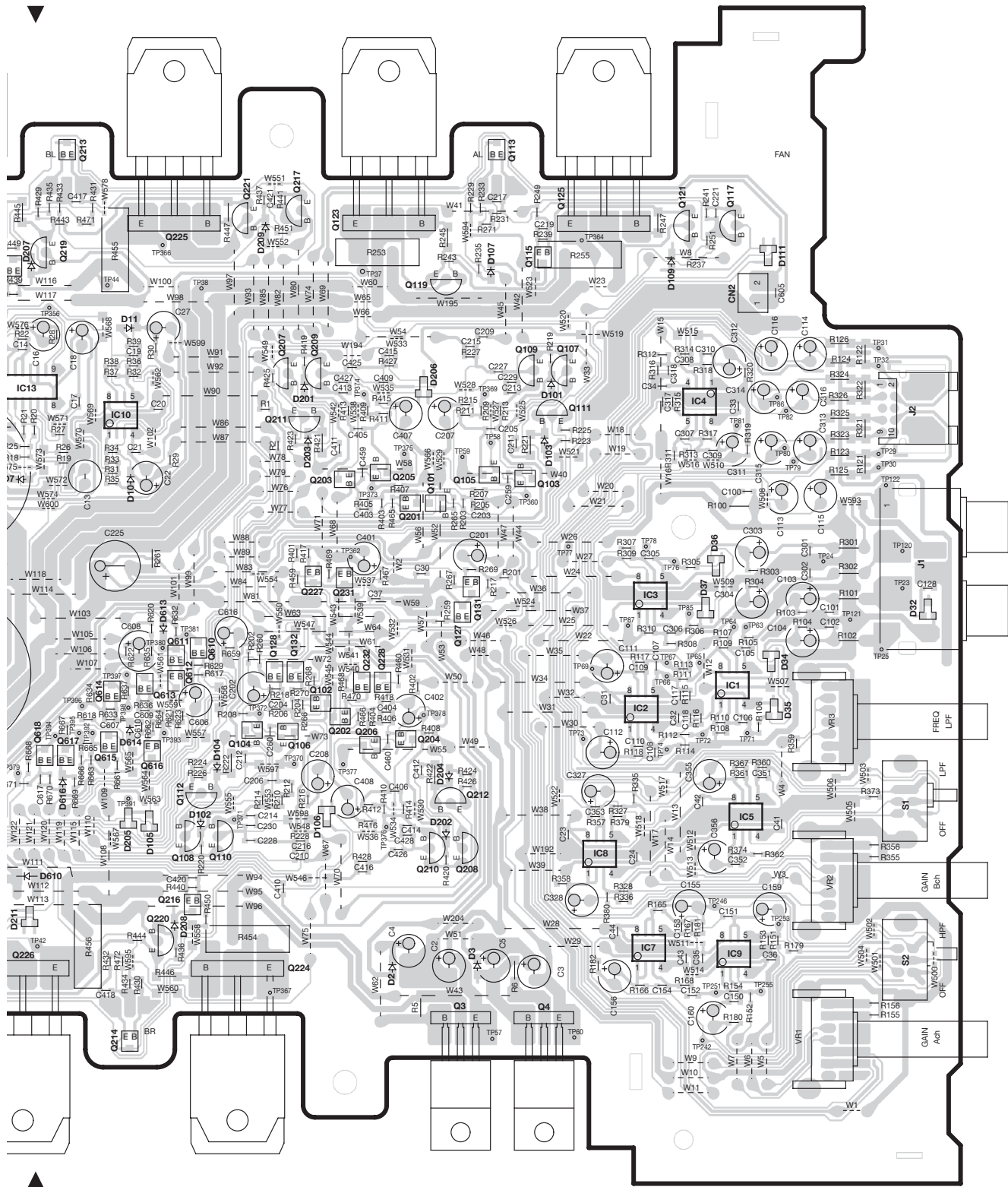
AUDIO UNIT X09-8722-70/2-71 (J76-0469-01)



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

**X09-8722-70/2-71**

Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
IC1	4I	IC8	5H	Q3	6H	Q9	2E	Q103	3H	Q109	3H	Q115	2H	Q121	2I
IC2	4H	IC9	5I	Q4	6H	Q10	3E	Q104	4G	Q110	5F	Q116	5D	Q122	6C
IC3	4H	IC10	3F	Q5	2C	Q11	3E	Q105	3H	Q111	3H	Q117	2I	Q123	2G
IC4	3I	IC13	3E	Q6	2D	Q12	3E	Q106	4G	Q112	5F	Q118	6C	Q124	5D
IC5	5I	Q1	2C	Q7	2E	Q101	3G	Q107	3H	Q113	2H	Q119	2G	Q125	2H
IC7	5H	Q2	2C	Q8	3E	Q102	4G	Q108	5F	Q114	6D	Q120	5D	Q126	5C



Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address	Ref. No.	Address
Q203	3G	Q209	2G	Q215	2E	Q221	2G	Q227	4G	Q603	4C	Q611	4F
Q204	4G	Q210	5G	Q216	5F	Q222	5E	Q228	4G	Q604	4C	Q612	4F
Q205	3G	Q211	3G	Q217	2G	Q223	2E	Q231	4G	Q605	4B	Q613	4F
Q206	4G	Q212	5H	Q218	5E	Q224	5G	Q232	4G	Q606	4B	Q614	4F
Q207	3G	Q213	2F	Q219	2F	Q225	2F	Q601	4C	Q607	6B	Q615	5F
Q208	5H	Q214	6F	Q220	5F	Q226	5E	Q602	4C	Q610	4F	Q616	5F

1

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# KAC-6404/7404/M645/M845

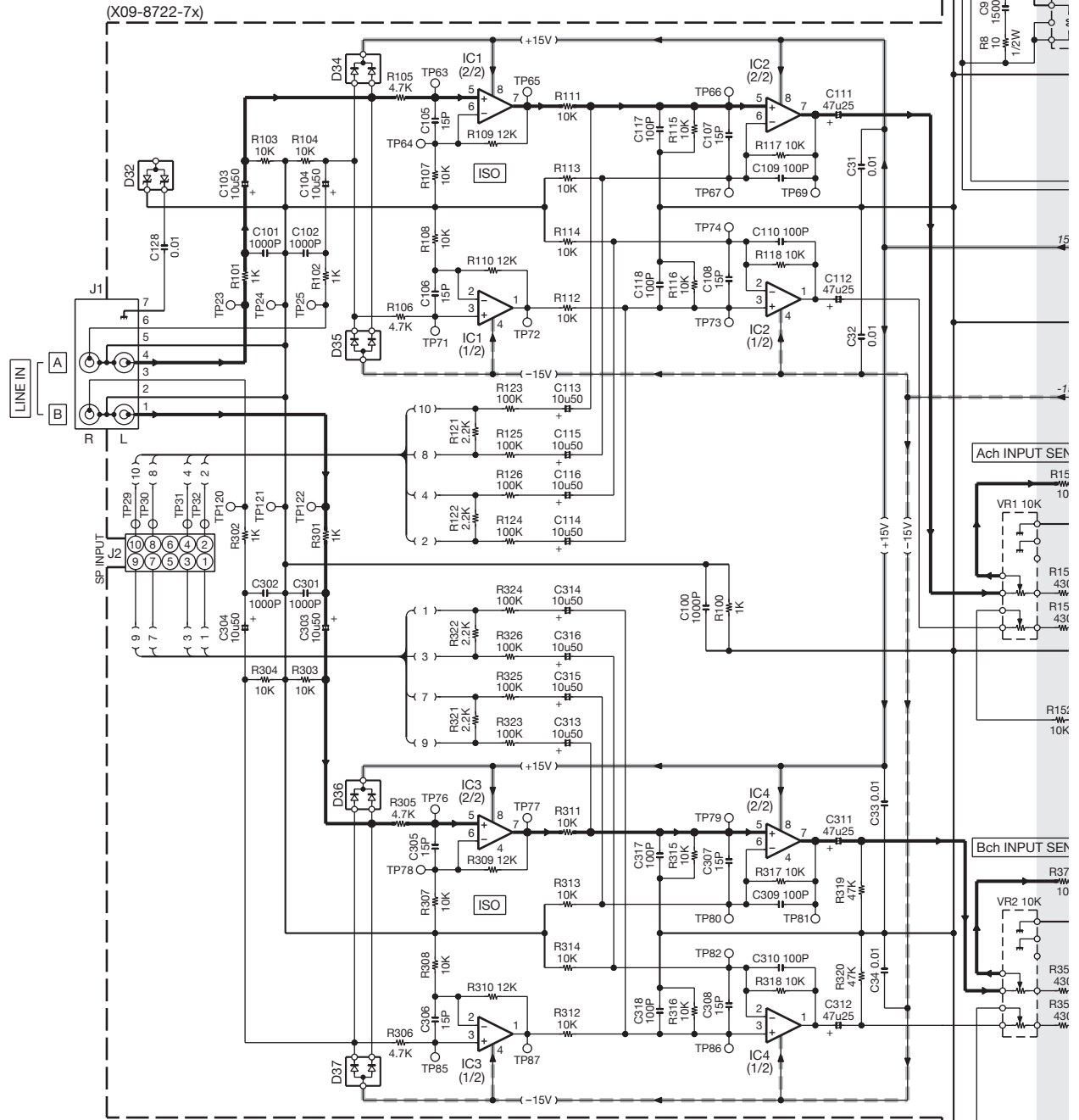
IC1-5,7-10 : BA4560RF  
IC13 : TL494IDR

D1,33 : 1N5406-TSC  
D2,3 : UDZS16B  
D4 : FCH10A20  
D5 : FRH10A20  
D6,34,36,105,111,205,211 : LM1MA142WK-G  
D7-11,101-104,107-110,201-204,207-210,601-603,605,608,613,615,616 : 1SS355  
D32 : UMZ6.8N  
D35,37,106,206 : LM1MA142WA-G  
D604,614 : UDZS10B  
D606 : UDZS15B  
D607 : UDZS6.8B  
D609 : UDZS12B  
D610 : B30-1743-05

Q1,2,5,6 : STP60NF06FP  
Q3 : 2SD2012-F  
Q4 : 2SB1375-F  
Q7,8,602 : 2SC4097  
Q9,10 : 2SA1577  
Q11,12 : DTA114EUA  
Q101,102,115,116,127,128,131,132,201,202,215,216,227,228,231,232,605,606,610-613,616,618 : 2SC4081  
Q103-106,203-206,601,603,614,615,617 : 2SA1576A(R,S)  
Q107-110,207-210 : 2SC1845-A(FE)  
Q111,112,117,118,211,212,217,218 : 2SA992-A(FE)

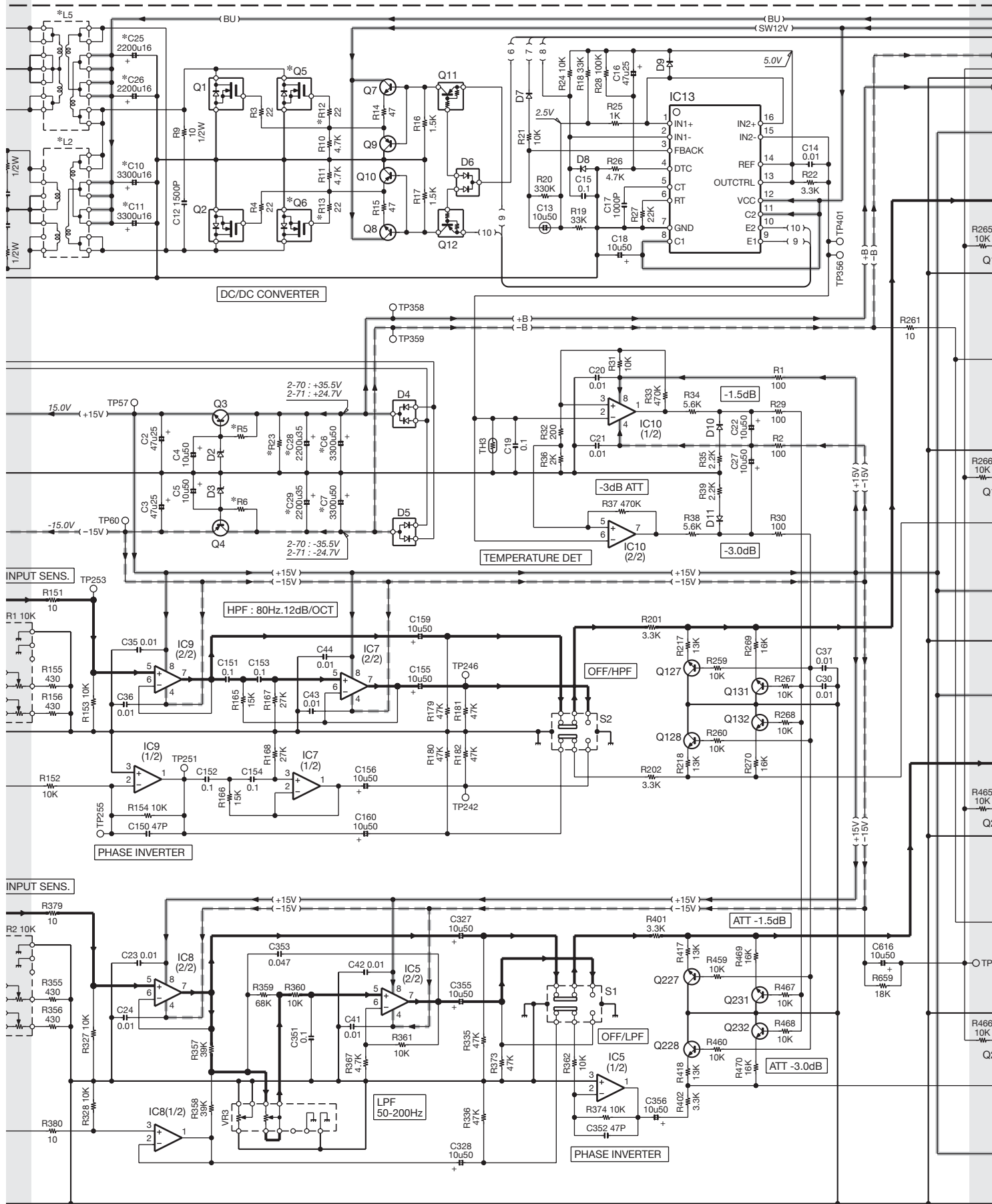
Q113,114,213,214 : 2SC4081(S)  
Q119,120,219,220 : 2SC1627A-F  
Q121,122,221,222 : 2SA817A-F  
Q123,124,223,224 : \*  
Q125,126,225,226 : \*  
Q604 : 2SB1241  
Q607 : 2SD1863

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

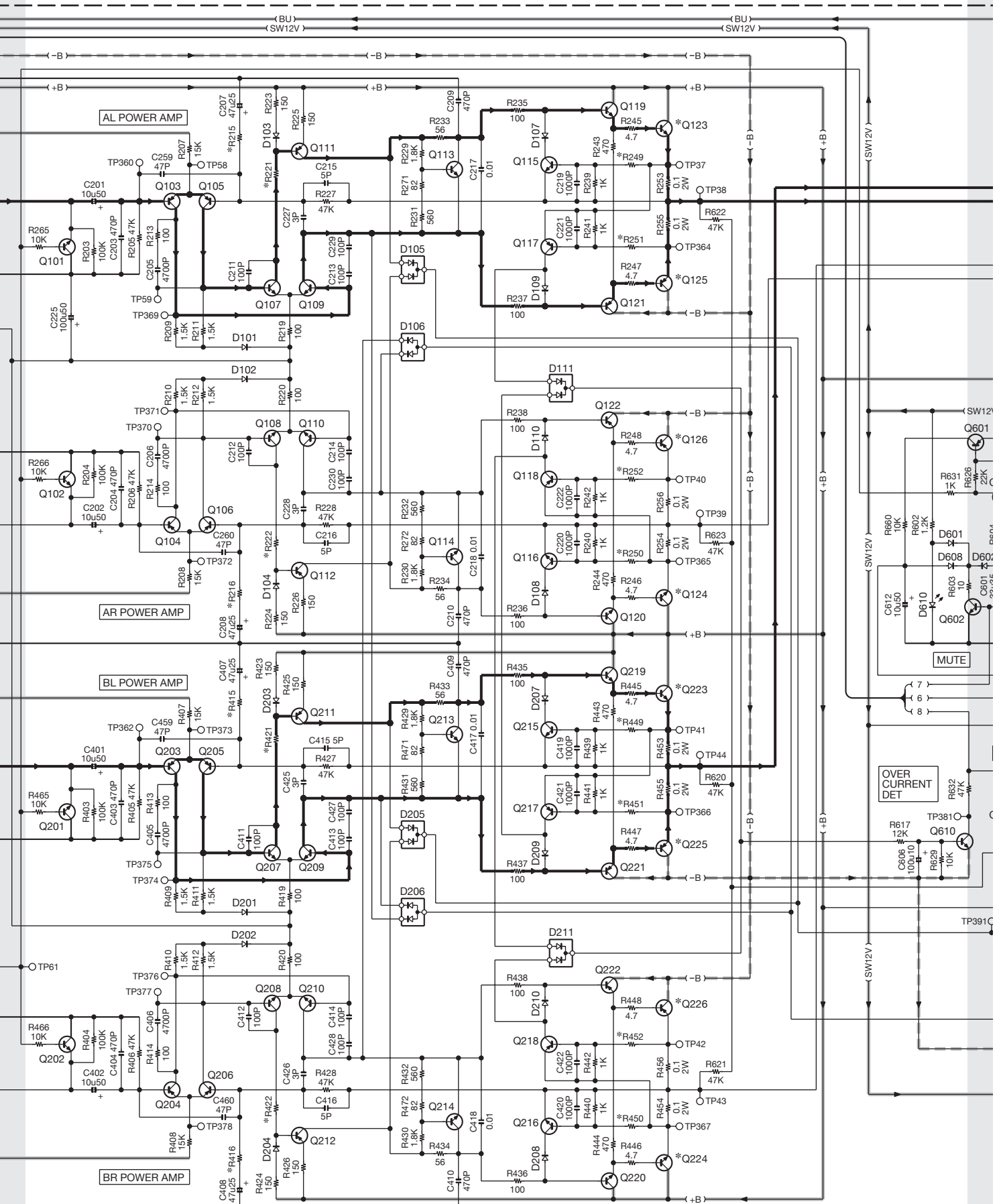


(X09-8722-7X)

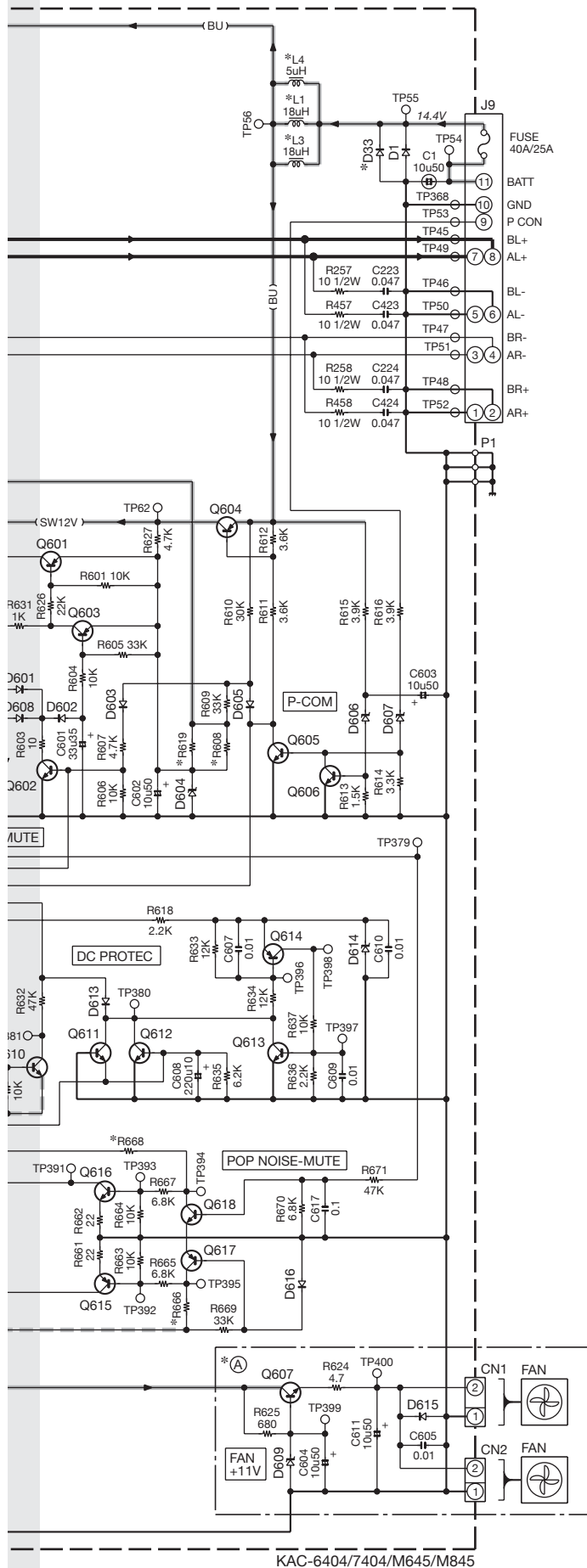
MODEL NAME	UNIT No.	(A)	C6,7,10,11	C25,26,28,29	D33	L1-3	L4,5	Q5,6	Q123,124,223,224	Q125,126,225,226	R5,6	R12,13	R23	R215,216,415,416	R221,222,421,422	R249-252,449-452	R608,619	R666,668
KAC-7404	2-70	YES	YES	—	YES	YES	—	YES	2SC4468NF	2SA1695NF	3.3K	YES	10K	1.2K	6.8K	1.5K	5.6K	22K
KAC-M845	2-70	—	—	—	—	—	—	—	2SC4468NF	2SA1695NF	2.7K	—	5.6K	1.5K	4.7K	620	4.7K	15K



# KAC-6404/7404/M645/M845

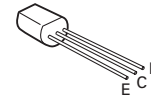






KAC-6404/7404/M645/M845

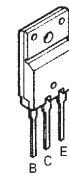
2SA817A-F  
 2SA992-A  
 2SC1627A-F  
 2SC1845-A



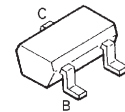
2SA1576A



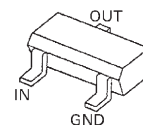
2SB1375-F  
 2SD2012-F



2SC4081



DTA114EUA

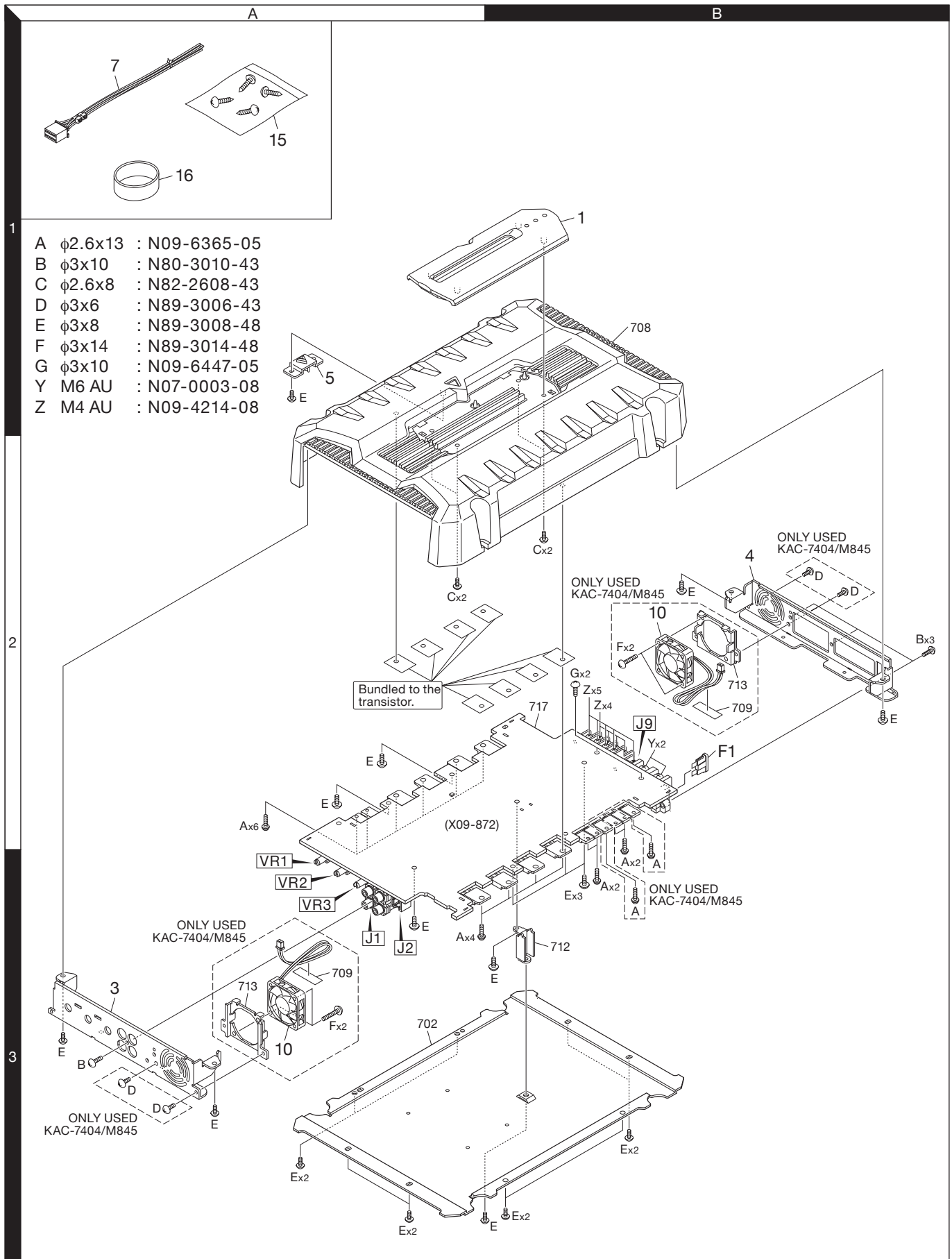


**CAUTION :** For continued safety, replace safety critical components only with manufacturer's recommended parts (refer to parts list).

⚠ 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



## 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
<b>KAC-6404/7404/M645/M845</b>					
1	1B	*	A21-6629-02	DRESSING PANEL	K
1	1B	*	A21-6630-02	DRESSING PANEL	E1
1	1B	*	A21-6633-02	DRESSING PANEL	E
1	1B	*	A21-6634-02	DRESSING PANEL	M1
1	1B	*	A21-6661-02	DRESSING PANEL	M2
3	2B	*	A64-4417-02	PANEL	
4	2B	*	A84-0475-02	REAR PANEL	KE1M2
4	2B	*	A84-0476-02	REAR PANEL	EM1
5	1A		B19-2324-03	LIGHTING BOARD	
-		*	B64-3922-00	INSTRUCTION MANUAL (ENG.FRE.SPA)	EKE1
-		*	B64-3923-00	INSTRUCTION MANUAL (GE.DU.IT.PO)	EE1
-		*	B64-3924-00	INSTRUCTION MANUAL (ENG.S-CHI)	M1M2
7	1A		E30-6144-05	CONNECTING CORD ASSY	
10	3B	*	F09-2974-05	FAN	EM1
△ F1	2B		F52-0014-05	FUSE (BLADE TYPE) 25A	KE1M2
△ F1	2B		F52-0016-05	FUSE (BLADE TYPE) 40A	EM1
-		*	H54-4223-03	ITEM CARTON CASE	E
-		*	H54-4224-03	ITEM CARTON CASE	M1
-		*	H54-4225-03	ITEM CARTON CASE	K
-		*	H54-4226-03	ITEM CARTON CASE	E1
-		*	H54-4227-03	ITEM CARTON CASE	M2
15	1A	*	N99-1587-15	SCREW SET	
A	3B		N09-6365-05	SEMS (2.6X13 B-TAPTITE)	
B	2B		N80-3010-43	PAN HEAD TAPTITE SCREW	
C	2A		N82-2608-43	BINDING HEAD TAPTITE SCREW	
D	3A		N83-3006-43	PAN HEAD TAPTITE SCREW	EM1
E	3A		N89-3008-48	BINDING HEAD TAPTITE SCREW	
F	3A		N89-3014-48	BINDING HEAD TAPTITE SCREW	EM1
Y	2B		N07-0003-08	TERMINAL SCREW (M6 AU)	
Z	2B		N09-4214-08	TERMINAL SCREW (M4 AU)	
16	1A		W01-1606-05	ACCESSORIES	
<b>AUDIO UNIT (X09-8722-70/2-71)</b>					
D610			B30-1743-05	LED (RED LED)	
C1			CD04AU1H100M	NP ELEC 10UF 50WV	
C2,3			CD04BJ1E470M	ELECTRO 47UF 25WV	
C4,5			CD04BJ1H100M	ELECTRO 10UF 50WV	
C6,7			C90-6782-05	ELECTRO 3300UF 50WV	EM1
C8,9			CK73GB1H152K	CHIP C 1500PF K	
C10,11			CD04AY1C332M	ELECTRO 3300UF 16WV	EM1
C12			CK73GB1H152K	CHIP C 1500PF K	
C13			CD04AU1H100M	NP ELEC 10UF 50WV	
C14			CK73GB1H103K	CHIP C 0.010UF K	
C15			CK73GB1H104K	CHIP C 0.10UF K	
C16			CD04BJ1E470M	ELECTRO 47UF 25WV	
C17			CK73GB1H102K	CHIP C 1000PF K	
C18			CD04BJ1H100M	ELECTRO 10UF 50WV	
C19			CK73GB1H104K	CHIP C 0.10UF K	
C20,21			CK73GB1H103K	CHIP C 0.010UF K	
C22			CD04BJ1H100M	ELECTRO 10UF 50WV	
C23,24			CK73GB1H103K	CHIP C 0.010UF K	

Ref. No.	Add	New	Parts No.	Description	Destination
C25,26			CD04AZ1C222M	ELECTRO 2200UF 16WV	KE1M2
C27			CD04BJ1H100M	ELECTRO 10UF 50WV	
C28,29			CD04AZ1V222M	ELECTRO 2200UF 35WV	KE1M2
C30-37			CK73GB1H103K	CHIP C 0.010UF K	
C41-44			CK73GB1H103K	CHIP C 0.010UF K	
C100-102			CK73GB1H102K	CHIP C 1000PF K	
C103,104			CD04BJ1H100M	ELECTRO 10UF 50WV	
C105-108			CC73GCH1H150J	CHIP C 15PF J	
C109,110			CC73GCH1H101J	CHIP C 100PF J	
C111,112			CD04BJ1E470M	ELECTRO 47UF 25WV	
C113-116			CD04BJ1H100M	ELECTRO 10UF 50WV	
C117,118			CC73GCH1H101J	CHIP C 100PF J	
C128			CK73GB1H103K	CHIP C 0.010UF K	
C150			CC73GCH1H470J	CHIP C 47PF J	
C151-154			CK73GB1H104K	CHIP C 0.10UF K	
C155,156			CD04BJ1H100M	ELECTRO 10UF 50WV	
C159,160			CD04BJ1H100M	ELECTRO 10UF 50WV	
C201,202			CD04BJ1H100M	ELECTRO 10UF 50WV	
C203,204			CC73GCH1H471J	CHIP C 470PF J	
C205,206			CK73GB1H472K	CHIP C 4700PF K	
C207,208			CD04BJ1E470M	ELECTRO 47UF 25WV	
C209,210			CC73GCH1H471J	CHIP C 470PF J	
C211-214			CC73GCH1H101J	CHIP C 100PF J	
C215,216			CC73GCH1H050C	CHIP C 5.0PF C	
C217,218			CK73GB1H103K	CHIP C 0.010UF K	
C219-222			CK73GB1H102K	CHIP C 1000PF K	
C223,224			CK73GB1H473K	CHIP C 0.047UF K	
C225			CD04BJ1H101M	ELECTRO 100UF 50WV	
C227,228			CC73GCH1H030C	CHIP C 3.0PF C	
C229,230			CC73GCH1H101J	CHIP C 100PF J	
C259,260			CC73GCH1H470J	CHIP C 47PF J	
C301,302			CK73GB1H102K	CHIP C 1000PF K	
C303,304			CD04BJ1H100M	ELECTRO 10UF 50WV	
C305-308			CC73GCH1H150J	CHIP C 15PF J	
C309,310			CC73GCH1H101J	CHIP C 100PF J	
C311,312			CD04BJ1E470M	ELECTRO 47UF 25WV	
C313-316			CD04BJ1H100M	ELECTRO 10UF 50WV	
C317,318			CC73GCH1H101J	CHIP C 100PF J	
C327,328			CD04BJ1H100M	ELECTRO 10UF 50WV	
C351			CK73GB1H104K	CHIP C 0.10UF K	
C352			CC73GCH1H470J	CHIP C 47PF J	
C353			CK73GB1H473K	CHIP C 0.047UF K	
C355,356			CD04BJ1H100M	ELECTRO 10UF 50WV	
C401,402			CD04BJ1H100M	ELECTRO 10UF 50WV	
C403,404			CC73GCH1H471J	CHIP C 470PF J	
C405,406			CK73GB1H472K	CHIP C 4700PF K	
C407,408			CD04BJ1E470M	ELECTRO 47UF 25WV	
C409,410			CC73GCH1H471J	CHIP C 470PF J	
C411-414			CC73GCH1H101J	CHIP C 100PF J	
C415,416			CC73GCH1H050C	CHIP C 5.0PF C	
C417,418			CK73GB1H103K	CHIP C 0.010UF K	
C419-422			CK73GB1H102K	CHIP C 1000PF K	
C423,424			CK73GB1H473K	CHIP C 0.047UF K	
C425,426			CC73GCH1H030C	CHIP C 3.0PF C	
C427,428			CC73GCH1H101J	CHIP C 100PF J	

E : KAC-7404 E1 : KAC-6404 (Europe) K : KAC-6404 (North America)  
M1 : KAC-M845 M2 : KAC-M645 (Other Areas)

△ Indicates safety critical components.

## PARTS LIST

### AUDIO UNIT (X09-8722-70/2-71)

Ref. No.	Ad	New	Parts No.	Description	Destination	Ref. No.	Ad	New	Parts No.	Description	Destination
C459,460			CC73GCH1H470J	CHIP C 47PF J		R38			RK73GB2A562J	CHIP R 5.6K J 1/10W	
C601			CD04BJ1V330M	ELECTRO 33UF 35WV		R39			RK73GB2A222J	CHIP R 2.2K J 1/10W	
C602-604			CD04BJ1H100M	ELECTRO 10UF 50WV	EM1	R100-102			RD14BB2C102J	RD 1.0K J 1/6W	
C602,603			CD04BJ1H100M	ELECTRO 10UF 50WV	KE1M2	R103,104			RK73GB2A103J	CHIP R 10K J 1/10W	
C605			CK73GB1H103K	CHIP C 0.010UF K	EM1	R105,106			RK73GB2A472J	CHIP R 4.7K J 1/10W	
C606			CD04BJ1A101M	ELECTRO 100UF 10WV		R107,108			RK73GB2A103J	CHIP R 10K J 1/10W	
C607			CK73GB1H103K	CHIP C 0.010UF K		R109,110			RK73GB2A123J	CHIP R 12K J 1/10W	
C608			CD04BJ1A221M	ELECTRO 220UF 10WV		R111-118			RK73GH2A103D	CHIP R 10K D 1/10W	
C609,610			CK73GB1H103K	CHIP C 0.010UF K		R121,122			RK73EB2E222J	CHIP R 2.2K J 1/4W	
C611,612			CD04BJ1H100M	ELECTRO 10UF 50WV	EM1	R123-126			RK73EB2E104J	CHIP R 100K J 1/4W	
C612			CD04BJ1H100M	ELECTRO 10UF 50WV	KE1M2	R151			RK73GB2A100J	CHIP R 10 J 1/10W	
C616			CD04BJ1H100M	ELECTRO 10UF 50WV		R152-154			RK73GB2A103J	CHIP R 10K J 1/10W	
C617			CK73GB1H104K	CHIP C 0.10UF K		R155,156			RK73GB2A431J	CHIP R 430 J 1/10W	
CN1,2			E41-1682-05	PIN ASSY	EM1	R165,166			RK73GB2A153J	CHIP R 15K J 1/10W	
J1			E63-0939-05	PIN JACK	KE1M2	R167,168			RK73GB2A273J	CHIP R 27K J 1/10W	
J1			E63-0947-05	PIN JACK	EM1	R179-182			RK73GB2A473J	CHIP R 47K J 1/10W	
J2			E58-1031-05	RECTANGULAR RECEPTACLE		R201,202			RK73GB2A332J	CHIP R 3.3K J 1/10W	
J9			E70-0841-05	SCREW TERMINAL BOARD	KE1M2	R203,204			RK73GB2A104J	CHIP R 100K J 1/10W	
J9		*	E70-0851-05	SCREW TERMINAL BOARD	EM1	R205,206			RK73GB2A473J	CHIP R 47K J 1/10W	
L1		*	L33-2461-05	CHOKE COIL 30UH	EM1	R207,208			RK73GB2A153J	CHIP R 15K J 1/10W	
L2		*	L19-0772-05	TRANSFORMER FOR CONVERTER	EM1	R209-212			RK73GB2A152J	CHIP R 1.5K J 1/10W	
L3		*	L33-2461-05	CHOKE COIL 30UH	EM1	R213,214			RK73GB2A101J	CHIP R 100 J 1/10W	
L4		*	L33-2445-05	CHOKE COIL 5UH	KE1M2	R215,216			RK73GB2A122J	CHIP R 1.2K J 1/10W	EM1
L5		*	L19-0775-05	TRANSFORMER FOR CONVERTER	KE1M2	R215,216			RK73GB2A152J	CHIP R 1.5K J 1/10W	KE1M2
L5		*	L19-0775-05	TRANSFORMER FOR CONVERTER	KE1M2	R217,218			RK73GB2A133J	CHIP R 13K J 1/10W	
G	2B		N09-6447-05	TAPTITE SCREW (3X10 PT)		R219,220			RK73GB2A101J	CHIP R 100 J 1/10W	
R1,2			RK73GB2A101J	CHIP R 100 J 1/10W		R221,222			RK73EB2E472J	CHIP R 4.7K J 1/4W	KE1M2
R3,4			RK73GB2A220J	CHIP R 22 J 1/10W		R221,222			RK73EB2E682J	CHIP R 6.8K J 1/4W	EM1
R5,6			RK73EB2E272J	CHIP R 2.7K J 1/4W	KE1M2	R223-226			RK73GB2A151J	CHIP R 150 J 1/10W	
R5,6			RK73EB2E332J	CHIP R 3.3K J 1/4W	EM1	R227,228			RK73GB2A473J	CHIP R 47K J 1/10W	
R7-9			RK73PB2H100J	CHIP R 10 J 1/2W		R229,230			RK73GB2A182J	CHIP R 1.8K J 1/10W	
R10,11			RK73GB2A472J	CHIP R 4.7K J 1/10W		R231,232			RK73GB2A561J	CHIP R 560 J 1/10W	
R12,13			RK73GB2A220J	CHIP R 22 J 1/10W	EM1	R233,234			RK73GB2A560J	CHIP R 56 J 1/10W	
R14,15			RK73GB2A470J	CHIP R 47 J 1/10W		R235-238			RK73GB2A101J	CHIP R 100 J 1/10W	
R16,17			RK73GB2A152J	CHIP R 1.5K J 1/10W		R239-242			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R18,19			RK73GB2A333J	CHIP R 33K J 1/10W		R243,244			RK73GB2A471J	CHIP R 470 J 1/10W	
R20			RK73GB2A334J	CHIP R 330K J 1/10W		R245-248			RK73EB2E4R7J	CHIP R 4.7 J 1/4W	
R21			RK73GB2A103J	CHIP R 10K J 1/10W		R249-252			RK73GB2A152J	CHIP R 1.5K J 1/10W	EM1
R22			RK73GB2A332J	CHIP R 3.3K J 1/10W		R249-252			RK73GB2A621J	CHIP R 620 J 1/10W	KE1M2
R23			RK73EB2E103J	CHIP R 10K J 1/4W	EM1	R253-256			R92-0205-05	METAL-PLATE 0.1 K 2W	
R23			RK73EB2E562J	CHIP R 5.6K J 1/4W	KE1M2	R257,258			RK73PB2H100J	CHIP R 10 J 1/2W	
R24			RK73GB2A103J	CHIP R 10K J 1/10W		R259,260			RK73GB2A103J	CHIP R 10K J 1/10W	
R25			RK73GB2A102J	CHIP R 1.0K J 1/10W		R261			RK73EB2E100J	CHIP R 10 J 1/4W	
R26			RK73GB2A472J	CHIP R 4.7K J 1/10W		R265-268			RK73GB2A103J	CHIP R 10K J 1/10W	
R27			RK73GB2A223J	CHIP R 22K J 1/10W		R269,270			RK73GB2A163J	CHIP R 16K J 1/10W	
R28			RK73GB2A104J	CHIP R 100K J 1/10W		R271,272			RK73GB2A820J	CHIP R 82 J 1/10W	
R29,30			RK73GB2A101J	CHIP R 100 J 1/10W		R301,302			RD14BB2C102J	RD 1.0K J 1/6W	
R31			RK73GB2A103J	CHIP R 10K J 1/10W		R303,304			RK73GB2A103J	CHIP R 10K J 1/10W	
R32			RK73GB2A201J	CHIP R 200 J 1/10W		R305,306			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R33			RK73GB2A474J	CHIP R 470K J 1/10W		R307,308			RK73GB2A103J	CHIP R 10K J 1/10W	
R34			RK73GB2A562J	CHIP R 5.6K J 1/10W		R309,310			RK73GB2A123J	CHIP R 12K J 1/10W	
R35			RK73GB2A222J	CHIP R 2.2K J 1/10W		R311-318			RK73GH2A103D	CHIP R 10K D 1/10W	
R36			RK73GB2A202J	CHIP R 2.0K J 1/10W		R319,320			RK73GB2A473J	CHIP R 47K J 1/10W	
R37			RK73GB2A474J	CHIP R 470K J 1/10W		R321,322			RK73EB2E222J	CHIP R 2.2K J 1/4W	
						R323-326			RK73EB2E104J	CHIP R 100K J 1/4W	

E : KAC-7404 E1 : KAC-6404 (Europe) K : KAC-6404 (North America)  
M1 : KAC-M845 M2 : KAC-M645 (Other Areas)

△Indicates safety critical components.

## PARTS LIST

## AUDIO UNIT (X09-8722-70/2-71)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
R327,328			RK73GB2A103J	CHIP R 10K J 1/10W		R617			RK73GB2A123J	CHIP R 12K J 1/10W	
R335,336			RK73GB2A473J	CHIP R 47K J 1/10W		R618			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R355,356			RK73GB2A431J	CHIP R 430 J 1/10W		R619			RK73EB2E472J	CHIP R 4.7K J 1/4W	KE1M2
R357,358			RK73GB2A393J	CHIP R 39K J 1/10W		R619			RK73EB2E562J	CHIP R 5.6K J 1/4W	EM1
R359			RK73GB2A683J	CHIP R 68K J 1/10W		R620-623			RK73GB2A473J	CHIP R 47K J 1/10W	
R360-362			RK73GB2A103J	CHIP R 10K J 1/10W		R624			RK73EB2E4R7J	CHIP R 4.7 J 1/4W	EM1
R367			RK73GB2A472J	CHIP R 4.7K J 1/10W		R625			RK73GB2A681J	CHIP R 680 J 1/10W	EM1
R373			RK73GB2A473J	CHIP R 47K J 1/10W		R626			RK73GB2A223J	CHIP R 22K J 1/10W	
R374			RK73GB2A103J	CHIP R 10K J 1/10W		R627			RK73GB2A472J	CHIP R 4.7K J 1/10W	
R379,380			RK73GB2A100J	CHIP R 10 J 1/10W		R629			RK73GB2A103J	CHIP R 10K J 1/10W	
R401,402			RK73GB2A332J	CHIP R 3.3K J 1/10W		R631			RK73GB2A102J	CHIP R 1.0K J 1/10W	
R403,404			RK73GB2A104J	CHIP R 100K J 1/10W		R632			RK73GB2A473J	CHIP R 47K J 1/10W	
R405,406			RK73GB2A473J	CHIP R 47K J 1/10W		R633,634			RK73GB2A123J	CHIP R 12K J 1/10W	
R407,408			RK73GB2A153J	CHIP R 15K J 1/10W		R635			RK73GB2A622J	CHIP R 6.2K J 1/10W	
R409-412			RK73GB2A152J	CHIP R 1.5K J 1/10W		R636			RK73GB2A222J	CHIP R 2.2K J 1/10W	
R413,414			RK73GB2A101J	CHIP R 100 J 1/10W		R637			RK73GB2A103J	CHIP R 10K J 1/10W	
R415,416			RK73GB2A122J	CHIP R 1.2K J 1/10W	EM1	R659			RK73GB2A183J	CHIP R 18K J 1/10W	
R415,416			RK73GB2A152J	CHIP R 1.5K J 1/10W	KE1M2	R660			RK73GB2A103J	CHIP R 10K J 1/10W	
R417,418			RK73GB2A133J	CHIP R 13K J 1/10W		R661,662			RK73GB2A220J	CHIP R 22 J 1/10W	
R419,420			RK73GB2A101J	CHIP R 100 J 1/10W		R663,664			RK73GB2A103J	CHIP R 10K J 1/10W	
R421,422			RK73EB2E472J	CHIP R 4.7K J 1/4W	KE1M2	R665			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R421,422			RK73EB2E682J	CHIP R 6.8K J 1/4W	EM1	R666			RK73GB2A153J	CHIP R 15K J 1/10W	KE1M2
R423-426			RK73GB2A151J	CHIP R 150 J 1/10W		R666			RK73GB2A223J	CHIP R 22K J 1/10W	EM1
R427,428			RK73GB2A473J	CHIP R 47K J 1/10W		R667			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R429,430			RK73GB2A182J	CHIP R 1.8K J 1/10W		R668			RK73GB2A153J	CHIP R 15K J 1/10W	KE1M2
R431,432			RK73GB2A561J	CHIP R 560 J 1/10W		R668			RK73GB2A223J	CHIP R 22K J 1/10W	EM1
R433,434			RK73GB2A560J	CHIP R 56 J 1/10W		R669			RK73GB2A333J	CHIP R 33K J 1/10W	
R435-438			RK73GB2A101J	CHIP R 100 J 1/10W		R670			RK73GB2A682J	CHIP R 6.8K J 1/10W	
R439-442			RK73GB2A102J	CHIP R 1.0K J 1/10W		R671			RK73GB2A473J	CHIP R 47K J 1/10W	
R443,444			RK73GB2A471J	CHIP R 470 J 1/10W		VR1,2	*		R31-0253-05	VARIABLE RESISTOR 10K, A	
R445-448			RK73EB2E4R7J	CHIP R 4.7 J 1/4W		VR3	*		R31-0255-05	VARIABLE RESISTOR 50K, C	
R449-452			RK73GB2A152J	CHIP R 1.5K J 1/10W	EM1	W500-504			R92-1252-05	CHIP R 0 OHM J 1/16W	
R449-452			RK73GB2A621J	CHIP R 620 J 1/10W	KE1M2	W505-507			R92-2053-05	CHIP R 0 OHM J 1/8W	
R453-456			R92-0205-05	METAL-PLATE 0.1 K 2W		W508			R92-1252-05	CHIP R 0 OHM J 1/16W	
R457,458			RK73PB2H100J	CHIP R 10 J 1/2W		W509			R92-2053-05	CHIP R 0 OHM J 1/8W	
R459,460			RK73GB2A103J	CHIP R 10K J 1/10W		W510,511			R92-1252-05	CHIP R 0 OHM J 1/16W	
R465-468			RK73GB2A103J	CHIP R 10K J 1/10W		W512			R92-2053-05	CHIP R 0 OHM J 1/8W	
R469,470			RK73GB2A163J	CHIP R 16K J 1/10W		W513,514			R92-1252-05	CHIP R 0 OHM J 1/16W	
R471,472			RK73GB2A820J	CHIP R 82 J 1/10W		W515			R92-2053-05	CHIP R 0 OHM J 1/8W	
R601			RK73GB2A103J	CHIP R 10K J 1/10W		W516,517			R92-1252-05	CHIP R 0 OHM J 1/16W	
R602			RK73EB2E122J	CHIP R 1.2K J 1/4W		W518,519			R92-2053-05	CHIP R 0 OHM J 1/8W	
R603			RK73GB2A100J	CHIP R 10 J 1/10W		W520			R92-1252-05	CHIP R 0 OHM J 1/16W	
R604			RK73GB2A103J	CHIP R 10K J 1/10W		W521			R92-2053-05	CHIP R 0 OHM J 1/8W	
R605			RK73GB2A333J	CHIP R 33K J 1/10W		W522			R92-1252-05	CHIP R 0 OHM J 1/16W	
R606			RK73GB2A103J	CHIP R 10K J 1/10W		W523,524			R92-2053-05	CHIP R 0 OHM J 1/8W	
R607			RK73GB2A472J	CHIP R 4.7K J 1/10W		W525-530			R92-1252-05	CHIP R 0 OHM J 1/16W	
R608			RK73EB2E472J	CHIP R 4.7K J 1/4W	KE1M2	W531			R92-2053-05	CHIP R 0 OHM J 1/8W	
R608			RK73EB2E562J	CHIP R 5.6K J 1/4W	EM1	W532-538			R92-1252-05	CHIP R 0 OHM J 1/16W	
R609			RK73GB2A333J	CHIP R 33K J 1/10W		W539			R92-2053-05	CHIP R 0 OHM J 1/8W	
R610			RK73GB2A303J	CHIP R 30K J 1/10W		W540			R92-1252-05	CHIP R 0 OHM J 1/16W	
R611,612			RK73GB2A362J	CHIP R 3.6K J 1/10W		W541			R92-2053-05	CHIP R 0 OHM J 1/8W	
R613			RK73GB2A152J	CHIP R 1.5K J 1/10W		W542			R92-1252-05	CHIP R 0 OHM J 1/16W	
R614			RK73GB2A332J	CHIP R 3.3K J 1/10W		W543-547			R92-2053-05	CHIP R 0 OHM J 1/8W	
R615			RK73GB2A392J	CHIP R 3.9K J 1/10W		W548-555			R92-1252-05	CHIP R 0 OHM J 1/16W	
R616			RD14BB2C392J	RD 3.9K J 1/6W		W556-558			R92-2053-05	CHIP R 0 OHM J 1/8W	

E : KAC-7404 E1 : KAC-6404 (Europe) K : KAC-6404 (North America)  
M1 : KAC-M845 M2 : KAC-M645 (Other Areas)

△ Indicates safety critical components.

## PARTS LIST

## AUDIO UNIT (X09-8722-70/2-71)

Ref. No.	Add	New	Parts No.	Description	Destination	Ref. No.	Add	New	Parts No.	Description	Destination
W559			R92-1252-05	CHIP R 0 OHM J 1/16W		D615,616			1SS355	DIODE	EM1
W560			R92-2053-05	CHIP R 0 OHM J 1/8W		D616			1SS355	DIODE	KE1M2
W561-563			R92-1252-05	CHIP R 0 OHM J 1/16W		IC1-5			BA4560RF	ANALOGUE IC	
W564,565			R92-2053-05	CHIP R 0 OHM J 1/8W		IC7-10			BA4560RF	ANALOGUE IC	
W566,567			R92-1252-05	CHIP R 0 OHM J 1/16W		IC13			TL494IDR	ANALOGUE IC	
W568			R92-2053-05	CHIP R 0 OHM J 1/8W		Q1,2			STP60NF06FP	FET	
W569			R92-1252-05	CHIP R 0 OHM J 1/16W		Q3			2SD2012-F	TRANSISTOR	
W570			R92-2053-05	CHIP R 0 OHM J 1/8W		Q4			2SB1375-F	TRANSISTOR	
W571			R92-1252-05	CHIP R 0 OHM J 1/16W		Q5,6			STP60NF06FP	FET	EM1
W572,573			R92-2053-05	CHIP R 0 OHM J 1/8W		Q7,8			2SC4097	TRANSISTOR	
W574-576			R92-1252-05	CHIP R 0 OHM J 1/16W		Q9,10			2SA1577	TRANSISTOR	
W577			R92-2053-05	CHIP R 0 OHM J 1/8W		Q11,12			DTA114EUA	DIGITAL TRANSISTOR	
W578,579			R92-1252-05	CHIP R 0 OHM J 1/16W		Q101,102			2SC4081	TRANSISTOR	
W580-584			R92-2053-05	CHIP R 0 OHM J 1/8W		Q103-106			2SA1576A(R,S)	TRANSISTOR	
W585			R92-1252-05	CHIP R 0 OHM J 1/16W		Q107-110			2SC1845-A(F,E)	TRANSISTOR	
W586-590			R92-2053-05	CHIP R 0 OHM J 1/8W		Q111,112			2SA992-A(F,E)	TRANSISTOR	
W591,592			R92-1252-05	CHIP R 0 OHM J 1/16W		Q113,114			2SC4081(S)	TRANSISTOR	
W593			R92-2053-05	CHIP R 0 OHM J 1/8W		Q115,116			2SC4081	TRANSISTOR	
W594-596			R92-1252-05	CHIP R 0 OHM J 1/16W		Q117,118			2SA992-A(F,E)	TRANSISTOR	
W597,598			R92-2053-05	CHIP R 0 OHM J 1/8W		Q119,120			2SC1627A-F	TRANSISTOR	
W599,600			R92-1252-05	CHIP R 0 OHM J 1/16W		Q121,122			2SA817A-F	TRANSISTOR	
S1,2			S62-0842-05	SLIDE SWITCH		Q123,124			2SC4467NF	TRANSISTOR	KE1M2
D1		*	1N5406-TSC	DIODE		Q123,124			2SC4468NF	TRANSISTOR	EM1
D2,3			UDZS16B	ZENER DIODE		Q125,126			2SA1694NF	TRANSISTOR	KE1M2
D4			FCH10A20	DIODE		Q125,126			2SA1695NF	TRANSISTOR	EM1
D5			FRH10A20	DIODE		Q127,128			2SC4081	TRANSISTOR	
D6			LM1MA142WK-G	DIODE		Q131,132			2SC4081	TRANSISTOR	
D7-11			1SS355	DIODE		Q201,202			2SC4081	TRANSISTOR	
D32			UMZ6.8N	ZENER DIODE		Q203-206			2SA1576A(R,S)	TRANSISTOR	
D33		*	1N5406-TSC	DIODE	EM1	Q207-210			2SC1845-A(F,E)	TRANSISTOR	
D34			LM1MA142WK-G	DIODE		Q211,212			2SA992-A(F,E)	TRANSISTOR	
D35			LM1MA142WA-G	DIODE		Q213,214			2SC4081(S)	TRANSISTOR	
D36			LM1MA142WK-G	DIODE		Q215,216			2SC4081	TRANSISTOR	
D37			LM1MA142WA-G	DIODE		Q217,218			2SA992-A(F,E)	TRANSISTOR	
D101-104			1SS355	DIODE		Q219,220			2SC1627A-F	TRANSISTOR	
D105			LM1MA142WK-G	DIODE		Q221,222			2SA817A-F	TRANSISTOR	
D106			LM1MA142WA-G	DIODE		Q223,224			2SC4467NF	TRANSISTOR	KE1M2
D107-110			1SS355	DIODE		Q223,224			2SC4468NF	TRANSISTOR	EM1
D111			LM1MA142WK-G	DIODE		Q225,226			2SA1694NF	TRANSISTOR	KE1M2
D201-204			1SS355	DIODE		Q225,226			2SA1695NF	TRANSISTOR	EM1
D205			LM1MA142WK-G	DIODE		Q227,228			2SC4081	TRANSISTOR	
D206			LM1MA142WA-G	DIODE		Q231,232			2SC4081	TRANSISTOR	
D207-210			1SS355	DIODE		Q601			2SA1576A(R,S)	TRANSISTOR	
D211			LM1MA142WK-G	DIODE		Q602			2SC4097	TRANSISTOR	
D601-603			1SS355	DIODE		Q603			2SA1576A(R,S)	TRANSISTOR	
D604			UDZS10B	ZENER DIODE		Q604			2SB1241	TRANSISTOR	
D605			1SS355	DIODE		Q605,606			2SC4081	TRANSISTOR	
D606			UDZS15B	ZENER DIODE		Q607			2SD1863	TRANSISTOR	
D607			UDZS6.8B	ZENER DIODE		Q610-613			2SC4081	TRANSISTOR	EM1
D608			1SS355	DIODE		Q614,615			2SA1576A(R,S)	TRANSISTOR	
D609			UDZS12B	ZENER DIODE		Q616			2SC4081	TRANSISTOR	
D613			1SS355	DIODE	EM1	Q617			2SA1576A(R,S)	TRANSISTOR	
D614			UDZS10B	ZENER DIODE		Q618			2SC4081	TRANSISTOR	
						TH3			NCP18WB473J0S	THERMISTOR	

E : KAC-7404 E1 : KAC-6404 (Europe) K : KAC-6404 (North America)  
M1 : KAC-M845 M2 : KAC-M645 (Other Areas)

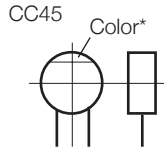
△Indicates safety critical components.

## PARTS LIST

### CAPACITORS

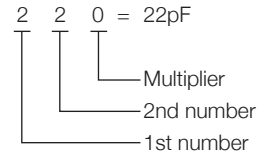
$\frac{CC}{1} \frac{45}{2} \frac{TH}{3} \frac{1H}{4} \frac{220}{5} \frac{J}{6}$

- 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



#### 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

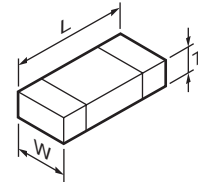
#### Voltage rating

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)  $\frac{CC}{1} \frac{73}{2} \frac{F}{3} \frac{SL}{4} \frac{1H}{5} \frac{000}{6} \frac{J}{7}$  → Refer to the table above.
- (Chip) (CH, RH, UJ, SL)
- (EX)  $\frac{CK}{1} \frac{73}{2} \frac{F}{3} \frac{F}{4} \frac{1H}{5} \frac{000}{6} \frac{Z}{7}$  →
- (Chip) (B, F)
- 1 = Type
  - 2 = Shape
  - 3 = Dimension
  - 4 = Temp. coefficient
  - 5 = Voltage rating
  - 6 = Value
  - 7 = Tolerance

#### 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

### RESISTORS

#### Chip resistor (Carbon)

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

#### Carbon resistor (Normal type)

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

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

#### 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		

## SPECIFICATIONS

### CEA-2006: KAC-7404/6404

#### Primary Power Output Ratings

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

KAC-7404 ..... 60 W × 4

KAC-6404 ..... 40 W × 4

Signal to Noise Ratio (Reference: 1Watt into 4 ohms)

..... 80 dBA

### Audio Section

#### Max Power Output

KAC-7404/M845 ..... 720 W (180 W × 4)

KAC-6404/M645 ..... 500 W (125 W × 4)

#### Rated Power Output

Normal (4 Ω) (20 Hz – 20 kHz, 1 % THD)

KAC-7404/M845 ..... 60 W × 4

KAC-6404/M645 ..... 40 W × 4

Normal (4 Ω) (DIN : 45324 , +B = 14.4V)

KAC-7404 ..... 60 W × 4

KAC-6404 ..... 40 W × 4

Normal (2 Ω) (1 kHz, 1 % THD)

KAC-7404/M845 ..... 90 W × 4

KAC-6404/M645 ..... 60 W × 4

Bridged (4 Ω) (1 kHz, 1 % THD)

KAC-7404/M845 ..... 180 W × 2

KAC-6404/M645 ..... 130 W × 2

Frequency Response (+0, -3 dB) ..... 5 Hz – 50 kHz

Sensitivity (rated output) ..... 0.2 V – 5.0 V

Signal to Noise Ratio ..... 94 dB

Input Impedance ..... 10 kΩ

Low Pass Filter Frequency (-12 dB/oct.)

..... 50 – 200 Hz (variable)

High Pass Filter Frequency (-12 dB/oct.) ..... 80 Hz

### General

Operating Voltage ..... 14.4 V (11 – 16 V allowable)

#### Current Consumption

KAC-7404/M845 ..... 36 A

KAC-6404/M645 ..... 19 A

#### Dimensions (W × H × D)

..... 330 × 59 × 230 mm (13 × 2-5/16 × 9-1/16 inch)

#### Weight

KAC-7404/M845 ..... 2.9 kg (6.4 lbs)

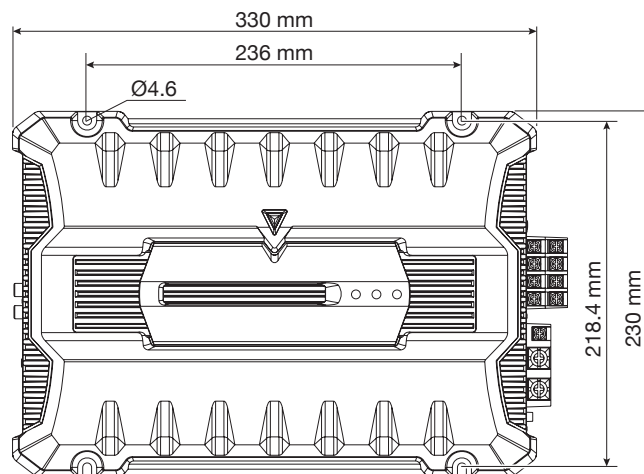
KAC-6404/M645 ..... 2.7 kg (5.9 lbs)

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

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## INSTALLATION

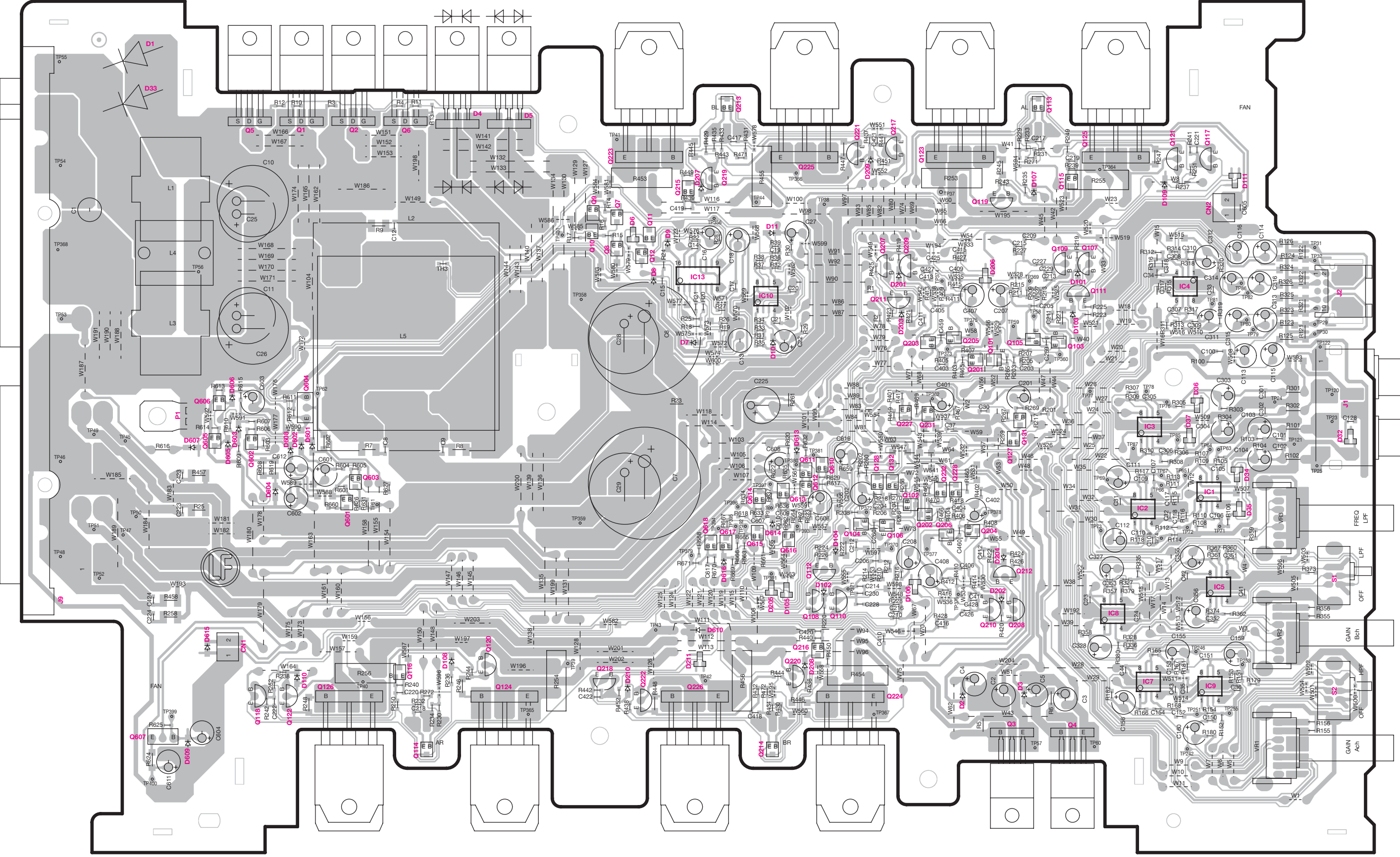




# KAC-6404/7404/M645/M845

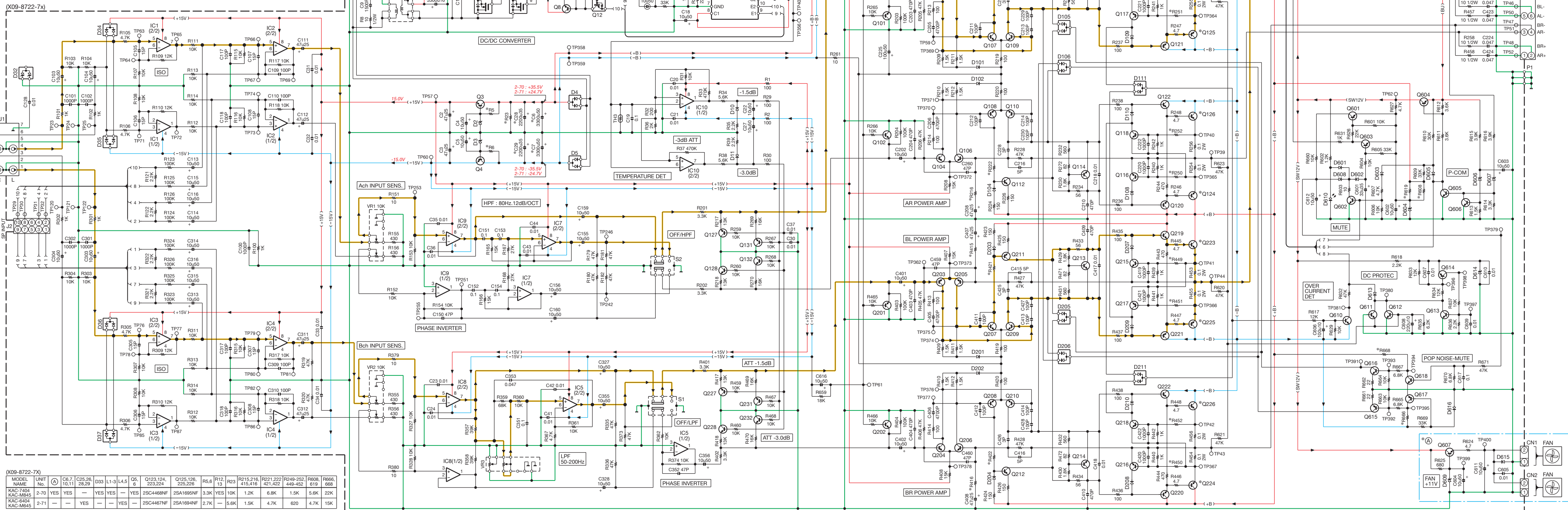
## PC BOARD (FOIL SIDE VIEW)

AUDIO UNIT X09-8722-70/2-71 (J76-0469-01)



- IC1,5,7-10 : BA4560RF  
 IC13 : TL494IDR
- D1,33 : 1N5406-TSC  
 D2,3 : UDZS16B  
 D4 : FCH10A20  
 D5 : FRH10A20  
 D6,34,36,105,111,205,211 : 1S3355  
 D7-11,101-104,107-110, 201-204,207-210,202,215,603, 605,608,613,615,616 : 1S3535  
 D32 : UMZ6.8N  
 D35,37,106,206 : LM1MA142WA-G  
 D604,614 : UDZS10B  
 D606 : UDZS15B  
 D607 : UDZS6.8B  
 D609 : UDZS12B  
 D610 : B30-1743-05
- Q1,2,5,6 : STP60NF06FP  
 Q3 : 2SD2012-F  
 Q4 : 2SB1375-F  
 Q7,8,602 : 2SC4097  
 Q8,10 : 2SA1577  
 Q11,12 : DTA114EUA  
 Q101,102,115,116,127,128, 131,132,201,202,215,216, 227,228,231,232,605,606, 610-613,615,616 : 2SC4081  
 Q103-106,203-206,601, 603,614,615,617 : 2SA1576A(R,S)  
 Q107-110,207-210 : 2SC1845-A(F,E)  
 Q111,112,117,118,211,212, 217,218 : 2SA992-A(F,E)
- Q113,114,213,214 : 2SC4081(S)  
 Q119,120,219,220 : 2SC1627A-F  
 Q121,122,221,222 : 2SA1577  
 Q123,124,223,224 : 2SA817A-F  
 Q125,126,225,226 : \*  
 Q604 : 2SB1241  
 Q607 : 2SD1863
- D604,614 : LM1MA142WA-G  
 D606 : UDZS10B  
 D607 : UDZS15B  
 D609 : UDZS12B  
 D610 : B30-1743-05

SIGNAL LINE  
 GND LINE  
 +B LINE  
 -B LINE



(X09-8722-7X)

MODEL	UNIT	Q	C6,7	C25,26	D33	L1-3	L4,5	Q5	Q123,124, 223,224	Q125,126, 225,226	R5,6	R12	R23	R215,216, 415,416	R217,221, 421,422	R248-252, 448-452	R608	R666
KAC-7404	2-70	YES	YES	—	YES	YES	—	YES	2SC4468NF	2SA1695NF	3.3K	YES	10K	1.2K	6.8K	1.5K	5.6K	22K
KAC-M845	—	—	—	—	—	—	—	—	2SC4467NF	2SA1694NF	2.7K	—	5.6K	1.5K	4.7K	620	4.7K	15K