

CIRCUIT DESCRIPTION

SP P-CON Switching Circuit

When the SP output from the head unit is connected to SP IN, the power can be switched ON/OFF based on the DC voltage of the SP output. However, As certain head unit models output DC permanently or generate a click during switching OFF, it is required to provide the capability of previous P-CON switching. A circuit which can perform the switching without using a switch is described below.

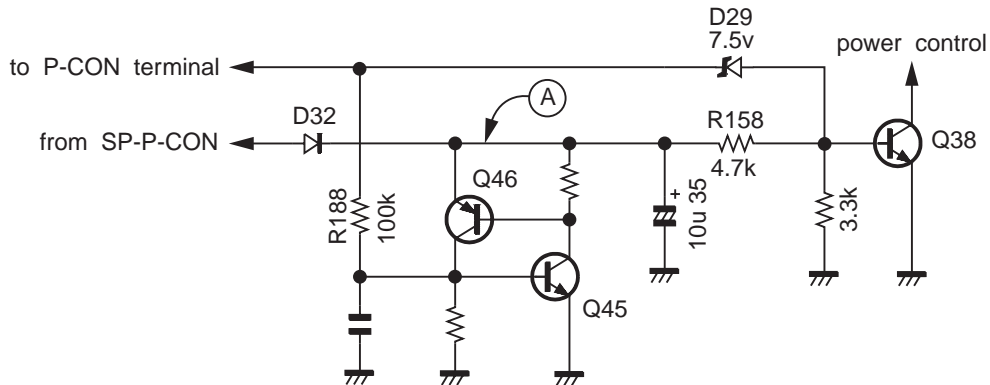
This circuit performs switching by inhibiting the operation of the S-P-CON circuit when a voltage is applied to the P-CON pin.

Circuit operation description

When the head unit is connected to SP-INN, the DC component in the SP output turns Q38 ON through D32 and R158.

When a voltage is applied to the P-CON pin under this condition, Q45 is turned ON via R188, positive feedback is applied by combination of Q45 and Q46, Q45 and Q46 are held at ON, so the voltage at point (A) is almost 0 V and the SP-P-CON circuit is not activated.

This circuit holds the ON status while the DC voltage from SP is present. Therefore, in this condition, the P-CON circuit continues functioning. To cancel the functioning, the voltage at the SP-IN pin should go 0 V.



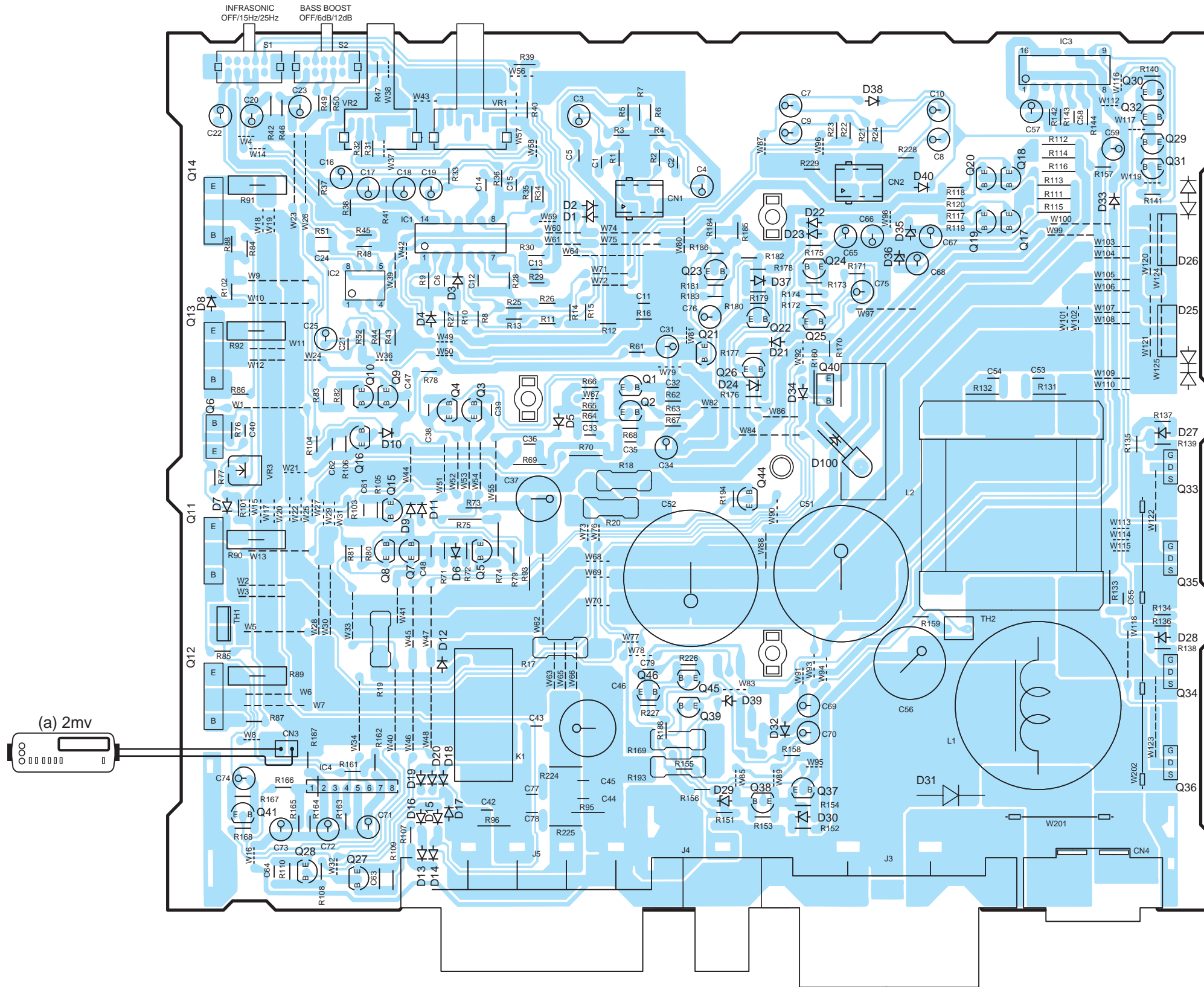
ADJUSTMENT

No	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	TUNER (RECEIVER) SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
Connect a cassette receiver or other receiver.							
1	IDLE CURRENT	-	Connect a DC voltmeter to CN3	Volume : 0	VR3	After sufficient aging adjust to 2mV	(a)

PC BOARD (Component Side View)

AUDIO UNIT

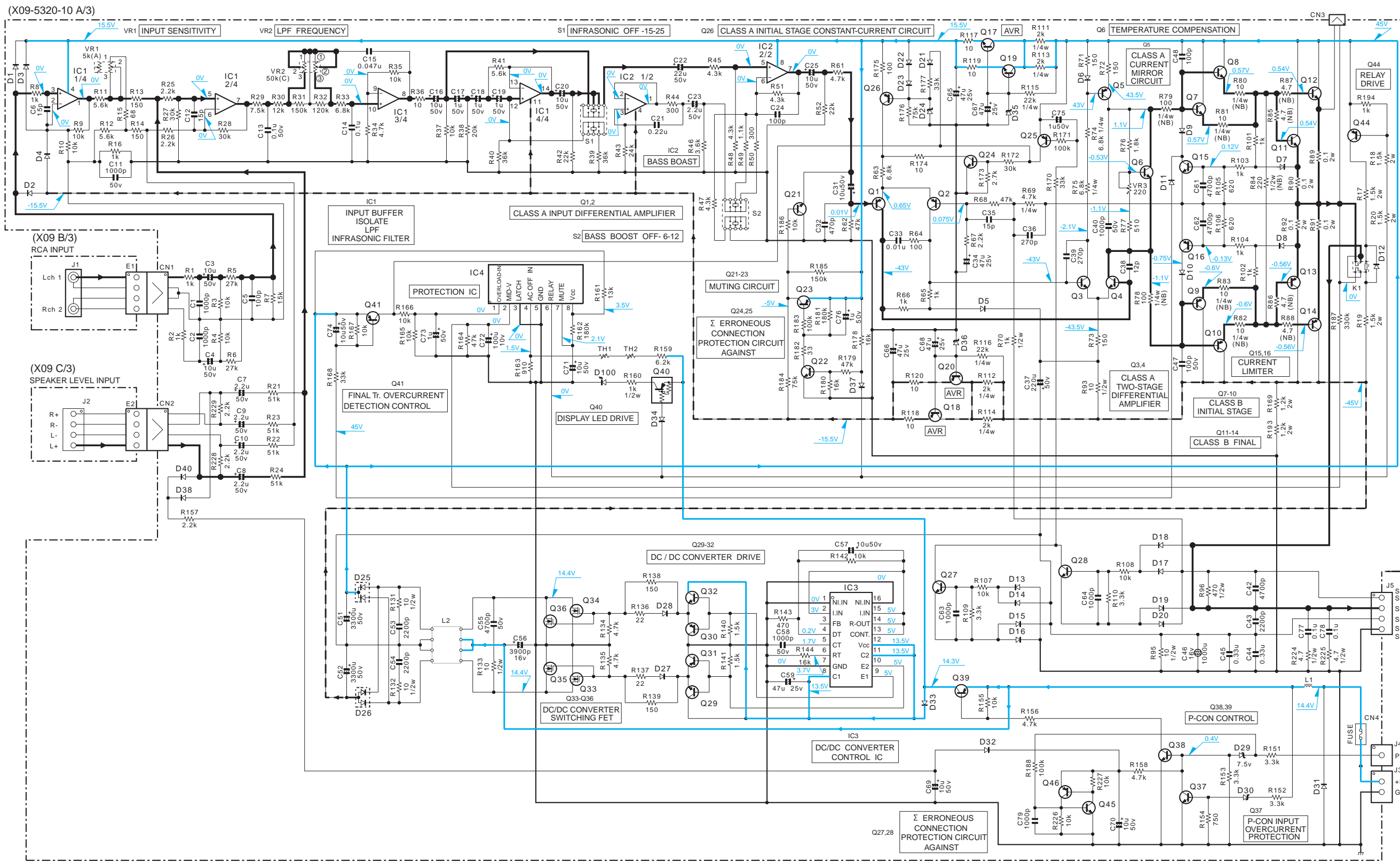
X09-5320-10 A/3 (J74-1030-11)



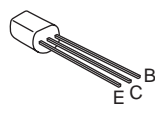
AUDIO UNIT
(X09-5320-10)

Ref. No.	IC	Q	Address
1			3C
2			3B
3			2F
4			6B
	1		3D
	2		4D
	3		4C
	4		4C
	5		4C
	6		4B
	7		4C
	8		4C
	9		3C
	10		3C
	11		4B
	12		5B
	13		3B
	14		2B
	15		4C
	16		4B
	17		2F
	18		2F
	19		2F
	20		2F
	21		3D
	22		3E
	23		3D
	24		3E
	25		3E
	26		3E
	27		6B
	28		6B
	29		2G
	30		2G
	31		2G
	32		2G
	33		4G
	34		5G
	35		4G
	36		6G
	37		6E
	38		6E
	39		5D
	40		3E
	41		6B
	44		4E
	45		5D
	46		5D

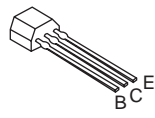
Refer to the schematic diagram for the values of resistors and capacitors.



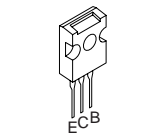
- 2SA1123
- 2SA733(A)
- 2SA817A
- 2SA965
- 2SA992
- 2SC1627A
- 2SC1845
- 2SC2235
- 2SC2631
- 2SC945(A)



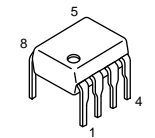
- DTA124ESA



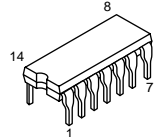
- 2SC4137



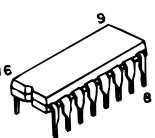
- NJM4565D



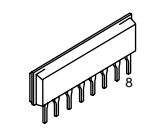
- UPC4574C



- UPC494C



- UPC1237HA



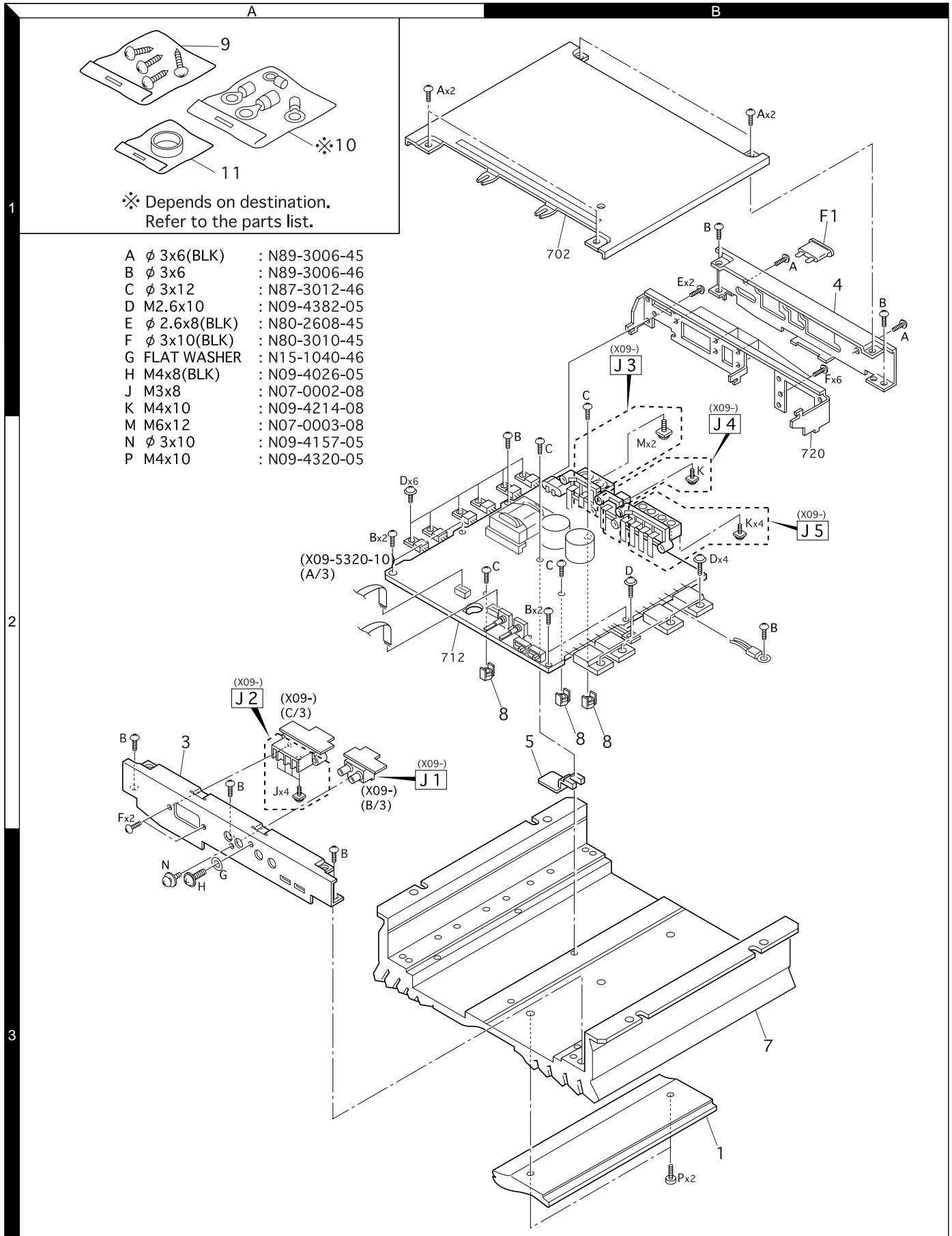
IC1 :UPC4574C	Q1,2,16,25,26,41	:2SA992(F,E)	Q9,10	:2SA965	Q18,20,39,44	:2SA817A	D1-4,6-23,27,28,32-34,37,38,40	:1SS131	D31	:IN5406-M
IC2 :NJM4565D	Q3,4	:2SC2631(Q,R)	Q11,12	:2SC5101LB*5	Q21,22,29,32,37,38,45	:2SC945(A)(Q,P)	D24	:RD20JS(B)	D35,36	:RD16JS(B2)
IC3 :UPC494C	Q5	:2SA1123(Q,R)	Q13,14	:2SA1909LB*5	Q23,30,31,46	:2SA733(A)(Q,P)	D25	:FML225*A	D100	:B30-1460-05
IC4 :UPC1237HA	Q6	:2SC4137(V,W)	Q15,24,27,28	:2SC1845(F,E)	Q33-36	:IRFIZ48NLF24	D26	:FML22R*A		
	Q7,8	:2SC2235	Q17,19	:2SC1627A	Q40	:DTA124ESA	D29	:RD7.5JS(B)		

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

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

KAC-719
KENWOOD

EXPLODED VIEW (UNIT)



Parts with exploded numbers larger than 700 are not supplied.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

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

Teile ohne Parts No. werden nicht geliefert.

KAC-719

AUDIO UNIT (X09-5320-10)

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
TEST					
1	3B	*	A21-4014-03	DRESSING PANEL	
3	2A	*	A64-1977-02	PANEL	
4	1B	*	A84-0235-02	REAR PANEL	
5	2B		B19-1185-03	LIGHTING BOARD	
-			B46-0100-50	WARRANTY CARD	
-		*	B64-1521-00	INST.MANUAL (ENG.FRE.SPA.)	K
-		*	B64-1522-00	INST.MANUAL (ENG.FRE.GER.DUT.)	E
-		*	B64-1522-00	INST.MANUAL (ITA.SPA.POR.)	E
-		*	B64-1523-00	INST.MANUAL (ENGLISH,CHINESE)	M
7	3B	*	F01-1627-01	HEAT SINK	
F1	1B	*	F52-0015-05	FUSE(BLADE TYPE)	
-			H10-4642-03	POLYSTYRENE FOAMED FIXTURE	
-			H25-0321-04	PROTECTION BAG (600X315X0.03)	
-			H25-0336-04	PROTECTION BAG (170X250X0.03)	
-		*	H54-1595-03	ITEM CARTON CASE	
8	2B		J30-1066-04	SPACER	
9	1A		N99-1587-05	SCREW SET	
A	1B		N89-3006-45	BINDING HEAD TAPTITE SCREW	
B	1B		N89-3006-46	BINDING HEAD TAPTITE SCREW	
C	2B		N87-3012-46	BRAZIER HEAD TAPTITE SCREW	
D	2B	*	N09-4382-05	TAPTITE SCREW(2.6X10)	
F	2A		N80-3010-45	PAN HEAD TAPTITE SCREW	
G	3A		N15-1040-46	FLAT WASHER (4)	
H	3A		N09-4026-05	TAPPING SCREW(4X8,TP,S)	
N	3A		N09-4157-05	SEMS (TAPTITE SCREW)	
P	3B		N09-4320-05	DRESSED SCREW(M4X10)	
10	1A		W01-0797-05	ACCESSORY	E
11	1A	*	W01-1515-05	ACCESSORY	
AUDIO UNIT (X09-5320-10)					
D100			B30-1460-05	LED(RE D)	
C1,2			CK45FB1H102K	CERAMIC 1000PF	K
C3,4			CE04DW1H100M	ELECTRO 10UF	50WV
C5			CC45FSL1H101J	CERAMIC 100PF	J
C6			CC45FCH1H150J	CERAMIC 15PF	J
C7-10			CE04DW1H2R2M	ELECTRO 2.2UF	50WV
C11			CF92FV1H102J	MF-C 1000PF	J
C12			CC45FCH1H150J	CERAMIC 15PF	J
C13,14			CF92FV1H104J	MF-C 0.10UF	J
C15			CF92FV1H473J	MF-C 0.047UF	J
C16			CE04DW1H100M	ELECTRO 10UF	50WV
C17-19			CE04DW1H010M	ELECTRO 1.0UF	50WV
C20			CE04DW1H100M	ELECTRO 10UF	50WV
C21			CF92FV1H224J	MF-C 0.22UF	J
C22			CE04DW1H220M	ELECTRO 22UF	50WV
C23			CE04DW1H2R2M	ELECTRO 2.2UF	50WV
C24			CC45FSL1H101J	CERAMIC 100PF	J
C25			CE04DW1H100M	ELECTRO 10UF	50WV
C31			CE04DW1H100M	ELECTRO 10UF	50WV
C32			CK45FB1H471K	CERAMIC 470PF	K
C33			CF92FV1H103J	MF-C 0.010UF	J

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
C34			CE04DW1E470M	ELECTRO 47UF	25WV
C35			CC45FSL1H150J	CERAMIC 15PF	J
C36			CC45FSL1H271J	CERAMIC 270PF	J
C37			CE04DW1H221M	ELECTRO 220UF	50WV
C38			CC45FSL1H120J	CERAMIC 12PF	J
C39			CC45FSL1H271J	CERAMIC 270PF	J
C40			CF92FV1H102J	MF-C 1000PF	J
C42			CF92FV1H472J	MF-C 4700PF	J
C43			CF92FV1H222J	MF-C 2200PF	J
C44,45			CF92FV1H334J	MF-C 0.33UF	J
C46			C90-1630-05	NP-ELEC 1000UF	16WV
C47,48			CC45FSL1H101J	CERAMIC 100PF	J
C51,52		*	C90-5305-05	ELECTRO 3300UF	50WV
C53,54			CF92FV1H222J	MF-C 2200PF	J
C55			CF92FV1H472J	MF-C 4700PF	J
C56			C90-2921-05	ELECTRO 3900UF	16WV
C57			CE04DW1H100M	ELECTRO 10UF	50WV
C58			CF92FV1H102J	MF-C 1000PF	J
C59			CE04DW1E470M	ELECTRO 47UF	25WV
C61,62			CF92FV1H472J	MF-C 4700PF	J
C63,64			CF92FV1H102J	MF-C 1000PF	J
C65-68			CE04DW1E470M	ELECTRO 47UF	25WV
C69-71			CE04DW1H100M	ELECTRO 10UF	50WV
C72			CE04DW1A101M	ELECTRO 100UF	10WV
C73			CE04DW1H010M	ELECTRO 1.0UF	50WV
C74			CE04DW1H100M	ELECTRO 10UF	50WV
C75,76			CE04DW1H010M	ELECTRO 1.0UF	50WV
C77,78			CF92FV1H104J	MF-C 0.10UF	J
CN1,2			E40-4294-05	FLAT CABLE CONNECTOR	
CN3			E40-3640-05	PIN ASSY	
J1			E63-0834-05	PIN JACK	
J2			E70-0824-05	SCREW TERMINAL BOARD	
J3			E70-0820-05	SCREW TERMINAL BOARD	
J4			E70-0818-05	SCREW TERMINAL BOARD	
J5			E70-0808-05	SCREW TERMINAL BOARD	
-			F09-1206-04	SHEET	
△			△ CN4	J13-0601-05	FUSE HOLDER
L1			L33-1015-05	CHOKO COIL	
L2		*	* L19-0587-05	TRANSFORMER FOR CONVERTER	
E		1B	N80-2608-45	PAN HEAD TAPTITE SCREW	
F		1B	N80-3010-45	PAN HEAD TAPTITE SCREW	
J		2A	N07-0002-08	SCREW	
K		2B	N09-4214-08	SCREW	
M		2B	N07-0003-08	SCREW	
R17-20			RS14KB3D152J	FL-PROOF RS 1.5K	J2W
R70			RD14DB2H102J	SMALL-RD 1.0K	J1/2W
R78,79			RD14NB2E101J	RD 100	J1/4W
R80-83			RD14NB2E100J	RD 10	J1/4W
R84			RD14NB2E221J	RD 220	J1/4W
R85-88			RD14NB2E4R7J	RD 4.7	J1/4W
R89-92			R92-0205-05	METAL-PLATE0.1K	2W
R93			RD14DB2H100J	SMALL-RD 10	J1/2W

E: Europe K: North America M: Other Areas
W: Without Europe

△ indicates safety critical components.

PARTS LIST

* New Parts

Parts without Parts No. are not supplied.

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

Teile ohne Parts No. werden nicht geliefert.

AUDIO UNIT (X09-5320-10)

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
R95			RD14DB2H100J	SMALL-RD 10 J1/2W	
R96			RD14DB2H471J	SMALL-RD 470 J1/2W	
R131-133			RD14DB2H100J	SMALL-RD 10 J1/2W	
R160			RD14DB2H102J	SMALL-RD 1.0K J1/2W	
R169			RS14KB3D122J	FL-PROOF RS 1.2K J2W	
R193			RS14KB3D122J	FL-PROOF RS 1.2K J2W	
R224,225			RD14DB2H4R7J	SMALL-RD 4.7 J1/2W	
VR1			R31-0209-05	VARIABLE RESISTOR	
VR2			R31-0215-05	VARIABLE RESISTOR	
VR3			R32-0030-05	SEMI FIXED VARIABLE RESISTOR	
K1			S76-0804-05	MAGNETIC RELAY	
S1,2			S31-2630-05	SLIDE SWITCH	
D1-23			1SS133	DIODE	
D24			RD20JS(B)	ZENER DIODE	
D25			FML22S*A	DIODE	
D26			FML22R*A	DIODE	
D27 ,28			1SS133	DIODE	
D29			RD7.5JS(B)	ZENER DIODE	
D30			RD15JS(B)	ZENER DIODE	
D31			1N5406-M	DIODE	
D32 -34			1SS133	DIODE	
D35 ,36			RD16JS(B2)	ZENER DIODE	
D37			1SS133	DIODE	
D39			RD7.5JS(B)	ZENER DIODE	
IC1			UPC4574C	IC(OP AMP X4)	
IC2			NJM4565D	ANALOGUE IC	
IC3			UPC494C	IC(SWITCHING REGULATOR)	
IC4			UPC1237HA	IC(POWER AMP)	
Q1,2			2SA992(F,E)	TRANSISTOR	
Q3,4			2SC2631(Q,R)	TRANSISTOR	
Q5			2SA1123(Q,R)	TRANSISTOR	
Q6			2SC4137(V,W)	TRANSISTOR	
Q7,8			2SC2235	TRANSISTOR	
Q9,10			2SA965	TRANSISTOR	
Q11 ,12		*	2SC5101LB*5	TRANSISTOR	
Q13 ,14		*	2SA1909LB*5	TRANSISTOR	
Q15			2SC1845(F,E)	TRANSISTOR	
Q16			2SA992(F,E)	TRANSISTOR	
Q17			2SC1627A	TRANSISTOR	
Q18			2SA817A	TRANSISTOR	
Q19			2SC1627A	TRANSISTOR	
Q20			2SA817A	TRANSISTOR	
Q21 ,22			2SC945(A)(Q,P)	TRANSISTOR	
Q23			2SA733(A)(Q,P)	TRANSISTOR	
Q24			2SC1845(F,E)	TRANSISTOR	
Q25 ,26			2SA992(F,E)	TRANSISTOR	
Q27 ,28			2SC1845(F,E)	TRANSISTOR	
Q29			2SC945(A)(Q,P)	TRANSISTOR	
Q30 ,31			2SA733(A)(Q,P)	TRANSISTOR	
Q32			2SC945(A)(Q,P)	TRANSISTOR	
Q33 -36		*	IRFI248NLF24	FET	
Q37 ,38			2SC945(A)(Q,P)	TRANSISTOR	
Q39			2SA817A	TRANSISTOR	
Q40			DTA124ESA	DIGITAL TRANSISTOR	

Ref.No.	A d d	N e w	Parts No.	Description	Dest inati on
1			2SA992(F,E)	TRANSISTOR	
Q42			2SC945(A)(Q,P)	TRANSISTOR	
Q43			2SC1845(F,E)	TRANSISTOR	
Q44			2SA992(F,E)	TRANSISTOR	
TH1			PTH9L04BD222TS	POSITIVE RESISTOR	
TH2			PTH9M04BD222T	POSITIVE RESISTOR	

E: Europe **K:** North America **M:** Other Areas
W: Without Europe

△ indicates safety critical components.

SPECIFICATIONS

Audio section

Rated Power Output

(4 ohm,20-200Hz)	150W(0.08%THD)
(DIN45324,+B=14.4V)	150W
(2 ohm,100Hz)	230W(0.8%THD)

Max Power Output(4 ohm) 300W

Low-Pass Filter(18dB/oct) 50-200Hz

Infrasonic Filter(18dB/oct) 15/25Hz(18dB/oct)

Bass Boost Circuit 0dB,6dB,12dB(90Hz)

Frequency Response(+0,-3dB) 5-200Hz

S/N Ratio 100dB

Sensitivity(Max) 0.2V(Rated Output)

Sensitivity(Min) 5V(Rated Output)

Input Impedance 10k Ω

Damping Factor over 2000(at Sigma Connect)

General

Operating Voltage 14.4V(11V~16V allowable)

Current Consumption 21A at rated power

Installation Size

(W) 290(mm) 11-7/16(in)

(H) 56(mm) 2-3/16(in)

(D) 200(mm) 7-7/8(in)

Weight 3.04kg

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

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