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Disclaimer

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SPECIFICATIONS

General

Operating temperature range
.....-30°C ~ +60°C (-22°F ~ +140°F)

Microphone

Impedance600Ω (MAX)
Sensitivity-39dB ±3.5dB at 1kHz

Speaker

Impedance16Ω ±15% at 1.2kHz
Rating input 0.8W
Maximum input 1.6W
Dimensions (W x H x D)
..... 67.8 x 91.5 x 43.3 mm (2.67 x 3.60 x 1.70 in)
Weight Approx. 260g/9.2oz

DISASSEMBLY FOR REPAIR

1. Removing the cable ASSY

- 1) Pull out the holder that is set into the fixing bracket of the cable ASSY, using a pair of pliers.

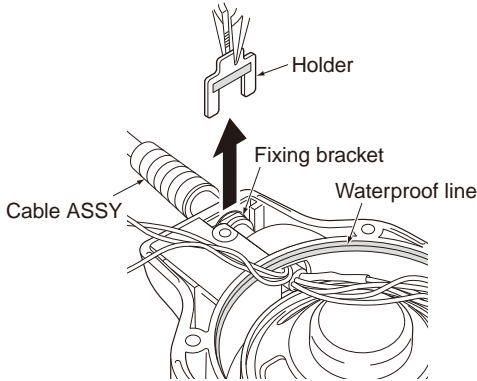


Fig. 1

- 2) Completely peel off the bond (*1) glued to the cable ASSY, using a set of diagonal cutters.

Note: Please be careful not to damage the coating of the cable ASSY and the waterproofing line of the front case.

*1: Use the following bond:

- Manufacture name: Shin-Etsu Chemical Co., Ltd.
- Bond name: Shin-Etsu silicone One-component RTV silicone rubbers Alcohol type KE-4898-T

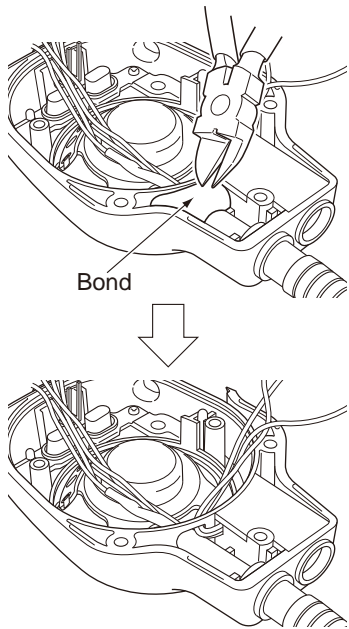


Fig. 2

- 3) Following the procedure below, pass through the connector part of the cable ASSY into the hole of the front case (waterproof line part).

- (1) Move the three lead wires soldered onto the PCB to the upper corner of the hole.
- (2) The yellow lead wire side of the connector comes in the inside of the front case.

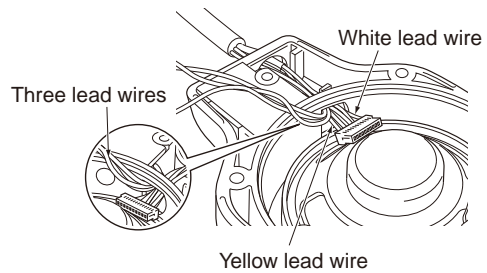


Fig. 3

- (3) Push the cable ASSY to the earphone jack side with the connector part bent as shown in the figure, then hook the end of the connector (white lead wire side) into the outside corner of the hole, using your finger.
- (4) Pass the connector through the hole, pushing the connector (yellow lead wire side) using a pair of tweezers or similar tool.

Note: Attach adhesive tape or rubber to the end of the tweezers so as not to damage the connector of the cable ASSY.

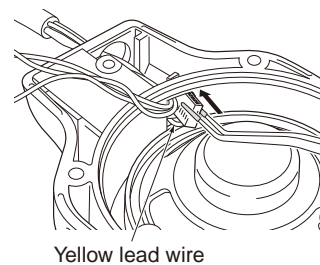


Fig. 4

- 4) Pull the cable ASSY, then remove the cable ASSY from the front case by passing the connector part through the hole of the front case.

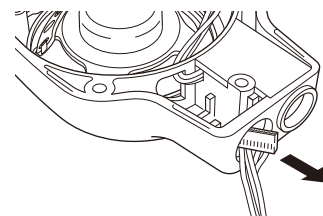


Fig. 5

DISASSEMBLY FOR REPAIR

2. Installing the cable ASSY

- 1) Pass the connector part of cable ASSY through the hole of the front case.
- 2) Move the three lead wires soldered onto the PCB to the upper corner of the hole.

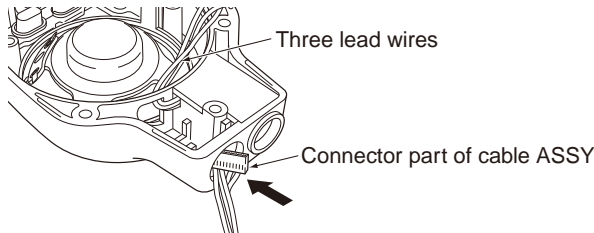


Fig. 6

- 3) Make sure the yellow lead wire side of the connector is in the inside of the front case.

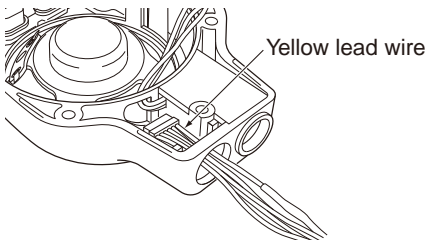


Fig. 7

- 4) Push the connector (yellow lead wire side) to the lower corner of the hole using a pair of tweezers.
Note: Attach adhesive tape or rubber to the end of the tweezers so as not to damage the connector of the cable ASSY.
- 5) Pass the connector through the hole by pushing the connector (white lead wire side) using a pair of tweezers or similar tool.

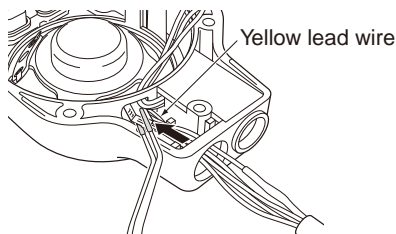


Fig. 8

- 6) Push the cable ASSY to the inside of the case, then insert the fixing bracket of the cable ASSY to the hole of the front case.
- 7) Fit the holder to the fixing bracket of the cable ASSY.

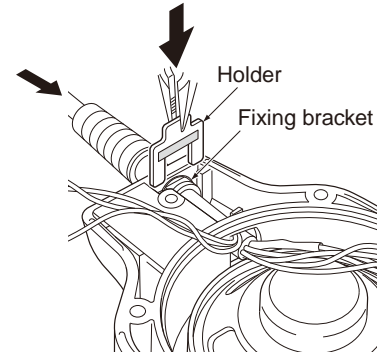


Fig. 9

- 8) Insert the cap in the earphone jack hole of the front case.
- 9) Apply the bond (*1) at the position shown in the figure, then firmly attach the cable ASSY and case.

Note: Take care not to apply the bond to the waterproofing line of the front case.

*1: Use the following bond :

- Manufacture name: Shin-Etsu Chemical Co., Ltd.
- Bond name: Shin-Etsu silicone One-component RTV silicone rubbers Alcohol type KE-4898-T

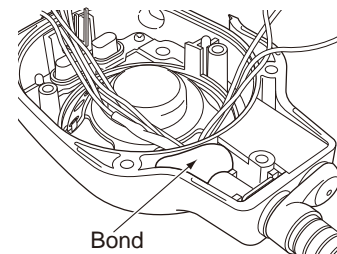


Fig. 10

3. Attach the lead wires of the earphone jack and connector of the cable ASSY to the PCB

- 1) Solder the three lead wires (red, white, black) of the earphone jack to the three solder pads (RED, WHT, BLK) of the PCB, respectively.
Note: When you solder the three lead wires to the PCB, be careful that the soldering iron does not touch the lead wires of the cable ASSY.
- 2) Insert the connector of the cable ASSY into the connector (CN1) of the PCB.

DISASSEMBLY FOR REPAIR

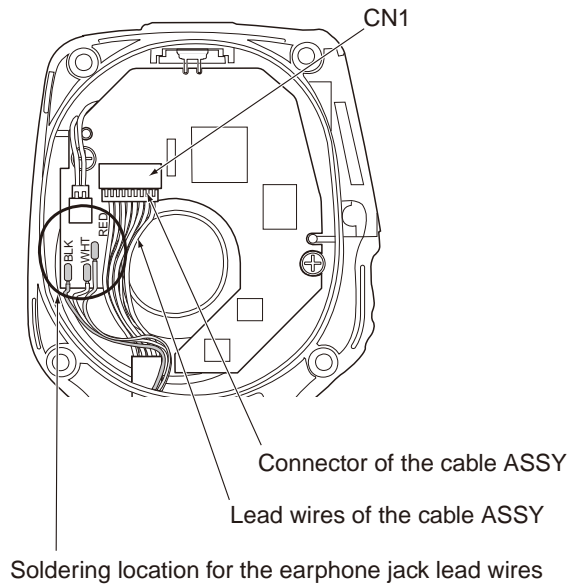


Fig. 11

4. Forming the lead wires of the sub microphone

- 1) Pass the lead wires of the sub microphone between boss A and boss B of the holder.
- 2) Push the lead wires into the spaces between the triangle shape of the holder and the packing.
- 3) Insert the connector (CN4) of the PCB without strongly pulling the lead wires.

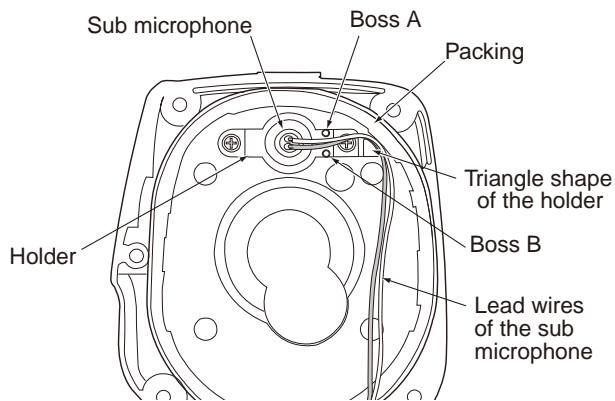


Fig. 12

5. Assemble the main microphone circumference

- 1) Insert the keytop into the front case.
- 2) Insert the main microphone into the keytop.
- 3) Pass the lead wires of the microphone through the hole of the holder.

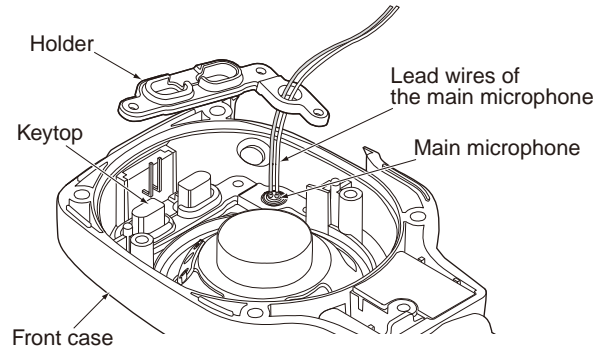


Fig. 13

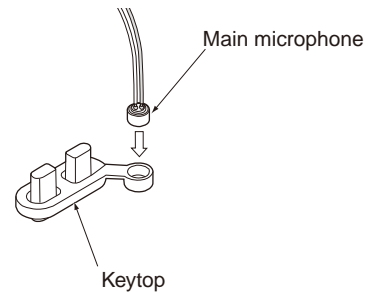


Fig. 14

- 4) Fit the holder to the front case, avoiding the leg of LED.

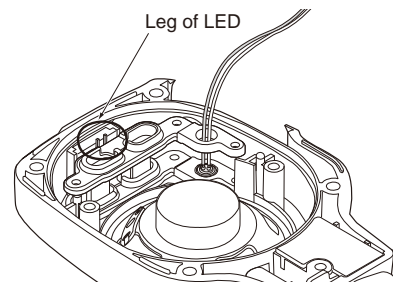


Fig. 15

DISASSEMBLY FOR REPAIR

5) Attach the three screws to the holder.

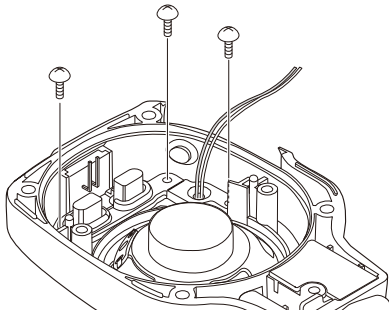


Fig. 16

6. Precautions for the soldering work of the ECM (microphone)

A FET is contained in the ECM.

This FET can be easily damaged from excessive heat and electrical shock.

Frequency characteristics and sensitivity will degrade when applying exterior power to the ECM.

Be sure to adhere to the following points.

- We recommend you use a soldering iron and apply a temperature of 345°C (653°F) or less.
- Soldering should be accomplished within 2 seconds at each terminal so as not to overheat the ECM.
- Do not hold the ECM with a pair of pliers.
- Do not drop the ECM from a high place.

NOISE CANCELLATION OPERATION CHECK METHOD

Check the noise cancellation operation according to the following procedures.

■ Preparation

Procedure 1. Prepare the two transceivers (transmitting side and receiving side) and one microphone. (The receiving side can also use the radio communication tester, etc..)

Procedure 2. Set the two transceivers so that they can communicate.

Procedure 3. Connect the microphone to the universal connector on the transmitting transceiver.

Procedure 4. Press the PTT switch of the microphone (the transceiver will transmit if the LED lights up).

■ Checking the main microphone

Procedure 5. Blow into the front side microphone hole, from a distance of 3 to 4 cm (1.18 to 1.57 inches).

[Expected Result]

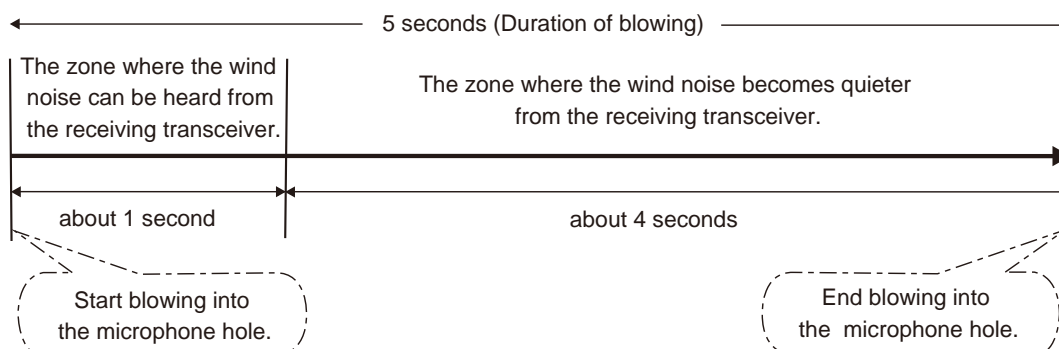
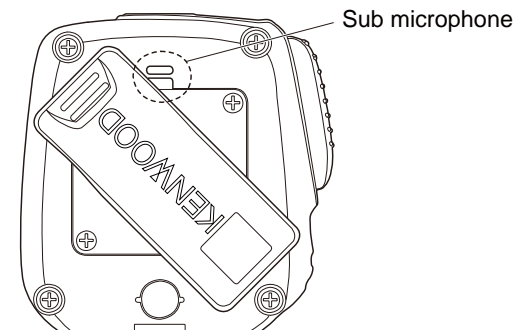
It is OK if you can hear a wind noise from the speaker of the receiving transceiver.

■ Checking the sub microphone

Procedure 6. Blow into the rear side microphone hole for 5 seconds, from a distance of 3 to 4 cm (1.18 to 1.57 inches).

[Expected Result]

You can hear a wind noise from the speaker of the receiving transceiver for about 1 second. Then, it is OK if the wind noise level becomes quieter.



TROUBLE SHOOTING

Fault Diagnosis of the BGA (Ball Grid Array) IC

■ Overview:

The following flowchart is used to determine whether or not the problem is with the BGA parts when the microphone (which satisfies the following conditions) does not turn on.

■ Conditions for the microphone which does not turn on

When the transceiver does not transmit (the LED does not light up) even if the microphone PTT switch is pressed while the microphone is connected to the transceiver.

● Checking the power supply voltage

Order	Points to be checked	Normal voltage
1	5.0V	CN1 (7 pin) 5.0V
2	3.3V (Analog)	IC15 (5 pin) 3.3V
3	3.3V (Digital)	IC1 (5 pin) 3.3V
4	1.3V (Core)	IC20 (4 pin) 1.3V

When an abnormal value is confirmed.

When a normal value is confirmed.

● Checking the clock

Points to be checked	Normal frequency
32.768kHz Pad of X2 side of C105	32.768kHz

Note:
When you check the frequency, check GND by the GND side pad of C105.

When an abnormal value is confirmed.

When a normal value is confirmed.

● Checking the reset signal

Points to be checked	Normal voltage
RESET IC10 (1 pin)	3.3V

When an abnormal value is confirmed.

When a normal value is confirmed.

● Checking the output signal from the DSP

Points to be checked	Normal voltage
13M_PLL C61 IC8 side	1.3V

When an abnormal value is confirmed.

When a normal value is confirmed.

Points to be checked	Normal voltage during access
/CS2_0 R68 IC8 side	3.3V→0V→3.3V
/oE_0 R65 IC8 side	3.3V→0V→3.3V

Note:
For several milliseconds after turning the power supply on, you can check normal voltages during access.

When an abnormal value is confirmed.

When a normal value is confirmed.

Checking for an abnormal point

[When 5.0V has an abnormal voltage]
Power supply IC (IC1, IC15, IC20) is broken.

[When 3.3V (Analog) has an abnormal voltage]
Procedure 1. Remove R7.
When an abnormal voltage is confirmed, IC15 is broken.
When a normal voltage is confirmed, the audio circuits is broken.
Perform procedure 2 after mounting R7 again.
Procedure 2. Remove L16.
When a normal voltage is confirmed, the audio circuits (IC7) is broken.
When an abnormal voltage is confirmed, the audio circuits (IC2 or IC3) is broken.

[When 3.3V (Digital) has an abnormal voltage]
Procedure 1. Remove R6.
When an abnormal voltage is confirmed, IC1 is broken.
When a normal voltage is confirmed, perform procedure 2 after mounting R6 again.
Procedure 2. Remove L22.
When a normal voltage is confirmed, IC17 is broken.
When an abnormal voltage is confirmed, perform procedure 3 after mounting L22 again.
Procedure 3. Remove L27.
When a normal voltage is confirmed, IC18 is broken.
When an abnormal voltage is confirmed, the BGA parts are broken.

[When 1.3V (Core) has an abnormal voltage]
Procedure 1. Remove R86.
When an abnormal voltage is confirmed, IC20 is broken.
When a normal voltage is confirmed, IC8 is broken.

[When the oscillation of 32.768kHz cannot be confirmed]
Procedure 1. Replace X2.
When an abnormal value is still confirmed, IC8 is broken.

[When an abnormal voltage is confirmed]
Procedure 1. Remove R97.
When a normal voltage is confirmed, IC12 is broken.
When an abnormal voltage is confirmed, perform procedure 2 after mounting R97 again.
Procedure 2. Remove R61.
When a normal voltage is confirmed, IC8 is broken.
When an abnormal voltage is confirmed, IC10 is broken.

[When an abnormal voltage is confirmed]
IC8 is broken.

[When an abnormal voltage is confirmed while "/CS2_0" or "/oE_0" is accessing]
The BGA parts are broken.

It is unlikely that the BGA parts are broken.

PARTS LIST

* New Parts. Δ indicates safety critical components.
 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.

L : Scandinavia K : USA P : Canada
 Y : PX (Far East, Hawaii) T : England E : Europe
 C : China X : Australia M : Other Areas

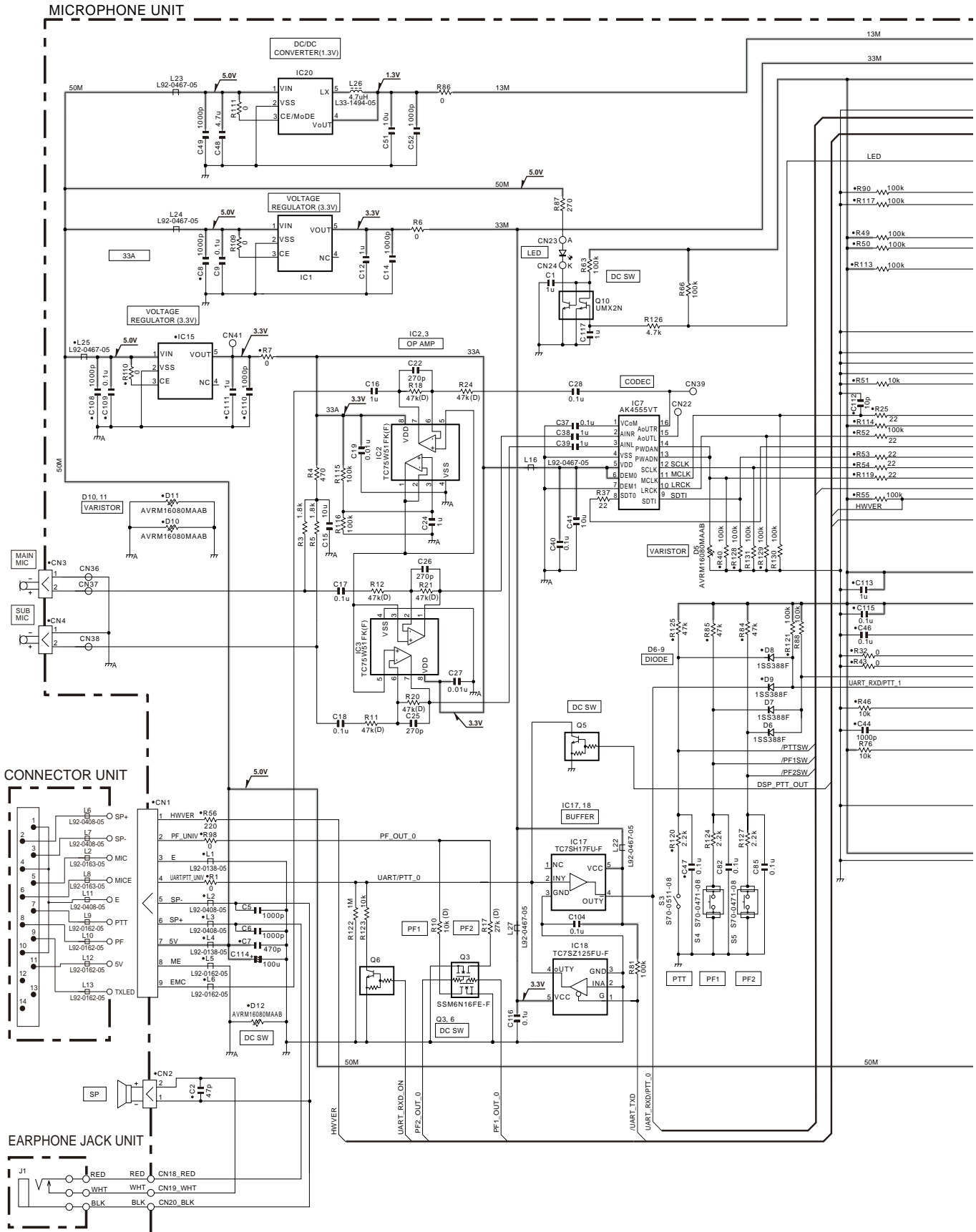
KMC-51 MICROPHONE/EARPHONE JACK UNIT

Ref. No.	Address	New parts	Parts No.	Description	Desti-nation	Ref. No.	Address	New parts	Parts No.	Description	Desti-nation
KMC-51						C17 ,18			CK73HB1A104K	CHIP C 0.10UF	K
1		*	A02-4190-08	PLASTIC CABINET ASSY		C19			CK73HB1E103K	CHIP C 0.010UF	K
2		*	A82-0086-08	REAR PANEL		C22			CC73HCH1H271J	CHIP C 270PF	J
4		*	B43-1670-08	BADGE(KMC-51)		C24			CK73HB0J105K	CHIP C 1.0UF	K
5		*	B43-1681-08	BADGE(KENWOOD)		C25 ,26			CC73HCH1H271J	CHIP C 270PF	J
7			D10-0654-18	LEVER(PTT)		C27			CK73HB1E103K	CHIP C 0.010UF	K
10		*	E30-7752-08	CORD WITH PLUG		C28			CK73HB1A104K	CHIP C 0.10UF	K
11			G10-1386-08	FIBROUS SHEET(PHONE JACK)		C37			CK73HB1A104K	CHIP C 0.10UF	K
12		*	G10-1389-08	FIBROUS SHEET(MAIN/SUB ECM)		C38 ,39			CK73HB0J105K	CHIP C 1.0UF	K
13			G11-4450-08	SHEET(LEAK TEST)		C40			CK73HB1A104K	CHIP C 0.10UF	K
14			G11-4452-08	SHEET(PHONE JACK)		C41			CK73GB0J106K	CHIP C 10UF	K
15		*	G11-4505-08	SHEET(LEAK HOOL)		C44			CK73HB1H102K	CHIP C 1000PF	K
16			G13-2241-08	CUSHION(PTT)		C45			CK73HB0J105K	CHIP C 1.0UF	K
17			G53-1779-08	PACKING(PTT)		C46 ,47			CK73HB1A104K	CHIP C 0.10UF	K
18		*	G53-1814-08	PACKING(BOTTOM CAP)		C48			CK73GB0J475K	CHIP C 4.7UF	K
19		*	G53-1884-08	PACKING(REAR CASE)		C49			CK73HB1H102K	CHIP C 1000PF	K
20			J19-5515-08	HOLDER(PTT)		C51			CK73GB0J106K	CHIP C 10UF	K
22			J29-0740-08	BELT HOOK ASSY		C52			CK73HB1H102K	CHIP C 1000PF	K
23			J99-0729-08	ADHESIVE SHEET(JACK COVER)		C59			CK73HB0J105K	CHIP C 1.0UF	K
A			N08-0566-08	DRESSED SCREW(UNIVERSAL)		C60			CK73HB1E103K	CHIP C 0.010UF	K
28			T07-0359-18	SPEAKER		C61 -78			CK73HB1A104K	CHIP C 0.10UF	K
29			T91-0584-08	MIC ELEMENT(MAIN/SUB)		C80			CK73HB0J105K	CHIP C 1.0UF	K
MICROPHONE/EARPHONE JACK UNIT						C81			CK73HB1E103K	CHIP C 0.010UF	K
C1			CK73HB0J105K	CHIP C 1.0UF	K	C82			CK73HB1A104K	CHIP C 0.10UF	K
C2			CC73HCH1H470J	CHIP C 47PF	J	C83			CK73HB0J105K	CHIP C 1.0UF	K
C5 ,6			CC73GCH1H102J	CHIP C 1000PF	J	C84			CK73HB1E103K	CHIP C 0.010UF	K
C7			CC73GCH1H471J	CHIP C 470PF	J	C85			CK73HB1A104K	CHIP C 0.10UF	K
C8			CK73HB1H102K	CHIP C 1000PF	K	C86			CK73HB0J105K	CHIP C 1.0UF	K
C9			CK73HB1A104K	CHIP C 0.10UF	K	C87			CK73HB1E103K	CHIP C 0.010UF	K
C12			CK73HB0J105K	CHIP C 1.0UF	K	C89			CK73HB0J105K	CHIP C 1.0UF	K
C14			CK73HB1H102K	CHIP C 1000PF	K	C90			CK73HB1E103K	CHIP C 0.010UF	K
C15			CK73GB0J106K	CHIP C 10UF	K	C92			CK73GB1A684K	CHIP C 0.68UF	K
C16			CK73HB0J105K	CHIP C 1.0UF	K	C93			CK73HB1A104K	CHIP C 0.10UF	K
						C95			CK73HB1H102K	CHIP C 1000PF	K
						C98			CK73HB1H102K	CHIP C 1000PF	K
						C100			CK73HB0J105K	CHIP C 1.0UF	K
						C101			CK73HB1A104K	CHIP C 0.10UF	K
						C102			CK73HB0J105K	CHIP C 1.0UF	K
						C104			CK73HB1A104K	CHIP C 0.10UF	K
						C105,106			CC73HCH1H120J	CHIP C 12PF	J
						C108			CK73HB1H102K	CHIP C 1000PF	K
						C109			CK73HB1A104K	CHIP C 0.10UF	K
						C110			CK73HB1H102K	CHIP C 1000PF	K
						C111			CK73HB0J105K	CHIP C 1.0UF	K
						C112			CC73HCH1H100D	CHIP C 10PF	D
						C113			CK73HB0J105K	CHIP C 1.0UF	K
						C115,116			CK73HB1A104K	CHIP C 0.10UF	K
						C117			CK73HB0J105K	CHIP C 1.0UF	K
						C118,119			CK73HB1H102K	CHIP C 1000PF	K
						CN2 -4			E41-1486-05	PIN ASSY(2P)	
						J1			E11-0712-08	EARPHONE JACK(3.5D)	
						L1			L92-0138-05	CHIP FERRITE	
						L2 ,3			L92-0408-05	CHIP FERRITE	
						L4			L92-0138-05	CHIP FERRITE	
						L5 ,6			L92-0162-05	BEADS CORE	

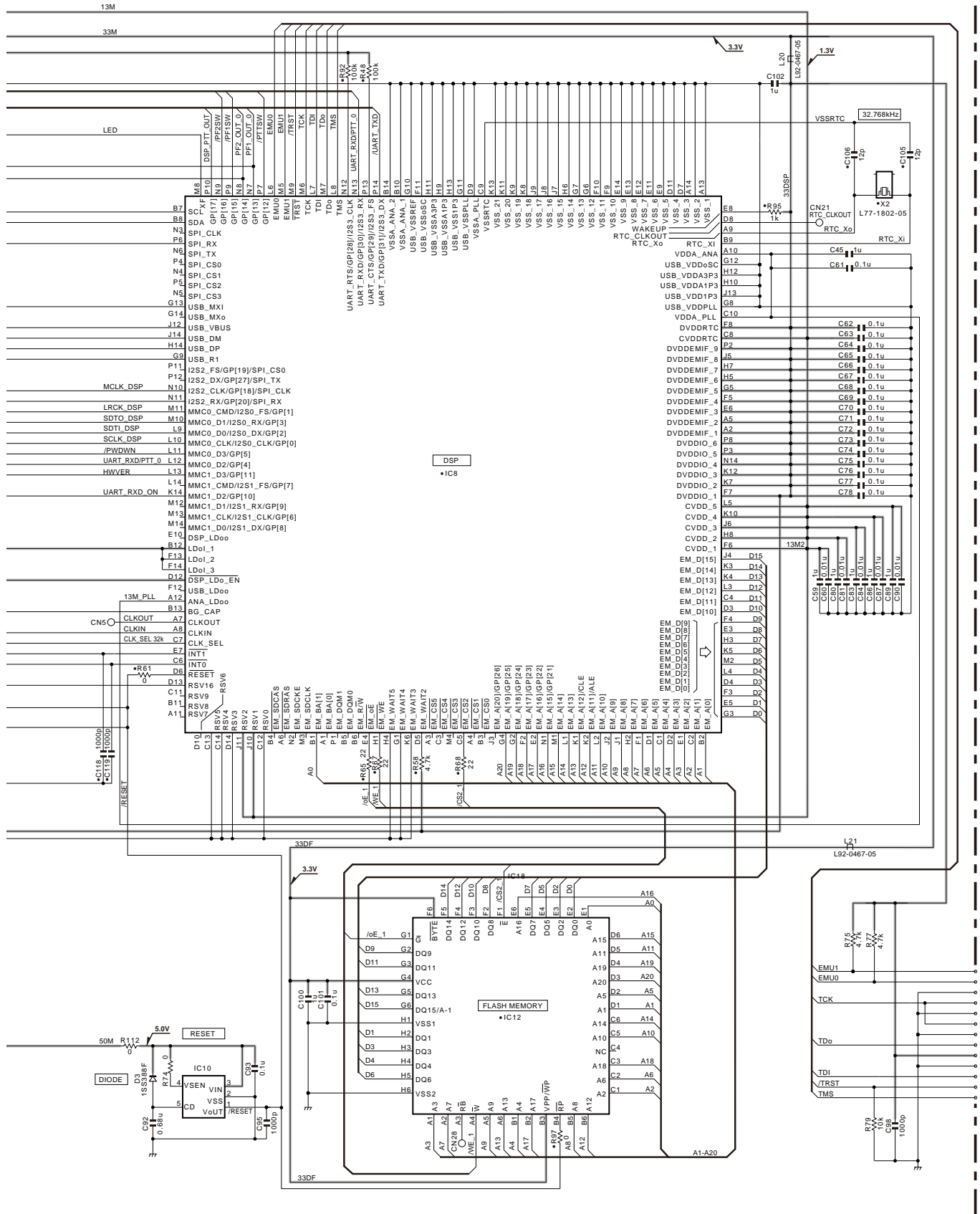
PARTS LIST

MICROPHONE/EARPHONE JACK UNIT

Ref. No.	Address	New parts	Parts No.	Description	Destination	Ref. No.	Address	New parts	Parts No.	Description	Destination
L16			L92-0467-05	CHIP FERRITE		S3			S70-0511-08	TACT SWITCH(PTT)	
L20 -25			L92-0467-05	CHIP FERRITE		S4 ,5			S70-0471-08	TACT SWITCH(PF1/PF2)	
L26			L33-1494-05	SMALL FIXED INDUCTOR(4.7UH)							
L27			L92-0467-05	CHIP FERRITE							
X2			L77-1802-05	CRYSTAL RESONATOR(32.768KHZ)		D3			1SS388F	DIODE	
R1			RK73HB1J000J	CHIP R 0 J 1/16W		D5			AVRM16080MAAB	VARISTOR	
R3			RK73HB1J182J	CHIP R 1.8K J 1/16W		D6 -9			1SS388F	DIODE	
R4			RK73HB1J471J	CHIP R 470 J 1/16W		D10 -12			AVRM16080MAAB	VARISTOR	
R5			RK73HB1J182J	CHIP R 1.8K J 1/16W		IC2 ,3			TC75W51FK(F)	MOS-IC	
R6 ,7			RK73GB2A000J	CHIP R 0 J 1/10W		IC7			AK4555VT	MOS-IC	
R10			RK73HH1J103D	CHIP R 10K D 1/16W		IC8			Note 1	MICROPROCESSOR IC	
R11 ,12			RK73HH1J473D	CHIP R 47K D 1/16W		IC12			Note 1	ROM IC	
R17			RK73HH1J273D	CHIP R 27K D 1/16W		IC17			TC7SH17FU-F	MOS-IC	
R18			RK73HH1J473D	CHIP R 47K D 1/16W		IC18			TC7SZ125FU-F	MOS-IC	
R20 ,21			RK73HH1J473D	CHIP R 47K D 1/16W		Q3			SSM6N16FE-F	FET	
R24			RK73HH1J473D	CHIP R 47K D 1/16W		Q10			UMX2N	TRANSISTOR	
R25			RK73HB1J220J	CHIP R 220 J 1/16W							
R32			RK73HB1J000J	CHIP R 0 J 1/16W							
R37			RK73HB1J220J	CHIP R 220 J 1/16W							
R40			RK73HB1J104J	CHIP R 100K J 1/16W							
R43			RK73HB1J000J	CHIP R 0 J 1/16W							
R46			RK73HB1J103J	CHIP R 10K J 1/16W							
R48 -50			RK73HB1J104J	CHIP R 100K J 1/16W							
R51			RK73HB1J103J	CHIP R 10K J 1/16W							
R52 -54			RK73HB1J220J	CHIP R 220 J 1/16W							
R55			RK73HB1J104J	CHIP R 100K J 1/16W							
R56			RK73HB1J221J	CHIP R 220 J 1/16W							
R58			RK73HB1J472J	CHIP R 4.7K J 1/16W							
R61			RK73HB1J000J	CHIP R 0 J 1/16W							
R63			RK73HB1J104J	CHIP R 100K J 1/16W							
R65			RK73HB1J220J	CHIP R 220 J 1/16W							
R66			RK73HB1J104J	CHIP R 100K J 1/16W							
R67 ,68			RK73HB1J220J	CHIP R 220 J 1/16W							
R74			RK73HB1J000J	CHIP R 0 J 1/16W							
R75			RK73HB1J472J	CHIP R 4.7K J 1/16W							
R76			RK73HB1J103J	CHIP R 10K J 1/16W							
R77			RK73HB1J472J	CHIP R 4.7K J 1/16W							
R79			RK73HB1J103J	CHIP R 10K J 1/16W							
R81			RK73HB1J104J	CHIP R 100K J 1/16W							
R84 ,85			RK73HB1J473J	CHIP R 47K J 1/16W							
R86			RK73GB2A000J	CHIP R 0 J 1/10W							
R87			RK73HB1J271J	CHIP R 270 J 1/16W							
R88			RK73HB1J104J	CHIP R 100K J 1/16W							
R90			RK73HB1J104J	CHIP R 100K J 1/16W							
R92			RK73HB1J104J	CHIP R 100K J 1/16W							
R95			RK73HB1J102J	CHIP R 1.0K J 1/16W							
R97 ,98			RK73HB1J000J	CHIP R 0 J 1/16W							
R109-111			RK73HB1J000J	CHIP R 0 J 1/16W							
R112			RK73GB2A000J	CHIP R 0 J 1/10W							
R113-117			RK73HB1J104J	CHIP R 100K J 1/16W							
R119			RK73HB1J220J	CHIP R 220 J 1/16W							
R120			RK73HB1J222J	CHIP R 2.2K J 1/16W							
R121			RK73HB1J104J	CHIP R 100K J 1/16W							
R122			RK73HB1J105J	CHIP R 1.0M J 1/16W							
R123			RK73HB1J103J	CHIP R 10K J 1/16W							
R124			RK73HB1J222J	CHIP R 2.2K J 1/16W							
R125			RK73HB1J473J	CHIP R 47K J 1/16W							
R126			RK73HB1J472J	CHIP R 4.7K J 1/16W							
R127			RK73HB1J222J	CHIP R 2.2K J 1/16W							
R128-131			RK73HB1J104J	CHIP R 100K J 1/16W							



MICROPHONE UNIT

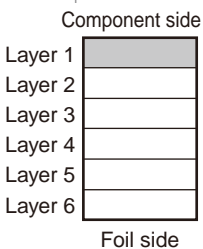
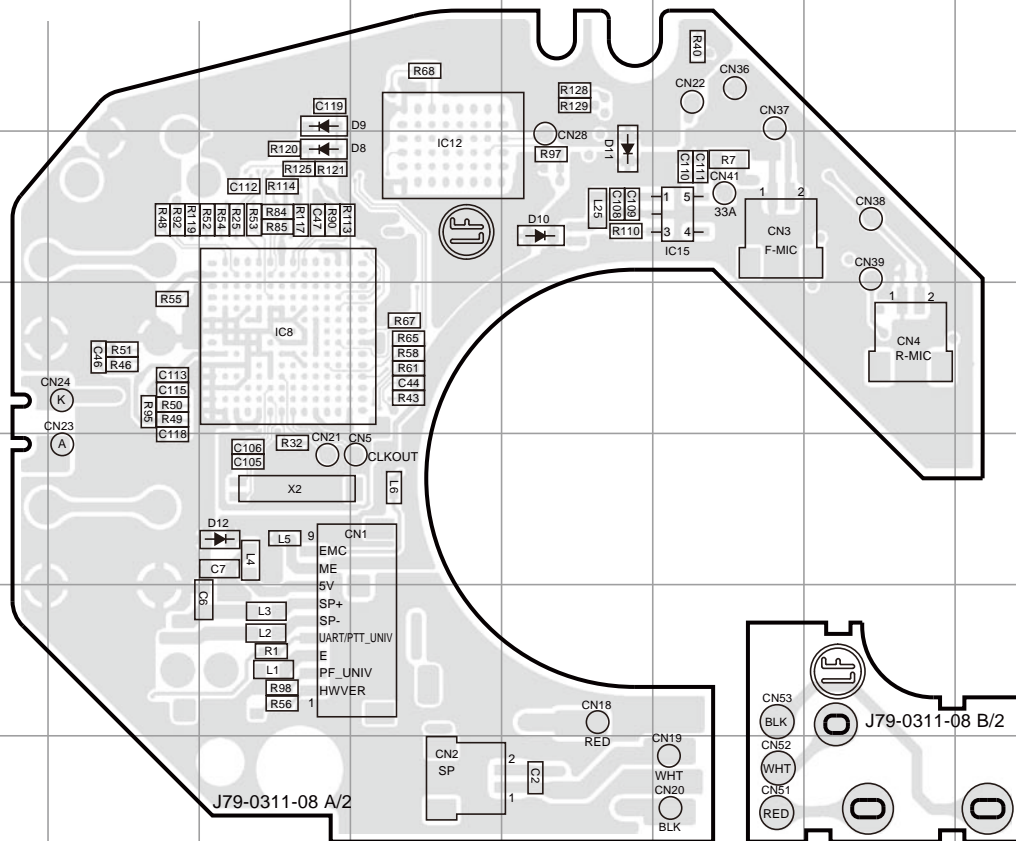


Note : The components marked with a dot (•) are parts of layer 1.

KMC-51 PC BOARD

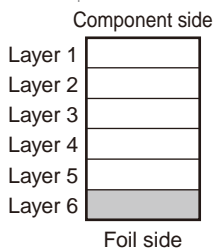
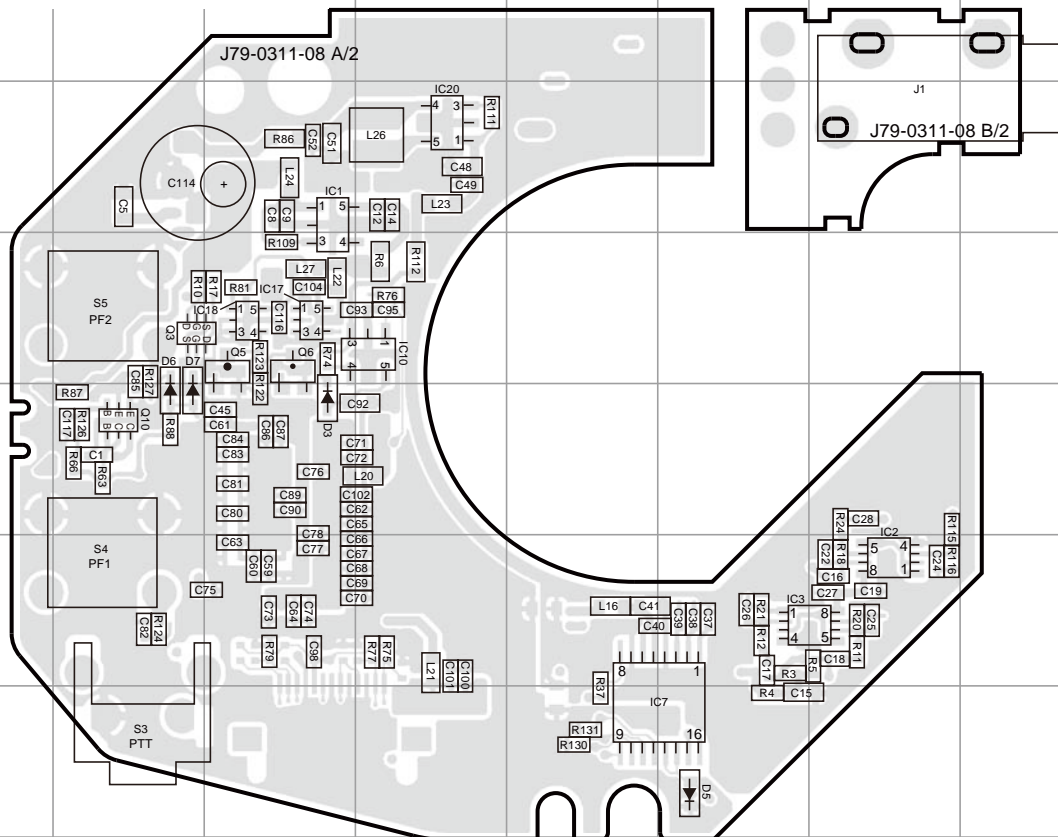
MICROPHONE UNIT, EARPHONE JACK UNIT Component side view

Ref. No.	Address
IC8	4E
IC12	3F
IC15	3H
D8	3E
D9	2E
D10	3G
D11	3G
D12	5E

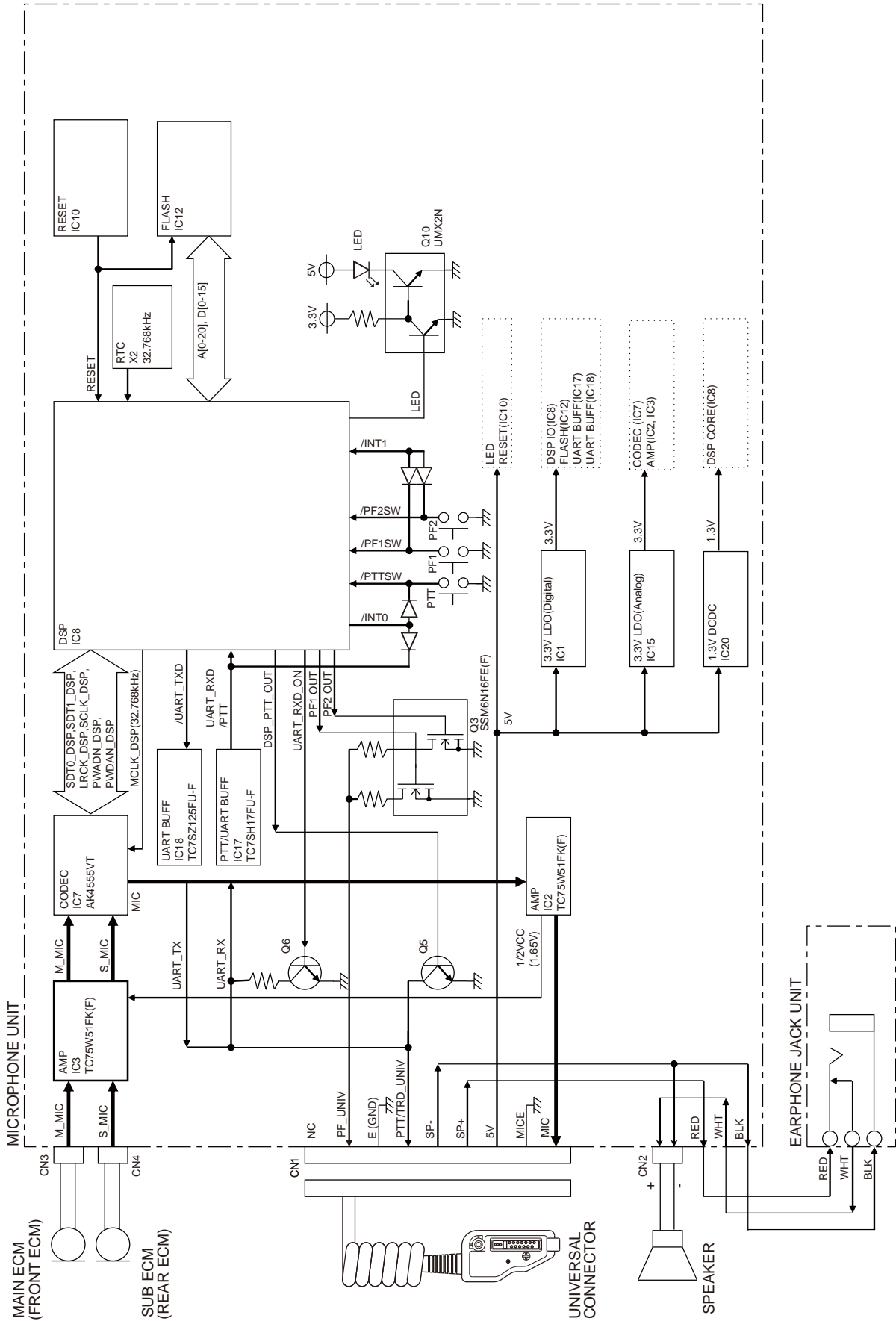


MICROPHONE UNIT, EARPHONE JACK UNIT Foil side view

Ref. No.	Address
IC1	9E
IC2	12I
IC3	12H
IC7	13G
IC10	10F
IC17	10E
IC18	10E
IC20	9F
Q3	10D
Q5	10E
Q6	10E
Q10	11D
D3	11E
D6	11D
D7	11D



BLOCK DIAGRAM



MEMO

KMC-51

JVC KENWOOD Corporation

3-12, Moriyacho, Kanagawa-ku, Yokohama-shi,
Kanagawa, 221-0022 Japan

Kenwood U.S.A. Corporation

P.O. BOX 22745, 2201 East Dominguez Street, Long Beach,
CA 90801-5745, U.S.A.

Kenwood Electronics Canada Inc.

6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8

Kenwood Electronics Deutschland GmbH

Rembrücker Str. 15, 63150 Heusenstamm, Germany

Kenwood Electronics Belgium N.V.

Leuvensesteenweg 248 J, 1800 Vilvoorde, Belgium

Kenwood Electronics France S.A.

L'Etoile Paris Nord 2, 50 Allée des Impressionnistes,
Bp 58416 Villepinte, 95944 Roissy Ch De Gaulle Cedex

Kenwood Electronics UK Limited

Kenwood House, Dwight Road, Watford, Herts.,
WD18 9EB United Kingdom

Kenwood Electronics Europe B.V.

Amsterdamseweg 37, 1422 AC Uithoorn, The Netherlands

Kenwood Electronics Italia S.p.A.

Via G. Sirtori, 7/9 20129 Milano, Italy

Kenwood Ibérica, S.A.

Carretera de Rubi, 88 Planta 1 A 08174 Sant Cugat del Vallès
Barcelona, Spain

Kenwood Electronics Australia Pty. Ltd.

Talavera Business Park Building A, 4 Talavera Road,
North Ryde NSW 2113 Australia

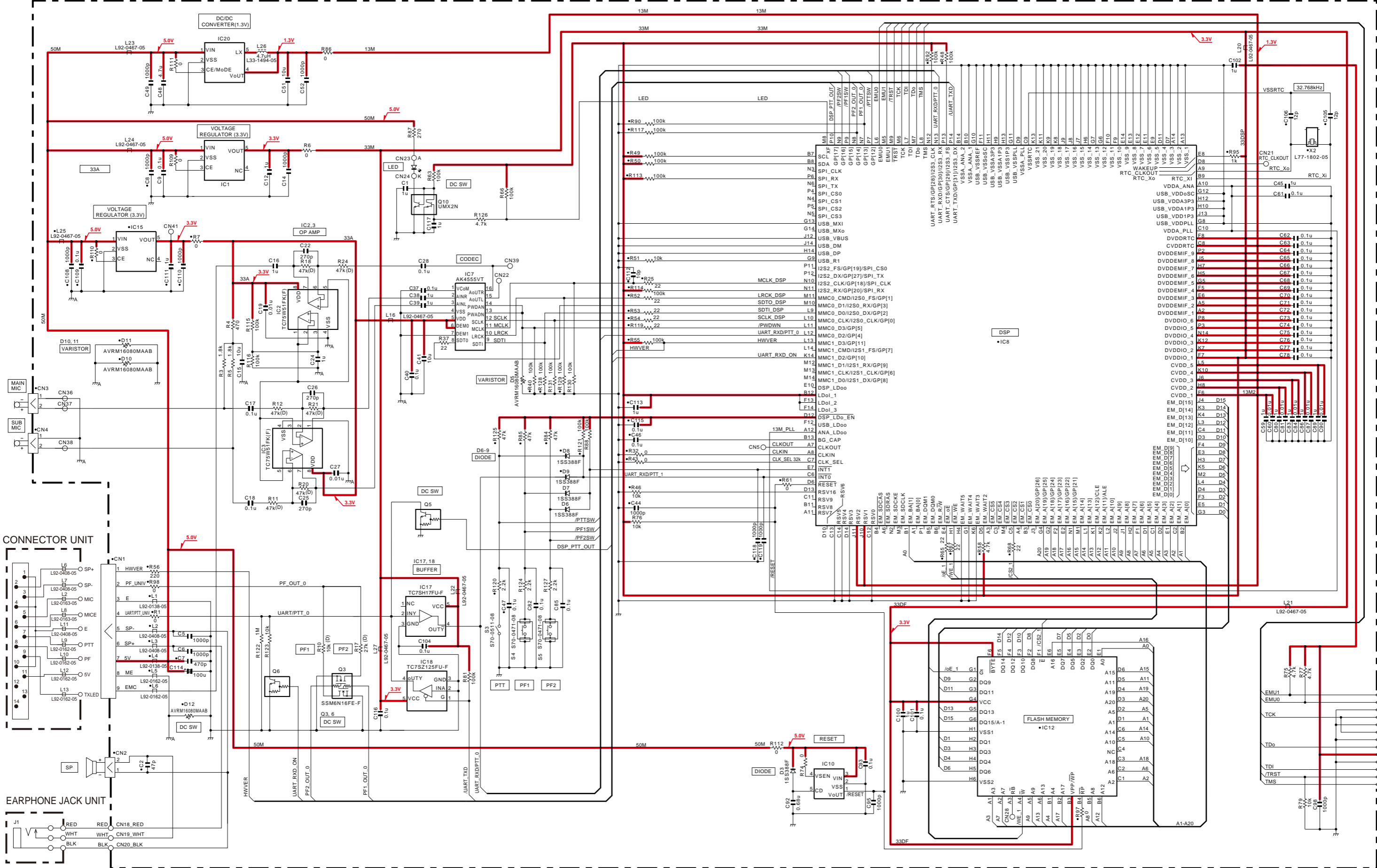
Kenwood Electronics (Hong Kong) Ltd.

Suite 2504, 25/F, Tower 2, Nina Tower, No. 8 Yeung Uk Road,
Tsuen Wan, New Territories, Hong Kong

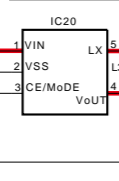
Kenwood Electronics Singapore Pte Ltd

1 Ang Mo Kio Street 63, Singapore 569110

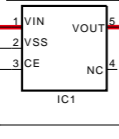
MICROPHONE UNIT



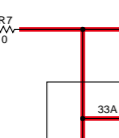
DC/DC CONVERTER(1.3V)



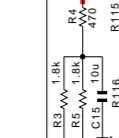
VOLTAGE REGULATOR (3.3V)



VOLTAGE REGULATOR (3.3V)



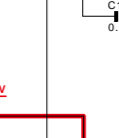
OP AMP



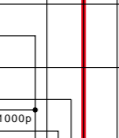
CODEC



DC SW



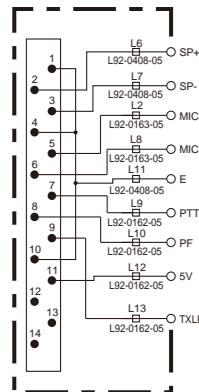
BUFFER



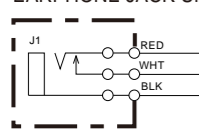
DC SW



CONNECTOR UNIT



EARPHONE JACK UNIT



LED



LED



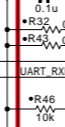
LED



LED



LED



LED



LED



LED



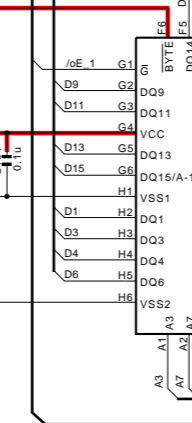
LED



LED



FLASH MEMORY



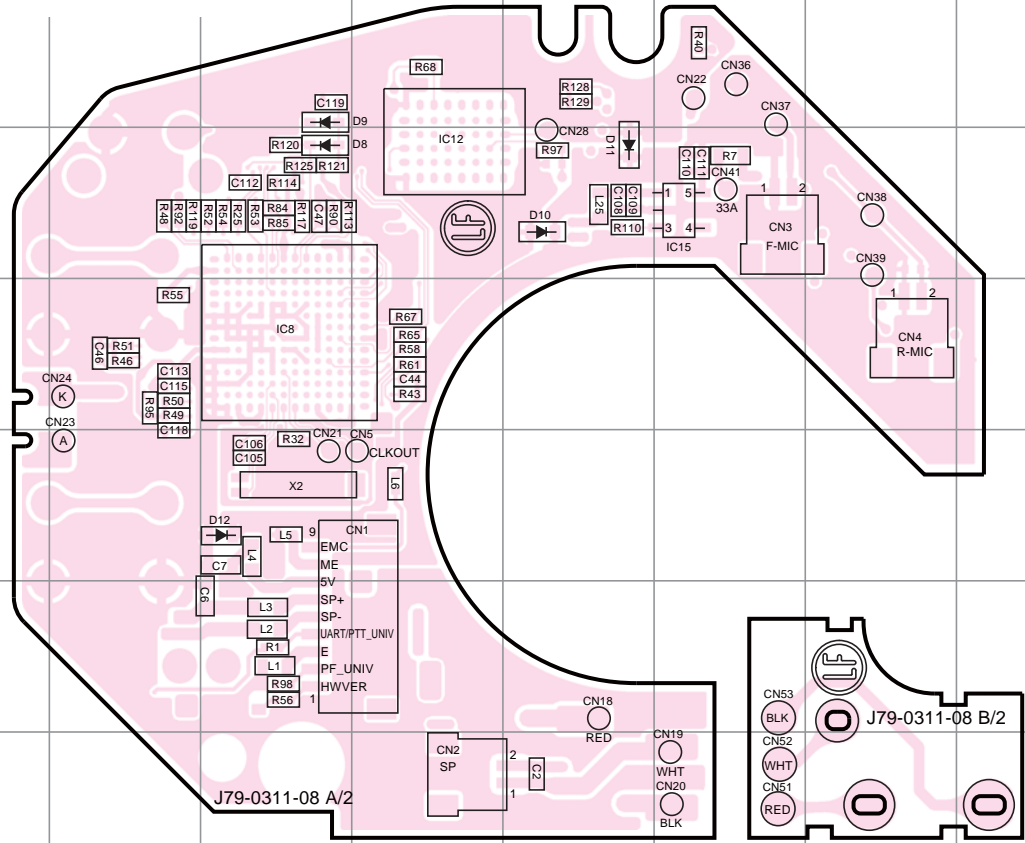
FLASH MEMORY



KMC-51 PC BOARD

MICROPHONE UNIT, EARPHONE JACK UNIT Component side view

Ref. No.	Address
IC8	4E
IC12	3F
IC15	3H
D8	3E
D9	2E
D10	3G
D11	3G
D12	5E



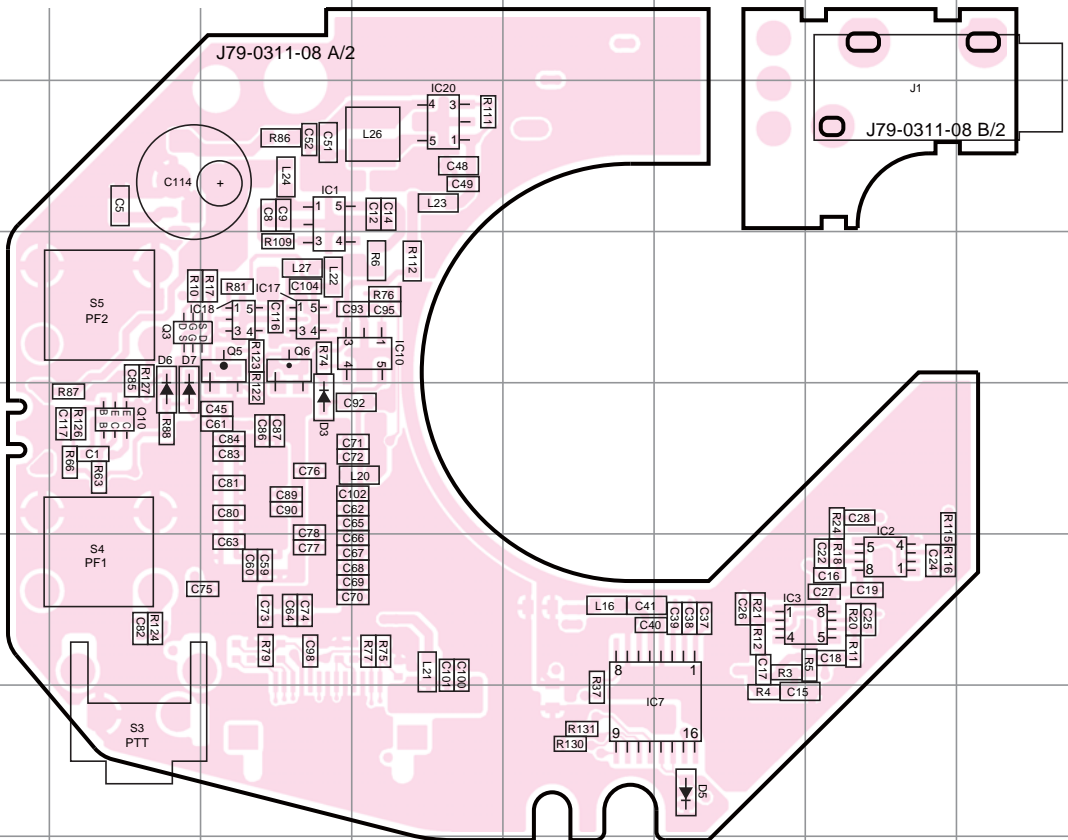
Component side



Foil side

MICROPHONE UNIT, EARPHONE JACK UNIT Foil side view

Ref. No.	Address
IC1	9E
IC2	12I
IC3	12H
IC7	13G
IC10	10F
IC17	10E
IC18	10E
IC20	9F
Q3	10D
Q5	10E
Q6	10E
Q10	11D
D3	11E
D6	11D
D7	11D



Component side



Foil side