

GPS SPEAKER MICROPHONE
KMC-38GPS
 SERVICE MANUAL

KENWOOD

Kenwood Corporation

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SPECIFICATIONS

Microphone

Impedance 2.2k Ω (MAX)
 Sensitivity -65dB \pm 4dB at 1kHz

Speaker

Impedance 16 Ω \pm 15% at 1kHz
 Rating input 0.5W
 Maximum input 1.5W
 Dimensions (W x H x D) 62 x 81 x 36 mm
 (2-7/16 x 3-3/16 x 1-27/64 inches)
 Weight Approx. 240g/ 8.5oz.

GPS Receiver

Receiver system Parallel 12 channels
 Receiver frequency
 1575.42MHz \pm 1MHz, L1 band, C/A code
 GPS data format Compatible with NMEA 0183
 GPS data update cycle Every 1 second

CIRCUIT DESCRIPTION

The location data is calculated by the GPS unit and is then sent to the transceiver via the RXD terminal of the universal connector.

When the transceiver is turned OFF, the GPS unit enters to backup mode and the power is supplied by the internal rechargeable lithium battery.

When the transceiver is turned ON, the GPS unit enters to normal operation mode and the power is supplied from the transceiver via the 5M terminal of the universal connector. While the transceiver is turned ON, the internal rechargeable lithium battery charges.

It takes approximately 70 seconds to calculate the location data when the GPS unit is "cold started" (full initialization).

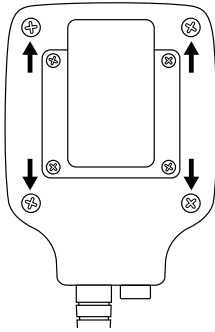
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HOW TO REPLACE THE INTERNAL BATTERY

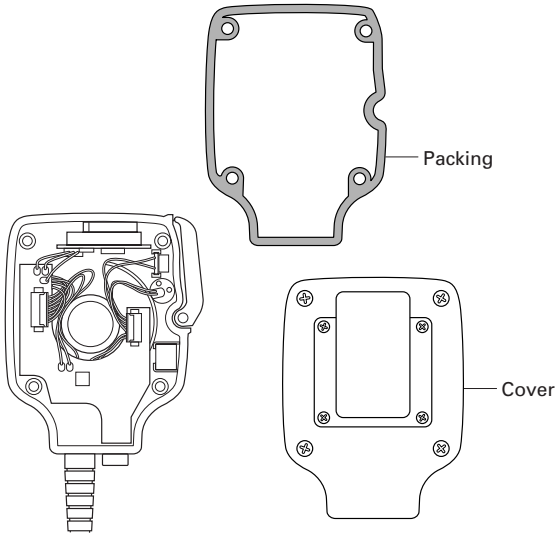
If a Cold Start occurs frequently (the transceiver cannot start GPS positioning after the transceiver is turned ON) even though the transceiver has been continuously used, the internal battery may be degraded. In this case, the internal battery must be replaced using the following procedure.

CAUTION: THE OPERATOR MUST WEAR AN ANTISTATIC BAND WHEN REPLACING THE BUILT-IN BATTERY IN ORDER TO PREVENT STATIC DISCHARGE. THE INSTALLED IC MAY BE DAMAGED BY A DISCHARGE OF STATIC ELECTRICITY.

1. Remove the KMC-38GPS from the transceiver and 4 screws on the rear panel.

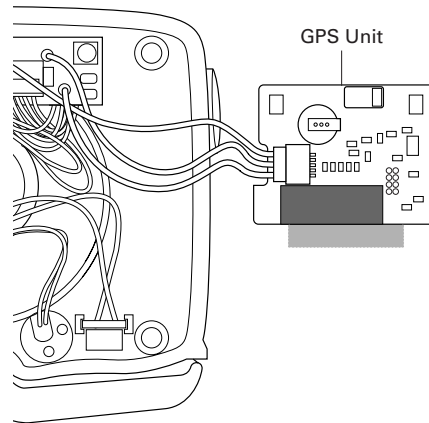
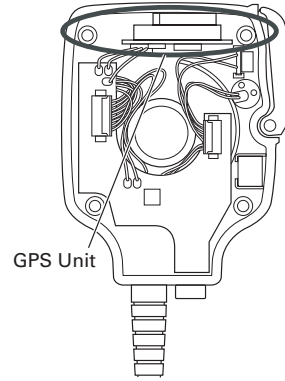


2. Remove the cover and packing.



3. Remove the GPS unit installed in the upper part of the microphone.

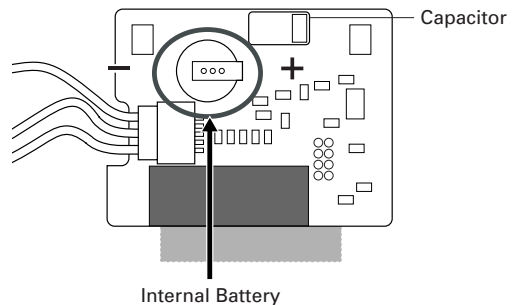
CAUTION: DO NOT DAMAGE CABLES WHEN REMOVING THE GPS UNIT.



Note: Remove cables connected to the GPS unit, if needed.

4. Remove the internal battery in the GPS unit by using the soldering iron. Replace the battery with a new battery.

CAUTION: BE SURE THE POLARITY OF THE BATTERY BEFORE INSTALLING IT. THE SIDE WITH THE CAPACITOR IS + (POSITIVE) AND THE SIDE WITHOUT THE CAPACITOR IS - (NEGATIVE).



5. Reinstall the GPS unit, packing and cover.

RESETTING THE GPS UNIT

Reset the GPS unit by removing the internal battery and then re-installing it. (To remove the internal battery, refer to "HOW TO REPLACE THE INTERNAL BATTERY".)

GPS OPERATION CHECK METHOD AFTER REPAIRS

Check the GPS operation according to the following procedures.

1. Prepare the TK-2180 transceiver. (Set the GPS Position Display to a key, such as the [S] key, with the FPU beforehand.)
2. Connect the KMC-38GPS to the universal connector on the transceiver.
3. Turn the transceiver power ON.
4. Go outside, then press the [S] key (the key that you previously set as the GPS Position Display) on the transceiver.
5. The "GPS" and latitude information are displayed on the LCD of a transceiver.

TERMINAL FUNCTION

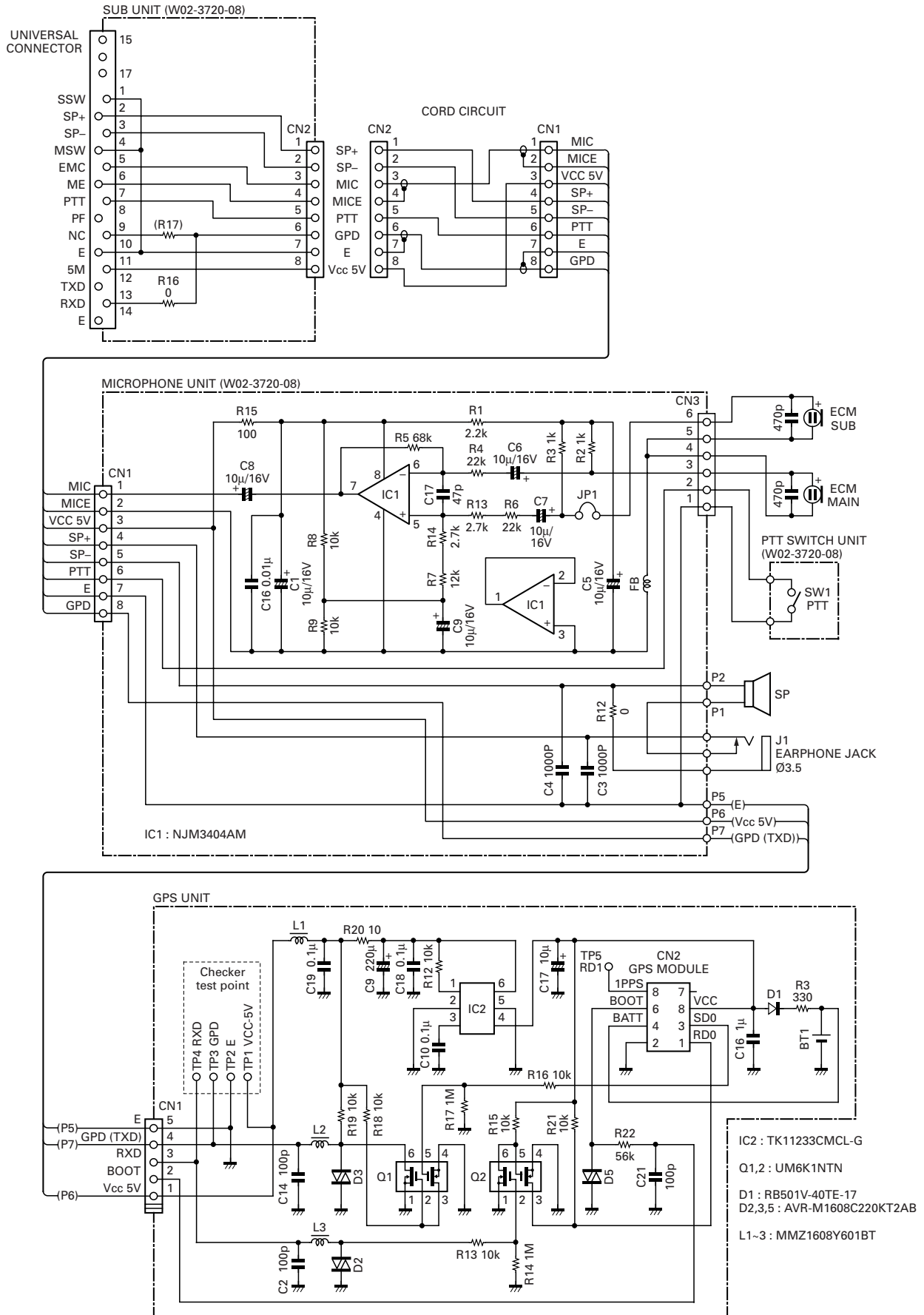
Universal connector

Pin No.	Name	I/O	Function
1	SSW	O	External speaker switch
2	SP+	I	Speaker input (BTL + side)
3	SP-	I	Speaker input (BTL – side)
4	MSW	O	External MIC switch
5	EMC	O	MIC output
6	ME	-	MIC GND
7	PTT	O	PTT output

Pin No.	Name	I/O	Function
8	PF	-	No connection
9	NC	-	No connection
10	E	-	GND
11	5M	I	Input from the power with DC 5V
12	TXD	-	No connection
13	RXD	O	GPS data output
14	E	-	No connection

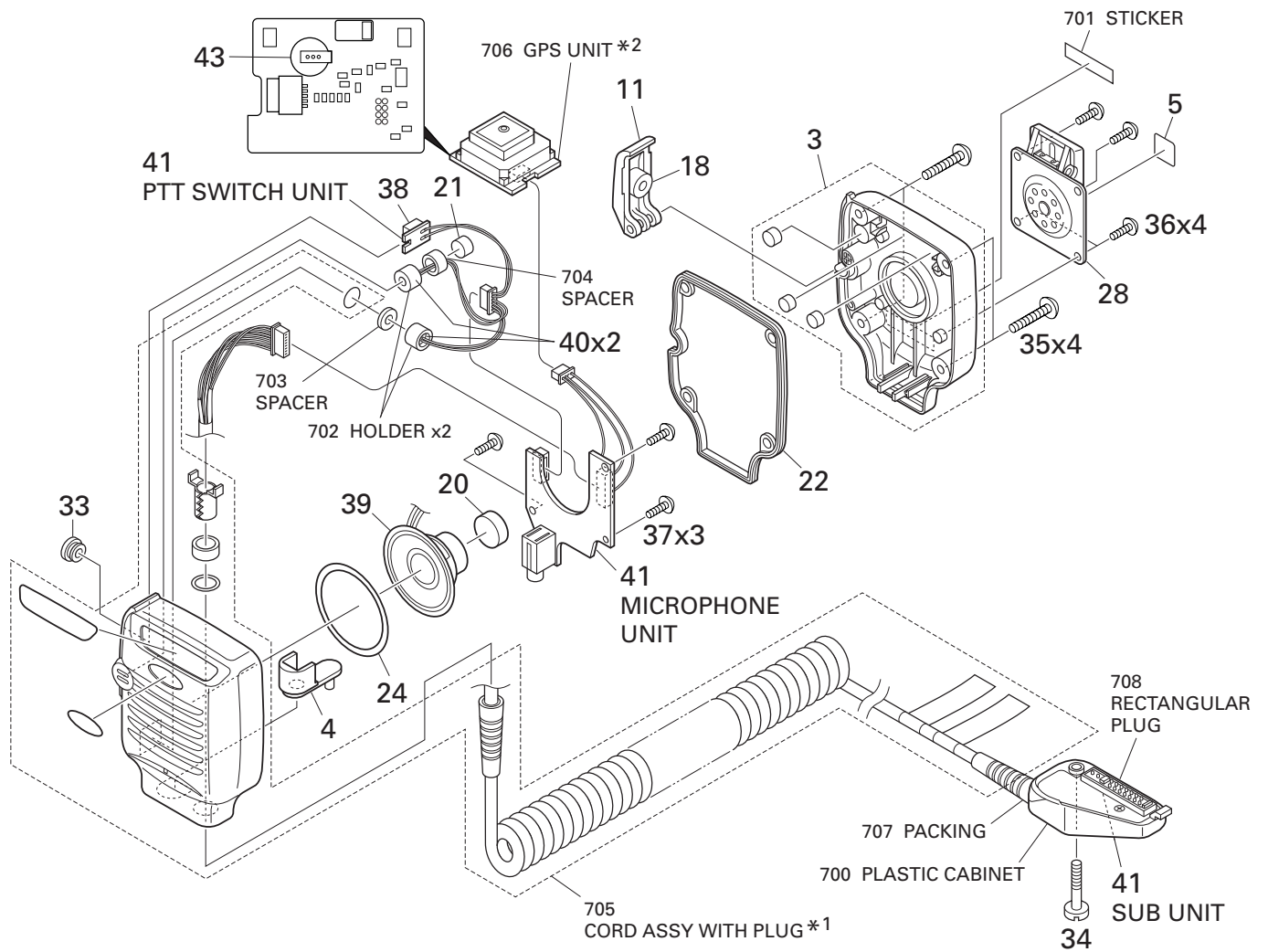
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SCHEMATIC DIAGRAM



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EXPLODED VIEW



*1: In order to maintain the waterproofing performance, the cord ASSY with plug cannot be replaced.

*2: The GPS unit cannot be replaced.

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

KMC-38GPS

PARTS LIST

KMC-38GPS (Y58-3980-20)

Ref. No.	Address	New parts	Parts No.	Description	Destination
KMC-38GPS					
3		*	A02-3988-08	PLASTIC CABINET ASSY (REAR)	
4			B09-0382-08	CAP (PHONE)	
5			B42-7733-04	STICKER (WEEE)	
11			D10-0629-08	LEVER (PTT)	
18			G13-1638-08	CUSHION (PTT LEVER)	
20		*	G13-2201-08	CUSHION (SPEAKER)	
21		*	G13-2202-08	CUSHION (MAIN ECM)	
22			G53-0820-08	PACKING (CASE)	
24			G53-0834-08	PACKING (SPEAKER)	
28			J29-0644-08	CLIP ASSY	
33			K29-5217-18	KEY TOP (PTT)	
34			N08-0547-08	DRESSED SCREW	
35		*	N09-6542-08	TAPTITE SCREW (CASE)	
36			N46-2605-60	PAN HEAD TAPPING SCREW (CLIP)	
37			N80-2005-43	PAN HEAD TAPTITE SCREW (PCB)	
38			S70-0471-08	TACT SWITCH	
39			T07-0359-18	SPEAKER	
40			T91-0584-08	MIC ELEMENT	
41		*	W02-3720-08	ELECTRIC CIRCUIT MODULE (MIC, PTT SW, SUB UNIT)	
43		*	W09-1040-08	LITHIUM CELL	

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