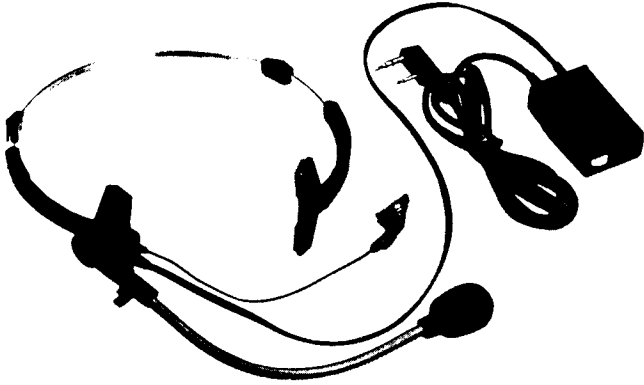


HMC-2 (HEAD SET WITH VOX & PTT)

HMC-2 EXTERNAL VIEW



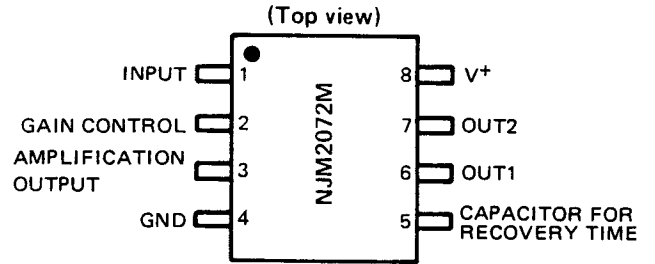
HMC-2 SPECIFICATIONS

Electrical characteristic

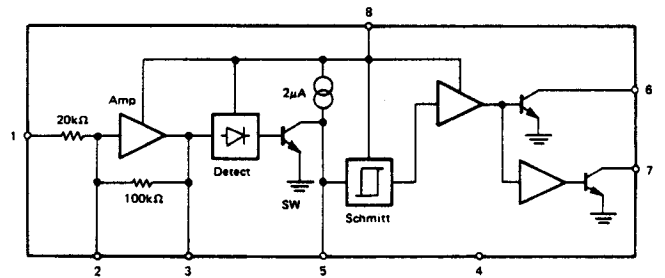
- **Earphone**
 Diameter $\phi 19$
 Impedance 19Ω (1000Hz)
 Max. input power 50mW
- **Microphone**
 Output sensitivity . . . -67.5dB (0dB = $1V/\mu\text{bar}$ 1000Hz)
 Output impedance $1.6k\Omega$ (1000Hz)

HMC-2 SEMICONDUCTOR DATA

- Terminal connection diagram



- Block diagram



HMC-2 PARTS LIST

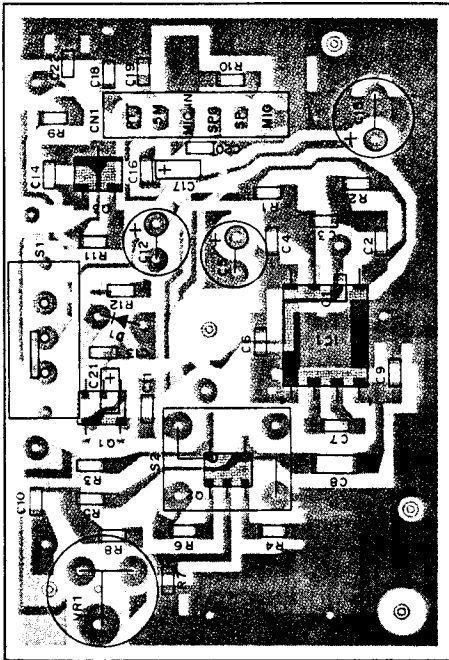
* : New Parts

Ref. No.	New Parts	Parts No.	Description
	*	A02-0840-08	Case (Front)
	*	A02-0841-08	Case (Rear)
	*	E30-2088-08	Cable with plug
	*	F09-0418-08	Microphone pad
	*	F09-0419-08	Ear pad
	*	J29-0427-08	Clip
VR1	*	R05-4422-08	Potentiometer 50k Ω
S1	*	S31-1416-08	Slide switch PTT/VOX
S2	*	S50-1413-05	Tact switch PTT
	*	T18-0056-08	Earphone with cable
	*	T91-0373-18	MIC ass'y
	*	W02-0806-18	VOX/PTT unit
Q1	*	FMG2	Digital transistor
Q2	*	FMW2	Digital transistor
Q3	*	2SC2712(GR)	Chip transistor
IC1	*	NJM2072M	IC
D1	*	1SS133	Diode

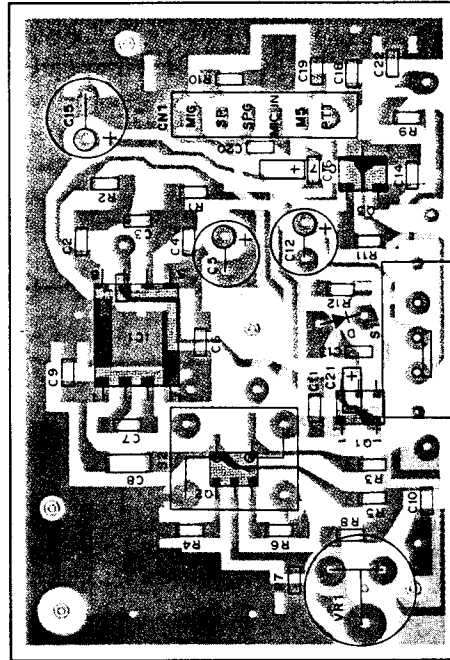
HMC-2 (HEAD SET WITH VOX & PTT)

HMC-2 PC BOARD VIEWS

Component side view



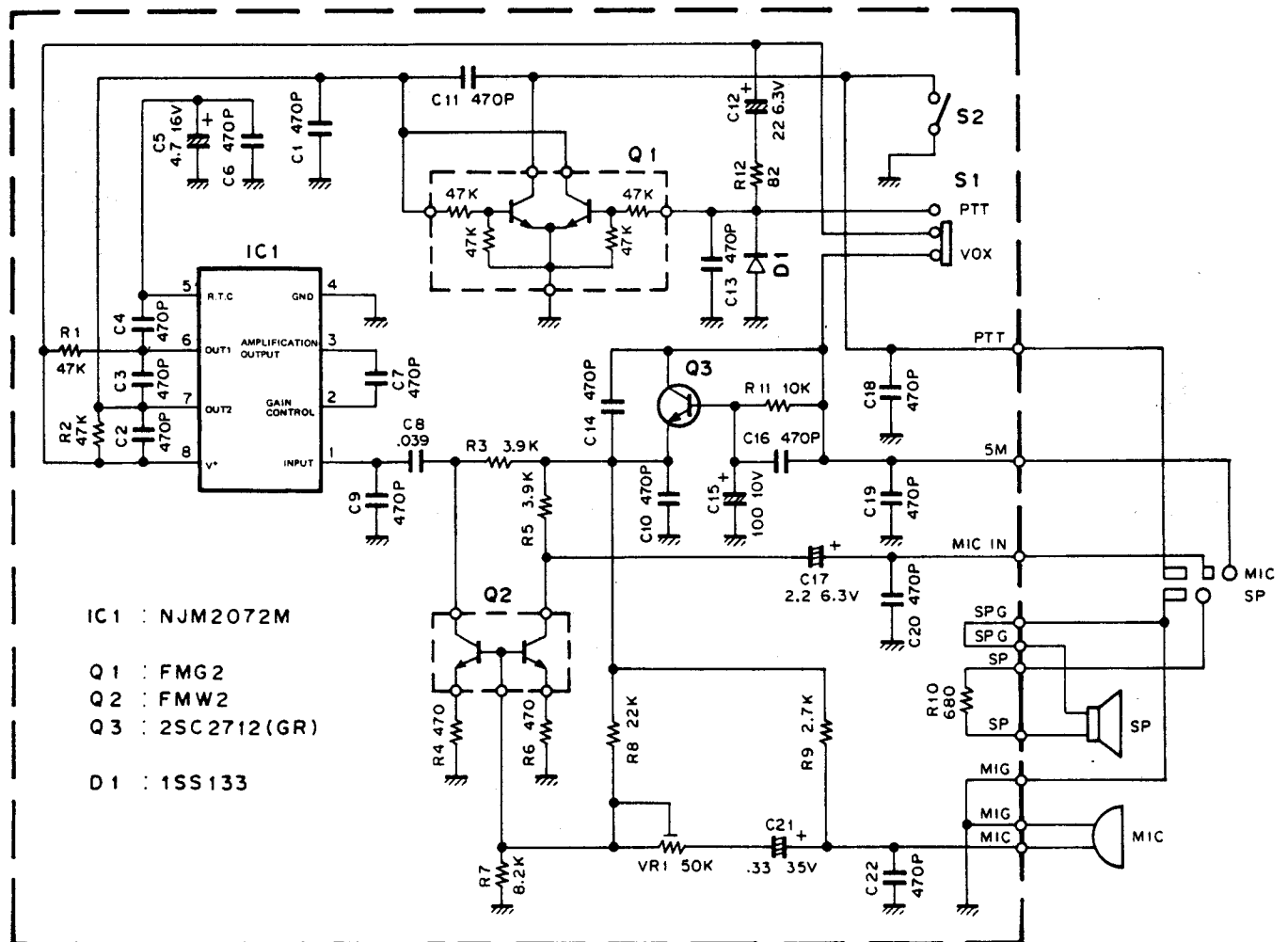
Foil side view



○ : Component side

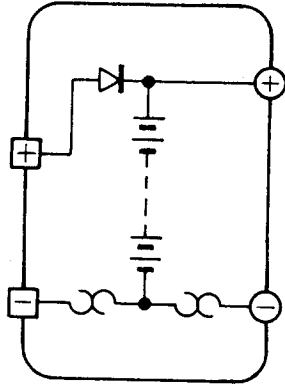
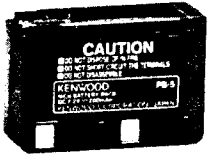
■ : Foil side

HMC-2 CIRCUIT DIAGRAM



PB-5/6/7/8/9 (Ni-Cd BATTERY)

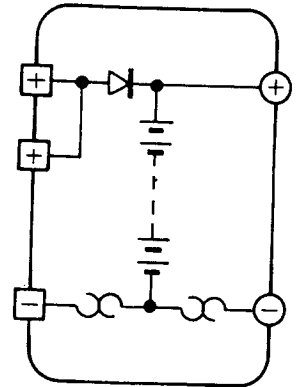
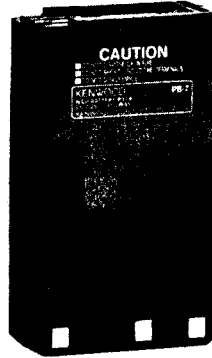
PB-5 EXTERNAL VIEW PB-5 CIRCUIT DIAGRAM PB-7 EXTERNAL VIEW PB-7 CIRCUIT DIAGRAM



PB-5 SPECIFICATIONS

Electrical characteristic

Voltage 7.2V (1.2V x 6)
 Charging current 200mAh
 Dimensions 58 W x 36.5 (39.5) H x 29.5 D (mm)
 Weight 80g

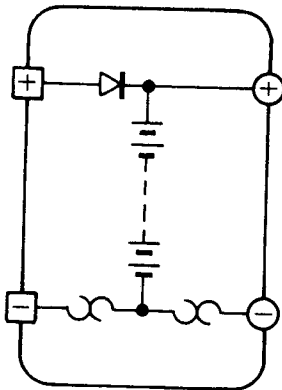


PB-7 SPECIFICATIONS

Electrical characteristic

Voltage 7.2V (1.2V x 6)
 Charging current 1100mAh
 Dimensions 58 W x 98.5 (101.5) H x 29.5 D (mm)
 Weight 300g

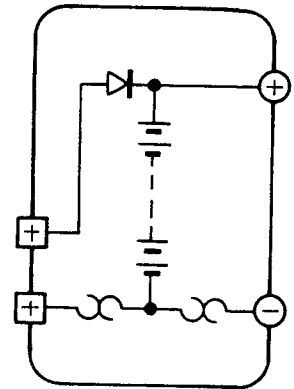
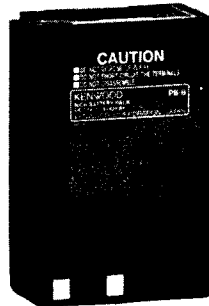
PB-6 EXTERNAL VIEW PB-6 CIRCUIT DIAGRAM PB-8 EXTERNAL VIEW PB-8 CIRCUIT DIAGRAM



PB-6 SPECIFICATIONS

Electrical characteristic

Voltage 7.2V (1.2V x 6)
 Charging current 600mAh
 Dimensions 58 H x 55.5 (58.5) H x 29.5 D (mm)
 Weight 180g



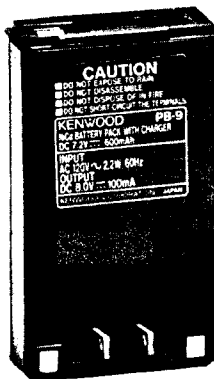
PB-8 SPECIFICATIONS

Electrical characteristic

Voltage 12V (1.2V x 10)
 Charging current 600mAh
 Dimensions 58 W x 84 (87) H x 29.5 D (mm)
 Weight 270g

PB-5/6/7/8/9 (Ni-Cd BATTERY)

PB-9 EXTERNAL VIEW

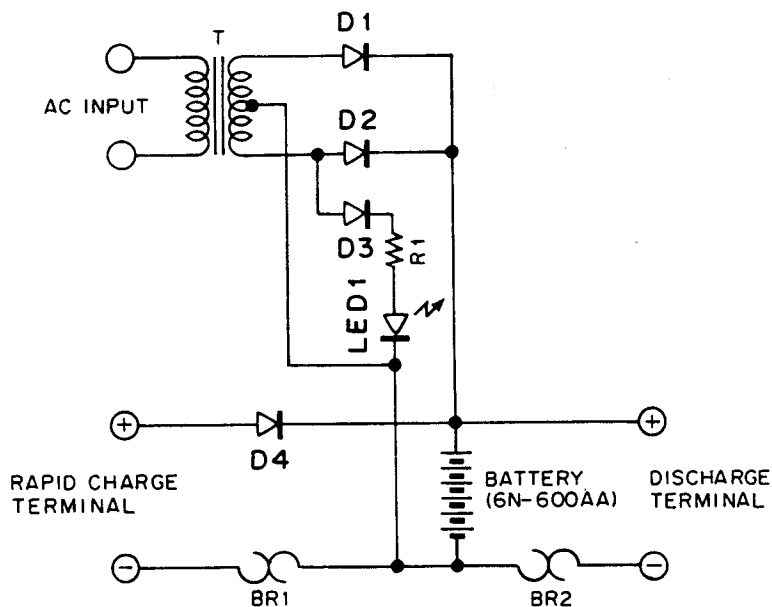


PB-9 SPECIFICATIONS

Electrical characteristic

Voltage	7.2V (1.2V x 6)
Charging current	600mAh
Charging input	AC 100 to 120V, 50/60Hz, 2.2W
Charging output	DC 8.0V, 100mA
Charging time	Approx. 10 hours
Dimensions	58 W x 98.5 (101.5) H x 29.5 D (mm)
Weight	260g

PB-9 SCHEMATIC DIAGRAM



PB-5/6/7/8/9 CHARGING TIME

Battery Charger	PB-5	PB-6	PB-7	PB-8	PB-9
BC-9		15	30		
BC-10	8	8	15	8	8
BC-11	1	1	1	1	1

Unit : Hour

TH-55AT/E

SC-17/18/19 (SOFT CASE)/SMC-31 (SPEAKER MICROPHONE)

SC-17 EXTERNAL VIEW



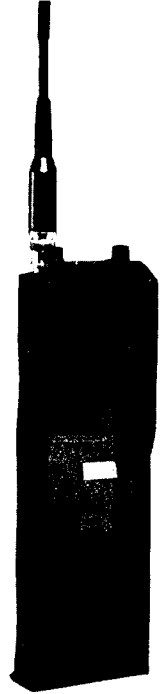
with PB-5.

SC-18 EXTERNAL VIEW



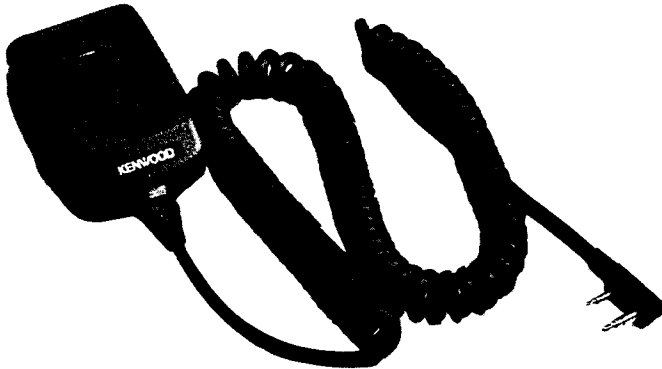
with PB-6.

SC-19 EXTERNAL VIEW



with PB-7, 8 or 9.

SMC-31 EXTERNAL VIEW



SMC-31 SPECIFICATIONS

Electrical characteristic

- **Speaker**
 - Diameter $\phi 45$ (mm)
 - Impedance 8Ω
 - Rated input power 0.15W
 - Max. input power 0.3W
- **Microphone**
 - Sensitivity $66\text{dB} \pm 3\text{dB}$ at 1300Hz
 - Output impedance $2\text{k}\Omega \pm 30\%$ at 1000Hz

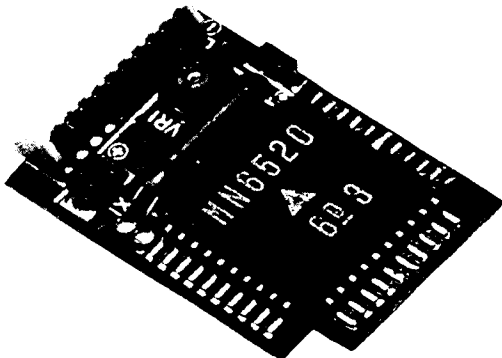
SMC-31 PARTS LIST

* : New Parts

Ref. No.	New Parts	Parts No.	Description
	*	D10-0605-08	PTT lever
	*	E30-2110-05	Coil cord ass'y
		J19-1360-08	Clip
		T07-0219-08	Speaker
		T97-1024-08	Microphone

TSU-6 (CTCSS UNIT)

TSU-6 EXTERNAL VIEW



TSU-6 REFERENCE DATA

TH-25's condition and MN4094BS (IC2) relationship

CTCSS switch	TONE switch	TX/RX	MN4094BS terminal		
			Q5	Q6	Q1 ~ 4, 7, 8
OFF	OFF	TX	L	H	L
		RX	L	H	L
	ON	TX	L	L	See table 2
		RX	L	H	L
ON	OFF	TX	L	L	See table 2
		RX	H	L	
	ON	TX	L	L	
		RX	H	L	

Q1 ~ 4, 7, 8 : Tone frequency setting

Q5 : TX/RX switch for MN6520 (IC1). "H" : RX, "L" : TX.

Q6 : Power switch for MN6520 (IC1). "H" : OFF, "L" : ON.

Table 1

TSU-6 PARTS LIST

• : New Parts

Ref. No.	New Parts	Parts No.	Description
CTCSS UNIT (X52-3100-00)			
C1		CK73FB1H102K	Chip C 1000pF K
C2		C92-0010-05	Tantal 6.8μF 6.3WV
C3	•	C92-0006-05	Tantal 3.3μF 4.0WV
C4, 5		CK73EB1E104K	Chip C 0.1μF K
C6		CK73EB1H223K	Chip C 0.022μF K
C7		CK73EB1E104K	Chip C 0.1μF K
C8, 9		CC73FCH1H150J	Chip C 15pF J
C10		CK73FB1H102K	Chip C 1000pF K
C11		CK73EB1E104K	Chip C 0.1μF K
C12		C92-0507-05	Chip tan. 4.7μF 6.3WV
C13	•	C92-0510-05	Chip tan. 3.3μF 4.0WV
	•	E40-5121-05	Pin connector (10P)
X1		L77-1313-05	X'tal resonator 4.194304MHz
R1-10		RK73FB2A000J	Chip resistor
R12-14		RK73FB2A000J	Chip resistor
VR1	•	R12-3460-05	Trimming pot. 33kΩ
Q1		DTC144TK	Digital transistor
Q2		DTA114EK	Digital transistor
Q3		2SC2712(GR)	Chip transistor
IC1		MN6520	IC
IC2		MN4094BS	IC

TSU-6 FINE ADJUSTMENT OF TONE FREQUENCY

The tone frequency can be fine adjusted with an interval of 0.5% step over the range of 0 to +1.5%. Ground the T1 (pin 10) and T2 (pin 9) of IC1 to obtain the desired frequency.

	T1	T2
0%	X	X
+0.5%	○	X
+1.0%	X	○
+1.5%	○	○

○ : GND, X : OPEN

Table 3

Tone frequency and MN6520 (IC1) relationship

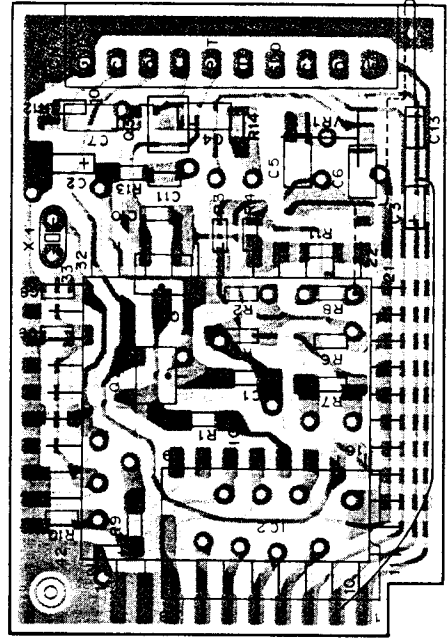
Tone frequency (Hz)	MN6520 terminal					
	S6	S5	S4	S3	S2	S1
	MN4094BS terminal					
	Q1	Q2	Q3	Q4	Q7	Q8
67.0	L	H	H	H	L	H
71.9	L	H	H	H	L	L
74.4	L	H	H	L	H	H
77.0	L	H	H	L	H	L
79.7	L	H	H	L	L	H
82.5	L	H	H	L	L	L
85.4	L	H	L	H	H	H
88.5	L	H	L	H	H	L
91.5	L	H	L	H	L	H
94.8	H	H	H	L	L	H
100.0	H	H	H	L	L	L
103.5	H	H	L	H	H	H
107.2	H	H	L	H	H	L
110.9	H	H	L	H	L	H
114.8	H	H	L	H	L	L
118.8	H	H	L	L	H	H
123.0	H	H	L	L	H	L
127.3	H	H	L	L	L	H
131.8	H	H	L	L	L	L
136.5	H	L	H	H	H	H
141.3	H	L	H	H	H	L
146.2	H	L	H	H	L	H
151.4	H	L	H	H	L	L
156.7	H	L	H	L	H	H
162.2	H	L	H	L	H	L
167.9	H	L	H	L	L	H
173.8	H	L	H	L	L	L
179.9	H	L	L	H	H	H
186.2	H	L	L	H	H	L
192.8	H	L	L	H	L	H
203.5	H	L	L	H	L	L
210.7	H	L	L	L	H	H
218.1	H	L	L	L	H	L
225.7	H	L	L	L	L	H
233.6	H	L	L	L	L	L
241.8	L	H	H	H	H	H
250.3	L	H	H	H	H	L

Table 2

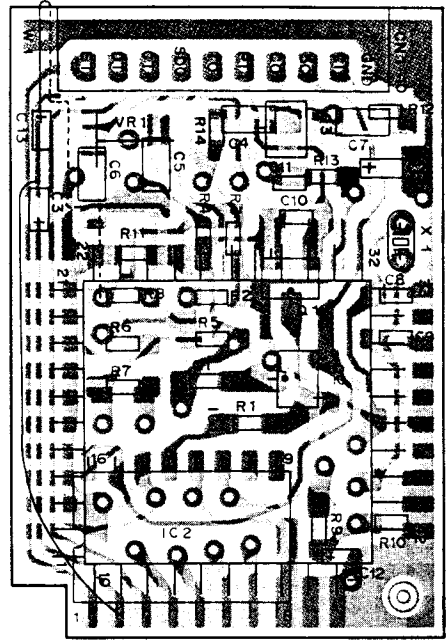
TSU-6 (CTCSS UNIT)

TSU-6 PC BOARD VIEWS

Component side view



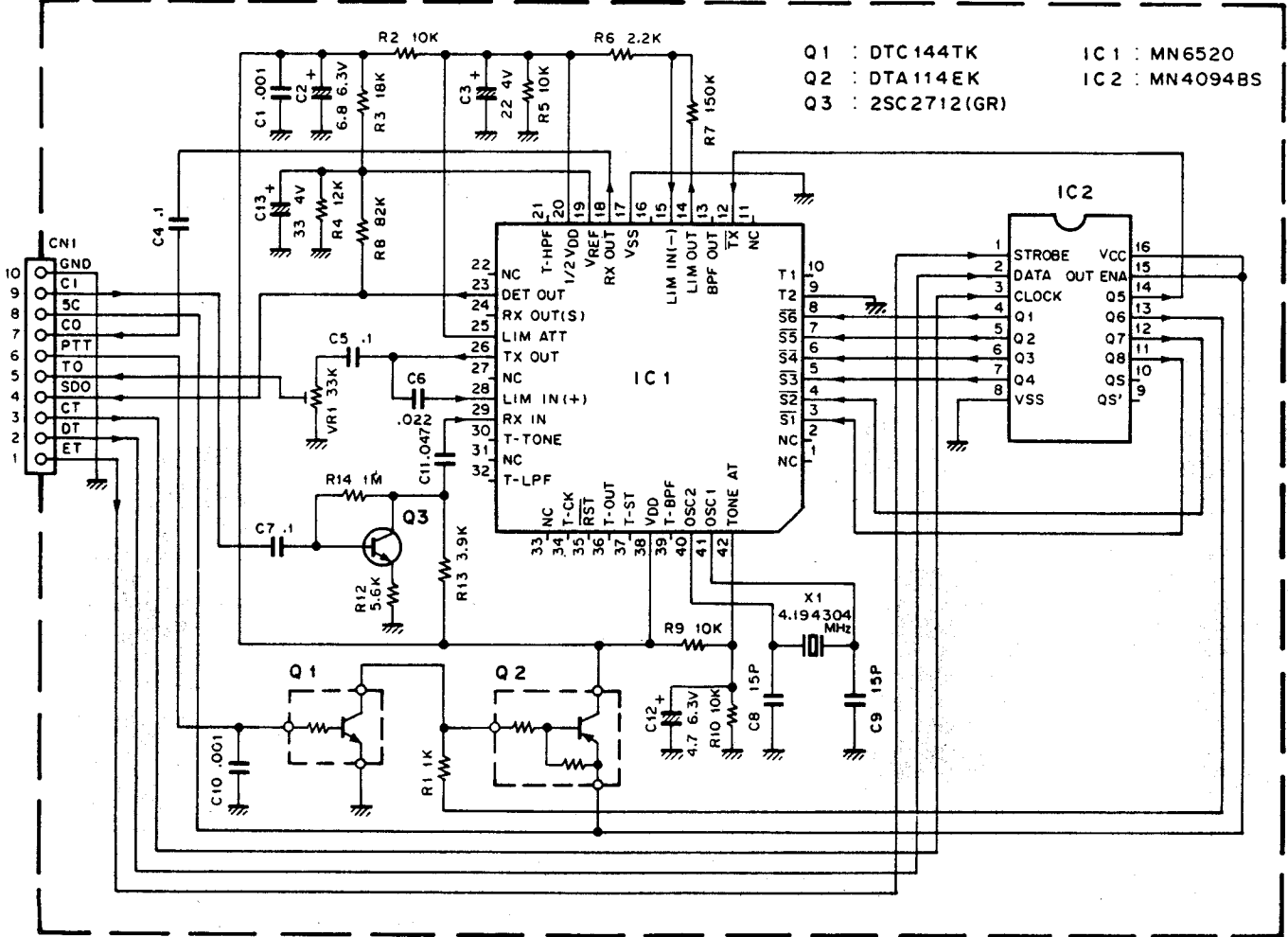
Foil side view



■ : Component side
 ■ : Foil side

TSU-6 CIRCUIT DIAGRAM

CTCSS UNIT (X52-3100-00)

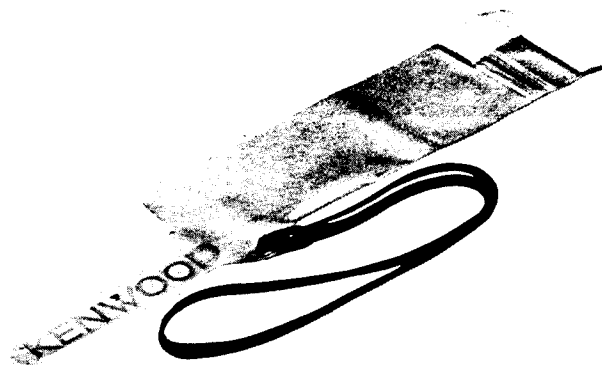


MB-5 (MOBILE BRACKET)/WR-1 (WATERPROOF CASE)

MB-5 EXTERNAL VIEW



WR-1 EXTERNAL VIEW



MB-5 PARTS LIST

* : New Parts

Ref. No.	New Parts	Parts No.	Description
	*	N99-0320-05	Screw set

SPECIFICATIONS

General

Frequency range	1258.0000MHz – 1299.9875MHz [TH-55AT(K), TH-55E(T,W)]
Signal type	F3 (F3E)
Power supply voltage	DC 6.0V – 16V (DC IN jack)
Power consumption	At reception standby ; Approx. 60mA At battery power save ; Approx. 17mA At auto power off ; Approx. 5mA At transmission (1.0W) ; Less than 1.0A At transmission (0.1W) ; Less than 0.6A
Antenna impedance	50Ω
External microphone impedance	2kΩ
Operating temperature	–20°C – +50°C
Dimensions	58 (68.5) W x 157.5 (172) H x 29.5 (37.5) D mm The numbers in the parenthesis include projections parts.
Weight	450g (including antenna and Ni-Cd batteries)

Transmitter section

Output power	Hi ; 1.0W, Low ; 0.1W (DC IN 9V)
Modulation system	Reactance modulation
Max. frequency deviation	±5kHz
Unwanted reflection	Less than –50dB
Frequency tolerance	Less than $\pm 3 \times 10^{-6}$ (–10°C – +60°C)

Receiver section

Reception system	Double superheterodyne
Intermediate frequency	1st IF ; 59.7MHz 2nd IF ; 455kHz
Sensitivity	12dB SINAD ; 0.25μV
Squelch sensitivity	Less than 0.16μV
Selectivity	–6dB at more than 12kHz, –40dB at more than 32kHz
AF output	More than 200mW (8Ω load, distortion 10%)
RIT variable range	More than ±5kHz

Design and specifications subject to change without notice.

KENWOOD CORPORATION

Shionogi Shibuya Building, 17-5, 2-chome Shibuya, Shibuya-ku, Tokyo 150, Japan

KENWOOD U.S.A. CORPORATION

PO. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745, U.S.A.

KENWOOD ELECTRONICS DEUTSCHLAND GMBH

Rembrücker Str. 15, 6056 Heusenstamm, West Germany

KENWOOD ELECTRONICS BENELUX N.V.

Mechelsesteenweg 418 B-1930 Zaventem, Belgium

TRIO-KENWOOD FRANCE S.A.

5, Boulevard Ney, 75018 Paris, France

KENWOOD ELECTRONICS AUSTRALIA PTY. LTD.

(INCORPORATED IN N.S.W.)

4E, Woodcock Place, Lane Cove, N.S.W. 2066, Australia