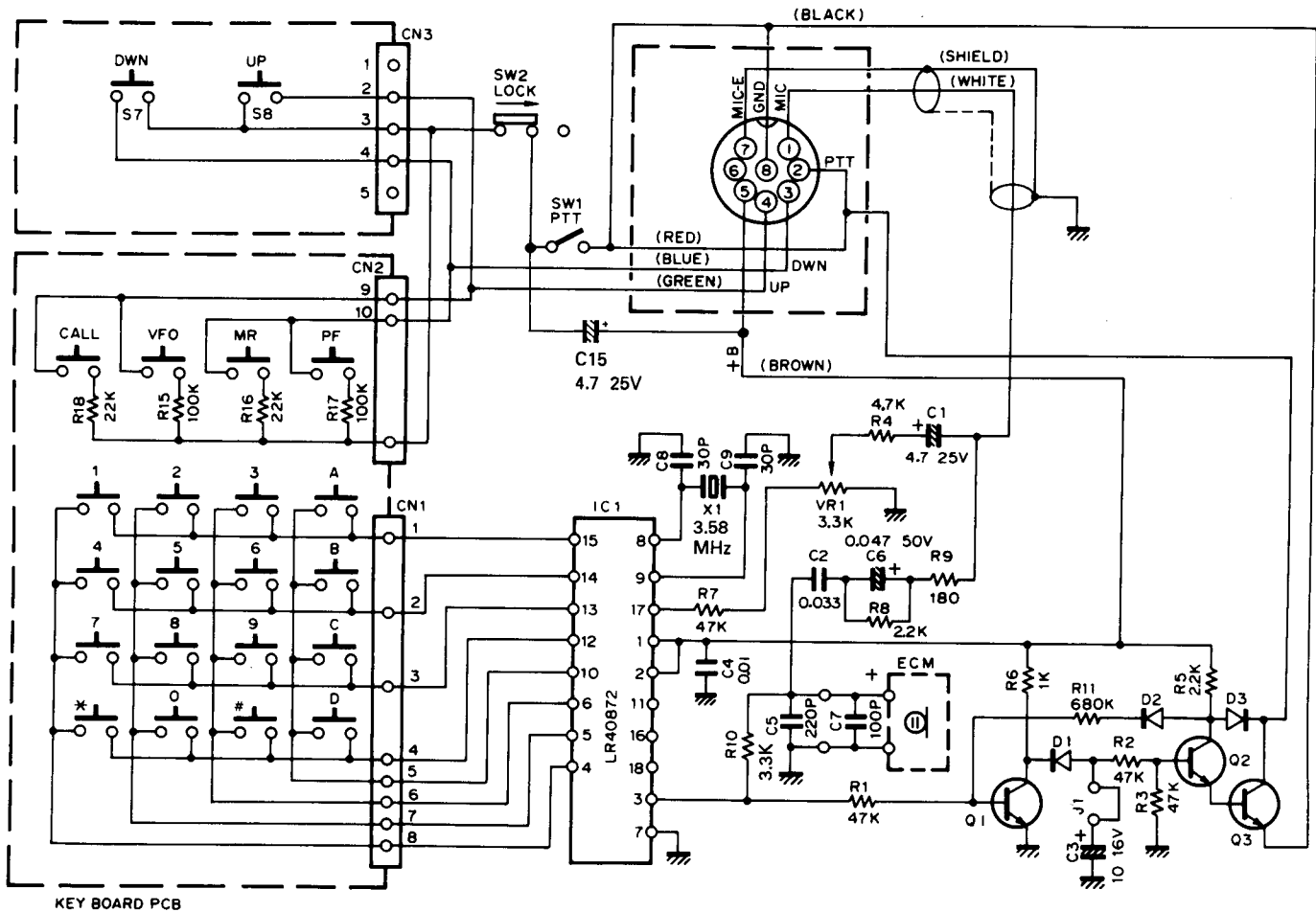


# MC-44DM/44DME TM-241A/E

## (MULTI FUNCTION MICROPHONE WITH AUTOPATCH)

### MC-44DM/MC-44DME SCHEMATIC DIAGRAM



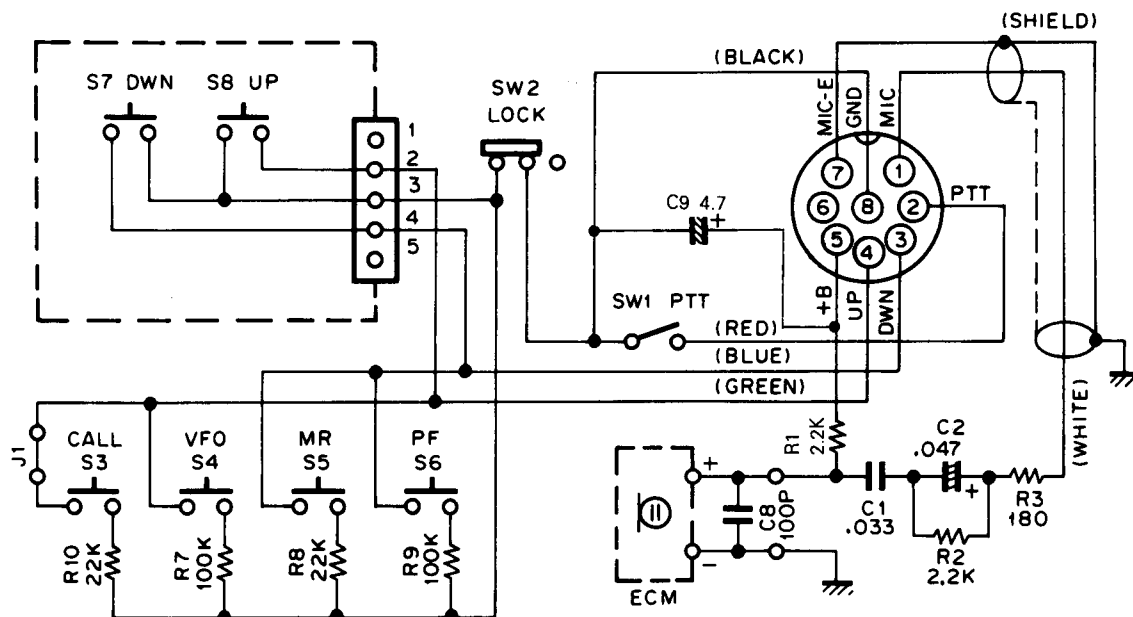
### MC-44DM/MC-44DME PARTS LIST

Ref. No.	New parts	Parts No.	Description	
		A02-0898-18	Case (Front) DTMF	M
		A02-0899-18	Case (Front) DTMF (With TONE)	W
		A02-0901-08	Case (Rear) DTMF	
		B50-8293-18	Instruction manual	W
		B50-8289-18	Instruction manual	M
		E30-2149-08	Curl cord	
		G13-0933-08	Cushion	
		K29-3165-08	Knob PTT	
		K29-3167-18	Key top DTMF	
		K29-3168-18	Knob UP	
		K29-3169-18	Knob DOWN	
SW2		S31-1422-08	Slide switch LOCK	
SW1		S50-1431-08	Micro switch PTT	
S7, 8		S59-1409-28	Switch UP, DOWN	
		T91-0383-08	Microphone element (Condenser microphone)	

# TM-241A/E

## MC-44 (MULTI FUNCTION MICROPHONE)

### MC-44 SCHEMATIC DIAGRAM

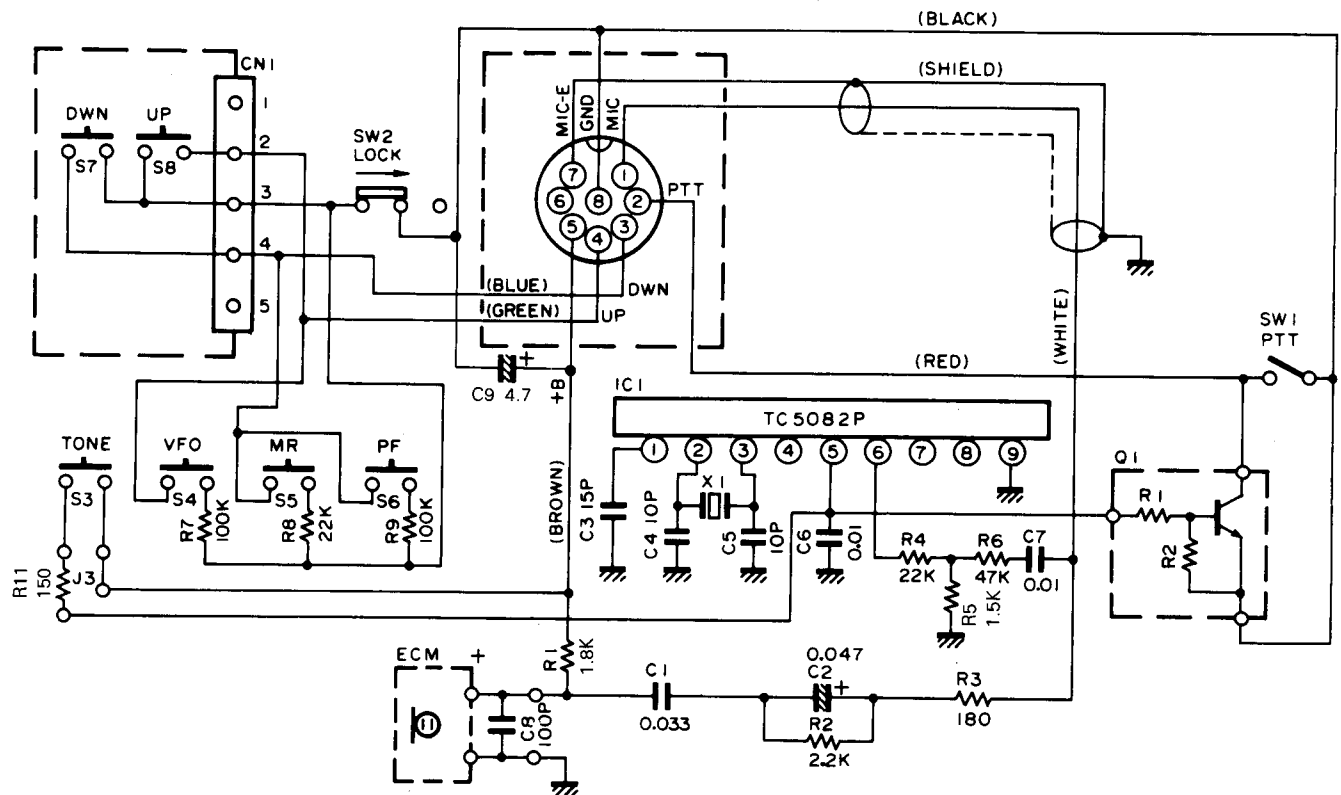


### MC-44 PARTS LIST

Ref. No.	New parts	Parts No.	Description
		A02-0896-18	Case (Front)
		A02-0900-08	Case (Rear)
		B50-8293-18	Instruction manual
		E30-2149-08	Curl cord
		G13-0933-08	Cushion
		K29-3165-08	Knob PTT
		K29-3168-18	Knob UP
		K29-3169-18	Knob DOWN
		K29-3170-08	Knob CALL, VFO, MR, PF
SW2		S31-1422-08	Slide switch LOCK
SW1		S50-1431-08	Micro switch PTT
S7, 8		S59-1409-28	Switch UP, DOWN
		T91-0383-08	Microphone element (Condenser microphone)

## MC-44E (MULTI FUNCTION MICROPHONE)

### MC-44E SCHEMATIC DIAGRAM

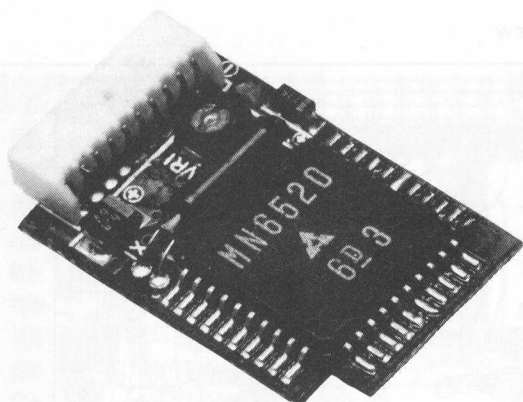


### MC-44E PARTS LIST

Ref. No.	New parts	Parts No.	Description
		A02-0897-18	Case (Front) With TONE
		A02-0900-08	Case (Rear)
		B50-8293-18	Instruction manual
		E30-2149-08	Curl cord
		G13-0933-08	Cushion
		K29-3165-08	Knob PTT
		K29-3168-18	Knob UP
		K29-3169-18	Knob DOWN
		K29-3170-08	Knob 1750, VFO, MR, PF
SW2		S31-1422-08	Slide switch LOCK
SW1		S50-1431-08	Micro switch PTT
S7, 8		S59-1409-28	Switch UP, DOWN
		T91-0383-08	Microphone element (Condenser microphone)

## TSU-6 (CTCSS UNIT)

### TSU-6 EXTERNAL VIEW



### TSU-6 PARTS LIST

\* : New Parts

Ref. No.	New Parts	Parts No.	Description
<b>CTCSS UNIT (X52-3100-00)</b>			
C1		CK73FB1H102K	Chip C 1000pF K
C2		C92-0507-05	Tantal 4.7μF 6.3WV
C3		C92-0520-05	Tantal 22μF 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		CK73FB1E473K	Chip C 0.047μF K
C12		C92-0507-05	Chip tan. 4.7μF 6.3WV
C13		C92-0534-05	Chip tan. 33μF 4.0WV
CN1		E40-5121-05	Pin connector (10P)
X1		L77-1313-05	X'tal resonator 4.194304MHz
R1-10		RK73FB2A○○○J	Chip resistor
R12-14		RK73FB2A○○○J	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 REFERENCE DATA

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 1

### 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 2