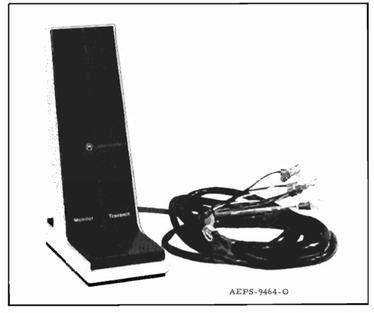


1. DESCRIPTION

1.1 The TMN1004B Desk Microphone contains a microphone and preamplifier circuit board, and a dual-action "Transmit" switch which allows easy operation for either hand-held or desk-top use in carrier squelch applications. The TMN1005B Desk Microphone is the same as the TMN1004B except that it contains an additional dual action "Monitor" switch for use in coded squelch applications.

1.2 All electrical components are mounted vertically in the housing with the microphone cartridge at the top and the switches at the bottom. A 7-foot stranded cord with spade-lug termination is routed out through the back at the base of the housing.

2. INSTALLATION

2.1 JUMPER CONFIGURATION

Before connecting the desk microphone to external equipment, verify that printed circuit board jumpers JU1 and JU2 are configured correctly for the system application. Microphones are shipped from the factory with both jumpers installed. The jumpers are removed to obtain the following conditions:

- Jumper JU1 is removed when parallel microphones or other local equipment are connected at the same microphone input.
- Jumper JU2 (Model TMN1005B only) is removed when it is necessary to prevent an operator from transmitting without first monitoring a channel to verify it is clear. With JU2 removed, both the MONITOR and TRANSMIT switches must be activated before transmitting.

Refer to paragraph 4.1 for front cover removal to gain access to the jumpers when it is necessary to change the microphone jumper configuration.

2.2 MICROPHONE CONNECTIONS

The desk microphone is connected to external equipment through a 7-foot stranded cord with spade lug terminations. Refer to the applicable equipment manuals to determine the correct microphone connections. Table 1 shows the microphone lead functions.

Table 1. Microphone Leads And Functions

Lead Color	Function
Brown	Microphone High
Shield	Microphone Low
Green	PTT
White	Monitor
Black	Ground
Yellow*	Speaker Audio Hot
Red*	Speaker Audio Mute

* Used only when transmit monitor is desired at parallel-connected dispatch points when microphone is transmitting.

3. OPERATION

3.1 GENERAL MICROPHONE PROCEDURE

To assure good audio transmission quality, observe the following general microphone practices.

- Keep microphone approximately 8 inches away from the mouth. The distance may vary depending on the user's tone of voice.
- Speak clearly and directly into the microphone at a normal conversational level.

3.2 TRANSMIT SWITCH

When pressed and held, the dual-action TRANSMIT switch causes the associated transmitter to be keyed.

NOTE

If jumper JU1 is cut and intercom operation is required, the operator must press both the intercom button on the associated equipment and the TRANSMIT button on the microphone.

3.3 MONITOR SWITCH

The MONITOR switch is a dual-action switch which operates in the same manner as the TRANSMIT switch.

The MONITOR switch (Model TMN1005B only) when activated, allows the operator to monitor a channel to be sure it is clear before transmitting. In systems using coded squelch, this feature is an FCC requirement. If jumper JU2 is removed, the operator must press and hold both the MONITOR and TRANSMIT switches before he can transmit. Releasing either switch ends the transmission.

4. MAINTENANCE

4.1 DISASSEMBLY

Step 1. At the rear of the microphone, remove the four screws that secure the front cover to the housing; then remove the front cover.

Step 2. On the bottom of the microphone, remove the four screws that secure the baseplate to the housing then remove the baseplate.

Step 3. Remove the shaft retainer clip from the pivot shaft (see Figure 1).

Step 4. Remove the cord strain relief from the U-shaped slot.

Step 5. Slide both halves of the pivot shaft toward the center releasing the shaft from the retaining holes in the housing.

Step 6. Swing the lower edge of the printed circuit board (including switches) forward to disengage the upper portion of the circuit board from the housing. Remove the circuit board.

4.2 ASSEMBLY

Assembly is essentially the reverse order of disassembly.

4.3 TESTING

4.3.1 Test Equipment Required

- S-1063 Motorola Solid-State DC Multimeter or equivalent
- S-1053 Motorola Solid-State AC Voltmeter or equivalent
- R-1004 Motorola General Purpose Dual Trace 15 MHz Oscilloscope.

4.3.2 Test Procedure

NOTE

Potentiometer R1 is factory set and field adjustment is not required.

The microphone can be tested either while connected to its associated equipment or to the test setup as shown in Figure 2. Basic testing consists of checking resistances and dc voltages against the schematic diagram. Dynamic testing can be accomplished by speaking into the microphone and using an oscilloscope or ac voltmeter to monitor the amplification (gain) of the various stages. However, since a known dynamic input signal for field testing is not practicable, gain measurements are to be used only as indications of proper stage functioning. For that reason, no ac voltages are provided on the schematic.

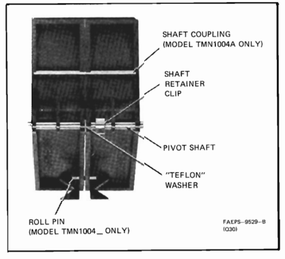


Figure 1. Pivot Shaft Detail

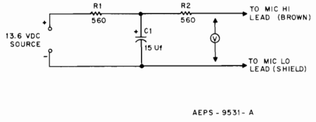


Figure 2. Test Setup

TMN1004B Model Complement

ITEM	DESCRIPTION	VER
TRN8986A	Mic Circuit Board	0
THN6388A	Mic Housing and Hardware	0
TKN8063A	Mic Cable Kit	0

TMN1005B Model Complement

ITEM	DESCRIPTION	VER
TRN8986A	Mic Circuit Board	0
THN6389A	Mic Housing and Hardware	0
TKN8063A	Mic Cable Kit	0

parts list

TRN8986A Microphone Circuit Board — PL-6470-A

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
		capacitor, fixed: uF ± 10%; unless otherwise stated
C1	21-82187B45	470 pF; 500 V
C2	8-82096J08	.022; 200 V
C3	21-82187B44	.001; 100 V
C4	23-84665F09	15 + 150 -10%; 25 V
C5	21-82187B06	560 pF; 500 V
C6	8-82096J04	.047; 250 V
		diode:
CR1	48-83654H01	Silicon
		cartridge, microphone:
MK1	50-82825M01	miniature
		transistor: (see note)
Q1,2	48-869594	NPN; type M9594
		resistor, fixed ± 5%; 1/4 W; unless otherwise stated
R1	18-84944C02	variable; 25k
R2	6-124C25	100 ± 10%
R3	6-124C77	15k ± 10%
R4	6-124B14	470k
R5	6-124A73	10k
R7	6-124A59	2.7k
R8	6-124B08	270k
R9	6-124C55	1.8k
		voltage regulator:
VR1	48-82256C38	Zener; 9.1 V

THN6388A & THN6389A Microphone Housing & Hardware Kit — PL-6471-A

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
		switch, leaf:
S1,2	40-84711E02	2 section, multiple nonlocking contacts (THN6388A)
	40-84711E01	2 section multiple nonlocking contacts (THN6389A)
		mechanical parts
	2-10101A69	NUT, spring steel; 2 used
	3-135676	SCREW, tapping; 4-40 x 1/4 "; 3 used
	3-138809	SCREW, machine: 4-40 x 5/16"; 4 used
	3-140047	SCREW, machine: 4-40 x 5/8"; 4 used
	4-1005B10	WASHER, ("TEFLON") THN6389A
	15-82976M01	COVER, front
	15-82978M01	COVER, rear
	15-84191E01	HOUSING
	38-84184E01	BUTTON, left hand (THN6389A)
	38-84184E02	BUTTON, left hand (THN6388A)
	38-84192E01	BUTTON, right hand
	22-82991C01	PIN, roll (THN6388A)
	42-84725E01	CLIP,retainer
	47-84193E01	SHAFT
	47-84194E01	SHAFT, extension
	64-82977M01	PLATE, base
	75-84722E01	PAD, base plate
	42-82143C05	CLAMP, cable

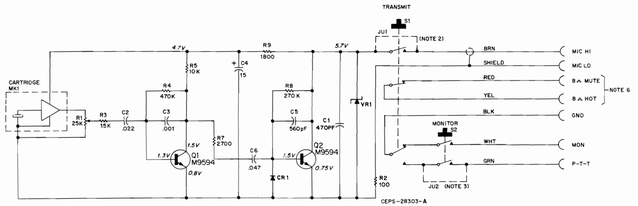
TKN8063A Microphone Cable Kit — PL-6672-O

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
	42-801273	CLAMP
	37-82633B13	GROMMET, rubber
	29-847854	LUG, 7 used

note: For optimum performance, diodes, transistors, and integrated circuits must be ordered by Motorola part numbers.

DESK MICROPHONE

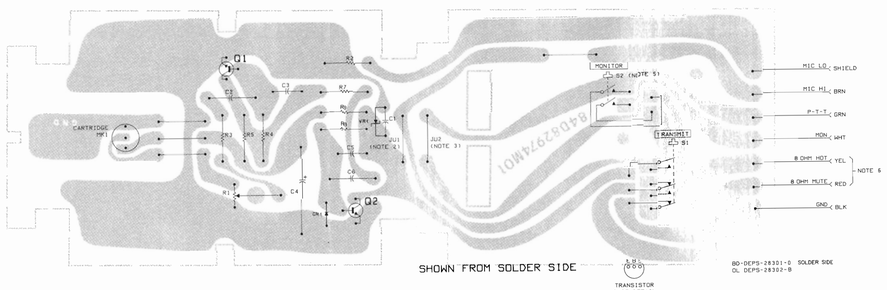
MODELS TMN1004B AND TMN1005B



NOTES:

1. UNLESS OTHERWISE STATED ALL CAPACITOR VALUES ARE IN MICROFARADS.
2. REMOVE JU1 FOR PARALLEL MIC OPERATION.
3. REMOVE JU2 TO MONITOR BEFORE TRANSMIT.
4. ALL DC VOLTAGE READINGS ARE IN RESPECT TO THE MIC LO LEAD.
5. MONITOR SWITCH S2 IS PRESENT IN MODEL TMN1005B.
6. ON LHB AND MHB SERIES "MOTRAC" LOCAL CONTROL BASE STATIONS WITH TLN1184B MONITOR INTERCOM, 8 OHM MUTE CONNECTS TO TB1-3 (3 OHM MUTE), 8 OHM HOT CONNECTS TO TB1-6 (3 OHM AUDIO LO), AND TB1-6 IS JUMPERED TO GROUND.

EARLY VERSION



LATER VERSION