

DESK MICROPHONES

MODELS TMN1004A, TMN1005A,
TMN1012A, TMN1013A,
TMN1014A, TMN1015A, AND TMN1023A

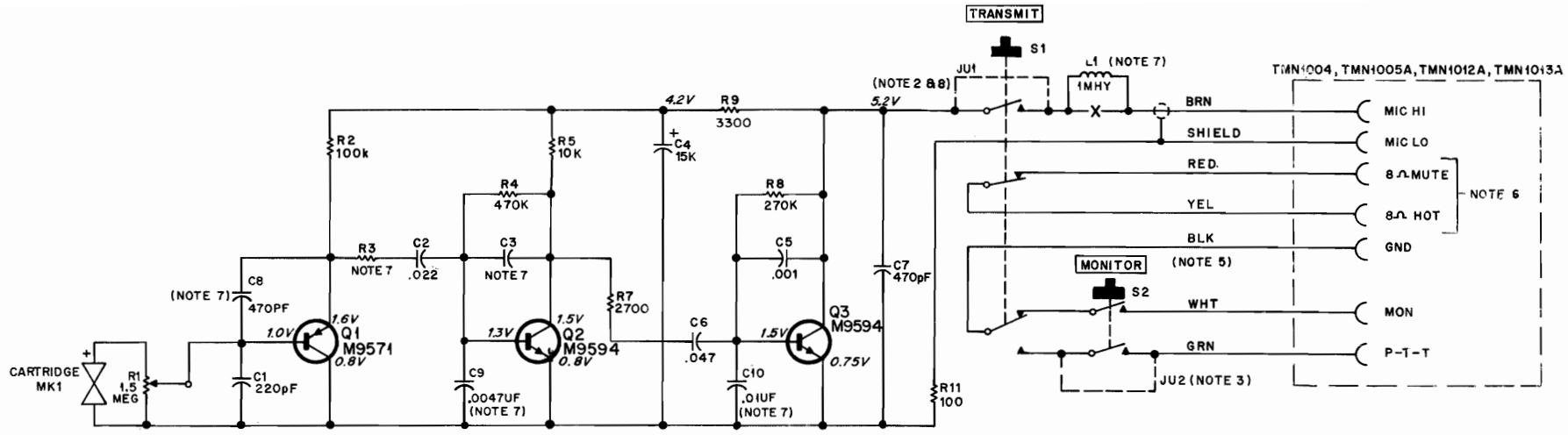
MODEL TABLE

MODEL	SUFFIX	SUB-MODEL	SUFFIX	DESCRIPTION
TMN1004A	2	TLN4925A	2	CIRCUIT BOARD
		THN6154A		HOUSING AND HARDWARE KIT
TMN1005A	2	TLN4925A	2	CIRCUIT BOARD
		THN6155A		HOUSING AND HARDWARE KIT
TMN1012A		TRN6396A		CIRCUIT BOARD
		THN6154A		HOUSING AND HARDWARE KIT
TMN1013A		TRN6396A		CIRCUIT BOARD
		THN6155A		HOUSING AND HARDWARE KIT
TMN1014A		TRN6396A		CIRCUIT BOARD
		THN6279A		HOUSING AND HARDWARE KIT
TMN1015A		TRN6396A		CIRCUIT BOARD
		THN6280A		HOUSING AND HARDWARE KIT
TMN1023A		TRN6396A		CIRCUIT BOARD
		THN6397A		HOUSING AND HARDWARE KIT

EPS-20626-A

APPLICATIONS

The desk microphones provide a desk surface self-supporting stand to mount the PTT and PL monitor switches and to support the dynamic cardioid microphone element at mouth level. The TMN1005A, TMN1013A and TMN1015A are used in "Private-Line" squelch systems and provides both PTT and monitor switches; the TMN1004A, TMN1012A, TMN1014A and TMN1023A are used carrier squelch systems and uses only the PTT switch.



NOTES:

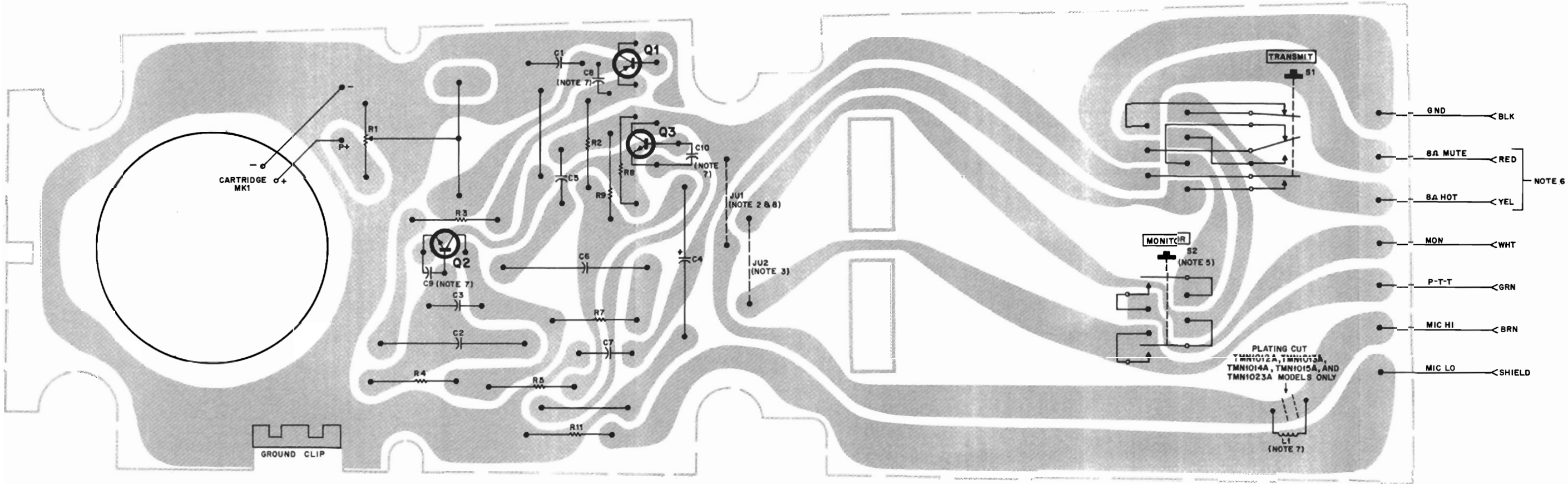
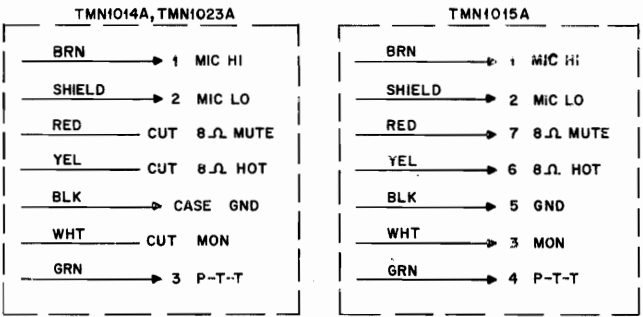
- UNLESS OTHERWISE STATED: ALL CAPACITOR VALUES ARE IN MICROFARADS.
- REMOVE JU1 FOR PARALLEL MIC OPERATION. FOR TMN1012A & TMN1013A, CUT JU1 IF INTERCOM KIT IS USED.
- REMOVE JU2 TO MONITOR BEFORE TRANSMIT.
- ALL DC VOLTAGE READINGS ARE IN RESPECT TO THE MIC LO LEAD.
- MONITOR SWITCH S2 IS PRESENT IN MODELS TMN1005A, TMN1013A AND TMN1015A ONLY.
- ON LHB AND MHB SERIES "MOTRAC" LOCAL CONTROL BASE STATIONS WITH TLN1184B MONITOR INTERCOM, 8 OHM MUTE CONNECTS TO TB1-3 (3 OHM MUTE) AND 8 OHM HOT CONNECTS TO TB1-6 (3 OHM AUDIO LO) AND JUMPER TB1-6 TO GROUND.

7. THE FOLLOWING COMPONENT VALUES ARE MODEL-SENSITIVE:

REF.	TMN1004A AND TMN1005A	TMN1012A, TMN1013A, TMN1014A, TMN1015A, TMN1023A
R3	15k-1/4-10%	22k-1/4-5%
C3	.001	560 pF +10%
C8	NOT USED	470 pF +10%
C9	NOT USED	.0047 +10%
C10	NOT USED	.01 ± 20%
L1	NOT USED	1 mH

8. REMOVE JU1 FOR ANY CONSOLE WITH INTERCOM SINGLE-TONE OR ALERT-TONE APPLICATIONS.

CEPS-9460-L



SHOWN FROM COMPONENT SIDE



TRANSISTOR DETAIL

OL-DEPS-9462-F

CONNECTIONS

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

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

JUMPERS

Jumper JU1 is removed when parallel microphones or other local equipment are connected at the same microphone input. (For TMN1012A and TMN1013A, cut JU1 to systems without intercom.)

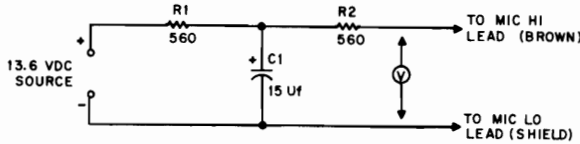
Jumper JU2 (Models TMN1005A and TMN1013A only) is removed when it is necessary to prevent an operator from transmitting without first monitoring a channel to verify it is clear. With JU2 removed, both the MONITOR and TRANSMIT switches must be activated before transmitting.

MAINTENANCE

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 below. 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.

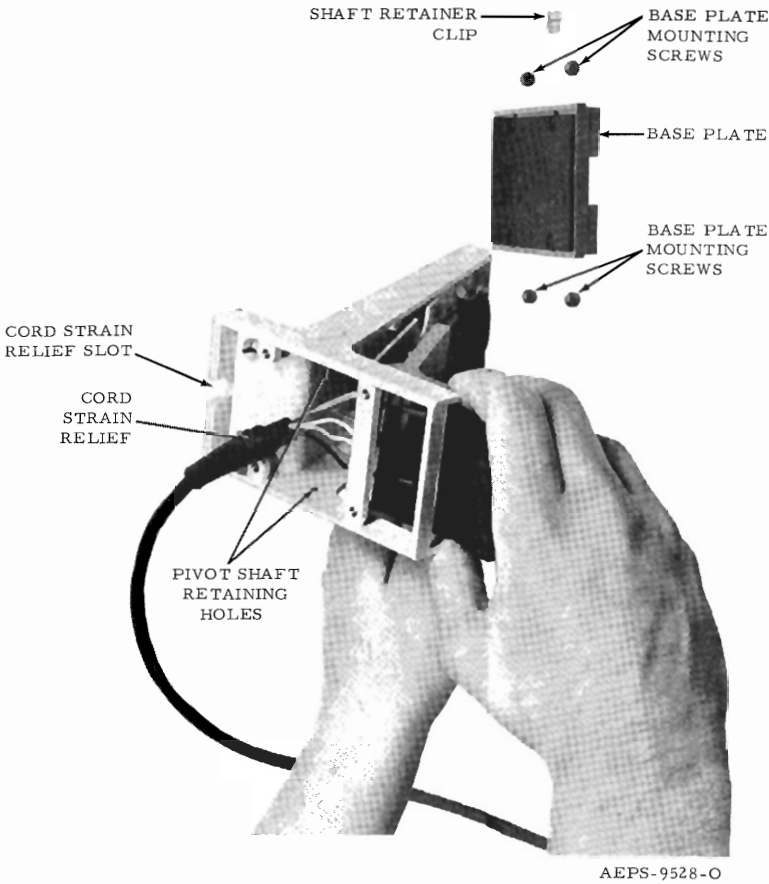


AEPS - 9531 - A

68P81103E48-W

(Sheet 2 of 2)

2-24-84 GGI



AEPS-9528-O

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
PARTS LIST		
TRN6396A Mic	Circuit Board	PL-3933-B
C1	21-82187B08	CAPACITOR, fixed; uf ±10%;
C2	8-82987E11	220 pF; 500 V
C3	21D82187B06	.022; 80 V
C4	23-84762H09	560 pF ±10%; 500 V
C5	21-82187B44	15; ±20%; 20 V
C6	8-82987E02	.001; 100 V
C7	21-82187B45	.047; 200 V
C8	21-82213E17	470 pF; 500 V
C9	21-82213E07	470 pF; 100 V
C10	21-82213E12	.0047 ; 100 V
L1	24-82549D03	COIL;
		choke; 1 mHy
MK1	59-84640E01	CARTRIDGE, microphone;
		miniature
Q1	48-869571	TRANSISTOR: (SEE NOTE)
Q2, 3	48-869594	PNP; type M9571
		NPN; type M9594
		RESISTOR, fixed; ±10%; 1/4 W;
		unless stated
R1	18-83083G34	variable; 1.5 meg; 30%
R2	6-129226	100k
R3	6S124A81	22k ±5%
R4	6-124B14	470k ±5%
R5	6-129668	10k ±5%
R7	6-129707	2.7k ±5%
R8	6-131858	270k ±5%
R9	6-129231	3.3k
R11	6-129753	100
NON-REFERENCED ITEMS		
	5-84371E01	GROMMET, cartridge
	42-84724E01	CLIP, grounding

TLN4925A Mic	Circuit Board	PL-1884-D
C1	21-82187B08	CAPACITOR, fixed; uF ±10%
C2	8-82987E11	220 pF; 500 V
C3	21-82187B44	.022; 80 V
C4	23-84762H09	.001; 100 V
C5	21-82187B44	15; ±20%; 20 V
C6	8-82987E02	.001; 100 V
C7	21-82187B45	.047; 200 V
		470 pF; 500 V
MK1	59-84640E01	CARTRIDGE, microphone;
		miniature
Q1	48-869571	TRANSISTOR: (SEE NOTE)
Q2, 3	48-869594	PNP; type M9571
		NPN; type M9594
		RESISTOR, fixed; ±10%; 1/4 W;
		unl. stated
R1	18-83083G34	variable; 1.5 meg ±30%
R2	6-129226	100k
R3	6-127805	15k
R4	6-124B14	470k ±5%
R5	6-129668	10k ±5%
R7	6-129707	2.7k ±5%
R8	6-131858	270k ±5%
R9	6-129231	3.3k
R11	6-129753	100
NON-REFERENCED ITEMS		
	5-84371E01	GROMMET, cartridge
	42-84724E01	CLIP, grounding

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
THN6154A, THN6155A, THN6279A, THN6280A & THN6397A Mike Housing & Hardware Kit		
PL-1885-E		
S1, 2	40-84711E02	SWITCH, leaf;
	40-84711E01	2 section, multiple nonlocking contacts (THN6154A, THN6279A & THN6397A)
		2 section, multiple nonlocking contacts (THN6155A, THN6280A)
NON-REFERENCED ITEMS		
	3-136676	SCREW, switch mtg. 4-40 x 1/4 pnl hex
	1-80736B05	CABLE ASSEMBLY includes: 29-847854 LUG, slotted tongue; 7 req'd.
	1-80738B86	CABLE ASSEMBLY for TMN1015A includes: 29-82336A02 connector pins; 7 req'd.
	1-80738B85	CABLE ASSEMBLY for TMN1014A includes: 28-16370 4 plug connector
	1-80717D52	CABLE ASSEMBLY for THN6397A, includes: HOUSING, cord
	15-82062M01	PLUG
	28-82005M01	CABLE, 6-conductor
	30-83560A02	STRAIN RELIEF
	41-83576L01	STRAP, cable
	42-10217A02	CLIP, cable
	42-82061M01	COLLAR
	43-82063M01	COVER, front
	15-84186E01	COVER, rear
	15-84188E01	HOUSING
	15-84191E01	FOIL, grounding, front cover
	26-84720E01	FOIL, grounding, rear cover
	26-84721E01	BUTTON, left hand (THN6154A, THN6279A)
	38-84184E02	BUTTON, left hand (THN6155A, THN6280A)
	38-84184E01	BUTTON, right hand
	38-84192E01	CLIP, retainer
	42-84725E01	SHAFT
	47-84193E01	SHAFT EXTENSION
	47-84194E01	SHAFT COUPLING (THN6154A, THN6279A)
	47-84723E01	PIN, roll (THN6154A THN6279A)
	22-82591C05	
	64-84183E01	PLATE, base
	75-84722E01	PAD, base plate
	3-138809	BASE PLATE SCREW 4-40 x 5/16 phl bn hx bk ox
	3-138810	FRONT COVER SCREW 4-40 x 5/8 phl bn hx bk ox
	4-10058B10	WASHER ("TEFLON")
	4-82418B03	WASHER, insulation

NOTE: Replacement transistors must be ordered by Motorola part number only for optimum performance.

REVISIONS			
PEPS-9463-N			
BOARD AND SUFFIX NO.	REF. SYMBOL	CHANGE	LOCATION
TLN4924A TLN4925A TMN1004A-1 (TLN4924A-1)	R6	REMOVED (WAS 6-131524, 100 ±5%; 1/4 W) WAS CONNECTED IN SERIES WITH EMITTER OF Q2	Q2 EMITTER
TMN1005A-1 (TLN4925A-1)	R10	REMOVED (WAS 6-124A01, 10 ±5%; 1/4 W) WAS CONNECTED IN SERIES WITH EMITTER OF Q3.	Q3 EMITTER
TMN1004A-2 (TLN4924A-2) TMN1005A-2 (TLN4925A-2)	R4	FROM 6-124B06, 220k TO 6-124B14, 470k	Q2 COLLECT-OR
	R7	FROM 6-127804, 4.7k TO 6-129707, 2.7k	
TLN4924A-2		REPLACED WITH MODEL TLN4925A-2	
TMN1012A TMN1013A TMN1014A TMN1015A		MODELS ADDED	
NOTES ADDED			
TRN6396A	C8	FROM 21-82187B07 470 pF ±10%; 500 V TO 21-82213E17 470 pF ±10%; 100 V	PARTS LIST
	C9	FROM 21-82428B09 .0047 uF ±10%; 100 V TO 21-82213E07 .0047 uF ±10%; 100 V	
	C10	FROM 21-832501 .01 uF +60-40%; 250 V TO 21-82213E12 .01 uF ±20%; 100 V	
TMN1023A		MODEL ADDED	