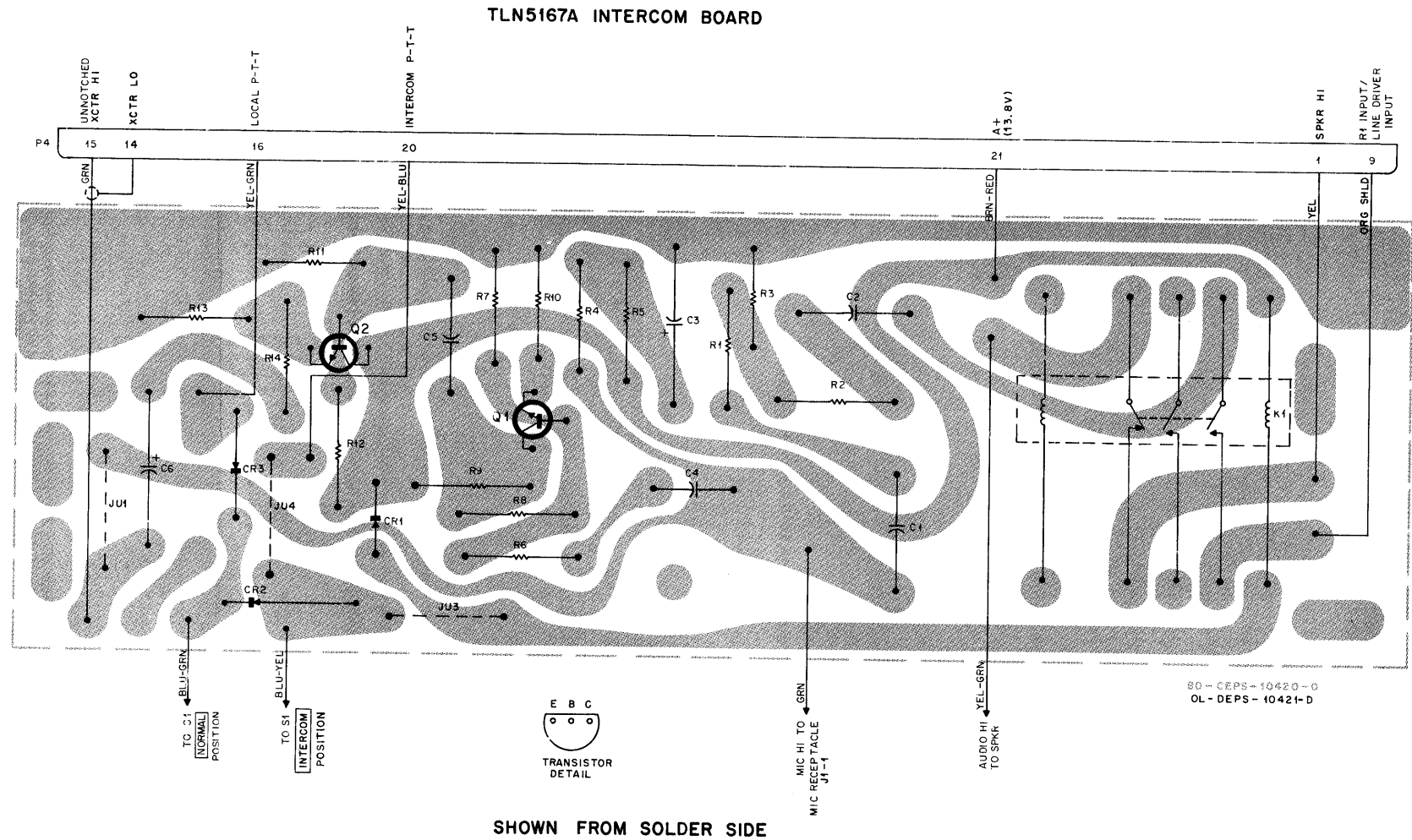
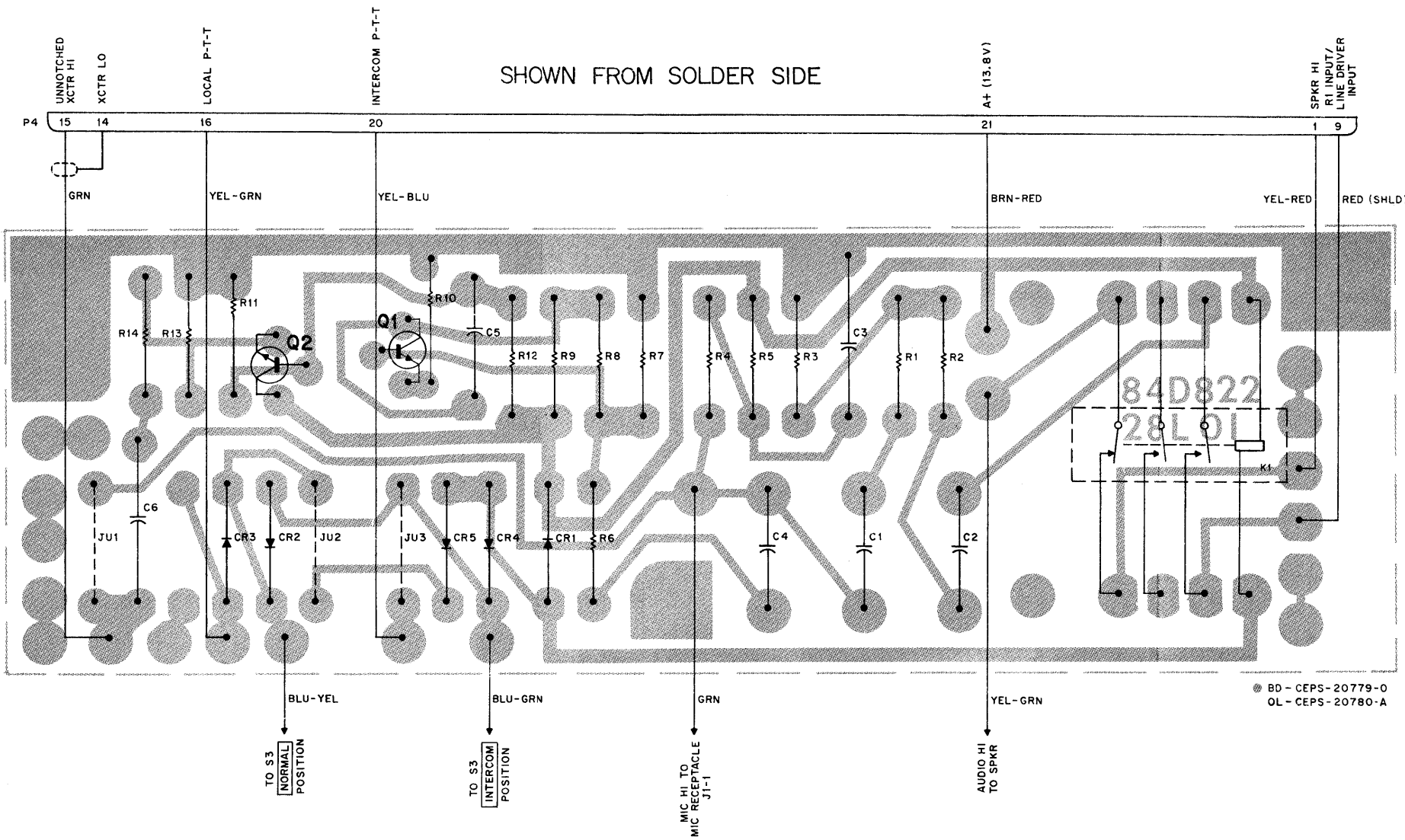


METERING & INTERCOM

CURRENT VERSION

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
PARTS LIST		
TLN5167A Intercom Board PL-5076-O		
C1, 2	8-82905G11	CAPACITOR, fixed; uF:
C3	23-865137	0.22 ±10%; 50 V
C4, 5	8-82905G11	4.7 ±20%; 25 V
C6	23-865137	0.22 ±10%; 50 V
CR1 thru 5	48-83654H01	SEMICONDUCTOR DEVICE, diode; silicon
K1	80-84157B02	SWITCH, magnetic reed; 13.4 V DC; dual-coil; 2 form "A", 1 form "B"; resistance of each coil 285 ohms ±10%
Q1, 2	48-869642	TRANSISTOR; NPN; type M9642
R1	6-124C69	RESISTOR, fixed; ±10%; 1/4 W:
R2	6-124C51	6.8k
R3	6-124C53	1.2k
R4	6-124C43	1.5k
R5	6-124C49	560
R6	6-124C49	1k
R7	6-124C69	6.8k
R8	6-124C83	27k
R9	6-124C93	68k
R10	6-124C43	560
R11	6-124C19	56
R12	6-124C85	33k
R13	6-124C75	12k
R14	6-124C49	1k
R15	6-124C45	680



REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
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PARTS LIST

TLN5900A Meter Kit
TLN5993A Meter Kit

NOTE
This parts list covers two meter kits. Where differences appear the model number of the applicable kit is indicated in the description column. PL-5077-O

C100	21-82428B24	CAPACITOR, fixed: 01 uF +80-20%; 500 V
CR100, 101	48-82420C03	DIODE: (SEE NOTE) silicon
J1	9-830418	CONNECTOR, receptacle: 4-contact
LS1	50-84710G01	LOUDSPEAKER; permanent: dynamic type; 3"; square 16 ohms voice coil impedance
M100	72-83120C02	METER, dc: scale; 0-50 microamperes
P100	29-82676C01	CONNECTOR, plug: test probe; BLACK
P101	29-82676C02	test probe; RED
P102	28-84208B01	7-contacts
R100	6-84640C61	RESISTOR, fixed: 499k ±0.5%; 1/4 W
R101	6-13756D88	100k ±1%; 1/2 W
R102	6-124A33	220 ohm ±5%; 1/4 W
S1	40-83158C01	SWITCH: rotary; 2 section
S2, 3	40-83890A01	slide; dpdt

NON-REFERENCED ITEMS

1-80775R56	DIODE & CAPACITOR ASSEMBLY includes: DIODES CR100 & CR101 CAPACITOR C100
1-80775B58	CABLE ASSEMBLY includes: SCREW, machine; 4-40 x 3/16"; 2 used
3-129674	SCREW, machine; 4-36 x 1/4"; 2 used
15-83947K01	COVER, connector; 2 used
30-83678K01	CABLE, 7-conductor; 42" lg.
42-83948K01	CLAMP, cable; 2 used
1-80775B61	VOLTMETER PROBES includes: CONNECTORS P100 & P101
1-80792B23	SWITCH ASSEMBLY, wired (TLN5900A) includes: SWITCH S1
1-80795B11	SWITCH ASSEMBLY, wired (TLN5993A) includes: SWITCH S1
1-80792B24	CHASSIS ASSEMBLY includes: WASHER, flat; .128 x .250 x .032"; 2 used
4-7555	CHASSIS, metering
27-83008K03	TERMINAL STRIP; 2-termina;
31-490181	CLIP, mounting; 2 used
42-871184	SWITCHES S2, S3, & S4
1-80793B04	COVER ASSEMBLY includes: COVER SUBASSEMBLY
1-80793B05	COVER includes: SCREW, tapping; 6-32 x 3/8"; 2 used
15-82734L01	RETAINER, screws; 2 used
3-136138	BUMPER, rubber; 4 used
42-83123F01	NUT, hex; 6-32 x 1/4 x 3/32"
75-838826	NUT, hex; 3/8-32 x 1/2 x 3/32"
2-7005	NUT, hex; 6-32 x 1/4 x 3/32"; 4 used
2-7018	NUT, special; 13/16-27 x .905 x .110"
2-132616	
2-83896G01	

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
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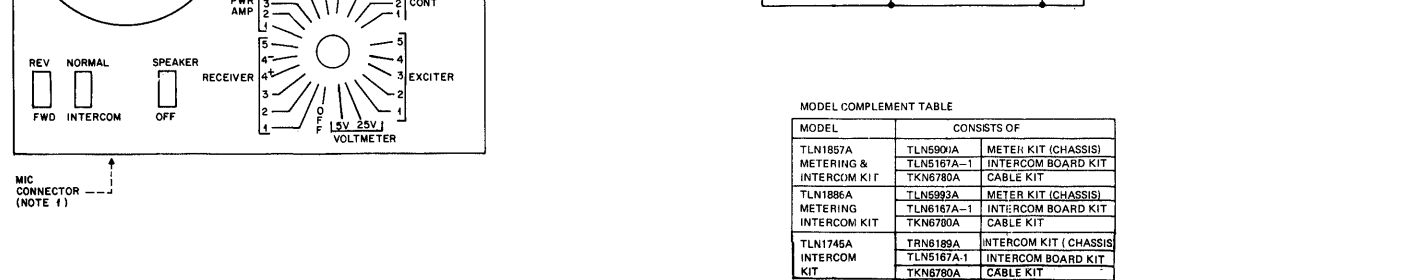
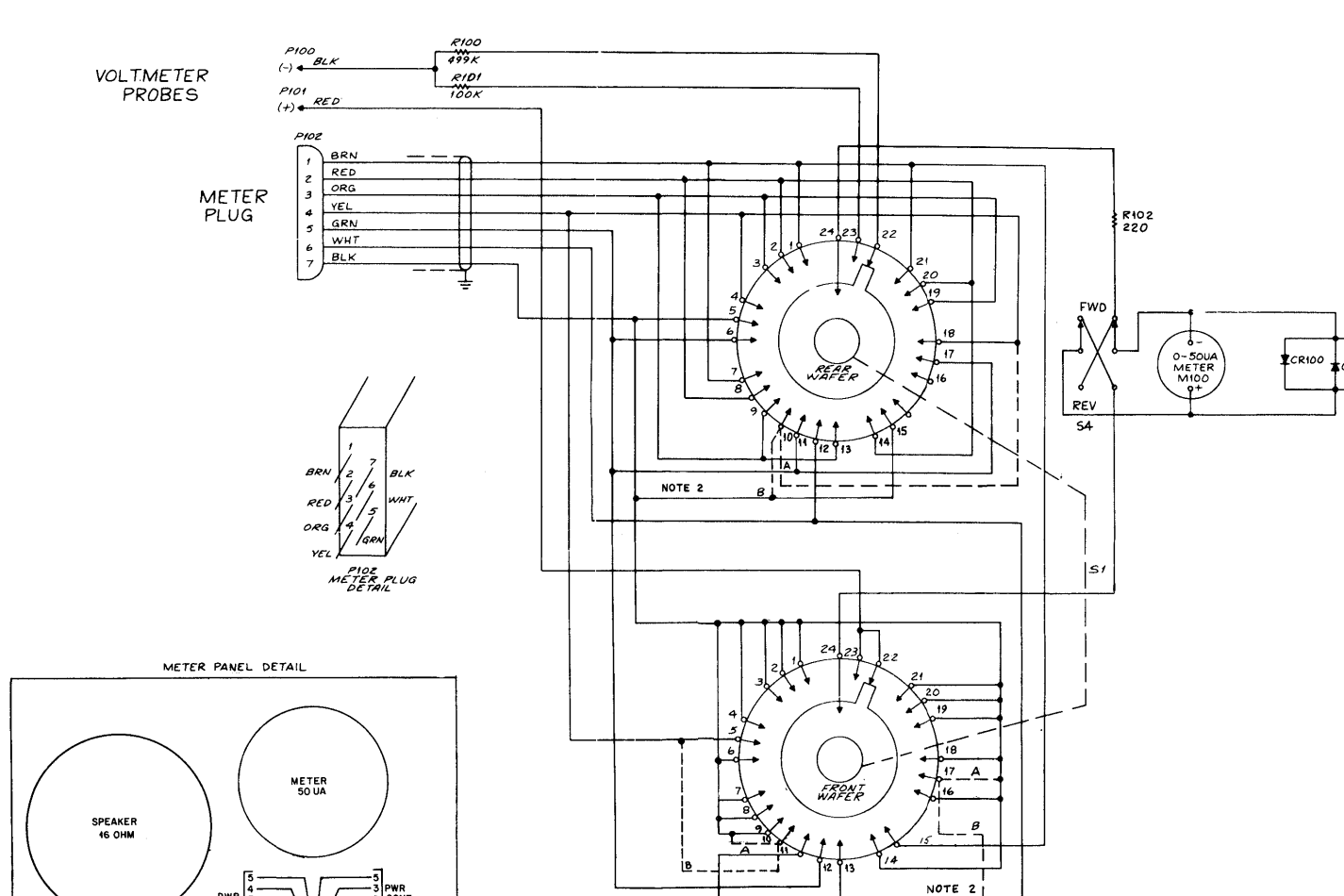
	3-7331	SCREW, machine; 6-32 x 3/8
	3-129498	SCREW, machine; 6-32 x 5/16; 4 used
	3-134169	SCREW, tapping; 4-40 x 1/4; 6 used
	3-135111	SCREW, tapping; 4-40 x 3/8
	4-7568	WASHER, flat; .378 x .562 x .067"
	4-7650	WASHER, lock; #6 (internal tooth)
	4-7698	WASHER, lock; #3/8 (internal tooth)
	4-7699	WASHER, lock; #13/16 (internal tooth)
	4-114057	WASHER, flat; .125 x .312 x .032"
	4-858060	WASHER, insulating; .125 x 7/32 x .060"; 3 used
	5-483208	GROMMET, rubber; 1/2" ID
	7-83198K01	BRACKET, meter
	14-84717F01	INSULATOR; .68 x .40"
	29-5247	LUG, soldering; #1/4 L; 2 used
	29-115147	LUG, soldering; #5
	35-84530G01	GRILLE, speaker
	36-84356C01	KNOB, pointer
	42-859067	CLAMP, cable; 1/2" OD (black)
	42-10217A02	STRAP, cable harness; 4 used
	42-82143C02	CLAMP, cable; 1/4" OD (black)
	54-83147L01	LABEL, caution

TKN6780A Cable Kit PL-3418-A

P4	9-84151B03	CONNECTOR, includes: CONTACT, receptacle; 10 req'd
	14-84556B02	HOUSING
	42-10217A02	STRAP, cable harness; 7 used

TRN6189A Intercom Chassis Kit PL-3452-O

REFERENCE SYMBOL	MOTOROLA PART NO.	DESCRIPTION
J1	9-830418	CONNECTOR, receptacle: 4-contact
LS1	50-84710G01	SPEAKER 3"; 16 ohm
S2, 3	40-11589	SWITCH, slide; SPST
		NON-REFERENCED ITEMS
	1-80775B59	CHASSIS (riveted) incl. ref. item S2 and S3
	1-80775B51	COVER ASSEMBLY
	2-132616	LOCKNUT, speaker (No. 6-32) 4 req'd.
	2-83896G01	NUT, hex (used with J1)
	4-7699	LOCKWASHER (used with J1)
	5-483208	GROMMET, rubber
	35-84530G01	GRILLE, speaker
	42-82143C02	CLAMP, cable (1/4")
	42-10217A02	T.Y. WRAP, cable; 4 req'd.
	3-134169	SCREW, machine; No. 4-40 x 1/4"; 7 req'd.
	3-129498	SCREW, machine; No. 6-32 x 5/16"; 4 req'd.
	29-115147	LUG, solder (No. 5)



OPERATING INSTRUCTIONS

1. METERING

Step 1. Select the function to be metered with the METER switch.

Step 2. Select the chassis to be monitored by placing the metering plug (P102) into the metering receptacle of the receiver, exciter, power control board or the power amplifier.

NOTE
Metering plug P102 should be plugged in only when tuning. Unplug it when it is not being used.

Step 3. For receiver discriminator adjustment, use both 4(+) and 4(-) and adjust for meter zero.

Step 4. Refer to the Transmitter and Receiver sections of this manual for typical or minimum readings. Better yet, keep a log of all meter readings each time the

station is serviced. Use the last set of readings as a reference and note any degradation in performance.

Step 5. To measure miscellaneous station voltages, use the voltmeter probes (P100 and P101) on either the 5 V or 25 V positions. Divide the 5 V full scale reading by 10 to obtain actual voltage and divide the 25 V full scale reading by 2 to obtain actual voltage.

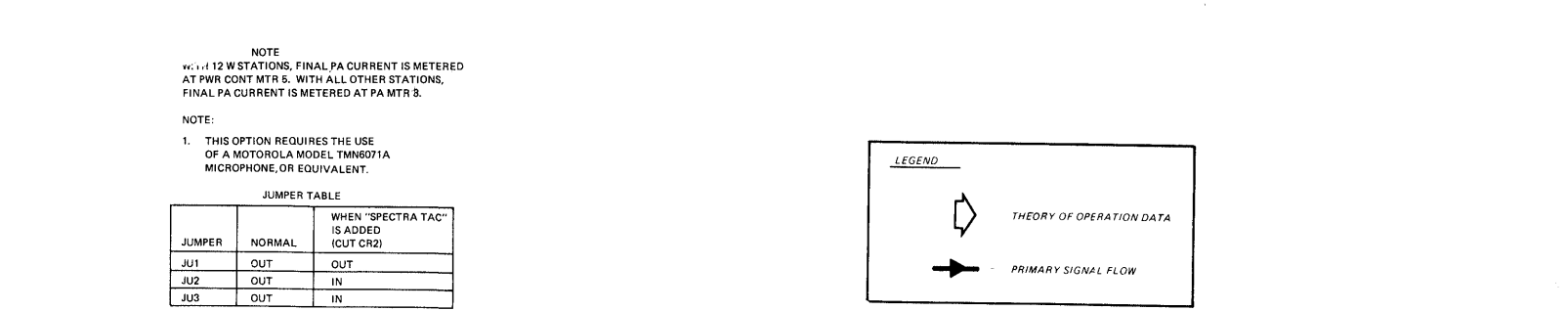
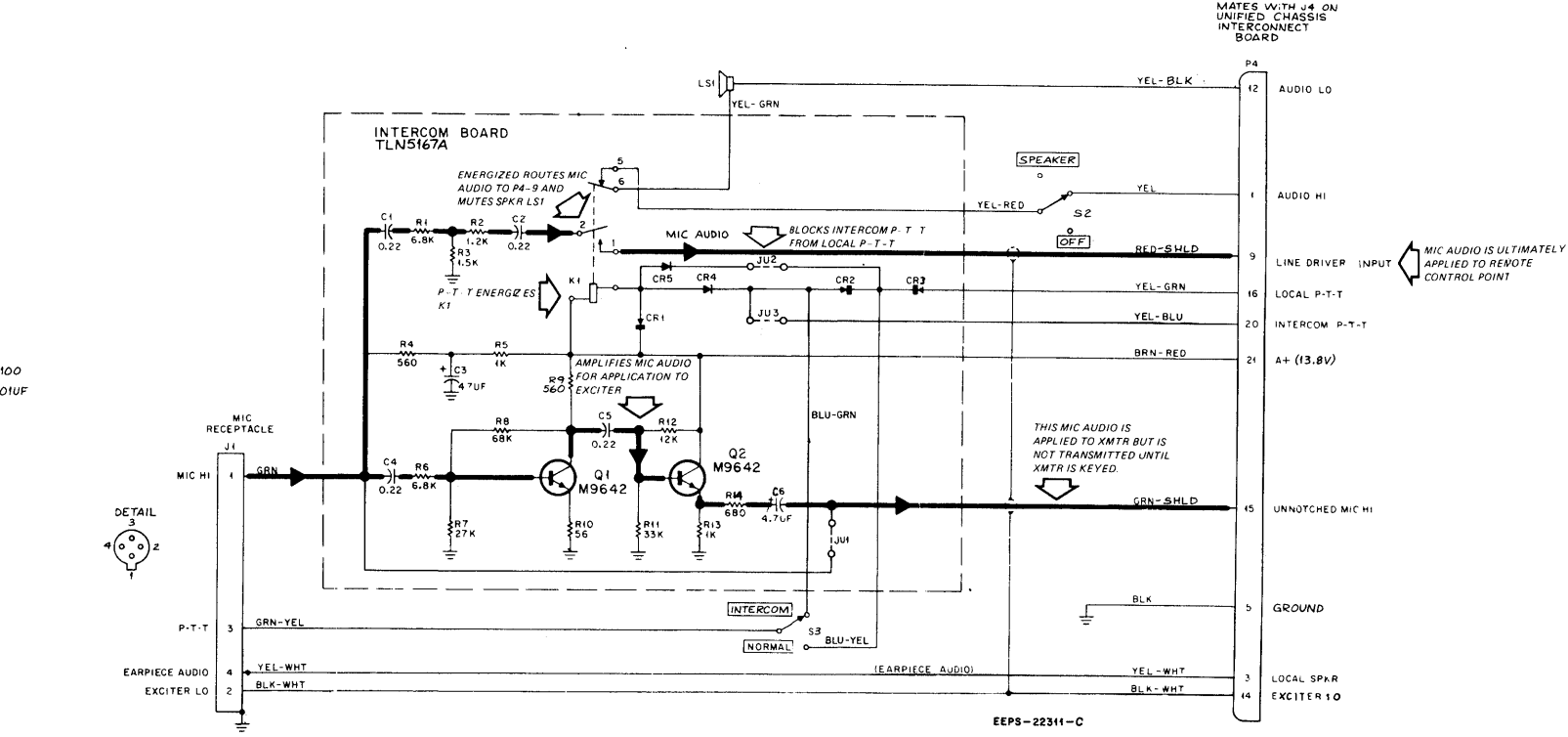
2. INTERCOM

Step 1. Connect a test microphone to the microphone receptacle on the meter & intercom chassis.

Step 2. Place the SPEAKER-OFF switch in the SPEAKER position.

Step 3. Place the NORMAL-INTERCOM switch in the INTERCOM position.

Step 4. The unit is now ready for intercom operation between the station and the remote control point. Close the PUSH-TO-TALK switch on the microphone and



speaker into the microphone to send a message. Release the button to listen; replies will be heard in the speaker. The console operator at the remote point must also switch to an intercom mode to prevent keying the station during replies.

Step 5. Return the SPEAKER-OFF switch to the OFF position before leaving the station unattended.

3. "ON-THE-AIR" TESTING

Step 1. Connect a test microphone to the microphone receptacle on the meter & intercom chassis.

Step 2. Place the SPEAKER-OFF switch in the SPEAKER position.

Step 3. Place the NORMAL-INTERCOM switch in the NORMAL position.

Step 4. The unit is now ready for "ON-THE-AIR" testing. If the microphone PUSH-TO-TALK switch is closed, the station's transmitter will be keyed. Speak in-

to the microphone to transmit a message. Release the PUSH-TO-TALK switch to listen. Receiver audio will be heard on the speaker.

Step 5. Return the SPEAKER-OFF switch to OFF before leaving the station unattended.

4. MONITORING

To monitor audio quality, etc., place the SPEAKER-OFF switch in the SPEAKER position. Both receiver audio and line audio from the remote control point will be heard in the speaker.

"COMPA-STATION" METERING & INTERCOM

MODELS TLN1857A AND TLN1886A

INTERCOM

MODEL TLN1745A

FUNCTION

--Models TLN1857A and TLN1886A provide built-in metering of over 20 major test points in the transmitter and receiver(s), plus intercom between the station and the remote control point.

--Model TLN1745A provides intercom between the station and the remote control point.

P102 METER PLUG CONNECTED TO	METER SELECTOR SWITCH	METER SELECT TABLE				METER SELECT TABLE			
		LOW BAND-MID BAND TLN1886A/TLN1887A		HIGH BAND TLN1886A/TLN1887A		820 MHz/UHF TLN1857A/TLN1859A		820 MHz/UHF TLN1857A/TLN1859A	
		MTR. NO.	POS.	POL.	FUNCTION METERED	PCL.	FUNCTION METERED	POL.	FUNCTION METERED
RCVR AND IF BOARD	RCVR	1	1	REV	EXTENDER CHANNEL ELEMENT	REV	EXTENDER CHANNEL ELEMENT	FWD	CHANNEL ELEMENT OUTPUT
		2	2	REV	CHANNEL ELEMENT OUTPUT	REV	CHANNEL ELEMENT OUTPUT	FWD	FIRST DOUBLER OUTPUT
		3	3	REV	CHANNEL ELEMENT OUTPUT	REV	CHANNEL ELEMENT OUTPUT	FWD	SECOND DOUBLER OUTPUT
		4	4	REV	DISCRIMINATOR OUTPUT	REV	DISCRIMINATOR OUTPUT	FWD	DISCRIMINATOR OUTPUT
		5	5	REV	DISCRIMINATOR OUTPUT	REV	DISCRIMINATOR OUTPUT	FWD	DISCRIMINATOR OUTPUT
		6	6	REV	THIRD IF OUTPUT AND LIMITER OUTPUT	REV	THIRD IF OUTPUT AND LIMITER OUTPUT	FWD	THIRD IF OUTPUT AND LIMITER OUTPUT
POWER AMP	PWR AMP	1	7	FWD	P.A. INPUT	REV	PA INPUT	FWD	PREDRIVER CURRENT
		2	8	FWD	P.A. INPUT	REV	PA INPUT	FWD	25 W DRIVER CURRENT (1/5 W)
		3	9	FWD	P.A. INPUT	REV	PA INPUT	FWD	FINAL AMP CURRENT (EXCEPT 12 W MODELS)
		4	10	FWD	CONTROL VOLTAGE	REV	INPUT FINAL AMP	FWD	FINAL AMP CURRENT (EXCEPT 12 W MODELS)
		5	11	FWD	FINAL AMPLIFIER CURRENT	REV	INPUT FINAL AMP	FWD	CONTROLLED (ADL) STAGE VOLTAGE
POWER CONTROL BOARD	POWER CONT.	5	12	FWD	CONTROL VOLTAGE	FWD	CONTROL VOLTAGE	FWD	ADL VOLTAGE (ALL OTHERS)
		13	13	FWD	CONTROL VOLTAGE	FWD	CONTROL VOLTAGE	FWD	ADL VOLTAGE NOT USED
		2	14	FWD	REFLECTED POWER	FWD	REFLECTED POWER	FWD	800 MHz ONLY
EXCITER	EXCTR	1	15	FWD	REFLECTED POWER	FWD	REFLECTED POWER	FWD	REFLECTED POWER
		1	15	FWD	REFLECTED POWER	FWD	REFLECTED POWER	FWD	REFLECTED POWER
		1	15	FWD	REFLECTED POWER	FWD	REFLECTED POWER	FWD	REFLECTED POWER
EXCITER	EXCTR	1	16	FWD	UNUSED	REV	UNUSED	FWD	UNUSED
		5	17	FWD	SECOND AMPLIFIER - (LB) DRIVER INPUT - (MB)	FWD	EXCITER OUTPUT	FWD	EXCITER OUTPUT
		4	18	FWD	FIRST AMPLIFIER - (LB) DOUBLER INPUT - (MB)	FWD	EXCITER OUTPUT	FWD	EXCITER OUTPUT
		3	19	FWD	TRIPLER INPUT	FWD	EXCITER OUTPUT	FWD	EXCITER OUTPUT
		2	20	FWD	CHANNEL ELEMENT OUTPUT	FWD	EXCITER OUTPUT	FWD	EXCITER OUTPUT
		1	21	FWD	IDC AUDIO OUTPUT	FWD	EXCITER OUTPUT	FWD	EXCITER OUTPUT
VOLT-METER	VOLT-METER	25	22	FWD	25 VOLTS FULL SCALE	FWD	25 VOLTS FULL SCALE	FWD	25 VOLTS FULL SCALE
		5	23	FWD	5 VOLTS FULL SCALE	FWD	5 VOLTS FULL SCALE	FWD	5 VOLTS FULL SCALE
		5	23	FWD	5 VOLTS FULL SCALE	FWD	5 VOLTS FULL SCALE	FWD	5 VOLTS FULL SCALE
OFF	OFF	24	24	OFF	OFF	OFF	OFF	OFF	OFF
		24	24	OFF	OFF	OFF	OFF	OFF	OFF
		24	24	OFF	OFF	OFF	OFF	OFF	OFF

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(Sheet 2 of 3)
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"COMPA-STATION" METERING & INTERCOM

