

STATION TEST METERING PANEL
AND
TRANSMITTER AND RECEIVER TOP COVERS
(OPTIONS 7609, 7648, and 7649)

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DESCRIPTION

The Station Test Metering Panel provides complete plug-in metering for Desk Mate and Pole Mount Stations without use of an external test meter. The metering equipment (Option 7609) includes a 19A121953-G1 Meter Panel Assembly, a 19A121460-G1 Meter Switching Panel Assembly, and a 19B204588-G1 Accessory Panel.

For continuous monitoring of test voltages, a 19C303676-G3 Transmitter Top Cover (Option 7648) and a 19C303676-G2 Receiver Top Cover (Option 7649) are available. The covers contain external sockets to which the transmitter and receiver cables from the meter switching panel are attached.

Meter Panel Assembly 19A121953-G1

The Meter Panel Assembly is mounted on the front of the Accessory Panel and contains two test meters, M1 and M2, for making voltage test readings in the receiver and transmitter, respectively.

Meter Switching Panel Assembly 19A121460-G1

The Meter Switching Panel Assembly is mounted on the front of the Accessory Panel and contains the switches and circuitry for switching from stage to stage in the transmitter and receiver. The voltage readings for each stage is indicated on the meters located on the Meter Panel. The Meter Switching Panel Assembly includes:

- * Plug P1001--plugs into transmitter centralized metering jack J102 (or J1001 if optional transmitter top cover is used).
- * Plug P1002-- plugs into receiver centralized metering jack (or J1002 if optional receiver top cover is used).
- * Test Probe P1003--to measure high power amplifier grid voltage.
- * Switch S1001--to switch transmitter voltage test points into the test meter circuit.
- * Switch S1002--to switch receiver voltage test points into the test meter circuit.
- * Switch S1004--test probe polarity reversing switch.

File 9014

The meter voltage check points are:

Tx (S1001 & Rx (1002) Switch Posi- tion No.	Transmitter Function	Meter Range Full Scale	Receiver Function	Meter Range Full Scale
A	MULT 1	1-v	DISC	1-v*
B	MULT 2	1-v	2nd IF	1-v*
C**	AMPL 3	1-v	1st LIM	1-v*
D	MULT 3	1-v	MULT 1	1-v*
E***	AMPL/MULT 4	1-v	MULT 2	1-v*
F	PA GRID	1-v	-----	
G	PA PLATE CURRENT	1-v	AUDIO PA	1-v*
H****	POWER OUTPUT	1-v	BLANKER	1-v*
I	20 VOLTS	30-v	-----	
J	PA PLATE VOLTAGE	1,000-v	10-VOLTS	15-v
K	EXTERNAL PROBE	3-v	-----	
L/VM	RECEIVER 2nd IF	1-v	-----	

* can be increased to 3-v by switch S1003.

** not used in ET-54-A, ET-55-A, & ET-56-A.

*** used only in ET-58-B, ET-59-B & ET-60-B.

**** used only in ET-59-B & ET-60-B.

Test probe P1003 is used to measure the high voltage power amplifier grid current/voltage and plugs into the PA grid jack on the high power supply.

Refer to the transmitter and/or receiver maintenance manual for the proper voltage readings for each stage tested.

Receiver voltage readings will be indicated on the receiver "tune up" meter (M1) and the transmitter readings will be indicated on the transmitter "tune up" meter (M2).

Accessory Panel 19B204588-G1

The Accessory Panel provides mounting facilities for the Meter Panel and the Meter Switching Panel. Connections between the meters and associated switching circuits are made at TB901 on the Accessory Panel.

CIRCUIT ANALYSIS

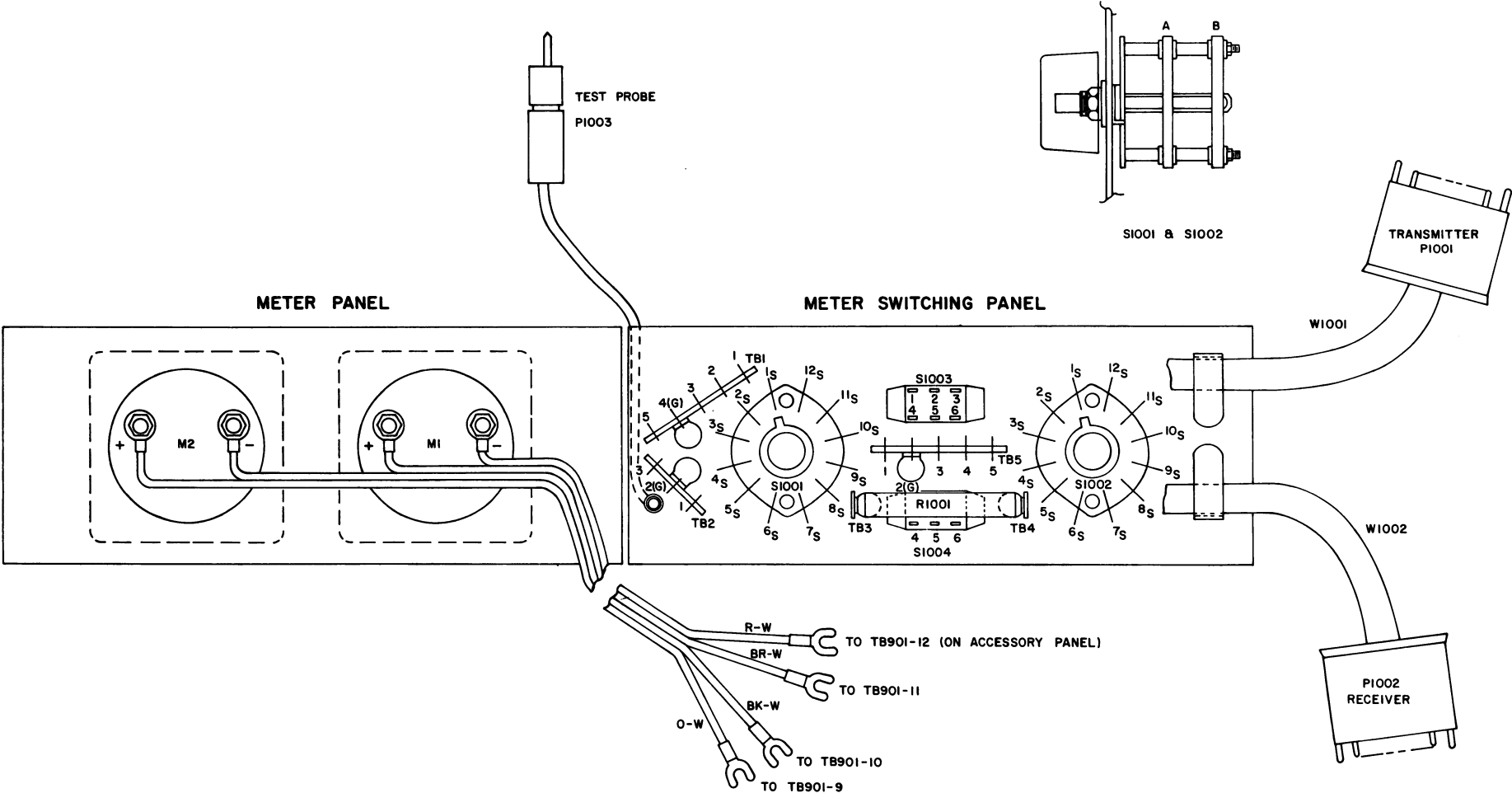
The voltage test points in the receiver and transmitter are connected through the connecting cables to lug terminals on the receiver and transmitter voltage wafer switches. With the receiver switch in the "A" meter switch position for example, the discriminator output voltage is connected by the switch to TB901-11 and 12 and to receiver meter (M1) in the Meter Panel. If the transmitter switch is in the "F" position for example, the PA grid voltage is connected by the switch to TB901- 9 and 10, and to meter (M2) in the Meter Panel.

Switch S1003 is used to connect the 3-volt multiplying resistor into the receiver meter circuit. Test probe P1003 is used to measure the high power amplifier grid drive. When using the test probe, turn the transmitter switch S1001 to the "External" position. R1002 is a multiplier resistor in series with the test probe to make the meter 3-volts full scale when using the external probe.

Resistor R1007 is a multiplier resistor in series with the receiver meter when switch S1003 is in the 3-volt position. Silicon rectifiers CR1001, CR1002, resistors R1003 and R1004 in the transmitter meter circuit and CR1003, CR1004, R1005 and R1006 in the receiver meter circuit protect the meters from overload and voltage spikes.

COMMUNICATION PRODUCTS DEPARTMENT
GENERAL ELECTRIC COMPANY
LYNCHBURG, VIRGINIA



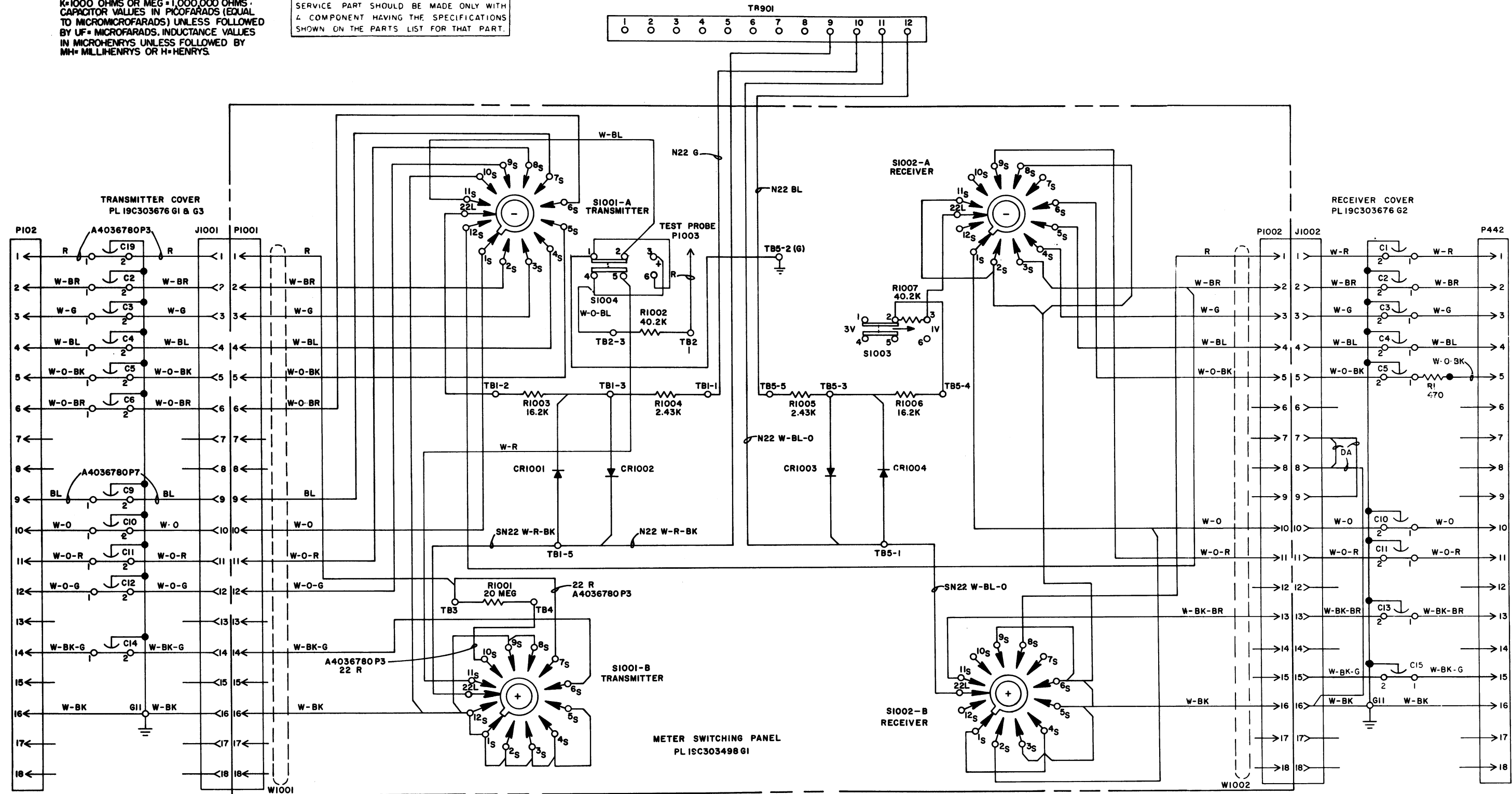


OUTLINE DIAGRAM

STATION TEST METERING PANEL
(OPTION 7609)

ALL RESISTORS ARE 1/2 WATT UNLESS OTHERWISE SPECIFIED AND RESISTOR VALUES IN OHMS UNLESS FOLLOWED BY K=1000 OHMS OR MEG=1,000,000 OHMS. CAPACITOR VALUES IN PICOFARADS (EQUAL TO MICROMICROFARADS) UNLESS FOLLOWED BY UF= MICROFARADS. INDUCTANCE VALUES IN MICROHENRYS UNLESS FOLLOWED BY MH= MILLIHENRYS OR H= HENRYS.

IN ORDER TO RETAIN RATED EQUIPMENT PERFORMANCE, REPLACEMENT OF ANY SERVICE PART SHOULD BE MADE ONLY WITH A COMPONENT HAVING THE SPECIFICATIONS SHOWN ON THE PARTS LIST FOR THAT PART.



SEE APPLICABLE PRODUCTION CHANGE SHEETS IN INSTRUCTION BOOK SECTION DEALING WITH THIS UNIT, FOR DESCRIPTION OF CHANGES UNDER EACH REVISION LETTER.

THIS ELEM DIAG APPLIES TO

MODEL NO	REV LETTER
19C303498G1	A
19C303676G2	B

NOTES:

1. ALL WIRES ARE DA UNLESS OTHERWISE SHOWN IN METER SWITCHING PANEL.
2. ALL WIRES ARE #24 UNLESS OTHERWISE SHOWN IN RECEIVER & TRANSMITTER COVER.
3. TERMINATE ALL WIRES NOT USED IN W1001 & W1002 BY CUTTING OFF FLUSH WITH CABLE JACKET.

WIRING DIAGRAM

METER SWITCHING PANEL PL-19C303498-G1
RECEIVER COVER PL-19C303676-G2 AND
TRANSMITTER COVER PL-19C303676-G1, G3

PARTS LIST		
LBI-3755 STATION TEST METERING PANEL (OPTION 7609)		
SYMBOL	G-E PART NO.	DESCRIPTION
		METER SWITCHING PANEL ASSEMBLY PL-19A121460-G1 (INCLUDES: METER SWITCHING PANEL PL-19C303498-G1)
-----DIODES AND RECTIFIERS-----		
CR1001 thru CR1004	5494922-P1	Silicon; sim to Type 1N456.
-----PLUGS-----		
P1001		(Part of W1001).
P1002		(Part of W1002).
P1003	4032797-P1	Probe, test: solderless; sim to Birnbach Type 415 (red).
-----RESISTORS-----		
R1001	5496955-P576	Deposited carbon, epoxy coated: 20 megohms $\pm 2\%$, 2 w; sim to Texas Instruments Type CD2R.
R1002	5495948-P359	Deposited carbon, epoxy coated: 40,200 ohms $\pm 1\%$, 1/2 w; sim to Texas Instruments Type CD1/2MR.
R1003	5495948-P321	Deposited carbon, epoxy coated: 16,200 ohms $\pm 1\%$, 1/2 w; sim to Texas Instruments Type CD1/2MR.
R1004 and R1005	5495948-P238	Deposited carbon, epoxy coated: 2430 ohms $\pm 1\%$, 1/2 w; sim to Texas Instruments Type CD1/2MR.
R1006	5495948-P321	Deposited carbon, epoxy coated: 16,200 ohms $\pm 1\%$, 1/2 w; sim to Texas Instruments Type CD1/2MR.
R1007	5495948-P359	Deposited carbon, epoxy coated: 40,200 ohms $\pm 1\%$, 1/2 w; sim to Texas Instruments Type CD1/2MR.
-----SWITCHES-----		
S1001 and S1002	19C307113-P2	Rotary: 2 seconds, 2 poles, 12 positions, non-shorting contacts, 2 amps at 28 VDC or 1 amp at 110 VDC; sim to Oak 235585-K2.
S1003 and S1004	7145098-P1	Slide: DPDT, 3/4 amp at 125 VAC or 1/2 amp at 125 VDC; sim to Stackpole SS-150.
----- TERMINAL BOARDS-----		
TB1	7775500-P9	Phen: 5 terminals.
TB2	7775500-P7	Phen: 3 terminals.
TB3 and TB4	7775500-P46	Phen: 1 terminal.
TB5	7775500-P9	Phen: 5 terminals.
----- CABLES-----		
W1001	19C303568-P2	Metering: includes 18 pin plug (P1001) rated at 1000 VDC max, approx 38 inches long.
W1002	19C303568-P2	Metering: includes 18 pin plug (P1002) rated at 1000 VDC max, approx 38 inches long.
-----MISCELLANEOUS-----		
	PL-19B204861-G1	Chassis: approx 18-5/8 x 4-11/32 x 3-9/32 inches. (Used in PL-19C303498-G1).
	7763541-P6	Cable Clamp. (Used with P1001 and P1002 in PL-19C303498-G1).
	7487773-P6	Knob: red; sim to Eastman Chemical 28739. (Used with S1001 and S1002 in PL-19C303498-G1).
	PL-19B204590-G1	Box: approx 18-5/8 x 4-11/32 x 3-9/32 inches. (Used in PL-19A121460-G1).
	4029030-P11	Rubber channel seal: approx 2-1/2 inches long. (Used in PL-19A121460-G1).

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

SYMBOL	G-E PART NO	DESCRIPTION
M1 and M2	5493947-P3	DC: 50 microamp mechanism; sim to G-E Type DW-91-10101.
	PL-19B204590-G1	Box: approx 18-5/8 x 4-11/32 x 3-9/32 inches.
TB901		ACCESSORY PANEL PL-19B204588-G1
	19C301086-P6	Feed-thru phen: 12-terminals; sim to G-E CR151D75412AB.

PARTS LIST		
LBI-3756 TRANSMITTER AND RECEIVER TOP COVERS (OPTIONS 7648 and 7649)		
SYMBOL	G-E PART NO.	DESCRIPTION
		COVER ASSEMBLY PL-19C303676-G1 (TRANSMITTER STATION METERING) PL-19C303676-G2 (RECEIVER STATION METERING) PL-19C303676-G3 (TRANSMITTER STATION METERING, VENTILATED)
-----CAPACITORS-----		
C1	5493392-P7	Ceramic, feed-thru: .001 μ f +100% -0%, 500 VDCW; sim to Allen-Bradley Type FA5C. (Used in PL-19C303676-G1).
C2 thru C5	5493392-P7	Ceramic, feed-thru: .001 μ f +100% -0%, 500 VDCW; sim to Allen-Bradley Type FA5C.
C6	5493392-P7	Ceramic, feed-thru: .001 μ f +100% -0%, 500 VDCW; sim to Allen-Bradley Type FA5C. (Used in PL-19C303676-G1).
C9	7485975-P17	Ceramic dielectric, feed-thru: axial leads, 470 pF $\pm 20\%$, 750 VDCW; sim to Eric Style 327. (Used in PL-19C303676-G1).
C10 and C11	5493392-P7	Ceramic, feed-thru: .001 μ f +100% -0%, 500 VDCW; sim to Allen-Bradley Type FA5C.
C12	5493392-P7	Ceramic, feed-thru: .001 μ f +100% -0%, 500 VDCW; sim to Allen-Bradley Type FA5C. (Used in PL-19C303676-G1).
C13	5493392-P7	Ceramic, feed-thru: .001 μ f +100% -0%, 500 VDCW; sim to Allen-Bradley Type FA5C. (Used in PL-19C303676-G2).
C14	5493392-P7	Ceramic, feed-thru: .001 μ f +100% -0%, 500 VDCW; sim to Allen-Bradley Type FA5C. (Used in PL-19C303676-G1).
C15*	5493392-P7	Ceramic, feed-thru: .001 μ f +100% -0%, 500 VDCW. Added by REV. B.
C19	7485975-P17	Ceramic dielectric, feed-thru: axial leads, 470 pF $\pm 20\%$, 750 VDCW; sim to Erie Style 327. (Used in PL-19C303676-G1).
----- JACKS AND RECEPTACLES-----		
J1001	19B209125-P2	Connector: 18 contacts rated at 5 amps min at 1000 VDC max. (Used in PL-19C303676-G1).
J1002	19B209125-P2	Connector: 18 contacts rated at 5 amps min at 1000 VDC max. (Used in PL-19C303676-G2).
-----PLUGS-----		
P102	19B204727-P1	Connector: 18 contacts rated at 1000 VDC max. (Used in PL-19C303676-G1).
P442	19B204727-P1	Connector: 18 contacts rated at 1000 VDC max. (Used in PL-19C303676-G2).
-----RESISTORS-----		
R1*	3R77-P471K	Fixed Composition 470 ohms, 10%, 1/2 w (Used in PL-19C303676-G2). Added by REV. A.

*COMPONENTS ADDED, DELETED OR CHANGED BY PRODUCTION CHANGES.

PRODUCTION CHANGES

Changes in the equipment to improve performance or to simplify circuits are identified by a "Revision Letter" which is stamped after the model number of the unit. The revision stamped on the unit includes all previous revisions. Refer to the Parts List for descriptions of parts affected by these revisions.

REV. A — To eliminate 3 db loss in receiver sensitivity with cover on. Added R1 to receiver metering cover.

REV. B — To allow audio metering with cover. Added C15 to receiver metering cover.