

TT TRIPLETT



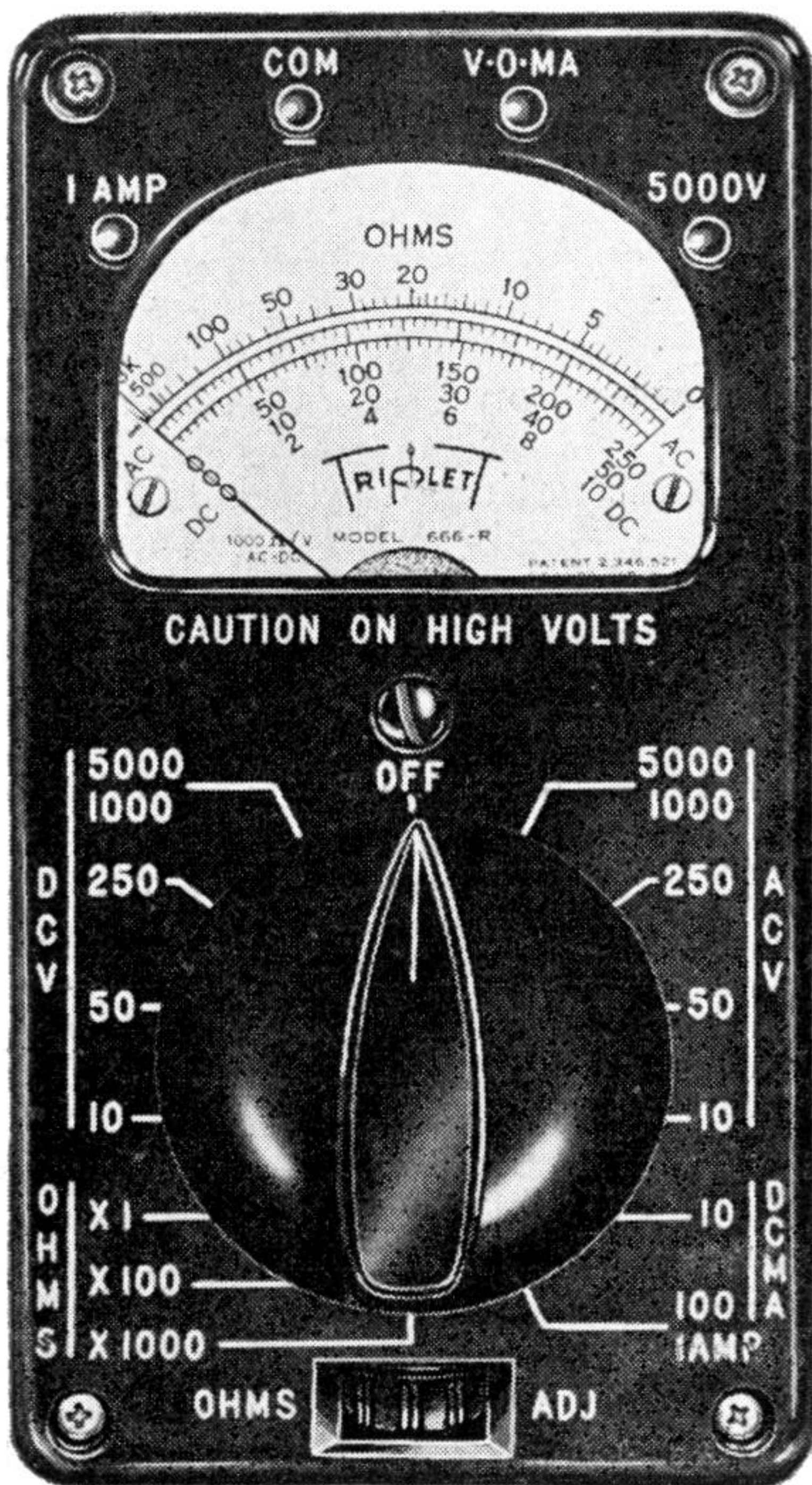
Instruction Manual
Model 666-R
Volt Ohm-Milliammeter

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666-R

Volt-Ohm-Milliammeter

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666-R

Volt-Ohm-Milliammeter

GENERAL DESCRIPTION

The model 666-R Volt-Ohm-Milliammeter is a multi-range instrument in a compact portable case. It provides the ranges commonly used in electrical maintenance and servicing radio receivers as well as those used in the experimental laboratory or at radio transmitting stations.

RANGES

DC VOLTS 0-10-50-250-1000-5000 at 1,000 ohms per volt.

AC VOLTS 0-10-50-250-1000-5000 at 1,000 ohms per volt.

DC MILLIAMPERES 0-10-100 at 250 Mv.

DC AMPERES 0-1 at 250 Mv.

OHMS 0-3000-300,000 with center scale reading of 20-2000.

MEGOHMS 0-3 with center scale reading of 20,000.

Operating Instructions

The selection of all ranges except 5000V. and 1A. is obtained by rotating the bar knob on the front of the panel. The 5000 AC and DC volt and 1A. ranges require changing a jack connection in addition to setting the switch.

Triplett Model 666-R Volt-Ohm-Milliammeter is completely self-contained, with the following ranges—see page 5➡

Two connecting leads each 4 ft. long are provided for connecting to the jacks of the tester. For utmost safety, do not touch these leads when they are connected to a high voltage.

Two alligator clips are provided for fastening to the end of the test prods to make clip-on connections.

Leather carrying cases, Models 669 and 669-OS with strap handles may be obtained from your local Triplett distributor.

POINTER SETTING: Be sure instrument pointer is on zero before taking any readings. The pointer may be set on zero by turning the zero adjust screw just below the meter.

1 AMP. DC



VOLTS	0 - 10
DC	0 - 50
&	0 - 250
AC	0 - 1000
M. A.	0 - 10
DC	0 - 100
OHMS	X 1 = 0 - 3000
	X 100 = 0 - 300,000
	X 1000 = 0 - 3 MEG.

GENERAL:

Set switch, connect to jacks and read on scale called for in the Operation Chart.

In choosing ranges for measuring always endeavor to have the readings fall in the upper (or right hand) half of the scale for greatest accuracy. Thus, a slight error in noting the exact division on the scale will be a smaller per cent of the true reading than if the same degree of error were made in the lower portion of the scale.

TESTER POSITION: Operate in a horizontal position for greatest accuracy.

HANDLING: Do not drop or severely jar the tester, as the pivots, jewels or moving elements may be damaged.

C A U T I O N

For Maximum Safety Do Not Handle Tester or Leads When Connected to High Voltages.

HIGH VOLTAGE MEASUREMENTS: Exercise extreme caution. Make connections only with apparatus turned off. Make certain that no condensers are charged to a high voltage, such as filter condensers or power packs. Make certain switch is on 1000-5000 V position.

AC-DC VOLTS—DC MA-DCA

Follow Operation Chart as noted. AC Voltage ranges are calibrated on a 60 cycle sine wave supply at a room temperature of 77°F.

MILLIAMPERE MEASUREMENTS: Do not test directly across any potential circuits when on "DCMA" ranges as this may burn out the instrument and shunt.

RESISTANCE MEASUREMENTS: Under no condition apply voltage between leads when on "OHMS" position as the instrument will thereby be overloaded and damaged.

Connect test leads together and adjust "OHMS ADJ." for full scale deflection before measuring ohms. This ohms control adjusts for variations in voltage of the self-contained batteries. The "K" on the dial designates 1000.

To extend the ohm range from 0-3 to 0-30 meg ohms, connect a 40.5 volt DC supply and a 180,000 ohm resistor in series with one of the test leads, see Fig. 1. Set selector switch to ohms $\times 1000$. Multiply scale reading by 10,000.

NOTE: In the ohms circuit the battery polarity at the leads is reversed from what the lead colors would seem to indicate (i. e. the red lead is actually the negative of the battery). In checking diodes and transistors it is well to keep this in mind.

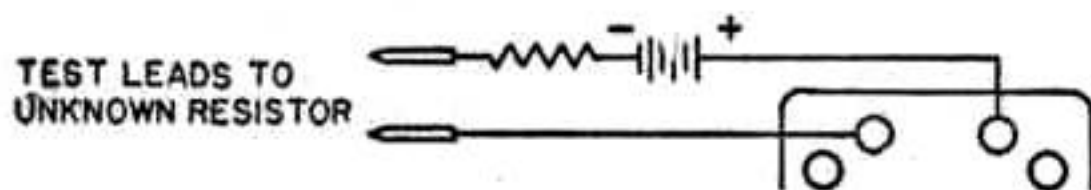


FIG. 1

AMPERES (External shunts)

Plug the desired external 250 millivolt shunt into the "COM" and the "V-O-MA" jacks and set the Range switch on the "10 DCMA" position. Connect the test leads or the line to be measured to the binding posts on the shunt. Triplet plug-in shunts are not supplied with the tester but may be obtained to order in the following DC amp ranges: 1, 5, 10 and 25.

External shunts of 50 and 100 ampere values are available with millivolt leads that could be plugged into the "COM" and "V-O-MA" jacks for reading on the "10 DCMA" position.

DECIBELS

Set Selector Switch on appropriate "ACV" range.

Connect the "COM" and "V-O-MA" jacks across the source of voltage to be measured. Refer to table below and read decibels opposite voltage values on red scale. Values are based on 1 mw, at 0 DB on a 600 ohm line. If there is DC present, connect a 1 mfd. 600 volt condenser in series with one of the test leads as shown in Figure 2.

AC VOLTS	DB	AC VOLTS	DB
.24	—10	24.5	+30
.44	—5	43.6	+35
.77	0	77.5	+40
1.38	+5	137.8	+45
2.45	+10	245	+50
4.36	+15	436	+55
7.75	+20	775	+60
13.8	+25	1378	+65

TEST LEADS TO
AUDIO SUPPLY

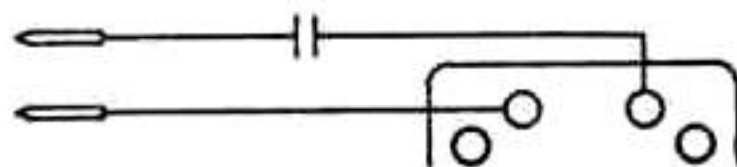


FIG 2

OPERATION CHART

TO MEASURE		SET SWITCH TO		USE JACK	USE JACK	READ ON		EACH SCALE DIV. EQUALS	
						BLACK SCALE			
0-10	DC Volts	10	DCV	Com-	V-O-Ma	0-10	× 1	0.20	Volt
0-50	DC Volts	50				0-50	× 1	1	Volt
0-250	DC Volts	250				0-250	× 1	5	Volts
0-1000	DC Volts	1000-5000	DCV	Com-	5000 V	0-10	× 100	20	Volts
0-5000	DC Volts	1000-5000				0-50	× 100	100	Volts
						RED SCALE			
0-10	AC Volts	10	ACV	Com-	V-O-Ma	0-10	× 1	0.20	Volt
0-50	AC Volts	50				0-50	× 1	1	Volt
0-250	AC Volts	250				0-250	× 1	5	Volts
0-1000	AC Volts	1000-5000	ACV	Com-	5000 V	0-10	× 100	20	Volts
0-5000	AC Volts	1000-5000				0-50	× 100	100	Volts
						BLACK SCALE			
0-10	DC Ma	10	DC Ma	Com-	V-O-Ma	0-10	× 1	0.20	Ma.
0-100	DC Ma	100				0-10	× 10	2.0	Ma.
0-1	DC A	100				0-10	× 0.1	0.02	A
						BLACK SCALE			
0-3000	Ohms	X1	Ohms	Com-	V-O-Ma	Ohms	× 1		
0-300,000	Ohms	X100				Ohms	× 100		
0-3	Megohms	X1000				Ohms	× 1000		

MICROFARADS

Connect a 0.5 mfd. condenser across the "COM" and the "V-O-MA" jacks. Connect this combination in series with the unknown condenser and a 110 Volt 60 cycle line as shown in Figure 3. Set Selector switch to the proper "ACV" range and read capacitance as noted below on the chart.

CAUTION: This test is for paper condensers only!

"10ACV" Range		"50ACV" Range		"250ACV" Range	
AC Volts	Mfd.	AC Volts	Mfd.	AC Volts	Mfd.
1.0	.006	12.0	.06	57.5	.6
1.4	.008	15.0	.08	65.0	.8
1.8	.010	18.0	.1	70.0	1.0
4.0	.02	32.0	.2	85.0	2.0
7.4	.04	48.5	.4	95.0	4.0
9.3	.05			100.	6.0
				102.	10.0

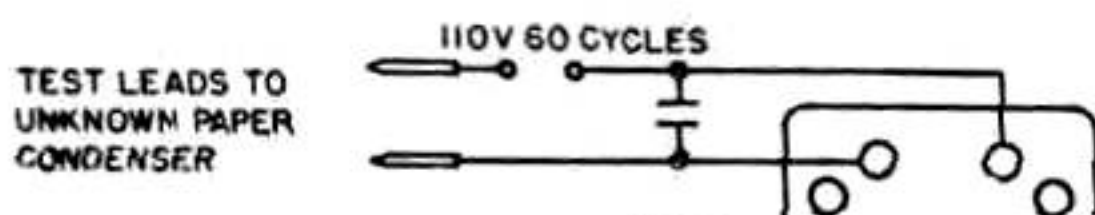


FIG. 3

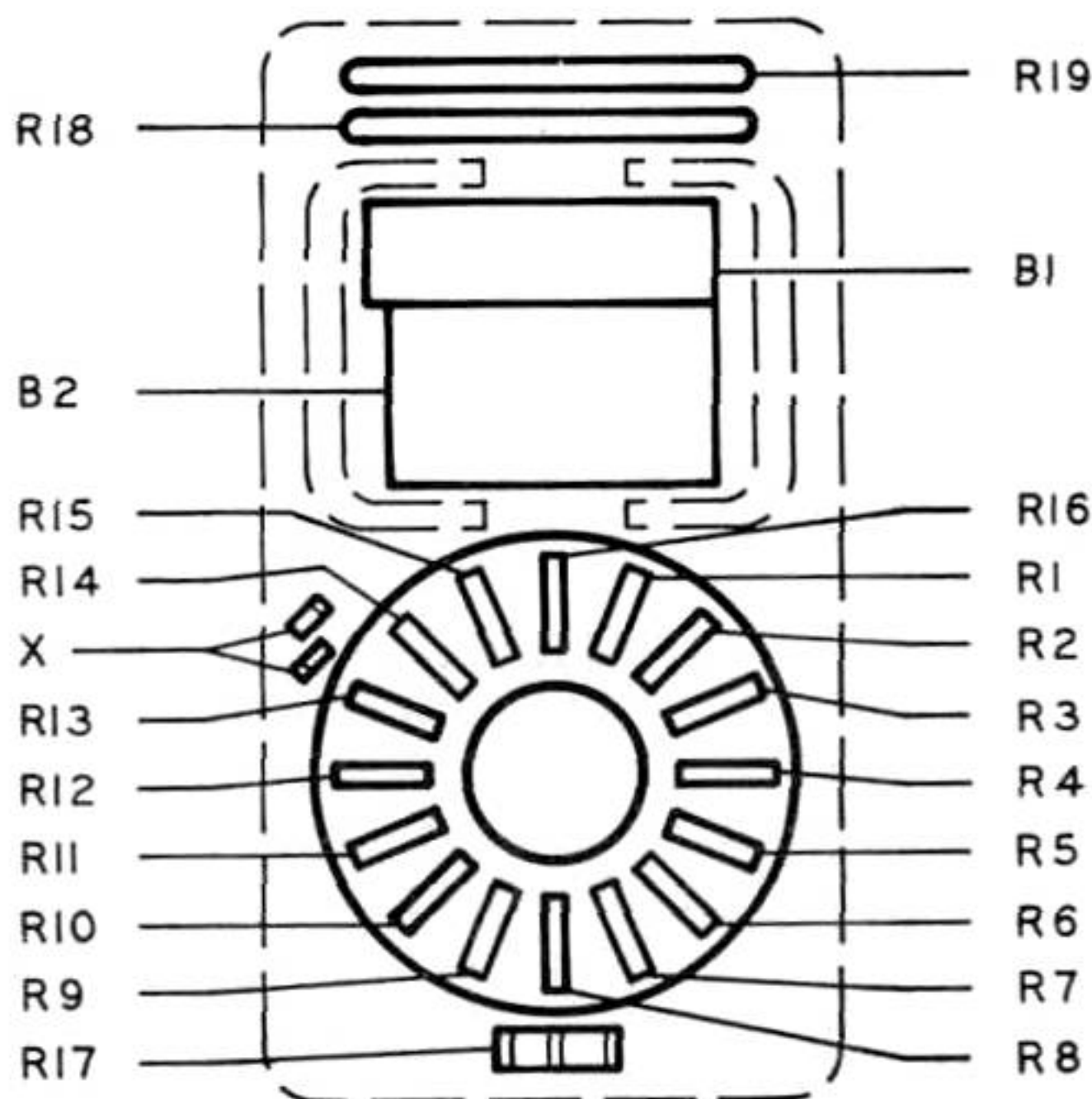
Maintenance

This multi-range instrument will require little or no maintenance if used with care. Be sure the range selector switch is in the correct position before touching test leads to circuit.

When you are unable to adjust pointer to zero on ohm scale the batteries should be replaced.

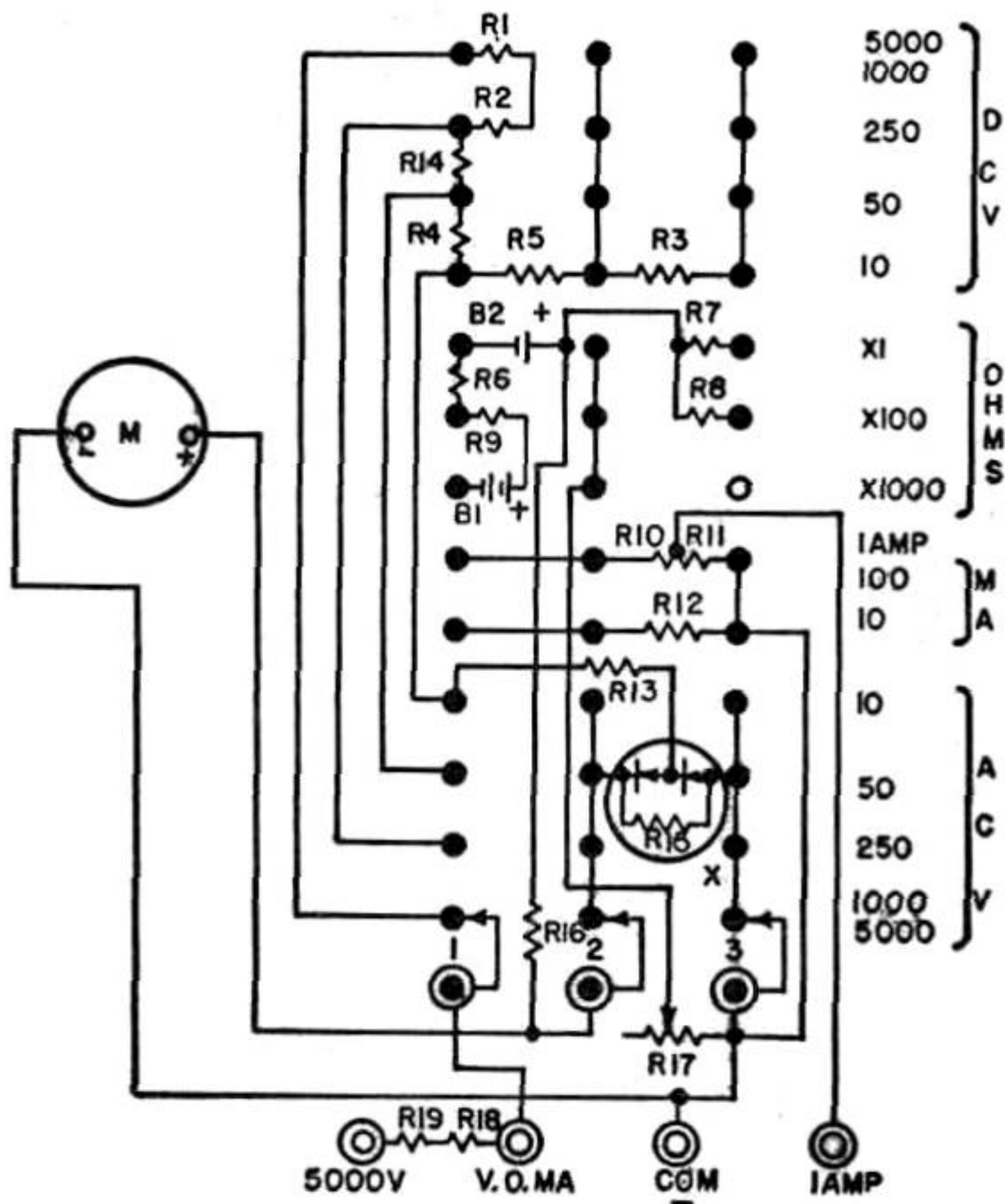
Three 1.5 volt batteries (one size C and two penlite) are provided for the ohm-meter circuit. These batteries may be easily replaced by removing the 4 screws holding the panel. When the ohmmeter circuit can no longer be adjusted on the X1 and X100 ranges by means of the variable resistance on the panel, replace the size C battery. When the X1,000 range cannot be adjusted replace the two penlite cells. Most battery manufacturers give their product a thin transparent coating. In rare cases this may prevent positive contacts. This condition can easily be remedied by lightly scraping both ends of the battery to remove the coating.

Parts Location



Repair or Service

In the event repair or service is required, please outline the nature of the difficulty incurred. By providing this information, Triplett can supply more efficient service.



**REPLACEABLE
Above Serial**

PARTS, 666-R
No. 115,000

REF. NO.	QUAN.	DESCRIPTION
B1	2	1.5V Eveready 915 or NEDA #815
B2	1	1.5V Eveready 935 or NEDA #814
M	1	200 μ a, 250 Mv, with panel
R16	1	5070 ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R1-R2	2	375K ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R3	1	312 ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R4	1	40K ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R5	1	9750 ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R6	1	80 ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R7	1	19.2 ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R8	1	2800 ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R9	1	14K ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R10	1	2255 ohm $\pm 1\%$ Wirewound
R11	1	0.25 ohm $\pm 1\%$ Wirewound
R12	1	25.5 ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R13	1	9200 ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R14	1	200K ohm $\pm 1\%$ Film type $\frac{1}{2}$ W
R17	1	20K ohm Variable
R18	2	2 Meg ohm $\pm 1\%$ Film type 2 W
R19	1	Rectifier and Calib. Res. (R15)
X	1	666 black bakelite
	2	Alligator, Mueller No. 60
	4	Jack, Banana type
	1	Red, Knob with Clip
	1	Banana Plug type
	1	14 Pos. 3 deck with resistor mounting plate

PART NAME	FUNCTION	TRIPLETT PART NO.
Battery	Ohmmeter battery	T-2426-3
Battery	Ohmmeter battery	T-2426-2
Instrument	Indication	52-1426
Resistor	Ohmmeter Series	T-15-1514
Resistor	1000 Volt	T-15-1261
Resistor	All Volts DC	T-15-1517
Resistor	50 Volt	T-15-1131
Resistor	10 Volt DC	T-15-1164
Resistor	Ohmmeter Series	15-2841
Resistor	Ohmmeter Shunt	T-15-1525
Resistor	Ohmmeter Shunt	T-15-1516
Resistor	Ohmmeter Series	T-15-1515
Resistor	Shunt 100 DCMA	T-15-1527
Resistor	Shunt 1 DCA	T-15-1528
Resistor	Shunt 10 DCMA	T-15-1526
Resistor	10 Volt AC	T-15-1163
Resistor	250 Volt	T-15-1061
Resistor	Ohmmeter zero adj.	T-16-31
Resistor	5000V	T-15-989
Rectifier Assem.	AC Rectifier	9893
Case	Tester Housing	T-2421-2
Clip	Connections	T-2563-A
Contact	Connections	8944
Knob	Switch Knob	34A-60
Pr. Leads	Connections	T-79-127
Switch Assem.	Range Switch	22A-309

TRIPLETT WARRANTY AND CONDITIONS OF SALE

The Triplet Corporation warrants instruments manufactured by it to be free from defective material or factory workmanship and agrees to repair or replace such instruments which under normal use and service, disclose the defect to be the fault of our manufacturing. Our obligation under this warranty is limited to repairing or replacing any instrument or test equipment which proves to be defective, when returned to us transportation prepaid, within ninety (90) days from the date of original purchase.

This warranty does not apply to any of our products which have been repaired or altered by unauthorized persons or service stations in any way so as, in our judgment, to injure their stability or reliability or which have been subject to misuse, negligence, or accident, or which have had the serial number altered, effaced, or removed. Neither does this warranty apply to any of our products which have been connected, installed, or adjusted otherwise than in accordance with the instructions furnished by us. Accessories including all vacuum tubes and batteries not of our manufacture used with this product are not covered by this warranty.

The Triplet Corporation reserves the right to discontinue models at any time, or change specifications or design, without

notice and without incurring any obligation.

Upon acceptance of the material covered by this invoice the purchaser agrees to assume all liability for any damages and bodily injury which may result from the use or misuse of the material by the purchaser, his employees, or others, and that the Triplett Corporation shall incur no liability for direct or consequential damage of any kind.

Parts will be made available for a maximum period of five (5) years after the manufacture of this equipment has been discontinued. Parts include all materials, charts, instructions, diagrams, accessories, et cetera, which were furnished in the standard or special models.

This warranty and conditions of sale are in lieu of all others expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

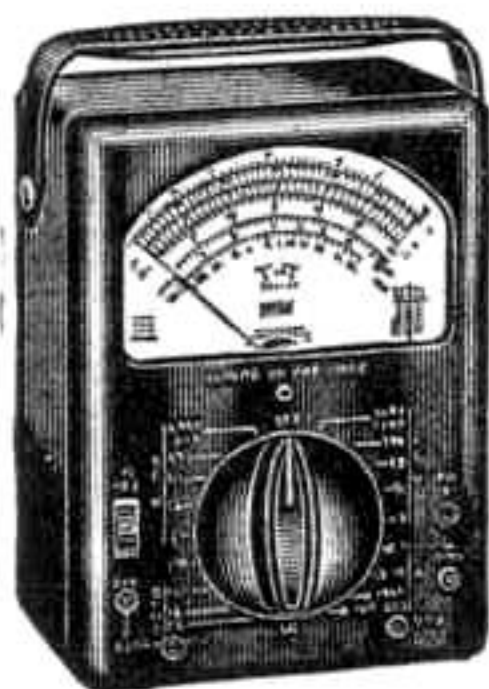
TRIPLETT CORPORATION

Bluffton, Ohio 45817

Printed in U. S. A.

84-84A

If you find you need a VOM with greater sensitivity, ask your Distributor to show you the 630 or 631.



Model 630

Sensitivity:

20,000 ohms per V DC

5,000 ohms per V AC

Ohms:

1/10 to 100 Megs.



Model 631

Combination

VOM & VTVM

All-around

Electronic serv-

ice meter.

**AVAILABLE FROM YOUR LOCAL
TRIPLETT DISTRIBUTOR
A COMPLETE LINE OF TESTERS FOR
COLOR TV AND ELECTRONICS
ALSO PANEL METERS**