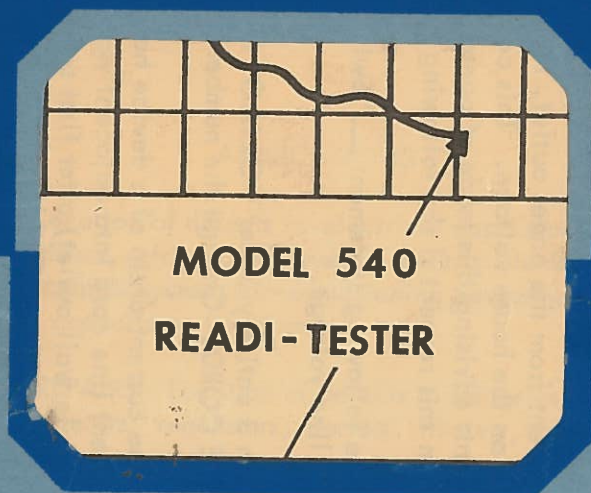


INSTRUCTION MANUAL FOR

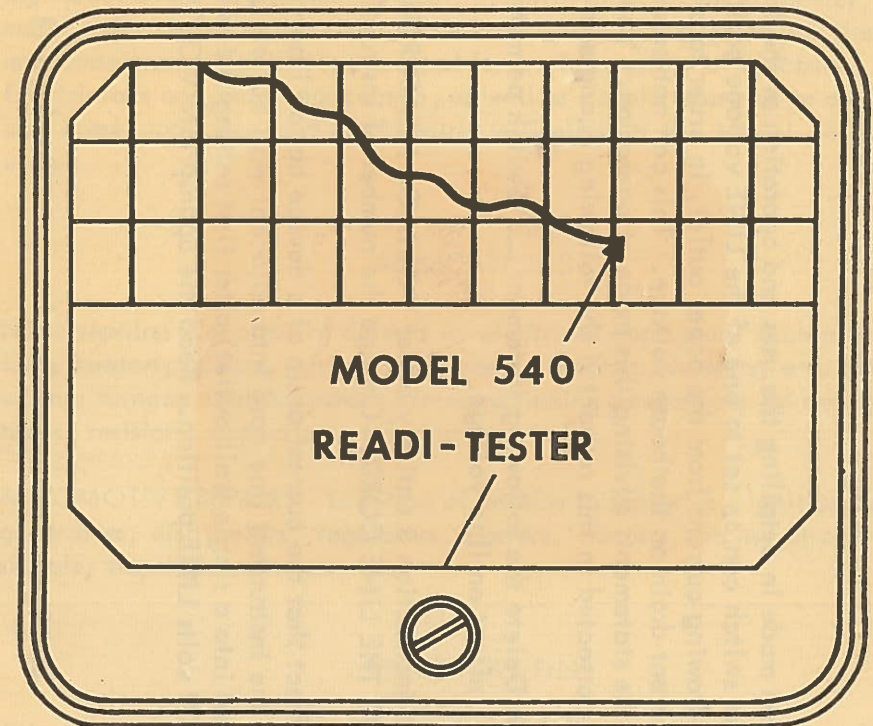


**ELECTRONIC
INSTRUMENT CO., Inc.**

33-00 Northern Boulevard

Long Island City 1, N. Y.

INSTRUCTION MANUAL FOR



EICO

**ELECTRONIC
INSTRUMENT CO., Inc.**

MODEL 540 - ADDENDA TO OPERATING INSTRUCTIONS

An error has been made in detailing the uses and operation of the instrument; namely, that the switch can be set to one of the LINE voltage positions while some device is drawing current from the panel outlet, in order to check the effect of the current drain on the house voltage. This can not be done and we wish to retract the statements advising this mode of operation. Your instruction manual will be corrected in this respect if the following changes are made:

Page 2. Line 4: Delete the following statement — "Switch permits checking effect on line voltage."

Page 4: Delete instruction 3 entirely under VOLTAGE MEASUREMENTS MADE USING THE LINE CORD. Change the number of instruction 4 to 3.

To check the effect that the current drain of a device has on line voltage, plug the device and the instrument line cord into adjacent wall outlets (or into a cube tap plugged into a single wall outlet) after first setting the selector switch at the 150 or 300 volts LINE position. Read the appropriate VOLTS scale.

I.E. 1083

Electronic Instrument Co., Inc.,

Brooklyn 11, New York

MODEL 540 READI-TESTER

GENERAL DESCRIPTION

Designed expressly for "do-it-yourself" home appliance and car repairs, the Model 540 is an extremely versatile, multi-range ac/dc voltmeter, ammeter, ohmmeter, wattmeter and leakage checker. It gives you the test and measurement facilities you need for a wide variety of electrical jobs. Electricians and maintenance men, as well as people who wish to do their own home appliance and car repairs, will all find the Model 540 very useful.

APPLICATIONS

Home repairs: Location of defects in electrical appliances such as irons, fans, heaters, mixers, refrigerators, ovens, electric blankets, etc.; house wiring; furnace control system; air-conditioning equipment; TV and Radio tubes, resistors, capacitors, transformers, coils.

AUTOMOTIVE REPAIRS: Location of defects in batteries, ignition coils, generators, distributors, regulators, starters, heaters, horns, directional signals, stop light switches, etc.

SPECIFICATIONS

All voltage ranges (0-7.5, 15, 150, 300 volts) and current range (0-15 amps) are ac/dc.

Direct-reading ohms range 0-1000 ohms.

Neon lamp ac leakage test circuit permits continuity check of resistors between 1000 and 2,000,000 ohms and capacitors above .0005 mfd; also filament continuity and leakage between elements in radio and tv tubes.

Direct reading of power line voltage up to 300 volts ac/dc at any outlet with attached line cord (2 ranges: 150 and 300 volts).

9-position rotary function and range selector switch for fast, convenient operation.

Panel outlet permits metering current up to 15 amps drawn by any appliance, motor or other device. Kilowatts scale permits direct reading of power consumption.

Provides "GOOD-BAD" readings on 6V and 12V automobile storage batteries, and permits checking of individual cells.

Deep-etched brushed aluminum panel.

3 1/2" meter in modern clear lucite case.

Handy size (3 3/4" X 6 1/2" X 3 1/2"), rugged, high impact, polished black bakelite case. Weight 3 lbs.

USES OF CONTROLS AND TERMINALS

COMMon jack — Insert pin plug on black test lead in this jack for all functions requiring use of the test leads.

VOLTS, OHMS, LEAKAGE jack — Insert pin plug on red test lead in this jack for all voltage measurements with test leads, ohms measurements, and leakage testing.

AMPS jack — Insert pin plug on red test lead in this jack for current measurement with test leads. Remove this and the lead from COMMon jack when outlet on panel is being used.

Panel Outlet — Insert line plug of device being tested in the panel outlet for measurement of ac/dc current, power drain or line voltage under load.

Line Cord — Insert in power line outlet to energize panel outlet and/or to measure power line voltage.

OHMS ADJust — An internal battery supplies the test voltage for resistance measurement. With the OHMS ADJust control, the accuracy of measurement is maintained despite battery voltage variation throughout its life.

Rotary Function and Range Selector — This switch selects both the function

and the range as marked on the dial. The TEST LEADS positions are used for ac-dc voltage measurement using the test leads. The LINE positions are used to read the ac or dc voltage at a power line outlet into which the line plug is inserted. At the 15 AMPS-1.5KW position, the current drawn by a device plugged into the panel outlet, or the current in a circuit in which the tester has been inserted via the test leads can be read. When the panel outlet is used and the line cord is plugged into the 115 volt line, power consumptions up to 1.5KW may be read at the same position. At the LEAKAGE position, the line cord is plugged into a power line outlet to provide the test voltage, and the test leads are applied across the circuit or component to be checked for leakage. The neon lamp at the top of the meter serves as the leakage indicator.

OPERATION

PRELIMINARY PRECAUTION: One side of practically all power lines is connected to ground. Therefore, when touching any electrical appliance or instrument, any bodily contact with a ground must be avoided. These grounds can be in the form of water pipes, steam heat radiators, metal radio, television or refrigerator cabinets, metal phonograph pickups, cement floors, etc.

VOLTAGE MEASUREMENTS: With the Model 540, voltage measurements can be made on both AC and DC. It can be accomplished by using either the test leads supplied with the instrument or the line cord connected to the instrument.

VOLTAGE MEASUREMENTS MADE USING TEST LEADS

1. Insert the black test lead (pin plug) into the COMMon jack. Insert the red test lead (pin plug) into the VOLTS, OHMS, LEAKAGE jack.
2. Select the voltage range with the switch from the group of voltages included in the arc marked TEST LEADS. Note that the marking on the switch indicates the maximum voltage that can safely be applied to the instrument in that particular switch position. Thus, if it is desired to read 220 volts, the 330 volt position must be used. If an unknown voltage is to be read, first put the switch in the 300 volt position. If it reads less than 150 volts, switch to the 150 volt position. If it then reads less than 15 volts, it is safe to switch to the 15 volt position, etc.
3. After the range is selected, the test leads (crocodile clips) are connected across the voltage to be measured. Hold these crocodile clips by the insulated coverings to avoid shock.
4. Read the voltage on the appropriate VOLTS or VOLTS-AMPS scale. With the selector switch set to the 300 volts range, read the voltage on

the 300 VOLTS scale directly.

With the selector switch set to the 150 volts range, read the voltage on the 150 VOLTS scale directly.

With the selector switch set to the 15 volts range, read the voltage on the 150 VOLTS scale. Divide reading by 10.

With the selector switch set to the 7.5 volts range, read the voltage on the 150 VOLTS scale. Each number is divided by 20. Thus 150 is actually 7.5 volts, 100 is 5 volts, 50 is 2.5 volts, etc.

Although the latter two voltage ranges can be used for measuring low filament voltage in radios, the primary application is the automobile battery test.

VOLTAGE MEASUREMENTS MADE USING THE LINE CORD

1. Select the voltage range with the switch. Use either one of the two ranges within the arc marked LINE. Here again, the marking on the switch indicates the maximum voltage that can safely be applied to the instrument in that particular switch position. If an unknown voltage is to be read, first place the switch in the 300 volt position. If it reads less than 150 volts, switch to the 150 volt position.

2. After the range has been selected, plug the line cord of the Model 540 into the electrical outlet where the voltage is to be measured. This will accurately measure the line voltage. This line voltage varies from house to house, with time of day and the load on the line.

3. Read the voltage directly on the appropriate VOLTS scale. With the selector switch set to the 300 volts range, read the voltage on the 300 VOLTS scale directly. With the selector switch set to the 150 volts range, read the voltage on the 150 VOLTS scale directly.

4. To check the effect that the current drain of a device has on line voltage, plug the device and the instrument line cord into adjacent wall outlets (or into a cube tap plugged into a single wall outlet) after first setting the selector switch at the 150 or 300 volts LINE position. Read the appropriate VOLTS scale.

RESISTANCE MEASUREMENTS: With the Model 540, resistances up to 1000 ohms can be measured accurately. It can also be used for measuring the continuity of practically every electrical appliance made.

1. Insert the black test lead (pin plug) into the COMMON jack. Insert the red test lead (pin plug) into the VOLTS, OHMS, LEAKAGE jack.

2. Set the switch to the OHMS position.

3. Connect the crocodile clip on the black test lead to the one on the red test lead. Adjust the OHMS ADJUST control until the meter reads "0" ohms on the top (OHMS) scale. This adjustment is necessary due to battery voltage variation with the age of the battery. Disconnect the test leads from each other.

4. Remove all voltages from the resistor or appliance under test.

5. Connect the crocodile clips across the resistance element to be checked.

6. Read the exact resistance on the OHMS scale. Any deflection of the meter pointer to the right of the 1K (1000 ohms) mark will show continuity. If the appliance or resistor under test normally has a resistance greater than 1000 ohms or is "open", there will be no deflection to the right on the meter. (See LEAKAGE TEST for method of checking higher resistances.) Unless the resistance of an appliance is normally less than 1000 ohms, failure of the meter pointer to deflect to the right is not an indication of no continuity or an "open".

HIGH RESISTANCE OR LEAKAGE TEST: This test permits checking continuity of appliances that have resistances greater than 1000 ohms and less than 2 megohms (2,000,000 Ω). Note that in this test, the preliminary precaution concerning the avoidance of any bodily contact with grounds should be observed. It should also be noted that if both test leads are touched at the same time, a slight tingle would be felt. Due to the high internal resistance of the Model 540, this is harmless.

1. Insert the black test lead (pin plug) into the COMMON jack. Insert the red test lead (pin plug) into the VOLTS, OHMS, LEAKAGE jack.

2. Set the switch to the LEAKAGE position.

3. Plug the line cord on the Model 540 into any convenient wall outlet.

4. Connect the crocodile clips across the resistance element to be checked.

5. The LEAKAGE indicator lamp will glow if the resistance element under test is less than 2,000,000 ohms. No appliance will present a resistance higher than this. If there is any leakage resistance between appliance elements or a motor and its metal case, the LEAKAGE lamp will also glow. If an a-c line voltage is used, capacitors larger than .0005 mfd may be checked for a-c continuity by the same means. Capacitors that are not open will cause the leakage lamp to glow. Do not test electrolytic types, as no d-c "polarizing" voltage is available from the tester.

6. If there is a question as to whether the power line is the a-c type or the d-c type, short the test leads together and observe the lamp. A d-c line will cause a glow only around one electrode. An a-c line will cause both electrodes to glow.

CURRENT TEST: With the Model 540, current measurements can be made on both AC and DC up to 15 amps. If you wish to measure the current drawn by an appliance from the line, you may plug the line cord of the appliance into the panel outlet and energize this outlet by plugging the line cord of the tester into a wall outlet. If it is desired to measure the current in a branch or leg of a circuit, you will have to break the circuit and connect the test leads (COM & AMP) across the break (to place the meter in series with the circuit).

CURRENT MEASUREMENTS MADE USING TEST LEADS

1. Insert the black test lead (pin plug) into the COMmon jack. Insert the red test lead (pin plug) into the AMPS jack.
2. Make sure the line cord of the tester is not plugged into a wall outlet.
3. Set the switch to the 15 AMPS.-1.5KW position.
4. Remove all power from the device under test.
5. An ammeter must be placed in series with the branch or leg of the circuit, through which the current is to be measured. To do this, open the branch at some convenient point and connect one test lead to each side of the break.
6. Restore power to the device under test.
7. Read the current on the 15 AMPS scale directly in amperes.

CURRENT MEASUREMENTS MADE USING THE LINE CORD

1. Remove all test leads from the instrument to avoid shock hazard.
2. Set the switch to the 15 AMPS.-1.5KW position.
3. Plug the appliance under test into the outlet mounted on the Model 540 panel.
4. Plug the line cord on the Model 540 into a convenient wall outlet.
5. Read the current on the 15 AMPS scale directly.

POWER MEASUREMENTS: With the Model 540, it is possible to measure the power consumed by any appliance. The value of the power consumed can be accurately read directly on the meter.

1. Remove all test leads from the instrument to avoid shock hazard.
2. Set the switch to the 15 AMPS.-1.5KW position.
3. Plug the appliance under test into the outlet mounted on the Model 540 panel.
4. Plug the line cord on the Model 540 into a convenient wall outlet supplying approximately 117 volts.
5. Read the power output on the 1.5KW scale.

If the supply voltage is 220 volts, follow the above procedure through step 3. Steps 4 and 5 are revised as follows:

4. Plug the line cord on the Model 540 into a convenient wall outlet supplying approximately 220 volts.
5. Read the power output on the 1.5KW scale. Multiply the reading by 2. Thus 1.5KW is actually 3 kw, 1KΩ is actually 2KW, etc.

AUTOMOBILE BATTERY VOLTAGE MEASUREMENTS: The Model 540 indicates automobile battery voltages directly. It is accurately calibrated for the single 2 volt cell, the 6 volt auto battery and the 12 volt auto battery.

1. Insert the black test lead into the COMmon jack. Insert the red test lead into the VOLTS, OHMS, LEAKAGE jack.

2. To check a 12 volt battery, (a) set the selector switch at the 15 volt position. (b) Connect the test leads (crocodile clips) across the entire battery. With the ignition off, and the starter motor turning over a warm engine, take a rapid reading. (Do not run the starter more than 15 seconds or you may damage it.) If the meter reads in the red box marked 12 on the 15 volt range, the battery is good. A reading as low as 80 on the 150 VOLTS scale (indicating 8 volts) indicates fair battery condition. A reading below 8 volts indicates poor battery condition.

3. To check a 6 volt battery, (a) Set the selector switch at the 7.5 volt position. (b) Connect the test leads across the entire battery. Take a rapid reading under the same conditions as described in (2) above. If the meter reads in the red box marked 6 on the 7.5 volt range, the battery is good. A reading as low as 4 volts indicates fair battery condition. (This 4 is read as 80 on the 150 VOLTS scale and divided by 20.) A reading below 4 volts indicates poor battery condition.

4. To check a single 2 volt cell, (a) Set the selector switch at the 7.5 volt position. (b) Connect the test leads across the terminals of the individual cell to be tested. Take a rapid reading under the same conditions as described in (2) above. If the meter reads in the red box marked 2 on the 7.5 volt range, the cell is good. A reading below the red box indicates poor cell condition.

Note: Unless batteries are checked under the load conditions described above, the readings will, most often, be deceptively high and therefore worthless.

FUNDAMENTALS OF ELECTRICITY

In order to use the Model 540 effectively, a knowledge of some of the fundamentals of electricity is necessary.

Electrical current consists of charged particles flowing through a conductor either in one direction (direct current - dc) or alternate first in one direction and then the other (alternating current - ac). These charged particles are known as electrons. The size of the current is proportional to the number of these particles passing any one point in the conductor each second. The amount of current passing through the conductor is expressed in amperes (or amps). A milliampere (ma) is one thousandth of an ampere and a microampere (ua) is one millionth of an ampere. Resistance is analogous to friction and determines the current that flows in a conductor with a given applied force. The resistor can be in the form of a long wire, electric light, motor winding, heating element of a toaster or broiler, etc. The amount of resistance is expressed as ohms (Ω). A kilohm (KΩ) is one

thousand ohms and a megohm ($M\Omega$ or meg) is one million ohms.

To push these electrons through the wire there must be an electromotive force (emf). This emf is often referred to just as voltage (dc or ac). Measurements of emf or voltage are made in specific amounts of volts. Sources of this voltage can be the battery in the automobile, the generators supplying voltage to the home, a dry cell battery, etc. As power is dissipated when current flows in a resistance, voltage sources must also be power sources.

Any electrical circuit must consist of an electromotive force (voltage) to drive electrons (current in units of Amperes) through a resistance (ohms). The voltage supply always has two terminals - one supplying the electrons, and the other receiving them. If a resistor or wire connects these two terminals, there is a current flowing through the resistor or wire. There can be no current flowing unless there is some resistors or wire through which one terminal of the voltage source is connected to the other terminal.

The volt, ohm and amp are related to each other by a simple formula known as Ohm's law. The Voltage = Amps X Ohms. This law can be stated in several ways, depending upon which two factors are known, and which factor it is desired to find. They are as follows:

1. Volts = Amps X Ohms
2. Amps = Volts / Ohms
3. Ohms = Volts / Amps

If it is known, for example, that a current of 5 amps flows through a resistance of 40 ohms, the voltage across that resistor, by the formula 1 is: Amps X Ohms = 5 amps X 40 ohms = 200 volts.

If the voltage of 200 volts across a 40 ohm resistor is known, the amperes passing through the resistor is calculated by formula 2. Thus: Amps = Volts / Ohms = 200 volts / 40 ohms = 5 amps.

If it is found that when applying 200 volts, 5 amps passes through an unknown resistor, the value of the resistor can be calculated from formula 3. Ohms = Volts / Amps = 200 volts / 5 amps = 40 ohms.

When electricity is sold to the consumer, he buys power. This power is called Watts. A simple formula relating the Watts with the Voltage and current is: Watts = Volts X Amps. Thus if there are 5 amps going through a resistor due to a voltage of 200 volts, the power is: Watts = Volts X Amps = 200 volts X 5 Amps = 1000 Watts.

If the Volts and Ohms are known, use formula 2 above to find the Amps, and substitute this value in the equation to find the Watts. If the Amps and Ohms are known, use formula 1 above to find the Volts, and substitute this value in the equation to find the Watts.

It should finally be noted that 1000 watts = 1 kilowatts. The Model 540 is calibrated directly in kilowatts. The actual calibration is accurate since it assumes a power factor. The definition of the power factor is beyond the scope of this book, but can be found in any advanced book on AC electricity.

All the measurements indicated above can be made directly with the Model 540. These measurements in conjunction with an understanding of the nature of electricity (above) are essential in the repair of any appliance. Before repairing any appliance, the user of the Model 540 should preferably have some knowledge of the operation and mechanics of the particular appliance to be fixed.

PRACTICAL CASES

1. HOME APPLIANCE REPAIRS

Toasters, broilers, electric irons, electric blankets and electric heating pads all work on one principle. When electricity flows through a wire or resistor, it causes the heating element to get hot. This wire is made in several forms and insulated. When it is put on a flat plate, it becomes the usual home electric iron. When it is flattened out on a larger area, it can become a heating pad or an electric blanket.

The toaster has just such an arrangement. When checking a toaster for continuity, use the ohms range of the Model 540. Connect the tester directly across the heating element. If the heating element is good, its resistance will be indicated on the meter. Next check the connection to the line cord for indications of continuity or lack of continuity. The final check is the line cord by itself. If the line cord is good, the heating element resistance will be indicated on the Model 540 when the tester leads are measuring the resistance across the line cord. If the line cord is defective, the Model 540 will indicate either infinite resistance or zero resistance. In either case the line cord should be replaced. When making these measurements, be sure that all switches on the toaster are closed. Similar tests can be made on the electric irons.

Heating pads have several temperature ranges. The lowest temperature

range indicates the highest resistance. All other checks are identical with that of the toaster. The electric blanket is identical with the heating pad as far as repair and test procedures are concerned. Broilers work on the same principle. The heating elements, switch and connecting wire should be checked.

After you are convinced that the repairs have been satisfactorily completed, make a final resistance check on the line cord. If the approximate calculated resistance is measured (computed from the formulas for power and ohm's law above), the appliance is ready for test. Using the leakage test, check for any resistance between the line cord and the case of the appliance. If there is no indication on the Leakage test bulb, there is no short between the heating element and the enclosing case. Plug the appliance into the outlet on the Model 540 and check the power consumed. This should be within 30% of the rated power. If there is a current rating printed on the appliance also check this reading on the Model 540.

MOTORS should also show continuity on the Model 540 when checked on the OHMS scale. First check the winding and then the cord for resistance or continuity. Finally check for leakage between the line cord and the motor case. To finally check the motor under operating conditions, plug it into the Model 540 outlet and check the power consumed against the rated power.

These motor tests apply for motors on washing machines, electric clocks, electric fans, air conditioning units, and refrigerators. Very small motors such as those used on clocks, and electric shavers are too small to show any power drain. Larger motors normally show a large power drain the moment the switch is thrown to the on position. The power consumption then goes down to the normal operating level.

Most TELEVISION and RADIO repairs can be accomplished by checking the heater or filament winding in the vacuum tubes. Television troubles are usually caused by burned out receiving or picture tube filaments. The actual two pins on the tube that represent the heater or filament vary with the particular type of tube. A tube manual indicating the filament pins of all tubes are available from most tube manufacturers. It is advisable that the Model 540 owner get one of these manuals for his own use. Good filament show up as a resistance on the ohmmeter scale of the Model 540; open filaments are indicated by no needle deflection on the ohmmeter range. In this case the tube must be replaced.

Frequently it is desired to investigate whether or not an appliance is drawing too much current to be used with the existing house wiring, or whether

a number of appliances may be used simultaneously without overloading the lines. In some cases, it is necessary to note the starting current as well as the normal operating current.

To check the current drawn by any appliance, use the Amps scale provided on the Model 540. The current drawn by an appliance operated only when no other appliances are used or the sum of the currents drawn by appliances used at the same time should not exceed the limit (usually 15 amperes for lighting circuits in residences and 20 amperes for circuits intended for appliances in kitchen, break-fast room, pantry, or laundry).

If the limit is not known, plug the line from the meter into the wall outlet, and check the available voltage without a load. Next plug the load into the convenience outlet provided for it on the panel of the Model 540. If the meter indicates a large voltage drop the line is being overloaded.

2. AUTOMOBILE ELECTRICAL SYSTEMS

The heart of the auto electrical system is the storage battery. To check it, see AUTOMOBILE BATTERY VOLTAGE MEASUREMENTS section in the OPERATION instructions.

All the electrical equipment on a car can be checked by using the ohms range. First the equipment is disconnected. Continuity measurements are then made using the OHMS function of the Model 540. These tests can be made on the switches, lights, starter, generator, relays, regulator coils, horns, fuses, cigarette lighter, heater, radio, directionals, etc.

Innumerable measurements and repairs can be made in the car, home, factory or basement workshop using the EICO Model 540 tester. Just a few moments of careful thought in conjunction with the application of the principles of electricity discussed above can indicate the multitude of jobs this instrument can assist in and the best method of approach to the particular task.

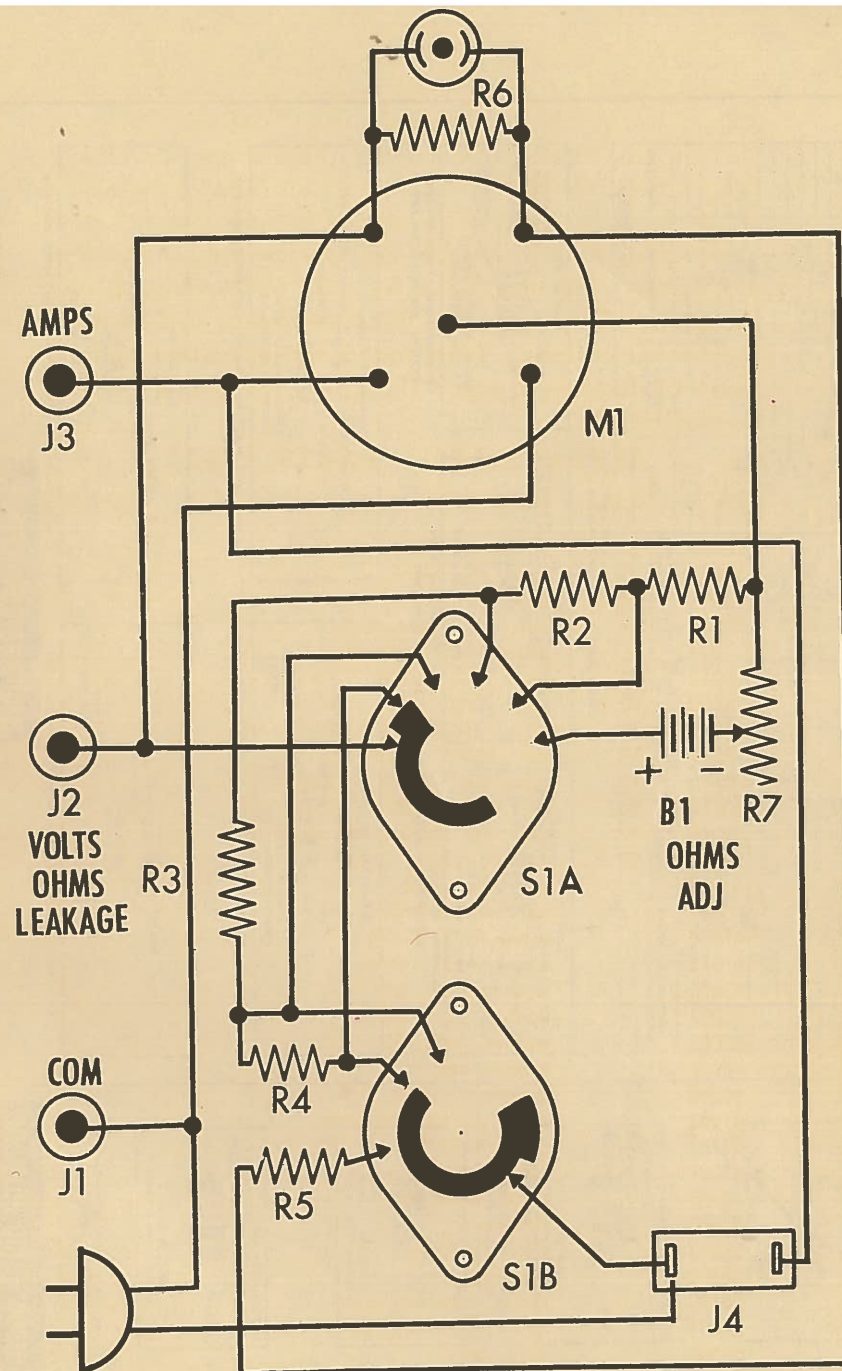
SERVICE

If trouble develops in your instrument which you can not remedy yourself, write to our service department listing all possible indications that might be helpful. If desired, you may return the instrument to our factory where it will be placed in operating condition for \$3.00 plus the cost of parts replaced due to their being damaged in the course of construction or misuse. NOTE: Before returning this unit, be sure all parts are securely mounted. Attach a tag to the instrument, giving your home address and the trouble

with the unit. Pack very carefully in a rugged container, using sufficient packing material (cotton, shredded newspaper, or excelsior), to make the unit completely immovable within the container. The original shipping carton is satisfactory, providing the original inserts are used or sufficient packing material is inserted to keep the instrument immovable. Ship by prepaid Railway Express, if possible, to Electronic Instrument Co., Inc., 33-00 Northern Blvd., Long Island City 1, N.Y. Return shipment will be made by express collect. Note that a carrier cannot be held liable for damages in transit if packing, IN HIS OPINION, is insufficient.

REPLACEMENT PARTS LIST

Stk. #	Sym.	Description	Am't.
56003	B1-5	battery, 1 1/2 V, size C	5
50001	J1	jack, pin, black	1
50000	J2,3	jack, pin, red	2
50009	J4	jack, a.c. receptacle	1
71002	M1	meter, dual sensitivity	1
10538	R1	res., 15 Ω 1/2 W, 5%	1
11750	R2	res., 75 Ω , 1W, 2%	1
14800	R3	res., 1350 Ω , 15W, 5%	1
14801	R4	res., 1500 Ω , 15W, 5%	1
10410	R5	res., 100K, 1/2W, 10%	1
10434	R6	res., 2.2M, 1/2W, 10%	1
19013	R7	res., var. 35 Ω (ohms adj.)	1
60044	S1	switch, rotary, 9 pos.	1
40000		nut, hex, 6-32	2
40001		nut, hex, 3/8-32	3
41000		screw, 6-32 X 1/4	4
41014		screw, 6-32 X 3/8	2
42000		washer, lock, 3/8	2
42001		washer, flat, 3/8	2
42002		washer, lock, #6	7
42012		washer, star	3
46000		grommet, rubber, 3/8	1
41003		plug, pin tip, insulated	2
51502		clip, crocodile	2
53001		knob, male	1
53006		knob, round bar	1
57000		line cord	1
58003		wire, hook-up	1
58300		spaghetti	1
58400		cable, kinkless, black	1
58404		cable, kinkless, red	1
58501		wire, bare	1
66600		envelope	1
80046		panel	1
88015		cabinet	1
89525		sleeve, red	1
89526		sleeve, black	1
66043		manual of instruction (wired)	1
66299		manual of instructions (kit)	1

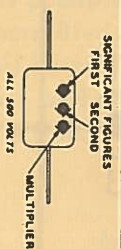


MODEL 540
READI-TESTER

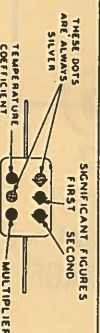
ELECTRONIC INSTRUMENT CO., INC.

CAPACITOR COLOR CODES

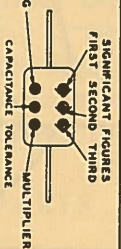
RMA 3-9007 COLOR CODE FOR MIC-DIELECTRIC CAPACITORS



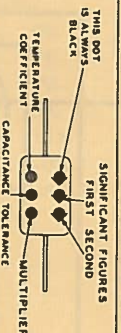
JAN 6-9007 COLOR CODE FOR PAPER-DIELECTRIC CAPACITORS



RMA 6-9007 COLOR CODE FOR MIC-DIELECTRIC CAPACITORS



JAN 6-9007 COLOR CODE FOR MIC-DIELECTRIC CAPACITORS



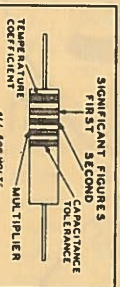
RMA COLOR CODE FOR TUBULAR CERAMIC-DIELECTRIC CAPACITORS



JAN COLOR CODE FOR FIRED CERAMIC-DIELECTRIC CAPACITORS

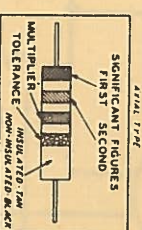


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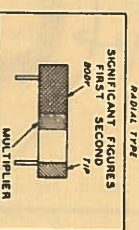


RESISTOR COLOR CODES

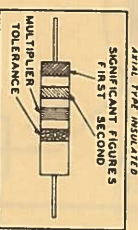
RMA COLOR CODE FOR FIRED COMPOSITION RESISTORS



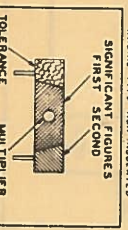
ACTUAL TYPE



JAN COLOR CODE FOR FIRED COMPOSITION RESISTORS



RADIAL TYPE NON-INSULATED



RESISTORS

TOLERANCE	MULTIPLIER	SIGNIFICANT FIGURE	COLOR	RMA MIC AND CERAMIC-DIELECTRIC	JAN MIC AND PAPER-DIELECTRIC	JAN CERAMIC DIELECTRIC	VOLTAGE RATING	TEMPERATURE COEFFICIENT
1	0	1	BROWN	1	1	1	100	A
10	1	2	RED	10	10	10	200	B
100	2	3	ORANGE	100	100	100	300	C
1000	3	4	YELLOW	1000	1000	1000	500	D
10000	4	5	GREEN	10000			600	E
100000	5	6	BLUE	100000			700	F
1000000	6	7	VIOLET	1000000		0.01	800	G
10000000	7	8	GRAY	10000000		0.1	900	
100000000	8	9	WHITE	100000000			1000	
1000000000	9		GOLD	0.1	0.1		2000	
10	0.1		SILVER	0.01	0.01		500	
20	0.01		NO COLOR					

