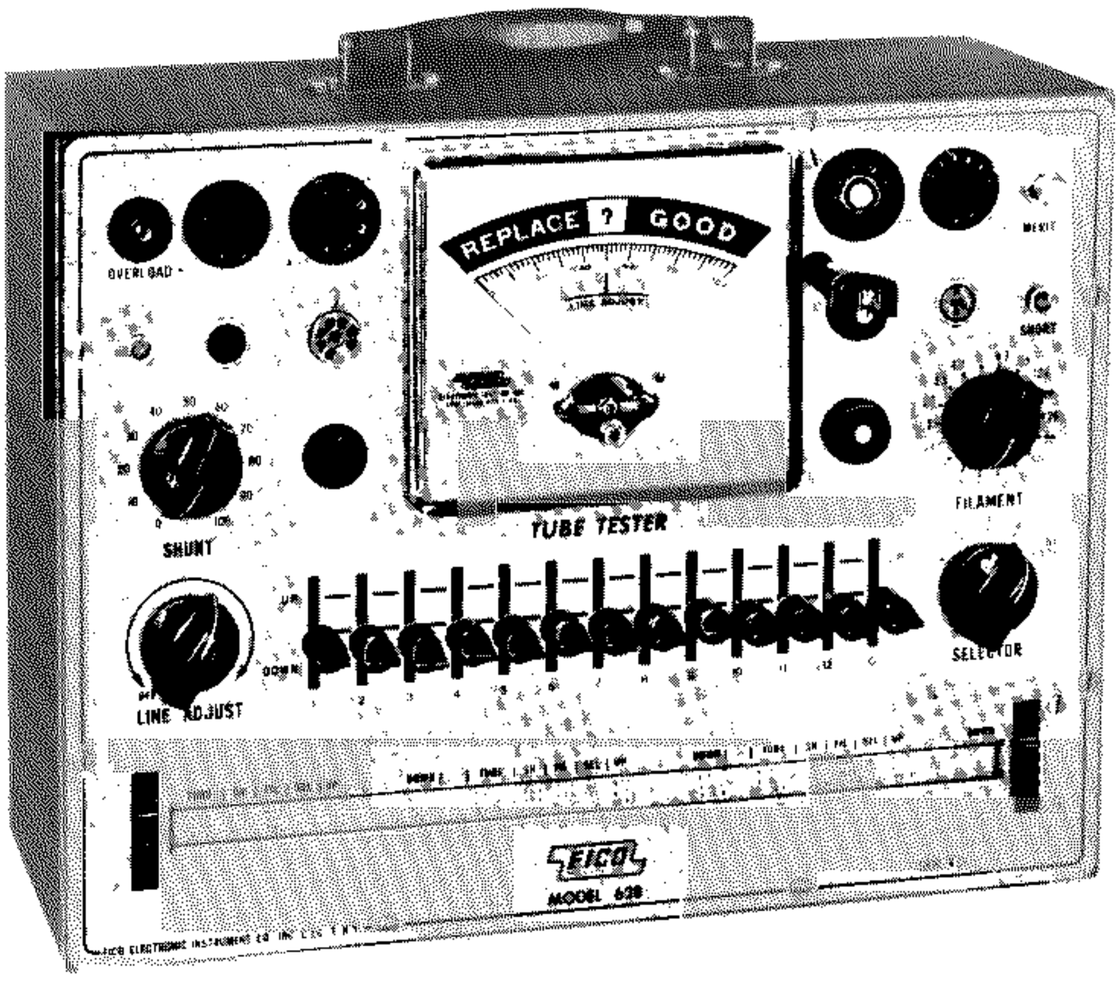
INSTRUCTION MANUAL

EICO

628 TUBE TESTER

131-01 39th Ave., Flushing 52, N. Y.



MODEL 628 TUBE TESTER

DESCRIPTION

The Model 628 Tube Tester was designed for simplicity and ease of operation, with built-in circuit flexibility to guard against obsolescence. Using the well-known emission test circuit, the EICO Model 628 will test practically all current radio and television receiving tubes, including the latest nuvistor, novar and compactron types. It will also test a number of commonly encountered transmitting tubes.

SPECIAL FEATURES

(1) Lever switches for speed and accuracy.

(2) Individual tube element testing. Designed to guard against obsolescence. Provides for future tube types.

(3) Short test -- indicates leaky and shorted tube elements.

(4) Pilot light test.

(5) Line Adjust control. Conveniently combined with the ON-OFF switch.

(6) Circuit Overload bulb -- indicates overload on transformer.

(7) Large easy-to-read meter, with tube quality and line adjust indications.

(8) Speed 3-column roll chart -- simplifies finding and reading of tube test data. Anti-backlash design.

(9) Pin straighteners for 7 and 9 pin miniature tubes -- conveniently mounted on panel.

(10) Lifetime etched, rub-proof panel.

(11) Rugged steel carrying case (lid optional).

SPECIFICATIONS

(1) Power Requirements: 105-135 VAC, 60cps

(2) Size (HWD): 9-1/2" x 12-1/2" x 4-1/4"

(3) Weight: 11 lbs.

(4) Tube sockets: 5-pin nuvistor, 7-pin nuvistor, 7-pin miniature, octal, loctal, combination 9 and 10 pin miniature, combination novar and pilot light, compactron.

(5) Pin straighteners: 7-pin miniature, 9-pin miniature.

OPTIONAL ACCESSORIES

L-1	Lid for regular carrying case
TTC-1	Counter Display Case

CONTROLS

1. LINE ADJUST: This control is used to compensate for variations in line voltage. Correct setting of this control is shown on the meter, when the SELECTOR switch is set to the LINE ADJ. position. The tube tester is turned off by turning the LINE ADJUST control to its maximum counterclockwise position.

2. SHUNT: This control adjusts the meter sensitivity to the required value for the tube to be tested. The setting for the control, for each tube type, is shown on the roll chart.

3. FILAMENT: This switch is set to the required filament voltage for each tube, as shown on the roll chart.

4. SELECTOR: This switch selects the load and element voltage for the tube test, when set as shown on the roll chart.

5. Lever switches: When operated to the UP, center, or DOWN position, as shown on the roll chart for each tube type, the lever switches connect the tube elements to the test circuits for tube merit and short testing. Each lever switch is connected to the corresponding pin of all tube sockets, which results in maximum flexibility of operation. Lever switch C is connected to the grid cap.

6. MERIT: With all other controls set according to the roll chart data, depressing this pushbutton switch closes the test circuit so that the merit of the tube under test is indicated on the REPLACE - ? - GOOD scale of the meter. When the switch is not depressed, the tube tester is automatically set for tube element short testing.

OVERLOAD

The OVERLOAD bulb is an important feature of the Model 628. It will light brightly during the test procedure if a tube with a heavy short is inserted in a tube socket. A tube causing a bright indication on the OVERLOAD bulb must immediately be removed, to protect the instrument.

NOTE: Some tube types, notably rectifier, power, and transmitting tubes, which draw heavy filament current, may cause the OVERLOAD bulb to light dimly. This is normal, and may safely be ignored.

ROLL CHART

The data for merit testing of the various tube types are contained in the roll chart, in three columns. Each column is divided into six sub-columns, as indicated on the panel. The sub-columns are headed TUBE, SH, FIL, SEL, UP, and DOWN.

1. TUBE. The tube type to be tested will be found here, by rotating the thumb wheel at either end of the chart until the desired type appears in the window.

2. SH. This is the required setting for the SHUNT control.

3. FIL. Turn the FILAMENT switch to the indicated setting.

4. SEL. This is the setting for the SELECTOR switch.

5. UP. All lever switches listed under this heading are to be operated to the UP position.

6. DOWN. All lever switches listed here are to be operated to the DOWN position.

7. All lever switches not indicated in either the UP or DOWN sub-columns are to be placed in the center position.

TESTING A TUBE

1. Plug the line cord of the Model 628 into a source of 105-135 volts, 60 cycles A-C only.

2. Set the SELECTOR control to LINE ADJ.

3. Turn the LINE ADJUST control until the meter pointer is on the vertical LINE ADJUST index mark.

4. Rotate the roll chart until the desired tube type is shown in the window.

5. Set the FILAMENT switch to the voltage shown in the FIL. column.

NOTE: Always be sure that this setting is correct. If the FILAMENT switch is set to a higher voltage than that specified on the roll chart, the tube under test may burn out.

6. Set the SHUNT control to the value shown in the SH column.

7. Operate the lever switches listed in the UP column of the roll chart to their UP position, and the lever switches listed in the DOWN column to their DOWN position. All lever switches not listed must remain in the center position.

NOTE: Some tubes will have test data given on two or more lines of the roll chart (e.g., 6AW8, 6BQ7, etc.). These tubes are multisection types, and each section of such types must be tested as if they were individual tubes. Each line of the roll chart

(except for the filament voltage, which is listed only once for each tube) contains the data for testing one section of such tubes. If any section of a multisection tube tests bad, the entire tube is considered defective.

8. Insert the tube to be tested in the proper socket on the panel. If the tube has a top cap, connect the grid cap (on the flexible lead from the panel) to it. Allow the tube to warm up. After the tube has warmed up, re-adjust the LINE ADJUST control to return the meter pointer to the LINE ADJUST index mark.

Before proceeding, look at the OVERLOAD and SHORT bulbs. If the neon SHORT bulb is glowing, a short exists between one or more of the tube elements whose lever switches are in the UP position and elements with lever switches in the center or DOWN positions. Do not test a shorted tube for merit because of the possibility of damaging the MERIT test circuits of the tube tester.

If the OVERLOAD bulb is lit brightly, remove the tube from its socket immediately and reject as defective. A dull glow of the OVERLOAD bulb may be neglected if the tube under test is a rectifier, power or transmitting type. NOTE: The OVERLOAD bulb may light, even with no tube in a socket, if the LINE ADJUST control is turned up too far.

9. Turn the SELECTOR switch to the position shown in the SEL. column.

10. Test the tube, or section, for shorts by moving each UP lever switch to DOWN and back to UP, one at a time, and then moving each DOWN lever switch to UP and back to DOWN, one at a time. Do not move the lever switches which are in the center position. Lever switches which are underlined on the roll chart must show shorted when moved to the opposite position (if any do not, the associated tube elements are open and defective); lever switches which are not underlined on the roll chart must not show shorted when moved to the opposite position (if any do show shorted, the tube is defective). NOTE: A momentary flicker of the neon SHORT lamp on moving a lever switch through a position is of no significance.

11. Repeat steps 7 and 10 for each section of a multisection tube before going on to the MERIT test.

12. Double check all controls and lever switch settings to see that they agree with the roll chart data. If they do agree, depress the MERIT pushbutton and read the tube quality on the meter. NOTE: If the reading is in the "REPLACE" region, the tube has low emission and should be discarded. If the reading is in the "?" region, the tube is weak, but probably operative. If the reading is in the "GOOD" region, the tube has proper emission. The numerical scale on the meter is used for matching tubes of the same type for use in push-pull amplifier stages, etc. NOTE: High voltage, low current diodes, such as 1B3, 1G3, etc., are considered GOOD if meter reads above 30.

13. Release the MERIT pushbutton after reading the meter.

14. Repeat steps 12 and 13 for each section of multisection tubes.

SPECIAL TESTS

1. OPEN ELEMENT TEST.

A tube may be tested for open elements while being tested for quality. With the MERIT pushbutton depressed, move each UP lever switch, if not underlined on the roll chart, from its UP position to the center position and back to UP, while noting the meter reading. Internal tube pin-to-element continuity is indicated by a drop in the meter reading when the associated lever

switch is moved to its center position. Tube elements closest to the cathode will show the greatest drop in meter reading, while each element successively further away from the cathode (e.g., screen, suppressor, and plate, etc.) will show progressively smaller drops in meter reading. Some of the most modern tubes have their outer elements so well shielded from the cathode that it is practically impossible to see any change in meter reading when these elements are switched in and out of the test circuit. Such elements may be tested by a) releasing the MERIT pushbutton, b) throwing all UP lever switches, except the switch connected to the element under test, to the center position, and c) depressing the MERIT pushbutton. If necessary, the SELECTOR switch and SHUNT control may be re-set for a higher meter reading on these elements.

NOTE: Many tubes have elements internally connected to more than one pin. The lever switches for these elements are underlined in the UP column of the roll chart. To prevent damage to either the meter or tube, the open element test must be modified. If only two or three lever switches in the UP column of the roll chart are underlined, a) release the MERIT push-button, b) throw all underlined lever switches to center position, c) depress the MERIT push-button, d) note drop in meter reading, e) release the MERIT pushbutton, and f) return all underlined lever switches to the UP position before testing the remaining elements. If four lever switches are underlined in the UP column of the roll chart, it must be assumed that several elements are connected to more than one pin each. It will be necessary, in this case, to refer to the tube basing diagram to determine which lever switches are connected to the same element. The tube basing diagrams may be found in tube manuals published by the major tube manufacturers. Both lever switches of a pair connected to the same element are moved together in the modified open element test described above.

2. FILAMENT, FILAMENT-TAP, INTERNAL PIN CONNECTION CONTINUITY TESTS.

Turn the FILAMENT switch to zero volts and, one at a time, shift each lever switch that is underlined in either the UP or DOWN column of the roll chart to the opposite position (e.g., if in the DOWN position, shift to the UP position, and vice-versa), and back to the original position. Continuity is indicated by a bright glow of the neon SHORT indicator when the underlined lever switch is in its opposite position.

PILOT LAMP TESTING

1. Set SELECTOR switch to LINE ADJ.

2. Rotate LINE ADJUST control until the meter pointer is on the vertical LINE ADJUST index mark.

3. Set the FILAMENT switch to the rated voltage for the pilot lamp.

4. Insert the pilot lamp in the pilot lamp socket mounted in the center of the novar socket, making certain that the center contact and shell of the pilot lamp touch the corresponding contacts of the socket.

5. A good lamp is indicated by normal lighting of its filament.

NEW TUBES

EICO periodically issues new roll charts and supplements, which will be available at a nominal charge. By filling out and returning to EICO the registration card included with each instrument, the owner can be assured of notification when new charts and supplements are made available. During the interim period between the release of a new tube and the publication of the

roll chart containing test data for the new tube, the following procedure may be used to determine the approximate setting for the tube.

1. Move all lever switches to the center position.

2. Move the cathode lever switch, suppressor (if any) lever switch, and one of the filament lever switches to the DOWN position. If the filament is center-tapped, move the lever switches connected to the ends of the filament to the DOWN position.

3. Move the control grid, screen (if any) and plate lever switches to the UP position.

NOTE: All remaining lever switches will remain at the center position.

4. Turn the FILAMENT switch to the rated filament voltage. For center-tapped filaments, use the parallel operation filament rating.

5. Turn the SELECTOR switch to position 1 for tubes which normally draw less than 3ma of plate current, and detector type diodes; to position 2 for tubes rated at between 3 and 15ma; to position 3 for tubes rated above 15ma, and power rectifier diodes; or to position 4 for gaseous and magic eye tubes.

6. Set the SHUNT control to zero. Insert the tube in its socket and, after it has warmed up, depress the MERIT pushbutton. Turn the SHUNT control until the meter reads approximately 80, or 80% of full scale.

7. Record these settings for future reference. More meaningful settings of the SHUNT control can be obtained by testing three or more tubes of the same type, preferably from different manufacturing runs (as determined by the code number stencilled on the tube envelope) and averaging the settings of the SHUNT control which yield meter readings of 80. When these settings are established at the EICO laboratory, high level, low level and bogie (average) tubes are used to determine the optimum setting.

MAINTENANCE

1. METER ZERO.

For proper operation of the Model 628, the meter pointer must indicate zero when the instrument is turned off. If it does not, adjust the mechanical zero-adjust screw on the meter face, using a small screwdriver, until the pointer indicates zero.

2. CLEANING TUBE SOCKET TERMINALS.

After a long period of time, a film of dirt may form on the inside contact surfaces of the tube socket terminals which will prevent good contact from being made with the pins of an inserted tube. If this condition occurs, spray or pour a small amount of contact cleaner into the socket terminals. This will remove the dirt film and restore good contact surfaces.

ROLL CHART REPLACEMENT

1. Disconnect the instrument from the power line, remove the 8 screws on the panel edges, lift the instrument from its cabinet, and place the panel, face down, on the workbench. Place some soft material under the panel so as not to mar the finish.

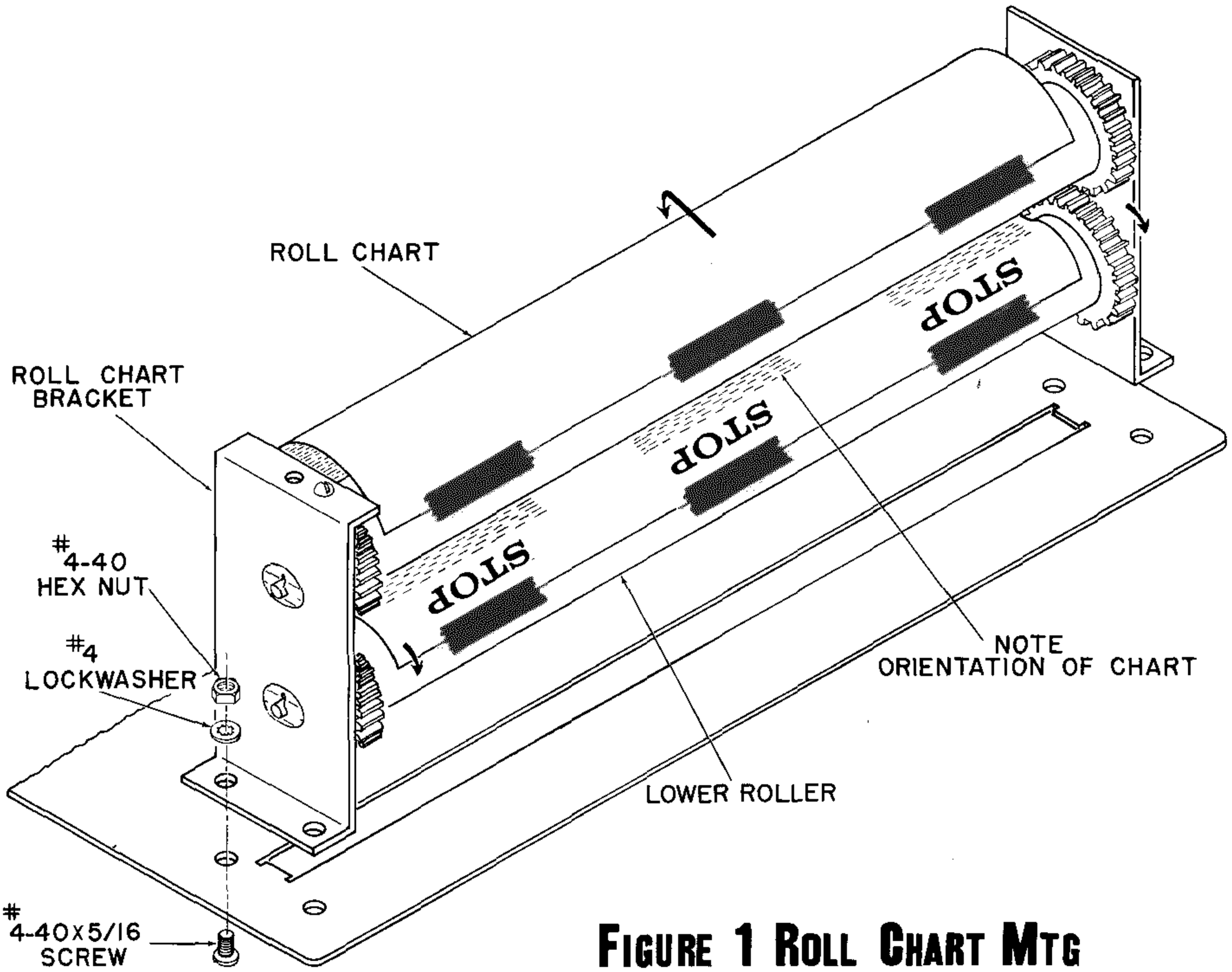


FIGURE 1 ROLL CHART MTG

2. Wind the old roll chart to the bottom end and detach the end of the chart from its roller. Unwind and remove the old chart.

3. Using good quality masking tape, fasten the top end of the new roll chart to the side of the lower roller facing the bottom edge of the panel, with the printed side of the roll chart facing away from the roller. Wind the chart onto the roller carefully, making certain that it does not wrinkle or bind on the side gears. When the roll chart is fully wound on the lower roller, pass the bottom end of the chart between the lower and upper rollers, and bring to the top of the upper roller. If done correctly, the printed side of the roll chart will face towards the upper roller when wound on to it. Holding the chart end against the upper roller, wind the lower roller until the chart is tight. Fasten the end of the chart to the upper roller, using masking tape. Wind the chart through to its top end, by means of the thumb gears, to make sure that the chart travels smoothly, without binding. See Fig. 1 for chart orientation.

Replace the instrument in its cabinet and replace the 8 panel retaining screws. Be careful not to pinch any wires between the panel and the cabinet flanges.

SERVICE CONSULTATION

If you are experiencing trouble that you cannot diagnose yourself, you are invited to avail yourself of the EICO Customer Service Department. The consultant handling your inquiry will make every effort to diagnose the cause of your particular difficulty based on the information that you provide. Please be as thorough as possible. Include the following information about your unit:

a) Have you made a thorough check of the wiring, checking also for cold solder joints, or accidental shorting between parts, or to panel? (Check to see whether a bare wire or lead extends far enough to be shorted when the instrument is installed in its cabinet.

b) Does the trouble occur at one time or one operating situation, but not at another time or operating situation? Be as specific as possible in this respect.

c) Have you observed any pecularity about a part? If a part appears charred or otherwise damaged by excessive heat, please say so. If you think you have damaged a particular part in the assembly or wiring, please say so. In conjunction with the symptoms, the consultant may be able to determine whether such a part is likely to be defective.

PARTS REPLACEMENT

If it appears that a component is defective, and you desire a replacement from EICO, address your correspondence to our Customer Service Department.

If you are claiming the right to a no-charge replacement under the terms and conditions of the warranty, it is required that you shall have sent in the registration card within 10 days of the date of purchase, and that you send back the defective part transportation prepaid. EICO will make the necessary replacement at no charge for parts eligible under the terms and conditions of the warranty. Please read the warranty on the subject of parts eligible for replacement.

Further information required on a part returned to the factory for a no-charge replacement under the terms and conditions of the warranty is as follows:

a) Model number and serial number of unit.

b) Stock number and description of part as given on parts list.

c) Describe as completely as possible the nature of the defect, or your reason for requiring replacement.

FACTORY REPAIR SERVICE

EICO maintains a Factory Repair Service Department for in-warranty or out-of-warranty repair of EICO equipment. It is intended to serve those customers who are not adequately familiar with electronics to make use of the EICO Service Consultation facilities, or whose difficulties cannot be solved by correspondence.

For all out-of-warranty units, there is a minimum labor and handling fee. For the Model No. 628, this fee is $7.00. Charges for components replaced are additional to the minimum fee.

For in-warranty completed kit units, there is a minimum labor and handling fee. For the Model No. 628, this fee is $7.00. There is no charge for a replaced defective part provided that the terms and conditions of the warranty for no charge replacement are not violated in the judgement of EICO.

For in-warranty factory-wired units, there is no labor and handling fee if the unit complies with the terms and conditions of the warranty in the judgement of EICO. However, if the terms and conditions of the warranty are violated, then there will be charged to the customer a minimum labor and handling fee plus the cost of parts replaced.

In all cases, the unit must be sent to the factory transportation prepaid, and the unit will be returned to the customer transportation collect.

The services rendered for the minimum labor and handling fee are the correction of any minor wiring errors (not extensive corrections or re-wiring), the labor involved in replacing defective parts, and any adjustments, alignment, or calibration procedures that would normally be performed on a factory-wired unit. Units not wired according to instructions, or modified in any way, or showing evidence of the use of acid core solder, will not be serviced and will be returned to the customer forthwith.

Units requiring extensive corrections or re-wiring will incur an additional labor charge which will be set by EICO. The customer will be informed of this situation and written authorization from the customer will be required before the work is done.

Please Note: minimum labor and handling fees are subject to revision at any time.

LOCAL REPAIR FACILITIES

Out-of-warranty repair work may also be performed by authorized service stations as well as the EICO factory. A list of authorized service stations is provided with this manual. The roster of stations may change from time to time, and if considerable time has elapsed since you purchased your unit, you are advised to contact the station you choose before sending the unit to them for repair. Use of a local service station will often result in faster service, and usually, lower transportation costs.

It is necessary that you comply with the Shipping Instructions that follow when sending in a unit for service.

SHIPPING INSTRUCTIONS

You are strongly advised to retain the original shipping carton and inserts in the case that re-shipment is required for service or any other purpose. The carton may be collapsed, for storage in as small a space as possible. In very many cases, the same carton is used for kit and factory-wired units so that the kit carton will serve for re-shipment of the completed kit.

To submit a unit for service, either to the factory or an authorized service station*, fill out completely the Service Work Order form provided with the manual. Pack the unit very carefully, preferably in the original shipping carton with the original inserts.

If this is not possible, use a strong oversize carton, preferably wood, allowing at least 3 inches of resilient packing material such as shredded paper or excelsior, to be inserted between all sides of the unit and the carton. Seal the carton with strong gummed paper tape or strong twine, or both. Include the Service Work Order in the carton and in addition, attach a tag to the

instrument on which is printed your name and address and brief reference to the trouble experienced. Affix "FRAGILE" or "HANDLE WITH CARE" labels to at least four sides of the carton, or print these words large and clear with a bright color crayon. Ship by prepaid Railway Express or parcel post to:

EICO Electronic Instrument Co., Inc.
131-01 39th Avenue
Flushing, N.Y., 11352
Attention: Repair Department

Include your name and address on the outside of the carton. Return shipment will be made transportation charges collect. Note that a carrier cannot be held liable for damages in transit, if packing, IN HIS OPINION, is insufficient.

*Authorized service stations are for out-of-warranty units only, unless the station is specifically noted on the List of Authorized Service Stations to be authorized for other work.

THE EICO WARRANTY

The EICO ELECTRONIC INSTRUMENT CO., INC., hereafter referred to as EICO, warrants that, for a period of 90 days from the date of purchase, any EICO kit will be free of defects in parts, and that any EICO factory-wired unit will be free of defects in parts and workmanship. For an EICO kit, EICO's obligation is limited to those parts which are returned transportation pre-paid to the factory without further damage, and in the judgement of EICO are either originally defective or have become defective in normal use. For an EICO factory-wired unit, EICO's obligation is limited to those parts, sections, or the entire unit which is returned transportation pre-paid to the factory without further damage, and in the judgement of EICO are either originally defective or have become defective in normal use.

The warranty does not apply to any parts damaged in the course of handling, assembling, or wiring by the customer, or damaged due to abnormal usage or in violation of instructions or reasonable practice, or further damaged to a consequential degree in return shipment. Furthermore, the foregoing warranty is made only to the original customer, and is and shall be in lieu of all other warranties, whether expressed or implied, and of all other obligations or liabilities on the part of EICO, and in no event shall EICO be liable for any anticipated profits, consequential damages, loss of time, or other losses incurred by the customer in connection with the purchase or operation of EICO products or components thereof.

The registration card, which accompanies each EICO kit or factory-wired unit, must be filled in and returned to the company within 10 days after the date of purchase. This warranty applies only to registered units.

REPLACEMENT PARTS LIST

SYM. #	STOCK#	DESCRIPTION
	CAPACITORS	
C1	20000	paper, .01ufd, 400V, 20%
	POTENTIOMETERS	
R2	17001	200Ω, wire wound
R10	19012	200Ω, w/off position
	RESISTORS	
R1	10426	470KΩ, 1/2 watt, 10%
R3	10515	510Ω, 1/2 watt, 5%
R4	10772	1600Ω, 1 watt, 5%
R5	11023	95KΩ, 1/2 watt, 1%
R6	14503	2500Ω, 5 watt, 10%
R7	10771	820Ω, 1 watt, 5%
R8	10773	4700Ω, 1 watt, 5%
R9	13602	3.3Ω, 1 watt, 10%
R11	10426	33KΩ, 1/2 watt, 10%
	SOCKETS	
XV1	97072	5 pin Nuvistor
XV2	97073	7 pin Nuvistor
XV3	97024	7 pin miniature
XV4	97068	10 pin miniature
XV5	97003	octal
XV6	97001	loctal
XV7	97074	Novar w/bulb socket
XV8	97064	12 pin compactron
	SWITCHES	
S1-13	65007	lever, 13 position
S14	64000	SPDT, push
S15	60125	rotary, 18 position
S16	60009	rotary, 5 position
	MISCELLANEOUS	
CR1	93017	rectifier, silicon
I1	92002	bulb
M1	72016	meter
N1, 2	97715	neon indicator
T1	30065	transformer, power
TB1	54024	terminal strip, 2 post left
TB2	54014	terminal strip, 3 post, 2 left
	53011	knob, round bar (4)
	53072	knob, lever type (13)
	57000	line cord (1)
	80143	panel front (1)

STOCK#	DESCRIPTION	
81384	roll chart bracket, straight	(1)
81964	roll chart bracket	(1)
81965	bracket, right	(1)
81966	bracket, left	(1)
87002	handle, plastic	(1)
88116	cabinet	(1)
89565	gear, roll chart	(4)
89568	damper, roll chart	(1)
89715	rod, roll chart	(2)
89717	window, roll chart	(1)
89718	roller, chart	(2)
89730	chart	(1)
89731	chart, supplement	(1)
97037	socket, 7 pin tube straightener	(1)
97038	socket, 9 pin tube straightener	(1)
97704	pilot light assembly	(1)
98501	grid cap	(1)

HARDWARE

40000	nut, No. 6-32	(13)
40001	nut, 3/8"	(6)
40002	nut, 15/32	(2)
40007	nut, 4-40	(22)
40019	nut, Tinnerman, No. 6-32	(2)
40021	nut, Tinnerman, push-on	(4)
41035	screw, No. 6 x 1/4 self-tapping	(8)
41067	screw, No. 4-40 x 5/8	(2)
41086	screw, No. 6-32 x 5/16	(14)
41089	screw, No. 6-32 x 3/16, rd. hd.	(1)
41090	screw, No. 4-40 x 5/16	(12)
42000	washer, lock, 3/8	(1)
42001	washer, flat, 3/8	(5)
42002	washer, lock, No. 6	(13)
42007	washer, lock, No. 4	(22)
46001	grommet, rubber, 1/4"	(1)
46004	grommet, rubber, 5/8"	(2)

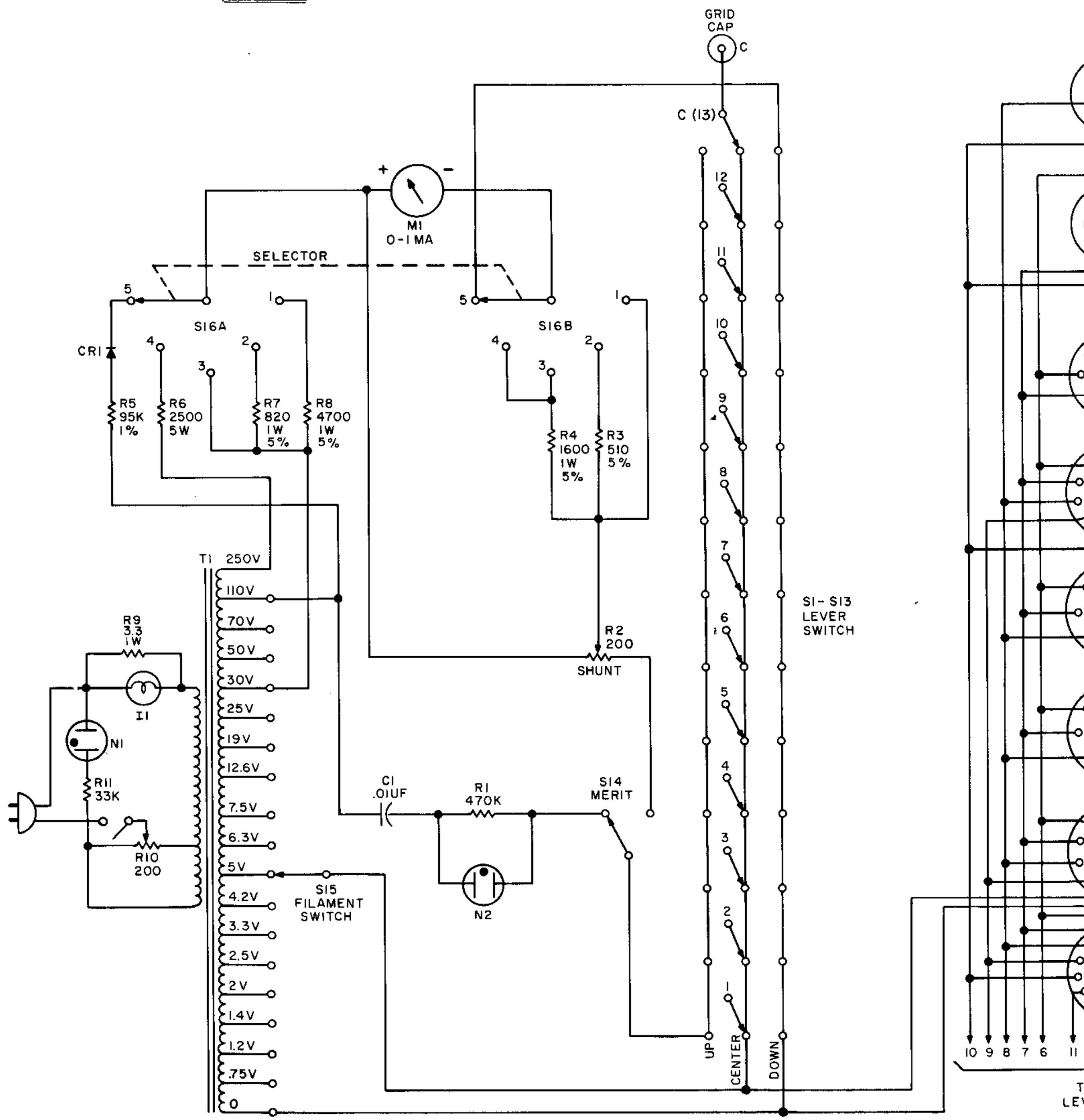
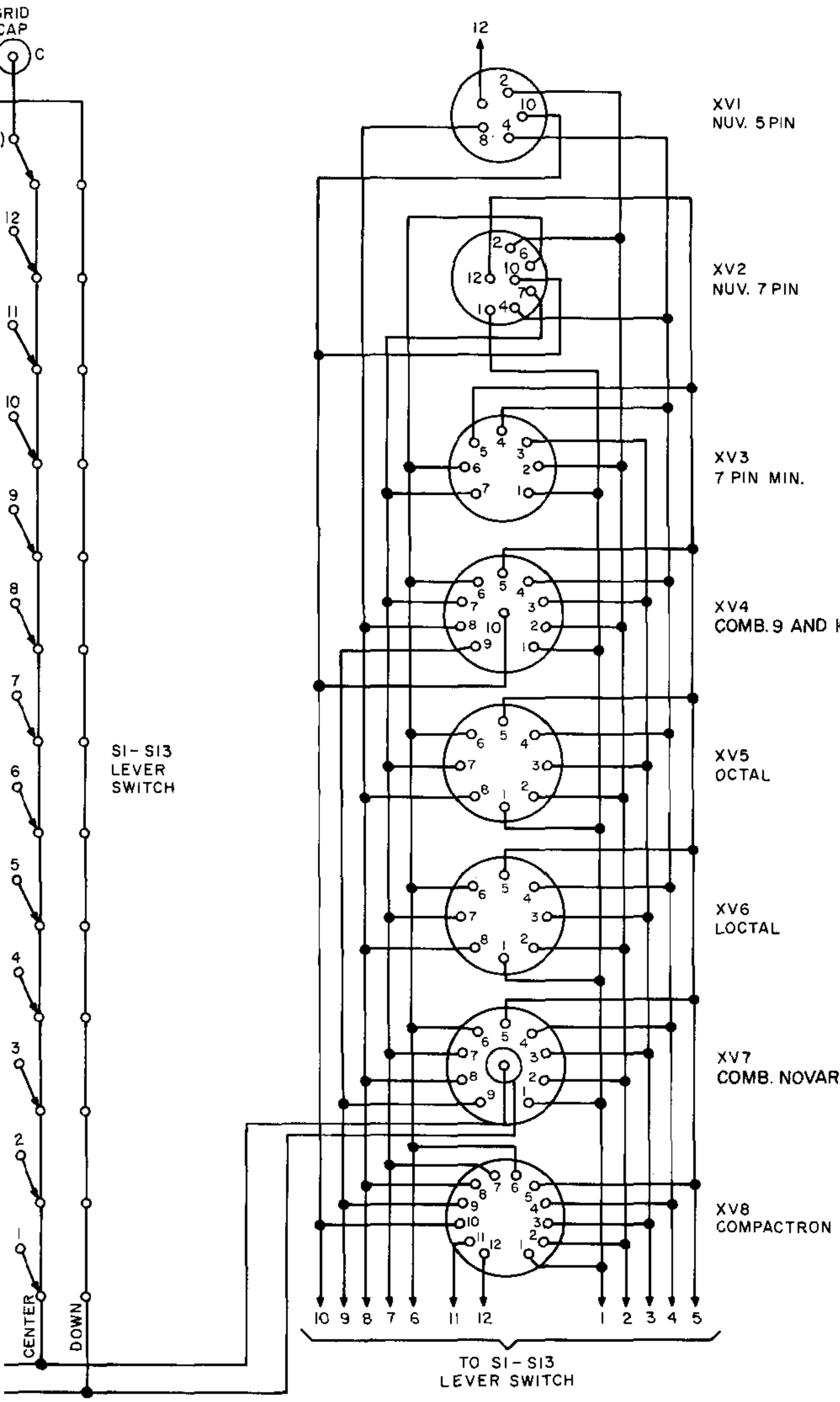


FIGURE 2 SCHEMATIC DIAGRAM FOR 628



EMATIC DIAGRAM FOR 628

SERVICE WORK ORDER

Model No._____ Serial No._____ Date _____

Indicate red code numbers (if any) under words "INSTRUCTION MANUAL" on cover of manual_____

Check one: Purchased as kit ☐ Purchased factory-wired ☐

Name _____

Address _____

Item (s) Returned: (specify any separately purchased accessories included in shipment, or any detachable parts normally supplied that are omitted)

_____

_____

Troubles and/or Repairs Required _____

_____

_____

_____

Check one: Warranty Privileges Claimed Yes ☐ No ☐

If Warranty Privileges Are Claimed, Please Supply Information Required Below

WARRANTY REPAIR REQUIRED INFORMATION

Date of Purchase _____ Date Registration Card Mailed _____

Date Completed (if kit) _____

Sales Slip (or facsimile thereof) enclosed Yes ☐ No ☐

Distributor _____

Address _____

LOCAL AUTHORIZED SERVICE STATIONS FOR OUT-OF-WARRANTY REPAIRS

For the convenience of our customers who may prefer to have their units serviced locally, the following repair stations have been franchised and are equipped to service all EICO units:

New York

A to Z Television Inc.
1109 Harlem Rd.
Cheektowaga 25, N.Y.

Marveltone Recording Service
1168 Flatbush Ave.
Brooklyn 26, N.Y.

Electrosony Corporation
65-37 Queens Blvd.
Woodside 77, N.Y.
Phone: ILlinois 7-7733
Hours: Mon.-Fri. 8 a.m. - 7 p.m.
Sat..... 8 a.m. - 5 p.m.

Syracuse Instrument Labs.
4895 South Ave.
Syracuse 7, N.Y.

Wide Enterprises, Inc.
612 Union St.
Schenectady 8, N.Y.

North Carolina

Speed Instrument Co.(Test Equip. Only)
2718 Rothgeb Drive
PO Box 9028
Raleigh, N.C.

Wayne M. Yelverton
8 Olivet Church Rd.
Winston-Salem, N.C.

Ohio

Electronic Instrument Service Co.
10023 Madison Ave.
Cleveland 2, Ohio

Far Hills Service Center
45 W. Whipp Rd.
Dayton 59, Ohio

Dave's Radio & TV
3112 Upton at W. Central
Toledo 13, Ohio

Oklahoma

Greer's Telefix
528 S. 75 East Ave.
Tulsa 12, Okla.

Pennsylvania

Sunshine Scientific Instrument
1810 Grant Ave.
Philadelphia 15, Pa.

Pennsylvania

Michael's TV & Radio Service
1127 West Chester Pike
Havertown, Pa.

Electronic Servicenter
5354 Germantown Ave.
Philadelphia 44, Pa.

South Carolina

Cayce Radio-TV & Appliances, Inc.
906 Knox Abbott Drive
Cayce, S.C.

Texas

Nelson Electronics Eng. Co.
6329 Gaston
Dallas 14, Texas

Test Equipment Co.
5319 Harlan Drive
El Paso, Texas

B & M Electronic Service
2215 S. Shepherd Drive
Houston 19, Texas

Mundine Radio & Instrument Service
217 E. White St.
San Antonio 5, Texas

Utah

Anderton Electronic Lab.
129 E. 1800 South
Bountiful, Utah

Canada

J. R. Tilton Ltd.
51 McCormack St.
Toronto, Ontario, Canada

Argentina

Laboratory Hertz
Buenos Aires, Argentina

New Zealand

John C. Gilbert & Co., Ltd.
Anzac Avenue
Auckland, C.I., New Zealand

Connecticut

Crawford Electronics
2 Layton Street
W. Hartford 10, Conn.

These repair stations are authorized to perform out-of-warranty chargeable repair work in accordance with factory standards. In-warranty repairs should be returned to the factory in accordance with the instructions printed in the accompanying manual.

LOCAL AUTHORIZED SERVICE STATIONS FOR OUT-OF-WARRANTY REPAIRS

For the convenience of our customers who may prefer to have their units serviced locally, the following repair stations have been franchised and are equipped to service all EICO units:

Alabama

Electro-Mechanical Assoc.
3182 Warrior River Rd.
Hueytown, Alabama

Arnold TV Service
1259 Eslava Drive
Mobile, Alabama

Arkansas

Arkansas Industrial Electronics Co.,Inc.
5020 Club Rd.
Little Rock, Arkansas

California

Electronic Instrument Service Co.
8907 S. Vermont Ave.
Los Angeles 44, Calif.

United Sound & TV Co.
5036 Venice Blvd.
Los Angeles, Calif.

United Sound & TV Co.
2010 W. Lincoln Ave.
Anaheim, Calif.

Electro Service Co.
1821 University Ave.
Berkeley, Calif.

Colorado

Meter-Master Instrument Service
2145 So. Kalamath
Denver 22, Colorado

District of Columbia

American Technical & Service
4961 Bethesda Ave.
Bethesda, Md.

Florida

Southern Auth. Factory Service
62 N.S. 27th Ave.
Miami 35, Fla.

Hawaii

Electronic Laboratories
2779 Mokumoa St.
Honolulu 17, Hawaii

Illinois

B & S Electronic Inc.
6326 W. Roosevelt Rd.
Oak Park, Chicago, Ill.

Louisiana

Industrial Instrument Works
3328 Magazine St.
New Orleans 15, La.

Maryland

American Technical & Service
4961 Bethesda Ave.
Bethesda, Md.

Massachusetts

Park Armature Co.
1218-30 Columbus Ave.
Boston 20, Mass.

Michigan

Chase Television Service Inc.
16311 Grand River
Detroit 27, Michigan

Minnesota

Andersen TV & HiFi Service
4145 Minnehaha Ave., So.
Minneapolis, Minn.

Missouri

Scherrer Instruments
5449 Delmar Blvd.
St. Louis 12, Mo.

Nebraska

Hi-Pix Service
7001 Dodge St.
Omaha, Nebraska

11-1-70

EICO ELECTRONIC INST. CO. INC.
Tube Test Data Division
1744 Rockaway Avenue
Hewlett, L.I., N.Y. 11557

NEW TUBE RELEASES for use with ROLL CHART 628-04

TUBE	SHUNT	FIL	SEL	UP	DOWN
1DG3	85	1.4	4	10	3-5
	Good tube reads above 20				
	No short test				
2GU5	23	2.5	2	1-5-6	(2-7)3
3CX3	55	3.3	4	C	2
3DF3	45	3.3	4	10	3
	Good tube reads above 30				
	No short test				
3DJ3	44	3.3	4	C	2
4GS7	25	3.3	2	1-2	(3-8)4
4GS7	25	3.3	2	6-7-9	(3-8)4
4MK8	22	3.3	2	2-3-7	1-4-6
4MK8	22	3.3	2	2-7-8	1-4-9
5AQ4	25	5.0	3	6	2
5AQ4	25	5.0	3	4	2
5BK5	24	5.0	3	1(3-7)8	4-6
6BW3	20	6.3	3	(4-10)	1-7
6DN3	23	6.3	2	(2-7)	4-9
6HE7	15	6.3	3	2	(1-12)C
6HE7	15	6.3	3	9-11-C	8(1-12)
6HV5	15	6.3	3	(2-11)(3-10)7	1-4
6JB5	23	6.3	3	(2-9)(3-10)6	(4-11)12
6KS6	100	6.3	1	2-5-6-7	1-3
	Good tube reads above 40				
6MU8	26	6.3	2	1-9	4-8
6MU8	26	6.3	2	2-3-6	4-7
6RA-6	25	6.3	2	(2-7)9	1-4-9
8LX8	22	7.5	2	2-3-6	4-7
8LX8	23	7.5	2	1-9	4-8
8MD8	24	7.5	2	1-9	4-7
8MD8	24	7.5	2	2-8	4-7
8MD8	24	7.5	2	3-6	4-7
8MU8	26	7.5	2	1-9	4-8
8MU8	26	7.5	2	2-3-6	4-7
9AH9	20	7.5	3	2-3	1-4
9AH9	23	7.5	2	(5-6)8-11	1-7
9BJ11	25	7.5	2	2-3-4-6	5-12
9BJ11	25	7.5	2	7-8-9-11	1-10
9GH8	23	7.5	2	2-3-6	4-7
9GH8	23	7.5	2	1-9	4-8
9MN8	20	7.5	3	6-8	3-12
9MN8	20	7.5	3	4-10	3-12
9MN8	20	7.5	3	2-11	3-12
9RA-6	25	7.5	2	(2-7)9	1-4-9
10AF11	28	7.5	2	3-4	7-C
10LB8	25	7.5	2	2-3	1-4
10LB8	14	7.5	3	7-8-9	4-6
10T10	20	7.5	3	3-5-6-7	1-2
10T10	20	7.5	3	8-10-11	1-9
10Z10	17	7.5	3	2-9-11	1-3
10Z10	75	7.5	1	4-5-6-7	1-8
	Good tube reads above 25				
11FY7	17	12.6	3	3-5	7-C
11FY7	15	12.6	1	10-11	9-12
12AE10	27	12.6	2	3-5-7	1-2
12AE10	27	12.6	2	8-10-11	9-12
12AF11	28	12.6	2	3-4	7-10
12AF11	26	12.6	2	6-8	5-10
12AF11	26	12.6	2	10-11	9-12
12CT3	24	12.6	2	(2-6)	4-9
12HB25*	25	12.6	2	(1-2)(3-8)(6-7)C	4-9
12HU8	22	12.6	2	1-2-3	4-7
12HU8	22	12.6	2	6-8-9	4-7
12JS6	17	12.6	3	(3-11)4-5	1-2
15MF8	15	12.6	1	2	3-4
15MF8	15	12.6	1	6	1-4
17BB14*	22	12.6	2	(1-2)(6-7)C	(3-8)4
	*Must use magnoval adapter				
17HB25*	25	12.6	2	(1-2)(3-8)(6-7)C	4-9
	*Must use magnoval adapter				
17JF6	15	12.6	3	(1-7)(2-6)8-C	3-5
17Y9#	24	12.6	2	1-3-4	2-6-7
17Y9#	36	12.6	2	8-9-C	2-6
17Z3	17	19.0	3	1-2-3-6-7-8-9	4-C
19FL8	28	12.6	2	1-2-6-9	3-4
19FL8	32	12.6	1	7	3-4
19FL8	32	12.6	1	8	3-4
19FX5	23	12.6	2	(2-5)6-7	1-3
21KA6	15	19.0	3	3-5-C	1(4-11)10
22KV6	15	25.0	3	1(2-7)9	3-4
24BF11	14	25.0	1	3-5-6-7	1-2
24BF11	14	25.0	3	8-10-11	1-9
24JZ8	15	25.0	3	(6-7)4-8	1-9
24JZ8	25	25.0	3	2-10	1-11
25BB14*	22	25.0	2	(1-2)(6-7)C	(3-8)4
	*Must use magnoval adapter				
25JZ8	19	25.0	3	4(6-7)8	1-9
25JZ8	31	25.0	2	2-10	1-11
26AQ8	22	25.0	2	1-2	3-4
26HV5	15	25.0	3	(2-11)(3-10)7	1-4

(OVER)

TUBE	SHUNT	FIL	SEL	UP	DOWN
30JZ6	15	30.0	2	3(4-10)5-C	1-2
31LQ6	15	32.0	3	(1-7)(2-6)C	3-4
34CD3	14	32.0	3	4	1-7
38HK7	19	12.6	3	2	(1-12)4
38HK7	19	12.6	3	9-11-C	(1-12)8
50GY7	18	25.0	3	2	(1-12)4
50GY7	20	25.0	2	5(9-10)11	(1-12)8
53HK7	19	25.0	3	2	(1-12)4
53HK7	19	25.0	3	9-11-C	(1-12)8
58HE7	15	25.0	3	2	(1-12)4
58HE7	15	25.0	3	9-11-C	8(1-12)
7751	24	6.3	2	(1-4)3-5	2-8
7788	24	6.3	2	2(6-9)7-8	(1-3)4
8032	54	12.6	2	3-5-10	(1-4-6)2

FOREIGN

E-84L	19	6.3	3	1-2-7-9	3-4
E-235L	24	6.3	2	(1-4)3-5	2-8
E-810F	24	6.3	2	2(6-9)7-8	(1-3)4
EL-504*	14	6.3	3	(1-2)(6-7)C	(3-8)4
GZ-32	25	5.0	3	6	2
GZ-32	25	5.0	3	4	2
HCH-81	28	12.6	2	8-9	3-5
HCH-81	26	12.6	2	2-6-7	3-5
PY-500*	18	30.0	3	(2-7-8)	4-C
UBF-89	28	12.6	2	1-2-6-9	3-4
UBF-89	32	12.6	1	7	3-4
UBF-89	32	12.6	1	8	3-4
UCC-85	22	25.0	2	1-2	3-4
XL-500*	14	12.6	3	(1-2)(6-7)C	(3-8)4