



## REPAIR PARTS and SERVICE INSTRUCTIONS

### GENERAL DESCRIPTION

Models 540B (Black), 540H (Ivory), and 540M (Mahogany) are plastic-cased 5 tube clock radios which tune the standard broadcast band. The receivers have built-in loop antennas and once a station is tuned in, the receiver should be rotated and left in position where the signal is received with maximum volume. If desired, an external antenna may be connected to the terminal provided for that purpose on the back cover.

The clock may be used to:

- (A) Provide correct time.
- (B) Turn on radio program for awakening.
- (C) Turn the buzzer alarm on 10 minutes after the radio starts playing.



- (D) Turn on the buzzer alarm for awakening with the radio silenced.

Front panel controls are provided for tuning and volume. On the clock face are the alarm set and operating selector controls.

### SPECIFICATIONS

POWER SUPPLY	105-125 Volts, 60 cycle AC, 30 Watts
FREQUENCY RANGE.....	540-1650 Kc.
INTERMEDIATE FREQUENCY.....	455 Kc.
SPEAKER.....	4" P.M., 1.0 oz. Magnet

#### SYLVANIA TUBE COMPLEMENT

Function	Type
Oscillator-Converter	12BE6
I.F. Amplifier	12BA6
Detector - AVC - 1st Audio	12AT6
Audio Output	50C5
Rectifier	35W4

### ALIGNMENT PROCEDURE

#### PRELIMINARY INSTRUCTIONS

Set volume control to maximum position.

Allow chassis and signal generator to warm up for several minutes.

Connect an A.C. voltmeter across voice coil terminals.

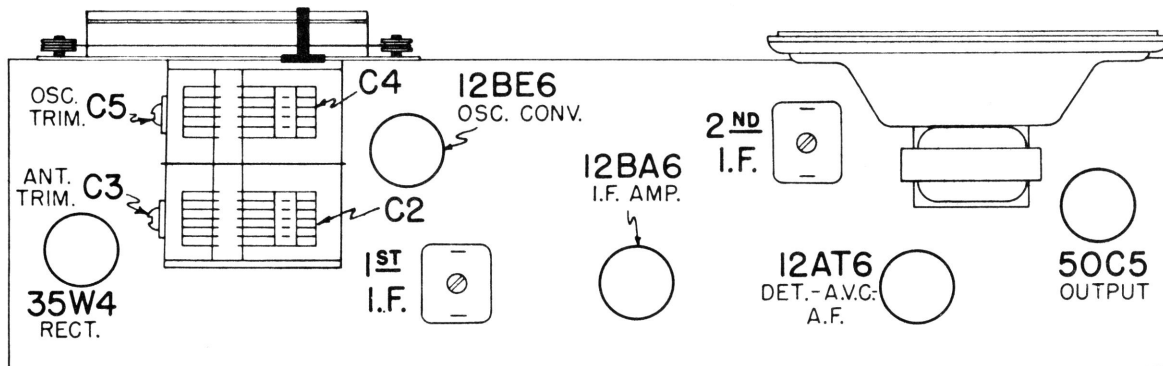
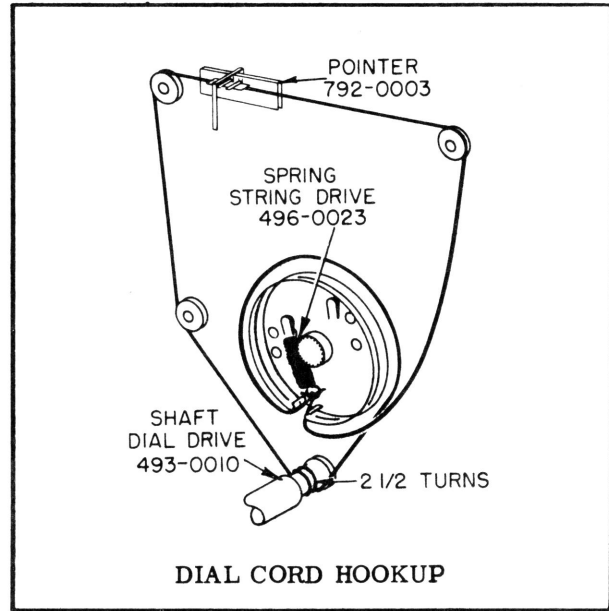
#### I.F. ALIGNMENT

1. Set the variable tuning capacitor to fully open position (capacitor plates out of mesh).

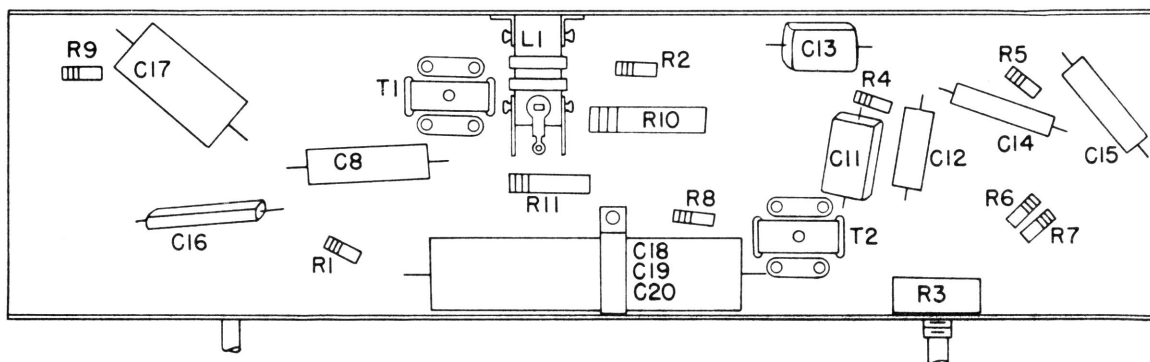
2. Tune signal generator to 455 Kc. with 400 cycle modulation and connect output between receiver B- and control grid (pin 7) of 12BE6 converter tube through a 0.1 mfd. capacitor.
3. Align I.F. transformers T1 and T2 by aligning first the cores accessible from under the chassis and then the top cores.
4. Keep the output from the generator at its lowest possible value to prevent the AVC from interfering with accurate alignment.

R.F. ALIGNMENT

1. With the variable tuning capacitor fully open and the signal generator connected between receiver B- and control grid (pin 7) of 12BE6 converter tube through a 0.1 mfd. capacitor, tune signal generator to 1650 Kc.
2. Adjust the oscillator trimmer C5 (on front section of variable capacitor) for maximum output.
3. Tune the receiver to 1500 Kc.
4. Connect a Hazeltine Loop to the output of the signal generator to radiate a 1500 Kc. signal into the receiver.
5. Adjust antenna trimmer C3 (on rear section of variable capacitor) for maximum output.



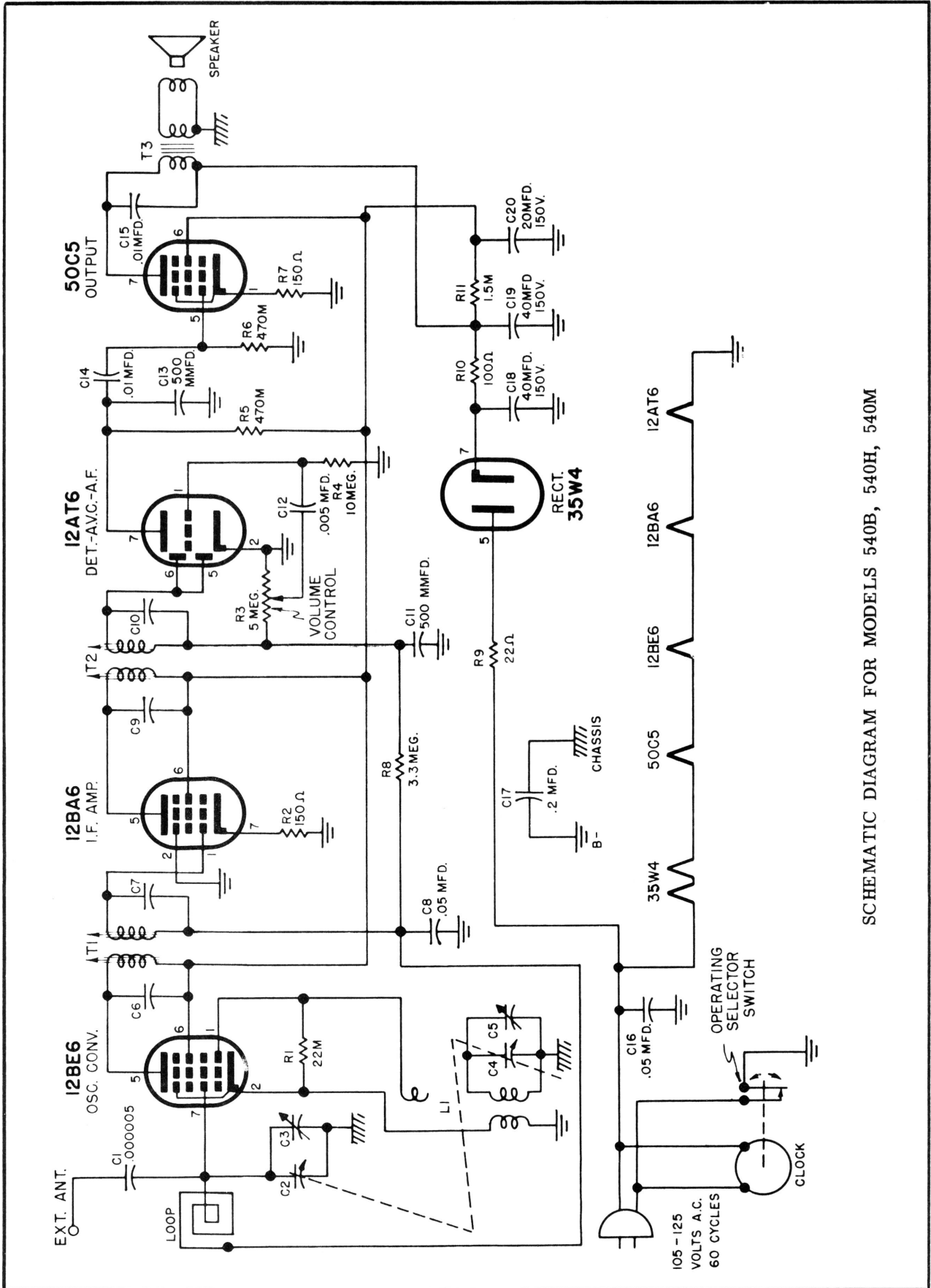
CHASSIS TOP LAYOUT



CHASSIS BOTTOM LAYOUT

## REPAIR PARTS LIST

<u>SCHEMATIC LOCATION</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
	813-0004	Cabinet - Plastic - Mahogany (Grille Insert not included)
	813-0005	Cabinet - Plastic - Black (Grille Insert not included)
	813-0006	Cabinet - Plastic - Ivory (Grille Insert not included)
C2,C4	172-0004	Capacitor - Variable
C18	161-3010	Capacitor - Electrolytic - 40 Mfd. - 150 V.
C19		40 Mfd. - 150 V.
C20		20 Mfd. - 150 V.
C12	162-0625	Capacitor - Paper - .005 Mfd. - 600 V.
C14,C15	162-0411	Capacitor - Paper - .01 Mfd. - 400 V.
C8	162-0415	Capacitor - Paper - .05 Mfd. - 400 V.
C16	160-0415	Capacitor - Phenolic - .05 Mfd. - 400 V.
C17	162-0402	Capacitor - Paper - .2 Mfd. - 400 V.
C11,C13	163-0500	Capacitor - Mica - .0005 Mfd. - 500 V.
L1	113-0018	Coil - Oscillator
R3	153-0012	Control - Volume - 500,000 Ohm
	195-0002	Cord - Line
	717-0001	Glass (Clock Crystal)
	776-0002	Insert - Plastic (Grille - Dial. - Cloth Insert)
	740-0015	Knob - Alarm Set
	743-0005	Knob - Operating Selector
	740-0008	Knob - Volume and Tuning Controls
	582-0004	Loop & Back Cover Assembly
C1		Capacitor - .000005 Mfd.
	714-0002	Metal Bezel (Clock Numerals)
	792-0003	Pointer - Dial
R9	181-0220	Resistor - 22 Ohm - 1/2 W.
R10	183-0101	Resistor - 100 Ohm - 2 W.
R2,R7	181-0151	Resistor - 150 Ohm - 1/2 W.
R11	182-0152	Resistor - 1,500 Ohm - 1 W.
R1	181-0223	Resistor - 22,000 Ohm - 1/2 W.
R5,R6	181-0474	Resistor - 470,000 Ohm - 1/2 W.
R8	181-0335	Resistor - 3.3 Megohm - 1/2 W.
R4	181-0106	Resistor - 10 Megohm - 1/2 W.
	493-0010	Shaft - Dial Drive
	412-0013	Socket - Tube
	539-0401	Speaker (includes Output Transformer)
	496-0023	Spring - String Drive
T1,T2	121-0101	Transformer - I.F. - Input & Output
T3	143-0016	Transformer - Output
	623-0016G	Tube - 12AT6
	623-0012G	Tube - 12BA6
	623-0013G	Tube - 12BE6
	634-0002G	Tube - 35W4
	623-0015G	Tube - 50C5



SCHEMATIC DIAGRAM FOR MODELS 540B, 540H, 540M

## SERVICING OF TELECHRON MOVEMENT

The Telechron movement is warranted under normal use and service against defects in workmanship and material for a period of one year from the date that the timer is sold by Telechron. Telechron agrees to repair or replace without charge any part or parts proved to be defective within the warranty period.

Telechron has established service stations which are prepared to service the movement unit when delivered by itself—that is when physically removed from the plastic cabinet. These service stations, under no circumstances, will service clocks not removed from cabinets.

Stations where Telechron service can be obtained are listed below by city.

"CAUTION" See instructions for clock removal on back of this sheet.

- ABILENE, Texas—Western Time & Alarm Co., 620 Cedar Street  
 AKRON 3, Ohio—H. T. Yates, 31 W. Market Street  
 AKRON, Ohio—Electric Clock Service, 201 S. Arlington Street  
 ALBANY, New York—Julien's Clock Shop, 114 Bradford St.  
 ALBUQUERQUE, N. Mexico—L. H. Chant Electric Co., 111 S. 5th Street  
 AMARILLO, Texas—Harris Clock Service, 407 N. Fillmore  
 ATLANTA, Georgia—Southern Meter & Transformer Company, 1375 Lee Street  
 AUBURN, Maine—Archie Rouleau, Inc. 84 Court St.  
 AURORA, Illinois—Brown Jewelers Laboratory, 5 S. Broadway  
 AUSTIN, Texas—Mulholland Jewelry, 1510 So. Congress Ave.  
 BALTIMORE, Maryland—Electric Motor Repair, 340 Fallsay  
 BANGOR, Maine—Boutillier's Jewelry Shop, 268 Hammond Street  
 BEAUMONT, Texas—Dawson Appliance Co., 1820 Calder Street  
 BILLINGS, Montana—Billings Electric Supply Co., 214 No. 30th St.  
 BINGHAMTON, New York—Wolfe & Van Buskirk, 92 State Street  
 BIRMINGHAM 3, Alabama—Simmons Electric Co., 2023 First Avenue, N.  
 BOISE, Idaho—Wright & Glover, 921 Idaho Street  
 BOSTON, Massachusetts—Electime Appliance Service, 201 Stuart Street  
 BOSTON 8, Massachusetts—Sam Freeman, 387 Washington Street  
 BROOKLYN, New York—Electime Corp., 306 Livingston Street  
 BUFFALO 9, New York—L. H. Hora Clock Company, 1410 Main Street  
 BUTTE, Montana—Radio Engineering Service, 219 West Park Street  
 CANTON, Ohio—Mock Electric Supply Company, 502 Cleveland Ave., N.  
 CHARLOTTE, N. C.—Hall's Clock Shop, 511 Independence Building  
 CHATTANOOGA 2, Tenn.—C. G. Clements, 213 Chattanooga Bank Building  
 CHEYENNE, Wyoming—Schmitts Jewelry, 614 21st Street  
 CHICAGO, Illinois—Telechron Service, Inc., 29 East Madison Street  
 CHICAGO 5, Illinois—Nelson Electric Company, 107 Van Buren Street  
 CINCINNATI, Ohio—Barkley Electric Company, 925 Clinton Street  
 CLEVELAND 15, Ohio—Hoag's Clock & Watch Shop, 2123 E. 9th Street  
 COLORADO SPRINGS, Colorado—Modern Service Company, 10 E. Colorado Avenue  
 COLUMBIA, South Carolina—Palmetto Radio & Appliance Co., 2005 Main Street  
 COLUMBIA 15, Ohio—DeMers Clock & Lighter Service, 102½ E. Broad Street  
 CORPUS CHRISTI, Texas—Clock Service Company, P. O. Box 1691  
 DALLAS, Texas—Appliance Service & Supply, 2019 Cedar Springs  
 DALLAS, Texas—Douglass Clock Shop, 1016 South Ravina Drive  
 DAYTON 2, Ohio—Edward W. Myers, 117 S. Main Street  
 DENVER 4, Colorado—Mint Radio Service, 339 13th Street  
 DES MOINES, Iowa—George T. Hogg, 515-516 Flynn Building  
 DETROIT 5, Michigan—Henning Clock Service Center, 13417 Gratiot Avenue  
 ELMIRA, New York—Don Wright, Inc. 230 S. Main St.  
 EL PASO, Texas—Wayne M. Tinkler Company, 813 Cedar Street  
 ERIE, Pennsylvania—Parke T. Morrow, 14 E. 11th Street  
 FORTH WORTH, Texas—Elec. Appl. Repair Service, 113 Cherry St.  
 FRESNO, California—The Clock Shop, 1910 Tuolumne Street  
 GALVESTON, Texas—Phillip Kuhn, 204-205 Trust Building  
 GRAND RAPIDS, Michigan—Kirkhof Electric Company, 101 Sheldon Ave., SE.  
 HARLINGEN, Texas—Joseph F. Pospichal, 205 Commerce Street  
 HARRISBURG, Penna.—K & D Clock Repair, 26 N. 3rd Street  
 HARTFORD, Connecticut—Electric Clock Company, 228 Pearl Street  
 HONOLULU T. Hawaii—Hawaiian Electric Co., P. O. Box 2750, Merch. Dept.  
 HOUSTON, Texas—C. R. Stone Electric Company, 2003 Pease Avenue  
 INDIANAPOLIS, Indiana—Kelsen's Clock Service, 10 W. Ohio Street  
 JACKSON, Miss.—Palmer Jewelry Co., 110 N. Mill St.  
 JACKSONVILLE, Florida—Baker-Phelps Company, 16 W. Duval Street  
 KANSAS CITY, Missouri—Time Products Company, 1406 Grand Avenue  
 KNOXVILLE 42, Tennessee—McNutt Battery Company, 601 W. Church Avenue  
 LAKE CHARLES, Louisiana—Luke's Refrigeration Service, 132 College Street  
 LITTLE ROCK, Arkansas—J. M. Peck Electrical Equipment Service, 4402 Asher Ave.  
 LOS ANGELES 5, Calif.—Calif. Electric Service, Inc., 832 S. Alvarado Street  
 LOS ANGELES, Calif.—E. W. Reynolds Company, 315 W. 5th Street  
 LOUISVILLE, Kentucky—H. C. Korfhage Company, 411 W. Jefferson Street  
 LYNN, Massachusetts—Lynn Electric Clock Service, 1 Market Street, Rm. 201, Ravin Building  
 MANCHESTER, N. H.—Robert A. Horace Company, 78 Manchester Street  
 MASSENA, New York—Davlyn Electric Company, 276 Orvis Street  
 MEMPHIS, Tennessee—John Welsh, 1791 Lamar Avenue  
 MIAMI, Florida—Florida Electric, Inc., 733 S. W. 8th Street  
 MILWAUKEE, Wisconsin—P. Q. Rountree Company, 1220 Majestic Building  
 MINNEAPOLIS, Minnesota—E. B. Kelly Co., Inc., 2516 Lyndale Avenue, So.  
 MUSKOGON, Michigan—Muskegon Vacuum Cleaner Service, 948 Pine Street  
 NASHVILLE, Tennessee—Austin Electric Shop, 3430 West End Avenue  
 NEWARK 2, New Jersey—Robert Halpern, 917 Broad Street  
 NEW HAVEN, Connecticut—Consoli, 19 Congress Avenue  
 NEW ORLEANS, Louisiana—Specialty Sales & Service, 635 Barrone Street  
 NEW YORK 19, New York—Telechron Service, Inc., 8-10 West 45th Street  
 NORWICH, Conn.—Norwich Clock & Watch Repair Co., 18 Main St.  
 NORFOLK, Virginia—Time Service Company, Rm. 250 Withers Building  
 OAKLAND, Calif.—The Clock Shop, 114 E. 14th St.  
 OKLAHOMA CITY, Okla.—American Time & Jewelry Co., 339 American Natl. Bldg.  
 OGDEN, Utah—George D. Coray, 2420 Grant Ave.  
 OMAHA 2, Nebraska—Audiphone Co., M-4 Medical Arts Bldg., 17th & Dodge  
 ORLANDO, Florida—Southern Electric Company, 32 E. Church Street  
 PHILADELPHIA, Penna.—Electric Time Service, 1005 Market Street  
 PHOENIX, Arizona—Vinson-Carter Electric Co., 325 N. 4th Street  
 PITTSFIELD, Mass.—Harrison Radio Shop, 112 Fenn Street  
 PITTSBURGH, Penna.—Quick Service Electric Company, Jenkins Arcade  
 PITTSBURGH 19, Penna.—Time Service Company, 504 Court Place  
 PORTLAND, Maine—Parker L. Starrett, 165 High Street  
 PORTLAND, Oregon—B. W. Cobb Watch & Clock Shop, 220 Alder  
 PROVIDENCE, Rhode Island—Marshall Electric Company, 24 N. Main Street  
 RALEIGH, North Carolina—Hayes Barton Appliance Company, 2005 Fairview Road  
 RICHMOND, Virginia—Rice Appliance Company, 1505 E. Main Street  
 SACRAMENTO, California—Lam-Co Electric, 1415 21st Street  
 ST. LOUIS 3, Missouri—Kaemmerlen Electric Company, 2318 Locust Street  
 ST. PAUL 1, Minnesota—Empire Clock Co., Inc., 93 E. 5th Street  
 SALT LAKE CITY 1, Utah—Time & Instrument Company, 57 Richards Street  
 SAN ANTONIO 5, Texas—Haak Typewriter Company, 310 Navarro Street  
 SAN DIEGO 1, California—J. F. Zwiener Electric Co., 1242 First Avenue  
 SAN FRANCISCO, California—Calif. Electric Service, Inc., 168 First Avenue  
 SCRANTON, Pennsylvania—Automatic Time Service Center, 508 Cornell Building  
 SEATTLE, Washington—The Clock Shop, 325 Joshua Green Building  
 SHREVEPORT, Louisiana—Hanby's, 1517 Marshall Street  
 SPRINGFIELD, Mass.—T. F. Cushing, 349 Worthington Street  
 SPOKANE, Washington—Harry's Elec. Clock Hospital, So. 175 Post St.  
 SYRACUSE 3, New York—J. J. Bartlett, 231 E. Onondaga Street  
 TAMPA 2, Florida—Brodie-Edwards Radio Company, 116 Morgan St.  
 TOLEDO 9, Ohio—H. A. Dennis, 2042 South Street  
 TORONTO, Ont., Canada—Canadian General Electric Co., 212 King St., W.  
 TULSA, Oklahoma—Ferber Clock & Safe Company, 124 W. Third St.  
 WACO, Texas—L. L. Walraven, Raleigh Hotel  
 WASHINGTON, D. C.—C. A. Leppert, 914 Eye Street, N. W.  
 WATERBURY, Connecticut—Electric Motor Repair Company, 59 W. Clay Street  
 WHEELING, W. Virginia—Electric Clock Service, Room 427 Hawley Bldg., 1023 Main Street  
 WHITE PLAINS, New York—Westchester Clock Service, 150 Main Street  
 WICHITA, Kansas—Clock & Crystal Shop, 116½ S. Broadway  
 WICHITA FALLS, Texas—Peoples Electric Company, 1112 Lamar Avenue  
 WILLIAMSPORT, Penna.—Prior and Sallada, Inc., 230 Pine St.  
 WORCESTER, Massachusetts—Electime Appliance Service Company, 44 Pearl Street  
 YOUNGSTOWN 3, Ohio—Buckeye Time Service, 518-519 Dollar Bank Building

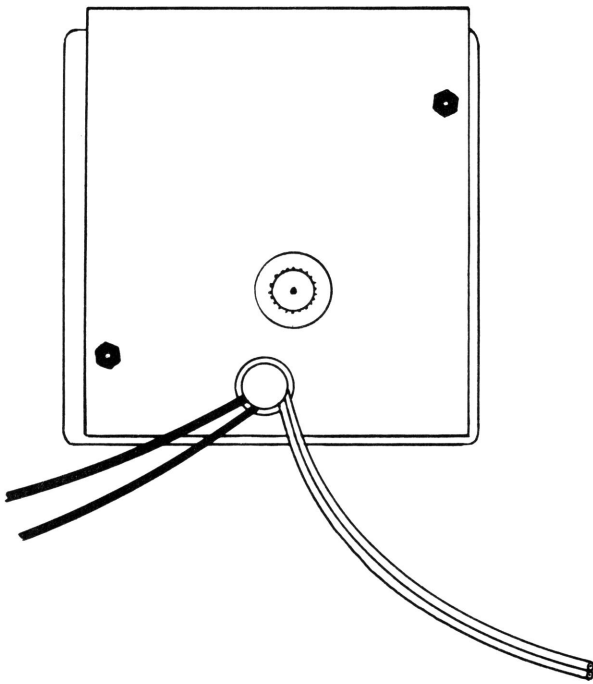


FIGURE A

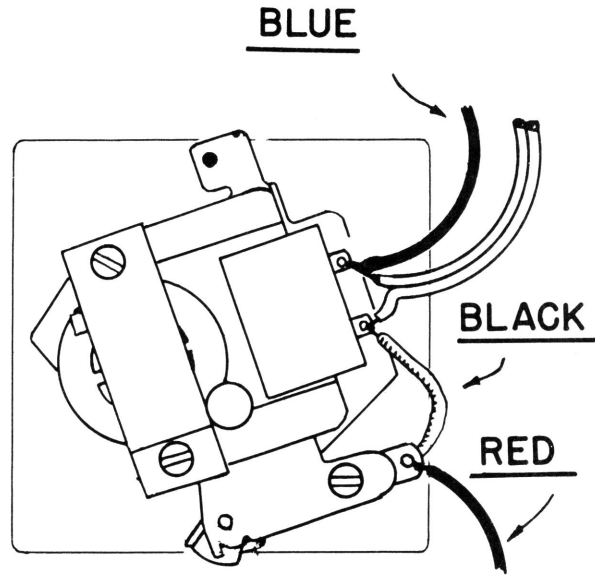


FIGURE B

**To take clock movement out of cabinet proceed as follows:**

***Remove the following:***

- A - Line cord from power line
- B - Tuning knob, volume control knob, and chassis from cabinet.
- C - 2 nuts holding clock clamping shield shown in Figure A.
- D - As this shield is sufficiently pulled back, unsolder red and blue wires and power cord shown in Figure B.
- E - The movement may then be withdrawn through the opening in the front of the cabinet.
- F - In shipping a movement to a service station, be certain that it is suitably packed to withstand transportation. Care should be taken with the glass crystal so that it is not subject to strain during shipment.