

# Victor Model 7-11

# Victor Model 7-26

## VICTOR RADIOLA 18

(Used in Models 7-11 and 7-26)

The Victor Radiola 18, used in combination with the Models 7-11 and 7-26, is a six tube power operated, tuned radio frequency receiver of the antenna type, similar in design to the Radiola 17 used in the Model 7-25. Three stages of radio frequency amplification are used with the Radiotrons UX-226, a detector with the UY-227, and two stages of audio amplification with the UX-226 in the first stage and the UX-171-A in the second. The Radiola is designed for operation on 105 to 125 volts, 50 to 60 cycles, alternating current, and consumes approximately 40 watts. It is also available with a special power unit for operation on 105 to 125 volts, 25 to 40 cycles.

The Radiola used in the 7-26 differs slightly from that of the 7-11 in that it has a terminal strip of three connectors at the left end of the set when facing the front. Two of these are connected to the primary of the first audio frequency transformer, one to the tapped portion and the other to the end. The third terminal is connected to the UY-227 plate resistor.

The socket power unit used in the 7-11 is the SPU 30, and differs from that of the 7-26, which uses the SPU 34, only in its greater length of A. C. power supply cable.

## CONTROLS

1. **POWER SWITCH**—This switch mounted on the radio panel controls the alternating current power input to the socket power unit. Should it be necessary to remove the switch from the Radiola panel or the socket power unit from the base panel, the power plug should first be disconnected from the instrument. Remove the screws in the base of the SPU; remove the switch from the Radiola panel by taking off the knob and escutcheon and unscrewing the nut which holds the switch to the panel.

2. **STATION SELECTOR**—The three tuning condensers are controlled from the station selector knob which operates the drive mechanism. Any slack in the condenser drive cable can be taken up by tightening the adjusting screw shown in Fig. 2.

3. **VOLUME CONTROL**—The volume control is connected in the antenna circuit. The control knob operates the volume control contact arm. A loose contact at this point may often be a cause of noisy reception or no reception. If such a condition is found, the control arm should be bent until it makes a firm contact against the resistance strip.

4. **VOLTAGE SWITCH**—This two position switch shown in Fig. 5 is connected in the primary circuit of the power transformer in the socket power unit, and serves to compensate for high and low voltage in the power supply. *The proper setting of the switch at the time of installation is important and will effect the operation of the Radiola as well as the life of the Radiotrons.*

The switch is locked in position for operation on 120 volts when the instrument leaves the factory. The power line voltage should be measured with an A. C. voltmeter of the proper scale reading. If the voltage is above 115 volts, this position need not be changed. If the voltage is 115 volts or lower, loosen the two screws at each end of the terminal strip shield, and lift the shield clear of the switch. Place the switch in the 110 volt position, and replace the shield.

## GENERAL TESTS

In making the Radiotron tests and the radio set tests described below, the use of a Weston Radio Set Tester Type 537 or 519 is recommended. The radio set tests can be made with a high resistance voltmeter of reliable manufacture such as the Weston Model 489, if the Radio Set Tester is not available. All voltage readings listed in this bulletin were made with the Weston Radio Set Tester Type 519, having a 0-8, 0-200 volt scale (high resistance type); with a line voltage of 110 volts; with the voltage switch of the socket power unit in the 110 volt position; and with all tubes in place. Readings will vary according to the meter used, the line voltage, and the condition of the tubes.

In making these tests, a period of approximately 45 seconds must elapse each time the power is turned on. This interval is required for the UY-227 to heat properly.

1. **RADIOTRON TESTS**—The tests for the Radiotrons should be made in accordance with the instructions furnished with the Radio Set Tester. Do not attempt to make a filament voltage reading unless the Type 537 tester is used. A special adaptor is available from the Weston Electrical Instrument Co. for use in testing the UY-227 Radiotrons. Any Radiotrons which have been found to be defective in these tests should be replaced.

If the Weston Radio Set Tester is not available, each Radiotron should be replaced successively with a new one of the proper type, so that the poor ones can be located and permanently replaced.

2. **RADIOLA SOCKET TESTS**—Make the grid and plate tests according to the instructions furnished with the radio set tester. Any open circuits or defects in the various voltage supplies can be found by these tests. *Before looking for such defects in the wiring of the radio set, (1) examine the cable terminals at the socket power unit terminal strip and note that all terminals are making proper contact and are properly spaced; and (2) make the socket power unit tests described in subject No. 3.*

The socket power unit must not be operated at any time with the cable disconnected, nor with all the Radiotrons removed from their sockets.

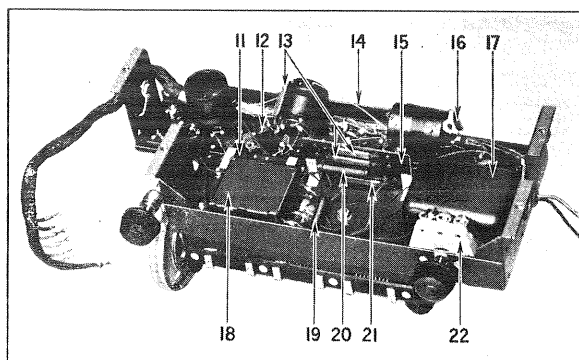


Fig. 3—Bottom View of Radiola

**A. FILAMENT TESTS—Trouble in the filament circuit of the radio set can be traced to:**

- Broken wire in cable.
- Poor or shorted contact on terminal strip.
- Poor socket contacts.
- Defective power unit.

**B. GRID TESTS—Using the "C" position of the Weston Radio Set Tester, or the high scale of the separate voltmeter, test the "C" voltage in all sockets except the detector.**

The "C" voltage readings listed below were made at a line voltage of 110 volts, with the voltage switch of the socket power unit in the 110 volt position and with all tubes in place. These readings will vary with different tubes, different meters, and different line voltages. In addition to the faults listed below, a defective power unit may cause a variation from the normal readings.

Normal	Faulty	Fault
G1 9 volts	0	Open volume control, poor contact, or broken wire.
G2 9 "	0	Open 1st R. F. transformer secondary, or broken wire.
G3 9 "	0	Open 2nd R. F. transformer secondary, or broken wire.
G5 9 "	0	Open 1st audio transformer secondary, or broken wire.
G6 29 "	0	Open 2nd audio transformer secondary, or broken wire.

**C. PLATE TESTS—**

- USING WESTON RADIO SET TESTER—Using the "B" scale, test the plate voltages in the various sockets with the tubes in place. These readings will also vary with different tubes, and different line voltages. A defective power unit may cause variations from these readings.

NOTE: In the 7-26 the transfer switch must be placed in the "Radio" position before the readings can be taken.

Normal	Faulty	Fault
P1 136 volts	0	Open primary of first R. F. transformer or broken wire.
P2 136 "	0	Open primary of second R. F. transformer open concentrated coil (mounted inside of R. F. transformer) or broken wire.
P3 135 "	0	Open primary of third R. F. transformer, open concentrated coil or broken wire.
P4 48 "	0	Open primary of first audio transformer, open resistor 19, shorted condenser 18, Fig. 3, or broken wire. In 7-26—break in wiring to transfer switch, poor contact in transfer switch, or poor contact at terminal strip of three connectors.
P5 130 "	0	Open primary of second audio transformer or broken wire.
P6 144 "	0	Broken wire.

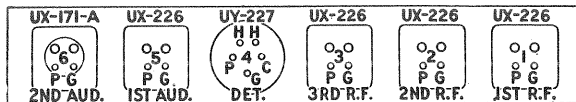


Fig. 1—Top Front View of Radio Tube Sockets

- USING SEPARATE VOLTMETER—Connect the low voltage scale of the meter in series with a 4½ volt "C" battery and make the continuity tests as outlined below.

- Turn the power switch to the left to the off position.
- Test between either filament contact of socket No. 1 and the plate "P" contact. (See Fig. 1).
- Make the same tests for all the other amplifier sockets.
- When testing the detector socket, place the leads in the "C" and the "P" contacts.

An open circuit in the "B" supply of the power unit in addition to the points listed below will be indicated in this test by a zero reading of the meter.

SOCKET	FAULT
1	Open primary first R. F. transformer or broken wire.
2	Open primary second R. F. transformer, open concentrated coil (mounted inside R. F. transformer) or broken wire.
3	Open primary third R. F. transformer, open concentrated coil or broken wire.
4	Open primary first audio transformer, open resistor 19, shorted condenser 18, Fig. 3, or broken wire. In 7-26—break in wiring to transfer switch, poor contact in

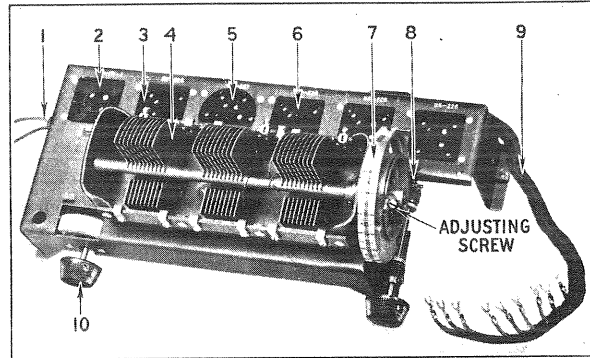


Fig. 2—Top View of Radiola

transfer switch, or poor contact at terminal strip of three connectors.

- Open primary second audio transformer or broken wire.
- Broken wire.

**3. POWER UNIT TESTS—Remove the terminal strip shield from the socket power unit, and make the following voltage tests before looking for trouble in the radio set.**

**A. FILAMENT SUPPLY—Test the filament voltage across each of the three pairs of filament binding posts shown in Fig. 4, using either the Weston Type 537 Tester or a separate A. C. voltmeter of the proper scale reading. The following are the correct meter readings which should be obtained:**

UX-226	1.5 Volts A. C.
UY-227	2.25 Volts A. C.
UX-171-A	5.0 Volts A. C.

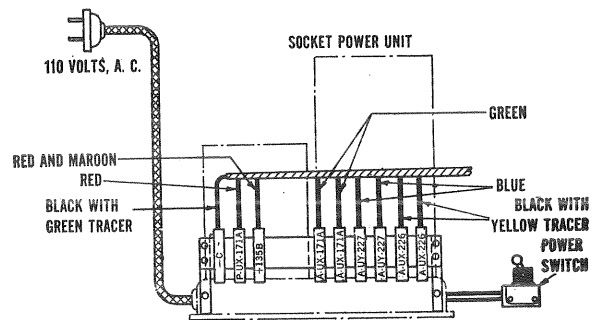


Fig. 4—Socket Power Unit Terminals

**A lack of filament voltage at the terminals may be caused by:**

- Poor socket contact at A. C. outlet or in A. C. power supply line.
- Broken wires or connection in A. C. power supply or in power unit wiring.
- Defective power transformer No. 24, Fig. 5.

**B. PLATE SUPPLY**—Using the high range voltmeter binding posts of the set tester or the high range scale of the separate D. C. voltmeter, test between one of the A-UX-226 terminals and the +135B terminal (see Fig. 4), and between one of the A-UX-171-A terminals and the P-UX-171-A. The following are the approximate readings which should be obtained.

+135-B	136 Volts
P-UX-171-A	160 Volts

A lack of voltage at either of these points may be caused by:

- Burnt out or low emission UX-280.
- Poor socket contact in power supply line.
- Broken wires or connections in power supply or in power unit wiring.
- Open resistor unit No. 33, Fig. 6, or No. 34 for "+135 B" only
- Shorted condenser unit No. 25, Fig. 5.
- Open choke No. 23, Fig. 5.

If the trouble has not been located in the cable or in the socket power unit, refer back to the list of possible faults in subject No. 2, and isolate the defect in the wiring or connections of the radio set.

#### 4. SPECIAL TESTS—

**A. EXCESSIVE HUM**—Excessive hum may be caused by:

- Reversed polarity of power plug. Remove plug and reverse the position of the prongs.
- Low emission Radiotron UX-280.
- Shorted Condenser 18, Fig. 3.
- Open ground connection to frame of Radiola.
- Defective resistor unit 33, Fig. 6.

**B. AUDIO HOWL**—This condition can often be eliminated by:

- Replacing the detector Radiotron UY-227 with a new one.
- Interchanging the UX-226 Radiotrons.
- Adjusting compensating condenser, as shown in Fig. 7, by means of the neutralizing screw driver shown in Fig. 2 of Supplement to Victor Service Bulletin No. 5-A. The following procedure should be used:
  - Break the paper seal over the opening in the bottom of the tuning condenser assembly.
  - Tune the Radiola to a broadcasting station on the lower wave lengths.
  - Turn the volume control all the way to the right.
  - Turn the condenser screw in a clockwise direction until the receiver goes into oscillation.
  - Turn the screw slightly in a counter-clockwise direction until the oscillation stops and the howl is eliminated.
  - Replace the paper seal to prevent tampering with the adjustment.

**C. CONDENSER TESTS**—If the trouble has not yet been located, connect a 4½ volt "C" battery in series with the low voltage binding posts of the radio set tester or the separate voltmeter, and proceed as follows:

- Turn the power switch to the left—(off).
- Test between the stator (stationary) plates and rotor (rotating) plates of each tuning condenser. No deflection of the meter will indicate that there is a broken or loose connection between the condensers and their respective coils, or open circuits in the coils.
- Turn the station selector knob, observing if any of the plates touch while they are being rotated. A short circuit in these condensers will cause a lack of reception.

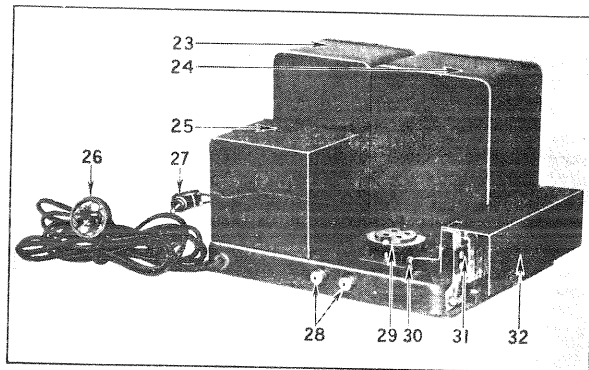


Fig. 5—Top of Socket Power Unit

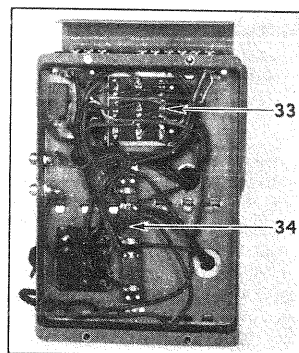


Fig. 6—Bottom of Socket Power Unit

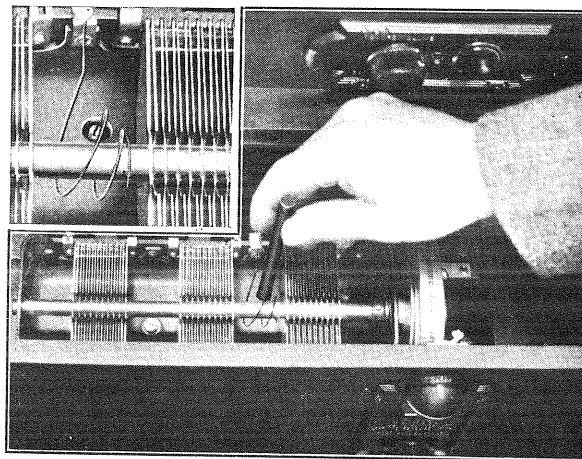
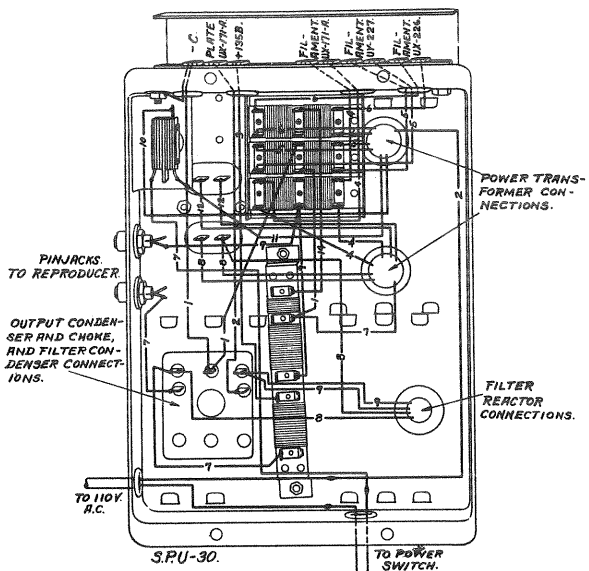


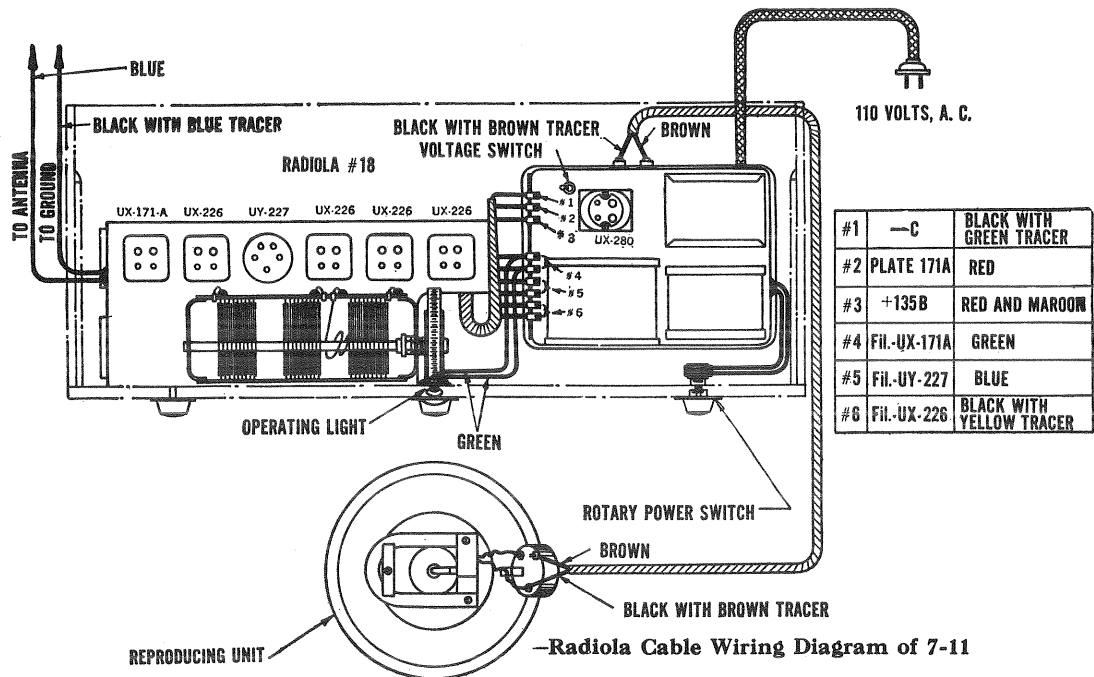
Fig. 7—Method of Adjusting Compensating Condenser



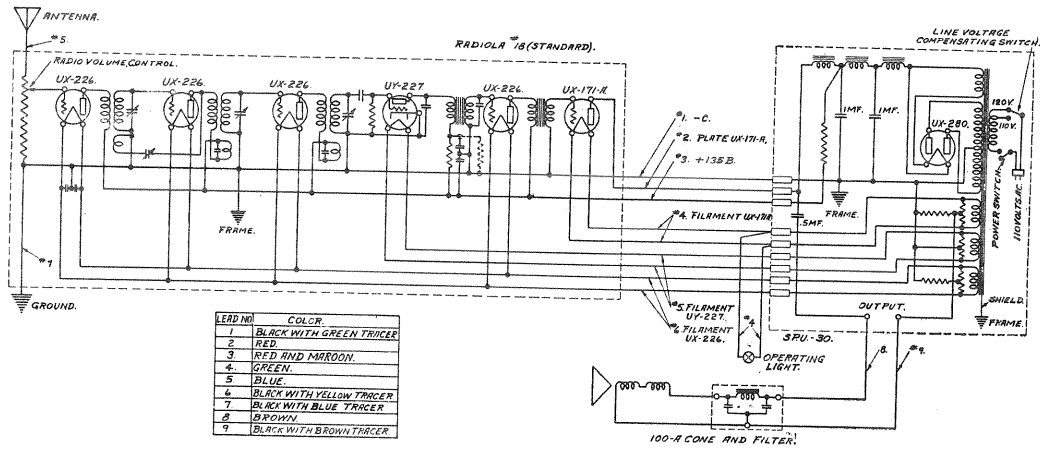
COLOR CODE WIRING OF SPU 30 AND 34

1. Black with green tracer.
2. Red.
3. Red and maroon.
4. Green.
5. Blue.
6. Black with yellow tracer.
7. Black.
8. Yellow.
9. Maroon.
10. Black with red tracer.
11. Red and black.
12. Brown.
13. Red with green tracer.
14. Green with red tracer.

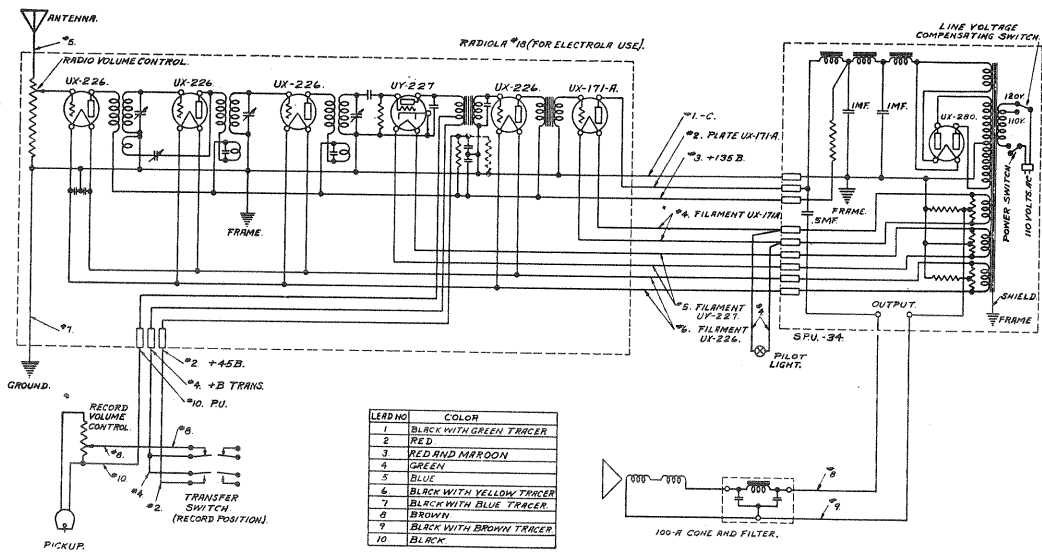
Fig. 8—Bottom of Socket Power Unit Showing Wiring Between Terminals



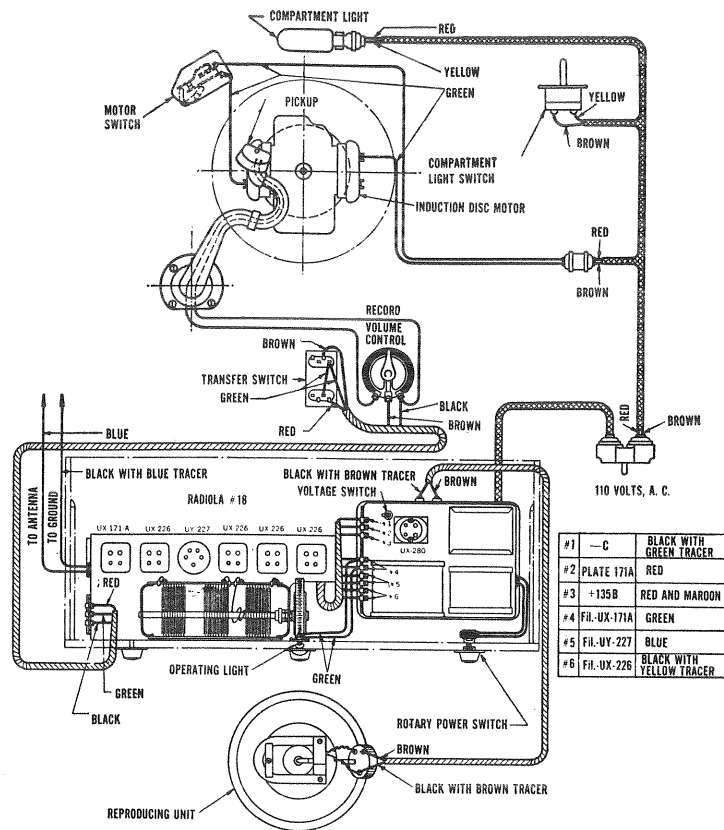
—Radiola Cable Wiring Diagram of 7-11



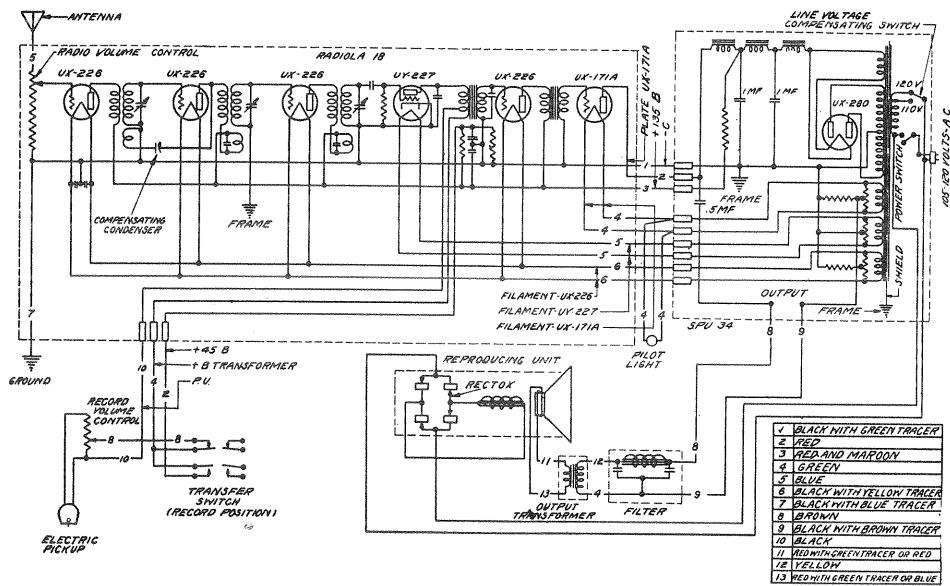
**Wiring Diagram Victor Radiola 18**  
(Used in 7-11)



**Wiring Diagram Electrola Radiola 7-26**



-Cable Wiring Diagram Electrola Radiola No. 7-26



Wiring Diagram Electrola Radiola 7-26 Above Serial No. 12000