INSTRUCTIONS

PHILCO

Balanced-Unit

RADIO

Models 111 and 111-A
Superheterodyne Plus

[Philco Radio Receivers are listed as Approved Electrical Appliances by the Underwriters Laboratories of the National Board of Fire Underwriters.]

Philadelphia Storage Battery Company
Ontario and C Streets
Philadelphia, Pa., U. S. A.

Philco Model 111 Superheterodyne Plus is to be used only on an alternating current supply of 50 or 60 cycles, 100 to 135 volts.

Philco Model 111-A Superheterodyne Plus is to be used only on an alternating current supply of 25 to 60 cycles, 100 to 135 volts.

If connected to a direct current supply such as is used in some hotels, apartments, stores and houses in large cities, the Receiver will be damaged.

Do not insert the attachment plug in the house socket until all other connections are made and the speaker plug and all tubes are in the sockets.

Always tune accurately as explained on Page 4.

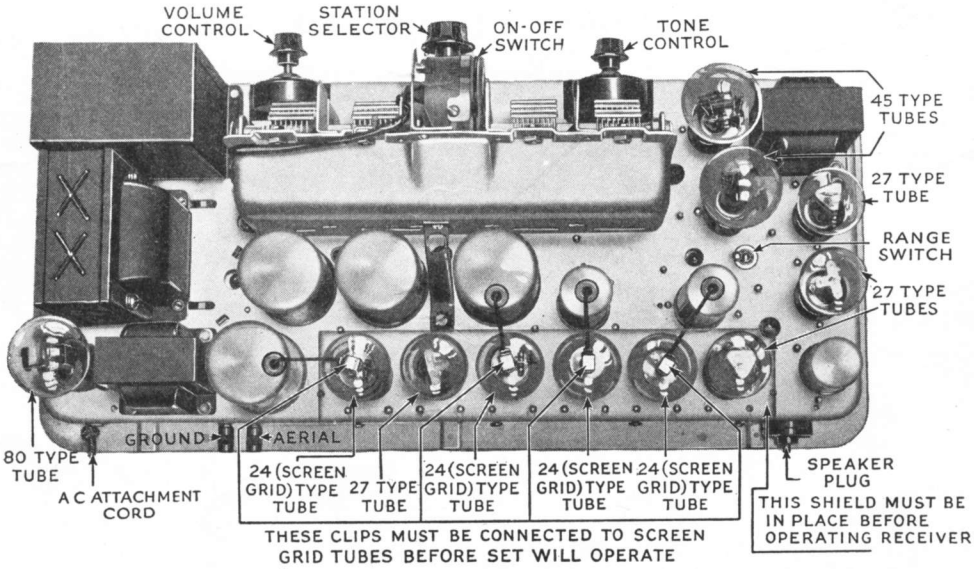

FIG. 1

Models 111 and 111-A

Tubes

Eleven tubes are required, as follows:

4 Philco type 24 screen grid tubes
4 Philco type 27 tubes
2 Philco type 45 power amplifier tubes
1 Philco type 80 rectifier tube

For best performance use Philco Tubes.

Remove the large tube shield from the back of the Receiver by loosening the five screws along the bottom and lifting straight up on the shield.

Place the tubes in the correct sockets as shown in Figure 1.

After inserting the screen grid tubes (type 24), the clips attached to the wires coming from the round shields must be pressed down over the terminal caps on top of the tubes.

Replace the tube shield over the six tubes at the back of the Receiver and tighten the five screws to hold it in place.

Speaker

The Philco Electro-Dynamic Speaker is connected by inserting the Speaker plug in the special socket at the back of the Receiver. This socket is shown in Figure 1.

Never turn on the Receiver unless the Speaker plug is in place in the socket.

Aerial or Antenna

An outdoor aerial, consisting of a single copper wire 50 to 100 feet long, usually gives the best results. However, where there is no powerful broadcasting station within 50 miles, a longer aerial may be used and will bring in far-away stations with somewhat greater volume. The lead-in wire is an active part of the aerial and the aerial length should always be measured from the Receiver to the insulator at the far end. The outer end of the aerial should be as high as possible and the entire aerial should be spaced well away from trees and buildings and supported by glass or porcelain insulators.

Good results can also be obtained with an indoor aerial 25 feet or more in length. A shorter aerial usually will not be satisfactory.

Ground

A suitable ground clamp must be securely attached to a radiator pipe or water pipe and the bare wire end inserted in the "GND" terminal post of the Receiver.

NEVER OPERATE THE RECEIVER WITHOUT A GOOD GROUND CONNECTION.

Use separate insulated wires rather than a two-wire cord for the aerial and ground connections.

Operating the Receiver

After making the aerial and ground connections, placing all tubes in the sockets and inserting the Speaker plug in its special socket, the attachment plug on the cord should be inserted into a convenient wall receptacle. Turn on the Receiver by rotating the on-off switch in a clockwise direction. The pilot lamp should light, indicating that the power is turned on. When the on-off switch is turned off, no power is used and the attachment plug need not be withdrawn.

Range Switch—The Range Switch (see Figure 1) is left in the NORMAL position when the Receiver is shipped. This gives great distance range and is the setting which will be found most satisfactory in practically all locations. In a dead zone, however, far from any broadcasting station, the Range Switch may be changed to the MAXIMUM position. This will make the Receiver super-sensitive and will give extreme distance range. Do not use the Range Switch in the MAXIMUM position if there are one or more powerful broadcasting stations near you. In any location there will be less noise between stations with the Range Switch in the NORMAL position.

Wait about a minute after turning on the Receiver for the tubes to become heated, then turn the volume control (right-hand knob) clockwise about one-half the total range of movement. Turn the station selector (center knob) and different stations will be tuned in at various points on the scale.

The figures on the Philco scale represent channel numbers which by the addition of a cipher correspond with the station frequency use in kilocycles as listed in newspapers and other station logs. For example: 85 on the scale represents channel 85 and a frequency of 850 kilocycles.

The call letters of various stations can be marked with a pencil on the Philco scale. The call letters can be removed and the scale cleaned by means of a pencil eraser.

Tune the wanted station accurately to the point where it is clearest and reduce or increase the volume as desired with the volume control. Never reduce the volume of a station by detuning the station selector as this will spoil the tone quality and bring in static noise.

Always regulate the volume by means of the volume control—never by detuning.

The automatic volume control incorporated in this Receiver tends to equalize the volume of all stations at the sound level for which the manual volume control has been set. This prevents the blaring of strong stations during tuning and reduces the fading of distant stations. With the volume control in a given position, the reproduction will not vary greatly in volume, even if the tuning is changed from a weak station to a strong one, or vice versa.

Control of Station Tone

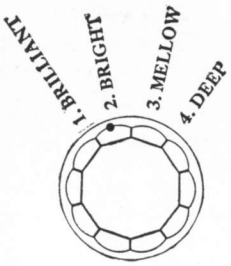

FIG. 2

The left-hand control knob operates the new Philco Tone Control which enables the user to adjust the tone quality of the reception from any broadcasting station to suit his taste.

There are four settings of the tone control which are felt as notches when the knob is turned. These have been named: (1) brilliant, (2) bright, (3) mellow and (4) deep. The approximate position of the dot on the tone control knob for each setting is shown in Figure 2.

With this control it is possible to compensate for differences in the quality of broadcasting from different stations and for differences in the human ear.

Setting 1 emphasizes the high notes and thus makes speech particularly sharp and clear. Setting 4 emphasizes the low notes and gives a deep character to the reproduction. Setting 2 will usually be found the most pleasing for music, although, under conditions where static or interference noises are bothersome, setting 3 (or in extreme cases 4) will be best as it will subdue these background noises.

STANDARD WARRANTY

We warrant each new Radio Receiver and Speaker manufactured by us to be free from defects in material and workmanship under normal use and service, our obligation under this warranty being limited to making good at our factory or factory depots any part or parts thereof which shall, within ninety (90) days after delivery of such Receiver to the original purchaser, be returned to us with transportation charges prepaid, and which our examination shall disclose to our satisfaction to have been thus defective; this warranty being expressly in lieu of all other warranties expressed or implied and of all other obligations or liabilities on our part, and we neither assume nor authorize any representative or other person to assume for us any other liability in connection with the sale of our Receivers or Speakers.

This warranty shall not apply to any Receiver or Speaker which shall have been repaired or altered outside of our factory or factory depots in any way so as, in our judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence, or accident, nor which has had the serial number altered, effaced, or removed. Neither shall this warranty apply to any Receiver or Speaker which has been connected otherwise than in accordance with the instructions furnished by us.

PHILADELPHIA STORAGE BATTERY CO.
Ontario and C Streets
Philadelphia, Pa., U. S. A.

Philco Model 111 Superheterodyne Plus is to be used only on an alternating current supply of 50 or 60 cycles, 100 to 135 volts.

Philco Model 111-A Superheterodyne Plus is to be used only on an alternating current supply of 25 to 60 cycles, 100 to 135 volts.

If connected to a direct current supply such as is used in some hotels, apartments, stores and houses in large cities, the Receiver will be damaged.

Do not insert the attachment plug in the house socket until all other connections are made and the speaker plug and all tubes are in the sockets.

Always tune accurately as explained on Page 4.

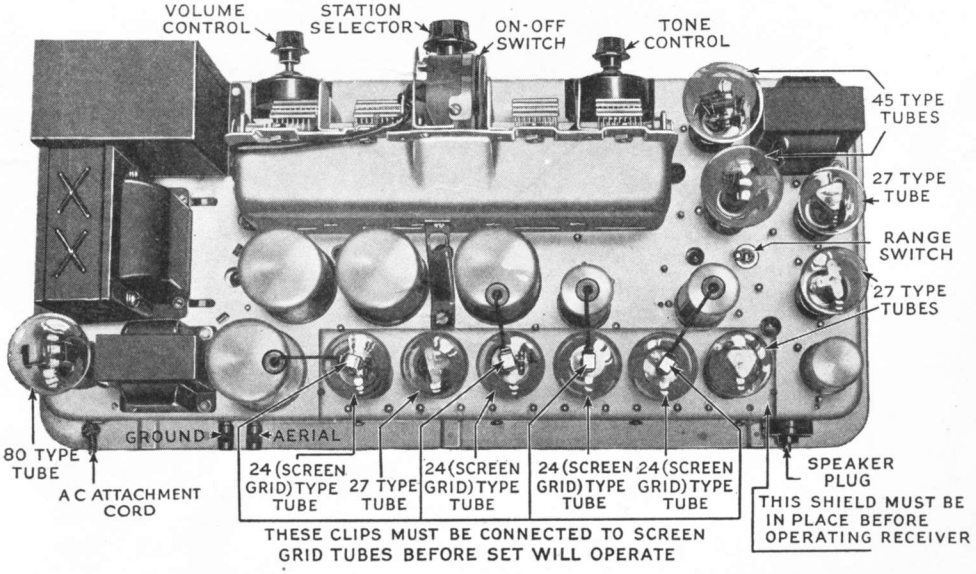

FIG. 1

moon by measuring shock waves from a charge exploded beneath the lunar surface.

SELENOCENTRIC - Relating to the moon as a center.

SEP - Separation

SEPS - Service (Module) Electrical Power System

SEQ - Sequencer; Sequential

SEQUENCER - Mechanical or electronic device that initiates a series of events in a particular order, by a preset schedule.

SERVICE MODULE - 22-foot tall cylindrical spacecraft section containing the service propulsion engine, spacecraft electrical power system and part of the environmental control system. Located between the command module and the lunar module adapter at launch, it remains attached to the command module throughout most of the lunar mission, being jettisoned just before re-entry into earth atmosphere.

SERVICE PROPULSION SYSTEM - Main propulsion engine for return from the moon, a 21,500-pound-thrust engine burning aerozine and nitrogen tetroxide for a total burn time of about 8 1/2 minutes in up to 36 separate firings. It is gimbal-mounted and automatically controlled by the guidance and navigation system, stabilization and control system or the crew. It provides course correction during translunar and transearth coast phases, injection into lunar orbit and into the transearth phase, and the power to return the command module to earth atmosphere during a high-altitude abort.

SERVICE STRUCTURE - A 5200-ton 300-foot tower at Launch Complex 37 for erection, assembly and checkout of the Apollo-Saturn IB. Self-propelled on rails, it includes a number of platforms and six split "silo" enclosures around the work platforms to the 248-foot level for weather protection. See also MOBILE SERVICE STRUCTURE.

SET - Spacecraft Elapsed Time

SFA - Sun-Finder Assembly

SFC - Specific Fuel Consumption

SGET - Spacecraft Ground Elapsed Time

SGLS - Space-to-Ground Link Subsystem

SHA - Sidereal Hour Angle (see SIDEREAL)

SHEAR-COMPRESSION PADS - Pads which are sheared during separation of the service and command modules.

SHEDDING HER SKIRT - Colorful phrase referring to the spray of ice particles which break free from a booster at liftoff; the ice formation is the result of the cold from cryogenic propellants in the first-stage tanks.

SHIRTSLEEVE ENVIRONMENT - Nominal pressure and temperature inside the command module in which the flight crew is not required to wear pressure suits.

SHOCK DIAMONDS - Visible, wedge-shaped shock waves in the exhaust of a booster at launch.

SHOCK STRUTS - Shock atternating devices for support of the couches and structural parts of the command and lunar modules.

SHOCK WAVE - Compressed air wave ahead of the forward edge of the command module's blunt end during re-entry.

SHOT - Slang for launch or flight.

SHUTDOWN - The whole sequence of ending propulsion, as opposed to cutoff, which usually refers only to closing the main propellant valves; includes shutting off turbopump power source, cutoff of propellant flow and tail-off of residual propellants and gases.

SID - Sudden Ionospheric Disturbance

SIDE - Suprathermal Ion Detector Experiment (see definition).

SIDEBAND - Two frequencies located on both sides of the carrier frequency, termed upper and lower sideband.

SIDEREAL - Of or pertaining to time as measured by stars. A sidereal day is one rotation of the earth as measured from the stars, four minutes shorter than the normal day as measured from the sun.

SIGNAL CONDITIONING EQUIPMENT - Devices which take source signals from telemetry sensors and transducers and put them in proper format for transmission to the ground.

SILS - Shipboard Impact Location System

SIM - Simulation (see definition)