

INSTALLATION INSTRUCTIONS

RCA "MAGIC WAVE" ANTENNA KIT Stock No. 9812

Maximum performance from your radio receiver is obtained only when installation of this antenna is made in accordance with the following instructions. Read these carefully. It is best to have the antenna installed by your RCA Victor dealer, whom you should consult in all cases of doubt or difficulty.

The "Magic Wave" Antenna Kit is designed for reception of radio frequencies between 510 and 23,000 kilocycles. It gives noise reduction over the complete range, and is most efficient on the standard broadcast band and the international short-wave broadcast bands.

Interfering electrical disturbances reaching the receiver by way of the power supply system

are eliminated or reduced in their effects on the receiver sound output when using this antenna kit. Radiated disturbances caused by electrical appliances, oil burners, power line leaks, etc., are eliminated or reduced in their effect on the receiver, when the antenna and external ground are located remote from the source of interference.

DESCRIPTION

The "Magic Wave" Antenna Kit consists of:

- (1) **Antenna Wire.** One coil 60 feet long.
- (2) **Antenna Coupling Unit.** An enclosed weatherproof transformer with mounting strap. The Antenna Wire, the Antenna Ground Wire, and the Transmission Line are attached to this transformer.
- (3) **Transmission Line.** One coil, 45 feet long, of black, twisted, two-wire insulated cable, covered with weatherproof braiding.
- (4) **Receiver Coupling Unit.** Stock No. 9813. A shielded transformer with transmission line terminals and receiver set terminals. The ground terminal serves as mounting bracket.
- (5) **Ground Wire.** One coil, 5 feet long, of

flexible wire for grounding the Antenna Coupling Unit.

(6) **Insulators.** Five porcelain insulators for support of wires, etc.

(7) **Ground Clamp.** For ground connection of Antenna Coupling Unit.

Additional requirements not supplied with the kit include:

Poles, etc.—Necessary supports for suspending the Antenna Wire. Note: A special type of vertical Antenna as suggested in these instructions may be used instead of the Antenna Wire supplied, or you may have an Antenna already installed which is satisfactory for connection to the Antenna Coupling Unit.

Ground Device. Metal stake, wire screen or other good external ground.

LOCATION

Preliminary to the installation, the type, location and direction of the antenna has to be decided upon. Several different types of antenna are shown in the illustrations. Choose the one best suited to your requirements.

Antenna wires must be well clear of roofs, buildings, trees and all other surfaces or objects, particularly those made of metal. The

higher the elevation the more effective the antenna.

The antenna should be remote from trolley wires, main automobile highways, telephone lines, power lines, household electrical appliances and other sources of production of electrical interference. The further away the antenna is from "noise production" the better.

INSTALLATION

Standard Antenna

A typical installation of the Wire ("L") Type Antenna is shown in Figure 1. This is recommended as the most convenient for homes, although any ordinary good antenna already in service may be used in place of the antenna wire furnished with the RCA "Magic Wave"

23219-1

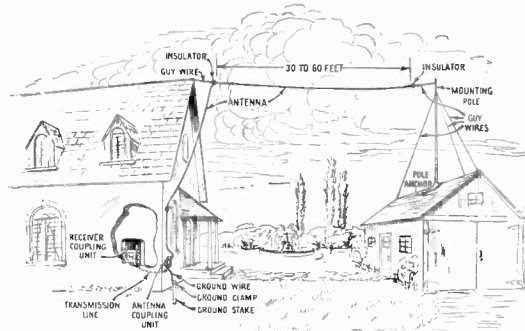


Figure 1—Typical Installation

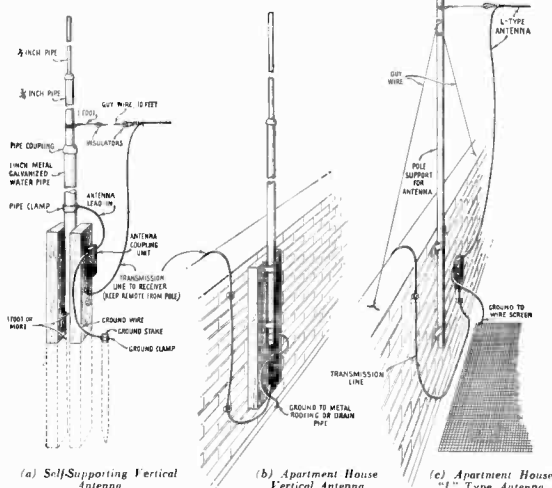


Figure 2—Optional Antenna Installations

2



Figure 3—Home Installation with Pole Antenna and Underground Transmission Line

Self-Supporting Vertical Antenna

This is shown in Figure 2 (a) and Photograph Figure 3. It is recommended for home installation when most appearance is desired. The transmission line may be run underground to house, thereby leaving no visible antenna wires. The pole should be located remote from the house and electrical wiring, as shown in Figure 3, in order to obtain maximum noise reduction.

Requirements—

Three sections of galvanized iron water pipe, or equivalent of other suitable metal.

- (1) 8 feet of 1 1/2 inch (top).
- (2) 10 feet of 1 1/2 inch (middle).
- (3) 12 feet of 1 inch (bottom).

Two pipe-reducing couplings, one from 1 1/2 inch to 1 1/4 inch pipe and one from 1 1/4 inch to 1 1/2 inch pipe.

Two 2 x 4 wooden posts, each 6 to 8 feet long, cross-cut or otherwise treated for preservation.

Two bolts, 3/4 inch or larger x 6 inches, with nuts and washers for securing mast to wooden supports.

One ground pipe, 1-inch diameter, 5 feet long. One extra ground clamp for antenna.

Erect, as indicated in Figure 2 (a). The Transmission Line may be above or below ground. If above ground it must be kept away from pole after leaving the Antenna Coupling Unit. The metal pole acts as the antenna and should be connected to the Antenna Coupling Unit in place of the Antenna Wire supplied with the kit. The pole should rest about one foot above ground between the wooden posts, which act as insulators.

Apartment House Vertical Antenna

Recommended for Apartment Houses and Office Buildings.

Requirements—

Two or three sections of pipe with reducing couplings as specified for Self-Supporting Vertical Antenna, Figure 2 (a), together with suitable wooden insulating and support block. Erect as indicated in Figure 2 (b).

Apartment House "L" Type Antenna

Recommended for Apartment Houses and Office Buildings.

Requirements—

Wooden or metal pole, 10 feet to 30 feet long. Guy wires and staples for anchoring pole. Erect as indicated in Figure 2 (c).

Note: A good antenna already installed may be used.

Antenna Coupling Unit

Mount the Antenna Coupling Unit close to the external ground, low down on pole base or wall, by means of the strap extending at the ends. Use screws for attachment. The ground wire should be as short as possible and the unit should, therefore, be mounted in close proximity to the metal "ground."

Transmission Line

Check the approximate length of Transmission Line required, and, if necessary, splice on additional lengths of cable. This is obtainable from your dealer. Attach Transmission Line to

wall or other exterior surface with nail-on knobs, in such a manner as to avoid possible damage to the insulation or to the line from effects of awing, wind and weather. Then thread through hole in wall and carry to receiver. Any surplus length may be cut off. In the interior of the house, the Transmission Line may be attached to walls with insulated staples.

The Transmission Line may be above or below ground. In the former case, it should be kept away from the antenna or antenna lead-in after leaving the Antenna Coupling Unit. For long lines exposed to weather and for underground lines we recommend our special heavy submarine insulated Transmission Line, Stock No. 12430, 90 feet long, or Stock No. 12429, 45 feet long. This is obtainable from your dealer, for use in place of the line supplied with the kit. For extra lengths used for internal wiring, we recommend our Stock No. 9816 (same as supplied with kit). The total length of the Transmission Line is not critical, and it may be cut at any convenient point. Both types of Transmission Line may be used in the same installation.

Receiver Coupling Unit

The "Ant" (pigtail lead) and "Gnd" (ground mounting bracket) terminals of the Receiver Coupling Unit are attached in such a manner that they will fit the antenna and ground "A" and "G" or "Ant" and "Gnd" terminals on your Radio Receiver Chassis. Mount Receiver Coupling Unit in place on receiver, being sure to use the connectors provided, as very short connections from the unit to the receiver are essential to good performance. The two wires of the Transmission Line should be connected to the two screw terminals at the top of the Receiver Coupling Unit.

Note: Some RCA Receivers have three terminals on the back of the chassis, marked A2, A1, and G. The "Ant" terminal of the Receiver Coupling Unit should be attached to A1, and the "Gnd" terminal, which supports the unit, should be connected to "G." The A2 terminal is not used with the "Magic Wave" Antenna Installation.

Grounds

(a) **External.** The ground connection of the Antenna Coupling Unit is very important. The ground lead should be short and preferably not over five feet in length. The wire provided should be firmly attached, by means of the ground clamp supplied, to a metal stake or pipe driven four feet or more into the soil. A copper wire similar to the antenna wire, buried in a trench 6 inches deep and 15 feet long, makes a good ground. Do not use the same trench as for a buried Transmission Line. For apartment houses where the antenna is erected on the roof, use preferably a soldered connection to the metal roofing; a second choice is a 15 to 30-foot insulated wire, or a 12-foot square copper screen secured to the surface of the roof. For an installation where none of the above ground terminations are feasible, use an extended ground lead, twisted and run to the Transmission Line, for a distance of 15 feet from the Antenna Coupling Unit.

(b) **Internal.** The ground from the Receiver Coupling Unit is optional, but sometimes advisable for best noise reduction. Attach a ground wire to the "Gnd" (or G) terminal of the receiver and carry to water pipe or radiator. A clean metallic connection should be made, using a proper ground clamp.

AUXILIARY COUPLING UNIT FOR FOUR RECEIVERS

A new RCA Distribution Transformer, Stock No. 9814, is available from your dealer for attachment to the Transmission Line. Two, three or four sets of leads from this transformer feed to separate Receiver Coupling Units, Stock No.

9813, at separate receivers, so that reception on several receivers may be obtained simultaneously from one antenna. Ask your dealer for details.

REPLACEMENT PARTS

Stock No.	DESCRIPTION
9813	Transformer Receiver coupling unit.
9816	Transmission Line—Standard, 45 feet long.
12429	Transmission Line—Special, for underground and exposed locations, 45 feet long.
12430	Transmission Line—Special, for underground and exposed locations, 90 feet long.
9814	Transformer Special distribution auxiliary coupling unit.