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INSTALLING A WIRELESS RECEIVER

THERE is a great deal more in the correct installation of a wireless receiver than most people think. Aerials, for example, are still regarded as bits of wire which can be slung up anywhere you like—possibly in a position which will least disfigure the house.

Far more insidious is the recommendation made by many responsible writers that a small aerial should be used for selectivity. Although a small aerial may be used in those cases where the sensitivity of the receiver is very high, as is often, the case with mains receivers, there is no justification for a small aerial unless the receiver design itself is faulty ; my strong recommendation is therefore to erect as good an aerial as is reasonably convenient. It should be as high as possible and clear of metal parts of the house, such as pipes, gutters and electric wiring, if the position of this is known. In the case of an indoor aerial, the best results are obtained when it is not too near the wall, and when it is as far as possible from any electric wiring.

Joints should be avoided where possible, as they are liable to corrode ; unsoldered joints should be covered with insulating tape. Where the lead-in enters the house, the insulation should be good, and if a lightning arrester is used you should periodically inspect it to see that no dirt or water short-circuits the aerial to earth. It is just as well occasionally to disconnect the arrester and see what difference this makes to signals.

An aerial should not run parallel to a neighbouring aerial if the two are close together. It is better to run one aerial at an angle, say crosswise across the garden. Some aerials will receive signals more strongly in a certain direction than another, but when erecting a household aerial, it is not necessary to worry about directional effects,

The earth is extremely important, and it is usually impossible to improve upon a nearby water-pipe. The connection to this pipe requires very careful attention, as too often a very poor contact is made. The connection, unless soldered, should be examined periodically, as corrosion is extremely probable.

A short earth lead is advised, and it is preferable to make the leads of insulated wire, as otherwise, when the receiver is in a highly-sensitive condition, the rubbing of the bare wire would lead to unpleasant noises. If a water-pipe is not used, a large sheet of metal such as a tea container may be buried in the ground about a foot below the surface; if cinders are used as a bedding for the metal sheet an even better result may be obtained. The connection to the tin-can should be soldered, as corroded connections are a very fruitful source of earth troubles. Earth tins with terminals above the ground make good earth connections, especially if two tins, fairly widely separated, are used. The earth is far more likely to go wrong than the aerial, and periodical watering of the place where the can is buried is desirable, especially in summer.

The aerial and earth leads, both of which should preferably be insulated, should not be brought too close together when they are connected to the aerial and earth terminals of the receiver.

The lead from the aerial will usually be connected to a terminal at the left-hand side of the set, and it should not trail anywhere near the loudspeaker or the right-hand portion of the receiver. If the lead has to be brought from the aerial across the receiver, this should be done away from the set and near to the window. This is to avoid interaction between the aerial and other parts of the receiver. Such interaction would take the form of undesirable reaction effects or direct pick-up by a coil in a later circuit from the aerial, this giving rise to poorer selectivity.