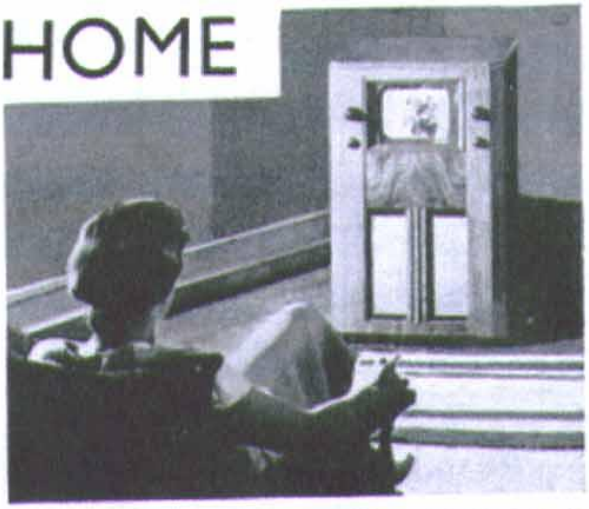
TELEVISION IN THE HOME

AERIAL INSTALLATION; OPERATION—AND SOME FIRST EXPERIENCES

By the Editor



THE prospective purchaser of a television receiver need have no concern regarding installation. Really the only vital matter is whether you have electric supply available. If you have, whether it be D.C. or A.C., then you can have a television receiver providing, of course, that you are within the service range of the Alexandra Palace.

My own choice was a G.E.C. receiver and before delivery was due I had schemed out what I thought would be the best aerial layout under the somewhat exacting conditions. However, I could have saved myself the trouble for the G.E.C. installation engineers came fully equipped to meet all manner of aerial conditions and proceeded forthwith to carry out a number of tests in order to arrive at the best arrangement.

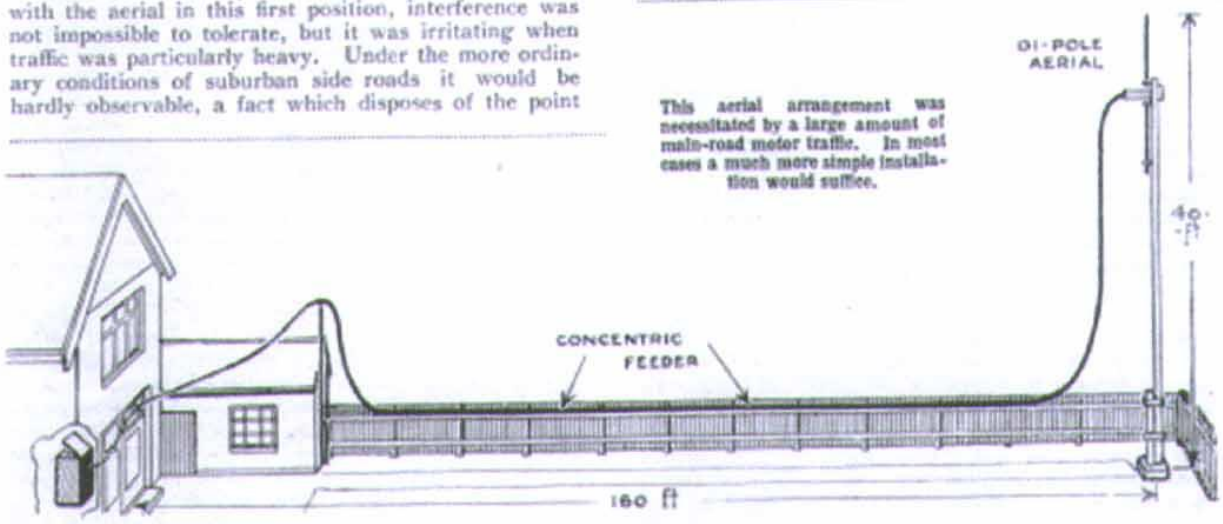
The particular problem was that the house is situated on a main road which carries a heavy stream of motor traffic. In the first instance it was thought that by attaching the dipole aerial to a high chimney at the back of the house it would be sufficiently removed from the field of interference. This position meant that the aerial would be approximately sixty feet from the road and at a height of about thirty-five feet, a concentric feeder brought down the side of the house being used as a lead-in.

Preliminary tests with this arrangement did not satisfy the G.E.C. engineers and it was decided to remove the dipole to the greatest distance possible from the road. Incidentally it should be noted that even with the aerial in this first position, interference was not impossible to tolerate, but it was irritating when traffic was particularly heavy. Under the more ordinary conditions of suburban side roads it would be hardly observable, a fact which disposes of the point that under most ordinary conditions interference is likely to be troublesome. Even at its worst it affects the sound much more than the vision, or rather it would be more correct to say that it is more noticeable with sound than vision.

Cutting Out Interference

In order to instal the aerial at the greatest possible distance from the road, a mast with a dipole attached was erected at the extreme end of the garden. This mast was actually a large size in wireless masts and when erected the dipole was about forty feet above ground level. The lead from this was a concentric feeder brought down the mast and then carried along the top of the fence and at a few yards from the house taken up to and in the top of a ground-floor window.

When a preliminary test was made with this arrangement a remarkable improvement was immediately noticeable and it is now only on rare occasions that any serious interference is apparent. It is an evident fact that some makes of cars are more prone to cause

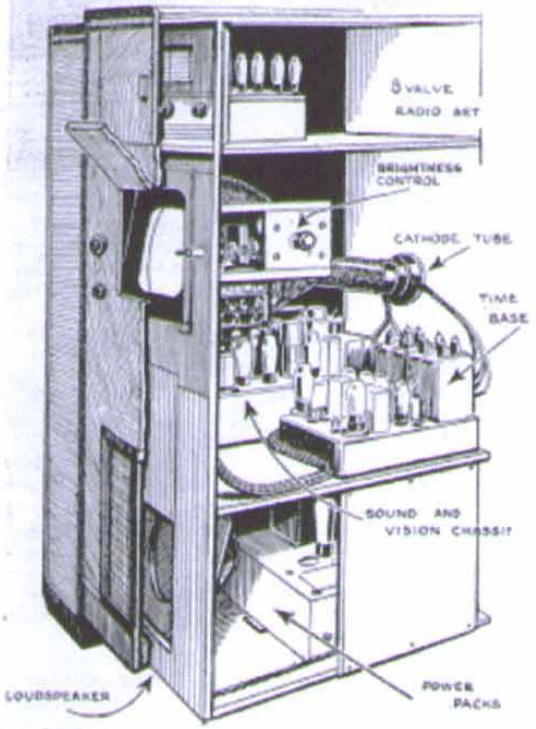


This aerial arrangement was necessitated by a large amount of main-road motor traffic. In most cases a much more simple installation would suffice.

COMPLETE BROADCAST ENTERTAINMENT

interference than others. At a later date it is hoped to list these; observations so far indicate that the Ford 8 and the Riley are rather bad offenders, but as no detailed check has been made this opinion may have been formed purely by coincidence.

Although with this arrangement interference is practically nil, it is hoped later on to eliminate it altogether.



A cut-away view of the G.E.C. television receiver showing the arrangement of the various units. This is the model incorporating a short- medium- and long-wave receiver.

The G.E.C. engineers suggested several easily adaptable schemes. It was concluded that what little bit of remaining interference there was was being picked up on the feeder itself and therefore that if this were placed almost at ground level, instead of being on the top of the fence, further improvement would be effected. Alternatively the feeder could be buried in the ground; or another suggestion was the earthing of the outer casing of the feeder. From an academic point of view, rather than any practical necessity, it is hoped to experiment in this direction at a later date.

One naturally expects that when a receiver is first installed some little adjustment will be necessary, but this was not the case; an effort was made to complete the aerial installation during one of the test transmissions and after plugging in to the mains, tuning and adjusting the line and frame frequency controls (all perfectly simple operations), the picture appeared and remained quite steady for the entire duration of the programme.

Perfect Safety

A great point has been made in the past regarding the dangerously high voltages that are used in a cathode-ray receiver. It cannot be too strongly stressed that there is not the slightest possibility of danger; a child could play with one for hours and not come to the slightest harm. Even if the back were removed, the connections are automatically broken and in ordinary use no high voltages are even remotely accessible.

As is well known the G.E.C. make two types of television receiver—one intended for the reception of sound and vision only from the Alexandra Palace and the other, which in addition to sound and vision reception of the Alexandra transmissions dso incorporates a long, medium and short-wave receiver for sound transmissions. It was thought desirable to have the latter type as representing the last word in broadcast entertainment, though I must admit that my chief interest lies chiefly in the television section.

One master switch controls all receiver sections—to the left it switches on the long, medium and short waves; the first position to the right cuts out the broadcast sound and makes it suitable for reception of the Baird system (both vision and sound); a further turn to the right and it is suitable for the Marconi—E.M.I. system—again both vision and sound. Apart from the tuning knob of the broadcast receiver, usually this is the only control that need be touched, although there are tuning, volume, contrast and line and frame frequency controls for the television section mounted on the front of the cabinet.

The broadcast sound receiver is a separate receiver to all intents and purposes and is accommodated in the upper part of the cabinet. This is provided with the usual single-knob tuning, wavechange switch, and tone and silent tuning controls. Both this section and the end of the cathode-ray tube are enclosed by flush-fitting doors and externally the cathode-ray tube is further protected by a glass window.

A Complete Home Entertainer

The performance of this receiver is amazing. Practically any European broadcast transmission is available at full loudspeaker strength, and most short-wave stations also with full loudspeaker volume. The volume, when the control is turned full on, is sufficient to shake the house. No less amazing is the simplicity so far as operation is concerned. Although the complete receiver may be said to perform six functions it is as simple to operate as an ordinary wireless receiver.

At this early stage of television transmission it is but natural that variations should occur and on these occasions there is always the inclination to attempt adjustments of the receiver. It is noteworthy, however, that in no case has this been actually necessary and a reversion to the original setting at a later stage of the programme, when conditions had altered, proved that any variation that had occurred was not in any way due to the receiver.