# Transatlantic News

## By Major Ralph W. Hallows

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WHAT a marvelous instrument the modern television camera is! A few evenings ago I watched on the television screen a play which was transmitted from a theater in London in the course of an ordinary performance and without a single lumen of extra lightning. One or two afternoons later I saw an international Rugby football match played on a typically English winter afternoon when low clouds, mist, and fine drizzling rain combine to produce what the poets call a "dim religious light." (Football fans have other words for it.) Not much use switching on, I thought, after a glance through the window at the gloom outside. To my utter amazement the images were clear, sharp, and full of detail, although the commentators sitting in the grandstand complained bitterly about the difficulty of seeing what was going on. We televiewers, obviously, saw better than they did!

It will be a strange business if commentators change over to the screen of a television monitor tube on days when the light is too dim for the human eye to see the game direct.

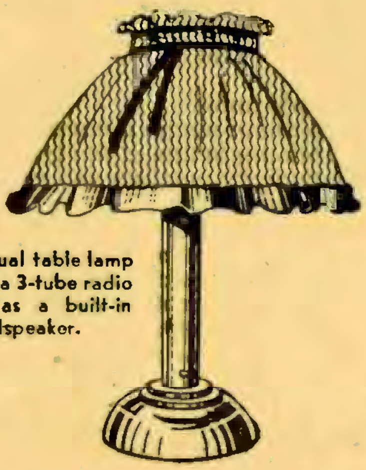
The camera now used by the BBC is more light-sensitive than the eye. It incorporates a modified form of Zworykin's orthicon. I wonder if users of television receivers in this and other countries fully realize the magnitude of their debt to that great American genius? But for the iconoscope, supericonoscope, and image orthicon tubes, television might still be in the scanning-disc stage, with little or no entertainment value.

### Table model televisers

I was interested to read in a recent number of RADIO-CRAFT that in America table-model televisers are expected this year to outsell consoles by about 2 to 1. The console is still the more popular model here, mainly because of the better quality of the sound reproduction, but it would not surprise me if people here soon begin to show a preference for the table model.

The height of the television screen above the floor is more important than many designers yet realize. It should not be much above or below that of the televiewers' eyes. The height depends, not only on the natural upholstery of the viewer and the artificial upholstery of his chair, but also on whether he prefers to take his television while sitting bolt upright, or lolling back at his ease. Screen-height in the console is fixed. But with the table model the viewer can sit as he pleases and arrange the height of the televiser to suit his own requirements. If, for example, the set normally rests on a rather low table, it can always be raised with some of those large, unread books which so many people's bookshelves contain.

There's another reason why the table model is winning popularity on this side of the Atlantic. Try asking half a dozen friends to see a television program on a console model with a 48-square-inch image. You'll not find it too easy to seat them so that all can see reasonably well. It's fine for those in the front whose eyes are at about the right level, but the fellows standing behind them may not be very enthusiastic over the distorted images that they see. With a table model and a little ingenuity you can give everyone a good view. Here's a chance for inventors. Why not a table-type televiser standing on spring-loaded lazy-tongs supports? Raise or lower it to the height you want and it stays put!



This unusual table lamp conceals a 3-tube radio as well as a built-in loudspeaker.

### The slot antenna

Quite a bit of attention is being given to the possibilities of the slot antenna for v.h.f. reception, including television Briefly, if in a sheet of metal you punch, hacksaw, file, or otherwise worry out a narrow slot of the correct dimensions and connect a feeder line to it as shown in the drawing, it behaves as a half-wave dipole, except that the polar diagram is the exact opposite of what you'd expect. The vertical slot has the same polar diagram as a horizontal half-wave dipole, and vice versa. In theory the plate in which the slot is made should be of infinite area, but very good working results are obtained with plates of reasonable size. The slot antenna was first used during the war, for centimeter radar. It's a ticklish job to erect and feed an array of half-wave dipoles for a wave length of, say, 5 centimeters. But the difficulty vanishes if you punch out the array as a pattern of slots in the walls of a wave guide, and the results are first rate. It is possible that arrays of slots made in the steel framework of apartment buildings can be used as master antennas to provide FM and television reception for every home in the building.

### Map making by radar

There are enormous areas of the world surface which have never been accurately surveyed and mapped. Today their survey is being speeded by radar techniques. The old way of making maps is to cover the ground on foot, establish datum lines, sometimes of great length, and base triangulations and levelings on these lines. This method makes for great accuracy; but it takes a long time and the cost is high, particularly if dense forests and precipitous mountains make the going difficult. The modern method is to photograph the ground from airplanes, piece the photographs together, and make the map from the resulting composite picture. But such a map is not accurate unless the photographs are referred to a system of points on the ground whose positions are fixed with precision. That is where radar comes in.

Radar survey methods are now used in both the great African continent and in New Zealand. In New Zealand the main purpose of the radar survey is to add contour lines and other details to existing maps, but in Africa the object is to produce, at the rate of at least 100,000 square miles a year, accurate maps of huge tracts of country of which nothing more than a rough survey has been made so far.

The radar beacon is one of the most

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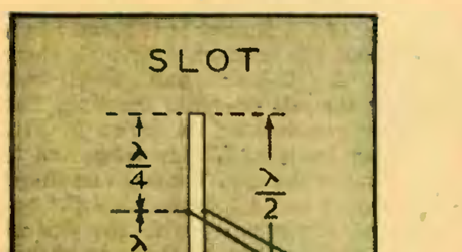


This novel antenna was used first for radar.

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important aids to radar mapping. Thanks largely to the miniature radio tube, it is now so small and light that the ground survey parties can transport and install it, even in the most difficult country—and a small number of radio beacons, accurately placed, makes it possible to survey a vast tract of land from the air.

### Table lamp radio

The latest type of invisible home radio hails from France. It looks exactly like any ordinary table lamp, with a frilly silk shade. But built into the pedestal is a 3-tube superheterodyne. The loudspeaker (concealed by the shade) is just below the light-bulb socket, and the wire frame supporting the shade forms the antenna. The set is intended only for local reception. A single small knob operates preset tuners to give a choice of 5 stations. The idea of a table lamp radio is not new. I recall reading about 25 years ago in an American magazine an article called "Reading by Audion Light." It describes a receiving set, using the original battery-operated audions, made in the form of a hanging lamp. The 5 tube sockets were arranged so that the tubes were upside down and threw all the light from their filaments on to the table below. As the audions were bright emitters requiring about ¾ amp at 4 volts for their filaments, the 15 watts consumed by the 5 tubes in the set should have given the ingenious inventor quite a reasonable amount of light for his reading.

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The French government levies a tax on all radios—500 francs on the first one, and 100 francs for each additional set. In return it is responsible for eliminating all sources of noise interference from the radio. Thirty technicians—members of the government's "parasitic service"—cover Paris and the surrounding area to check on all reports of interference. About 7,000 investigations are made each year.

Locating the trouble is not easy, since all electric conductors and appliances are possible transmitters of parasitics. Frequently, the interference comes from a doctor's old-fashioned diathermy machine or an electric razor. The owners of these noisemakers are legally subject to fines and imprisonment, but those who refuse to correct abuses are the most likely to be punished.