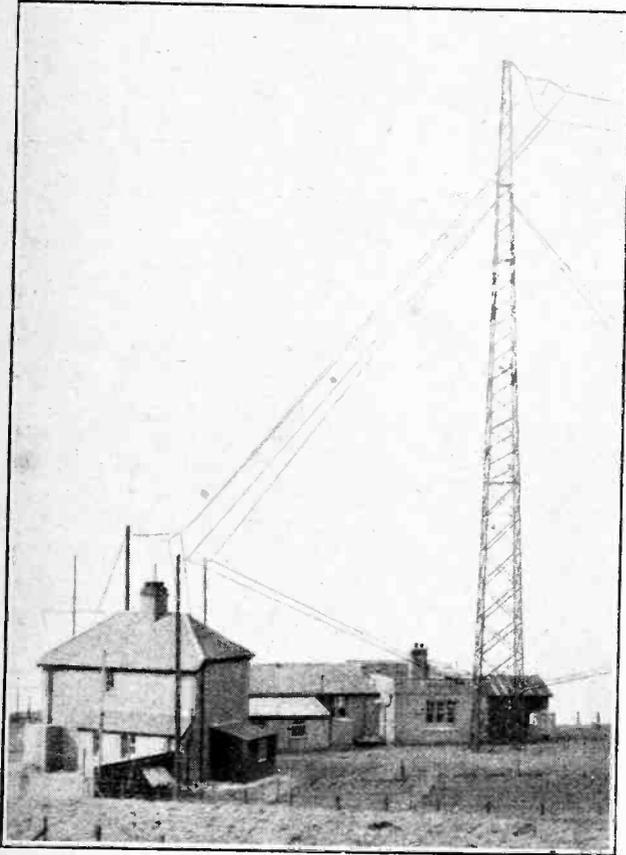


**A Year's Progress in Commercial Wireless. —**

In actual practice much of the spirit of the new regulations was already in being as a result of the advances made in wireless technique since the 1912 Convention, and during the last year most of the letter of the new regulations has already been put into operation.

**Automatic Distress Signal.**

The most important advance in maritime signalling during the year has been the fitting of British ships with automatic apparatus for receiving the alarm signal. This



Directional aerial receiving equipment installed at a coast station so that ship direction and location can be determined. (Portpatrick station.)

signal consists of a series of twelve dashes sent in one minute, the duration of each dash being four seconds, and the duration of each space between two dashes, one second. It is used solely to announce that the distress signal is about to follow, and, when received on the special automatic apparatus, it actuates an electric circuit so as to ring a bell which calls the operator to the instruments. British ships are, as a rule, allowed to reduce their operating staff if they are fitted with this apparatus, and there are now nearly 800 ships so fitted. This alarm signal, and the use of automatic receivers, have been recognised in the new International Convention, but up to the present such apparatus has been fitted only in British ships. It has not been laid down internationally that the distress signal must be preceded by the alarm signal, but it is now well known

that if the latter is omitted the former may be missed by British ships within range, and in consequence it is becoming general to use both signals.

The advantage of having directional receiving apparatus in ships has become more appreciated by ship-owners during the last year. With this apparatus a ship is able to obtain its bearing from any station or ship fitted with wireless, and in addition wireless beacon stations are being erected at various places all over the world for the purpose of allowing ships which are equipped with directional receivers to obtain bearings from these beacons. The percentage of British ships fitted with directional receivers compared with the total number of British ships fitted with wireless has increased during the year to about 17 per cent.

The design of ships' apparatus has tended towards the introduction of interrupted continuous wave apparatus in place of spark apparatus, as it is laid down in the new Convention that ships equipped after the 1st of January, 1930, must be fitted with continuous-wave transmitters, except in the case of very small installations. This regulation will tend to reduce interference in maritime signalling generally, and especially the interference caused by such signalling to the reception of broadcasting programmes in coastal areas, as continuous-wave transmission, being more sharply tuned than spark transmission, causes less interference. Broadcast listeners have indeed been well looked after by the new Convention, as broadcasting stations have been given bands of waves which cannot be used by other services. Two waves which have hitherto been used by ships—the 300-metre wave and the 450-metre wave—are not to be so used in future in regions where they might interfere with the reception of broadcast programmes.

Similar regulations have been laid down for the coast stations which work with ships, and during the year several of our coast stations have had their spark installations replaced by interrupted continuous-wave sets.

The policy of fitting our coast stations with directional receivers, so that they may be able to give a ship its bearing from the station, has been continued, and about 8,000 bearings have been given during the year. But ships which are themselves fitted with directional receivers often require to obtain a bearing for navigational purposes from places where no coast stations are established, and during the year a considerable advance has been made in providing wireless beacon stations for this purpose. Six of these stations are now in operation at suitable points round the coasts of the British Islands, and several more are in hand. In a few cases submarine sound signals are emitted from the station at the same time as the wireless signals, so that ships fitted with the necessary apparatus can obtain, not only a bearing, but also their position, by noting the difference in time between the reception of the wireless and the sound signals.

The results of extensive experimental work on directional wireless carried out by the Radio Research Board during the last five years has been published. It was found that the bearings of transmitting stations by day were reliable to an extreme error of four degrees, the great majority of readings being correct to within two