

Short-wave Jottings

MR. F. W. SELLENS writes: I notice in last week's "Record" the question asked as to the identity of W2XO.

This is an experimental short wave station of the General Electric Company, Schenectady, N.Y.

I have heard this station several times on Tuesday and Friday mornings, carrying out duplex telephony tests with 5SW between 5 a.m. and 6 a.m. At times 2XAD and 2XO work alternately, and then simultaneously, 5SW comparing reception from each station.

THE following is an extract from a letter received from N. V. Philips's Radio, Eindhoven, Holland, last week:—"we wish to point out that we are broadcasting in six languages, of which English forms a very vital part. You will realise, of course, that for the South American countries we must announce in Spanish and Portuguese in the hours especially dedicated to them. But when it comes to our Australian programme, which lasts for two hours, which is more than any other country gets, we would remark that during this period English is spoken exclusively." This was in reply to a report from me, in which I stated that the foreign announcements appeared rather lengthy in comparison with English.

THE short wave transmitter BH9XD, operated by the Zurich Radio Club, relays regularly on every first and third Saturday of the month, between 7 and 9 p.m., Sundays 7 till 9 a.m. N.Z. summer time), the programmes transmitted by the Zurich station. Although the power is but 50 watts, the transmission, on a wavelength of 31.5 metres, are picked up at a considerable distance. On several mornings during the past week, a stranger on about 31 metres has been heard re-broadcasting the London programme. On Tuesday, March 5, at 5.30 a.m., it was first heard at R4, which is the strongest I have heard it. Static was very bad then, too much so to understand what was said, but clear enough to know it was English spoken without an American accent (thought it was 2XAF at first). Since then, I have checked it with 5SW, and found the items the same. It must be a short wave station reasonably close to London, as the transmissions are picked up from their broadcast wavelength as they are "on the air" before 5SW commences. Big Ben at 7 a.m. has been heard through this stranger, and the talks that follow.

CJRX, Winnipeg, Manitoba, was heard from 5.35 till 6 p.m. on Wednesday.

MR. G. R. MCCARTHY
"Mack", late of Mack's Radio Co., Ltd.

76-77 Kent Terrace,
Wellington

Wishes to inform his many Friends and Customers that he is continuing in business at the above address. His objects in future will be devoted to Radio Service, Repairs, Construction and Accessories for the home builder who will receive every assistance and co-operation, and to aid him in this he is re-organising and re-building his Lab. which will be able to undertake every possible test in Radio Parts, Sets and Accessories.

March 6, transmitting an organ recital from the Garrick Theatre, Winnipeg. Strength was R8, with slight fading, spoilt by a beam station very near the same wavelength. He closed at "2 minutes to 12 by my watch." "Good night," and "Don't forget to write," were his closing remarks.

KGO was heard on Wednesday morning, advising their listeners how to choose furniture.

5SW and PCJ are gaining in volume during their early morning transmission.

New Zealand Wavelengths

Question of Alteration

AT fairly frequent intervals correspondents write making the suggestion that the wavelength of one or other of the New Zealand stations should be altered by the Broadcasting Company, as on the evidence available to them they consider that reception in their particular locality would be improved by change to some other wavelength. The opinion seems to be fairly general that the decision as to the wavelength on which any particular New Zealand station shall operate is in the hands of the Broadcasting Company, and some feeling sometimes seems to be developed at non-acceptance of the suggestions advanced. It is perhaps just as well, therefore, to put on record the exact position regarding wavelengths.

A typical letter on this point comes from a Hamilton correspondent, a very keen and enthusiastic radio dealer wholly concerned with the betterment of the service in his locality. His letter is as follows:—

"I have been listening carefully to YA stations and have arrived at the following conclusion: The reason the Christchurch station is received here much better than Wellington is owing to it being on a lower wavelength; often Christchurch rebroadcasts the Wellington programme, and in the majority of instances it is 50 per cent. louder and much more clear than Wellington direct, although Christchurch is handicapped by being farther away and only about a tenth of the power of 2YA. My object in writing is to suggest that the Broadcasting Company alter the wavelength of Wellington and Dunedin stations. The latter is rarely heard up here since it was put up on 463 metres, whereas before it was altered we could receive same here at good strength. If the Broadcasting Company want to give the greatest good to the greatest number this is one suggestion that will do it without extra cost. In fact, if Wellington were put down to, say, 275 metres, it could be reduced to half the present power and still come through much better than at present. Surely by now the powers that be must know the effect of using high wavelengths? Is there any reason for not using the lower wavelength when the advantages appear so obvious?"

THE answer to this correspondent's suggestion is that it is not in the power of the Broadcasting Company to vary wavelengths. The wavelengths are fixed by the wireless authority in New Zealand, the Post and Telegraph Department, after full consultation with the corresponding authorities in Australia and America. The wavelengths of all stations are adjusted within limits fixed by the Washington Convention. The factors considered in determining wavelengths are the range of the station in relation to its power and the possibility of interference with other stations. As a typical instance of the difficulty of keeping New Zealand stations clear of interference of overseas stations, there is the experience of 1YA, which has of late been suffering a heterodyning effect from an American station. The wavelengths of the New Zealand stations, as now determined, have been fixed by the authorities after consideration of a large number of factors. It is also to be remembered that a wavelength that may, for argument's sake, give one area varying reception, gives a large number of other areas good reception, and a balance has to be struck by the authority between all factors. This explanation is given to satisfy correspondents that the suggestions advanced from time to time are not ignored, but so far as the Broadcasting Company is concerned are not open to application by them.

Radio Frequency Amplification

Its Use on Shortwave

THE vast majority of short-wave receiving sets now in use consist simply of a rectifier followed by one or two note-magnifying stages. A question that one is often asked is: Cannot high frequency amplification be used in the short-wave set?

The answer is that it can, though nothing like the same degree of magnification is obtainable below 100 metres as upon the medium and long wave-bands. By the use of a specially-designed transformer it is possible to obtain a certain amount of magnification at high-frequency from a triode valve with a high amplification factor. The overall magnification, however, is generally so small that it is hardly worth while in view of the extra tuning control that must be introduced. The presence of this naturally complicates searching considerably.

A much more promising valve for the purpose is the screen-grid variety of the tetrode. Though it must not be expected that anything like the magnification possible on the longer waves will be obtained in the "wavelets," it will give real and very welcome amplification at high-frequency.

Experiments show that the valve and its accompanying circuits must be very thoroughly shielded by means of a metal screening-box. It may be

New Beacon Station

A WIRELESS beacon at Start Point has been completed, and it is the seventh of its kind now established round the British coasts. This type of station transmits a special signal on an exclusive wavelength of 1000 metres, for the benefit of ships equipped with wireless direction-finders.

The completion of this station means that very effective cross-bearings can now be taken by ships using three Channel stations as their fixed points. They can thus obtain a sequence of bearings whenever required by the navigators, and can be sure of their position right up the Channel. Since the wireless direction-finder has become firmly established and more generally employed on the merchant vessels of the world, the demand has arisen for the erection of permanent installations situated at places of advantage from a shipping point of view, round the British coast, and whose function it is to send out a recognised signal at convenient intervals, purely for the purpose of enabling ships to take their bearings and thereby find their exact position.

One of the great advantages of the system of position finding, in which a wireless beacon station at a known position is used, with a direction-finder on board ship, is that the signals are broadcast in all directions and a direct bearing can be taken on the transmitter from any direction at every signal sent out by it. This method is particularly suitable for lighthouse installation, as the swinging of the ship's head does not affect the accuracy of the bearing obtained, and navigators can lay off their wireless bearings on familiar points on the chart.

The beacon transmitter of the type fitted in the British Isles is automatically controlled by a master clock for transmitting groups of interrupted continuous wave signals at pre-arranged intervals.

coupled to the detector valve by either the plain tuned anode or the parallel feed method.

Further, though an extra tuning condenser is needed, searching is not really made more difficult, since the tuning of the high-frequency valve when the screen-grid is used is not very sharp. What one does find is that a transmission "white" without the H.F. amplifier will be somewhat distorted (owing to the necessity for keeping the set close to the oscillation point) often comes through quite clearly with it, since much less use of reaction is required. In other words, though signal strength may not be much greater, and not the spurious kind due to genuine H.F. amplification is occurring action.

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