

# The Role of Radio in the Byrd Expedition

**D**ISTANT as New Zealand is from the world's commercial centres, it is nevertheless destined to play an important role in aerial navigation.

A great conquest has just been witnessed, the details of which held the interest and imagination of all New Zealand. Such was possible only through radio and radio is again to be commissioned to post the world, or at least the Southern Hemisphere, with the movements of Commander Byrd's expedition to the Polar regions.

**T**HE southern regions have been comparatively neglected. Since the heroic expeditions of Captain Scott, Amundsen, and Shackleton little has been done to make known the secrets of the Antarctic to mankind. Now modern science has removed what were formerly hopeless barriers and an expedition is on its way to New Zealand for the main "take off" to the southern regions.

Commander Byrd is attempting no spectacular feats. He and his companions are going South with definite plans to enrich scientific knowledge. With this end in view they are equip-

**A**LL listeners will read with interest the following account of the part that radio is to play with the Byrd Expedition, preparations for whose departure from Dunedin are now well under weigh. Already some stores have arrived and others are on the way from New York. New Zealand will be quite in the forefront through this expedition, and conversely programmes of New Zealand stations will certainly enliven some of the hours of the expedition. On the arrival of the expedition at Dunedin, it has been arranged that station 4YA will secure as many of the leaders as possible for "talks" of their objectives for the benefit of listeners. These talks will provide definitely interesting features.

ping themselves with every possible care leaving nothing to chance.

As much of the work as possible with be carried out by aeroplanes, three machines being commissioned.

Again radio is to be utilised not only to keep the whole world alive to their activities, but more especially to keep the various branches of the enterprise in touch with one another.

**R**ADIO is to be widely used, even the dog sleds are to be equipped. The aeroplane equipment is interesting, especially in view of the service a simi-

lar equipment rendered in the recent achievement. Changes are to be made from that carried across the Tasman, to suit the special needs of such an expedition. As with the Southern Cross the 'planes are to be fitted with transmitters and receivers. Of the former each 'plane is to be equipped with two—one short and the other long-wave. These are driven by wind-driven generators while in the air, and by motors when they alight. In addition batteries will be carried.

Part of the investigations to be carried out are concerned with atmospheric conditions in relation to radio, particularly regarding fading. Interference is likely to be severe, so special measures have to be taken. With the 'planes this means the provision of a double antenna, one section of which passes from the tail to the tip of one wing, while the other goes to the other wing. Each is separately fed. In addition the trailing wire as used in other 'planes will be used. The double and the motor-driven generator will be of special value in communicating with the sleds.

As the locale of the expedition will be near the magnetic pole it is hoped to acquire information that will be of value in future explorations.

It is planned to photograph signals that have travelled around the world to gather data on the skip distance effect on short waves.

**I**N order that the explorers might keep in touch with one another, and with the outside world elaborate plans have been made. Short waves, the intermediate band and the radio compass are numbered among the factors to maintain this important service. Needless to say all communication will be done by Morse. Apparatus to clarify the currents as well as to modulate it would unnecessarily add to the burden of the expedition.

**T**HE supply ship, expedition base and aircraft are variously equipped.

The supply ship "Samson" will carry two transmitters for short and long waves. The short-wave set, designed by the chief of the radio staff, Lieutenant H. P. Hanson, will have a power of 1500 watts (three times the power of 1YA). The other transmitter will have a power of 500 watts.

In addition two short-wave receivers will be aboard, one for listening and the other for making tests on fading. To keep in touch with the brighter side of life a broadcast receiver has been installed which should pick up all the

New Zealand and some of the Australian stations.

The power is to be generated from the ship's engines when under steam or by a gasoline generator when motionless or under sail.

**A** DEVICE of paramount importance has been installed in order to minimise loss of life through parties becoming engulfed in fog or blizzard. This is in the form of a radio compass which is used to direct aeroplanes in flight by constant checking of position. From the signals sent out by the 'plane a bearing is taken from the compass and cross checked with the position as given by the 'plane, and errors are corrected.

**T**HE base, two miles inland, will be equipped with a 2000 watt transmitter which will be set up near the kitchen for warmth. The operating room, at some distance, will be made sound-proof by means of thick curtains, matting and carpet.

The aerial will be strung from three 65 foot steel towers, which are much lighter than wooden masts of the same dimension.

**T**HE United States Bureau of Standards and Naval Research Laboratories will be responsible for the other end of the communication system. Should it be found impossible to maintain direct contact at all seasons of the year, efforts may be made to establish a relay with New Zealand. Experiments to that end are already being conducted by selected amateurs in the Dominion.

Schedules with amateur stations in the United States will not be arranged until after it is determined which can be worked consistently. Then only those stations which are in the best position to handle the traffic will be called in.

## Wanganui to 2YA

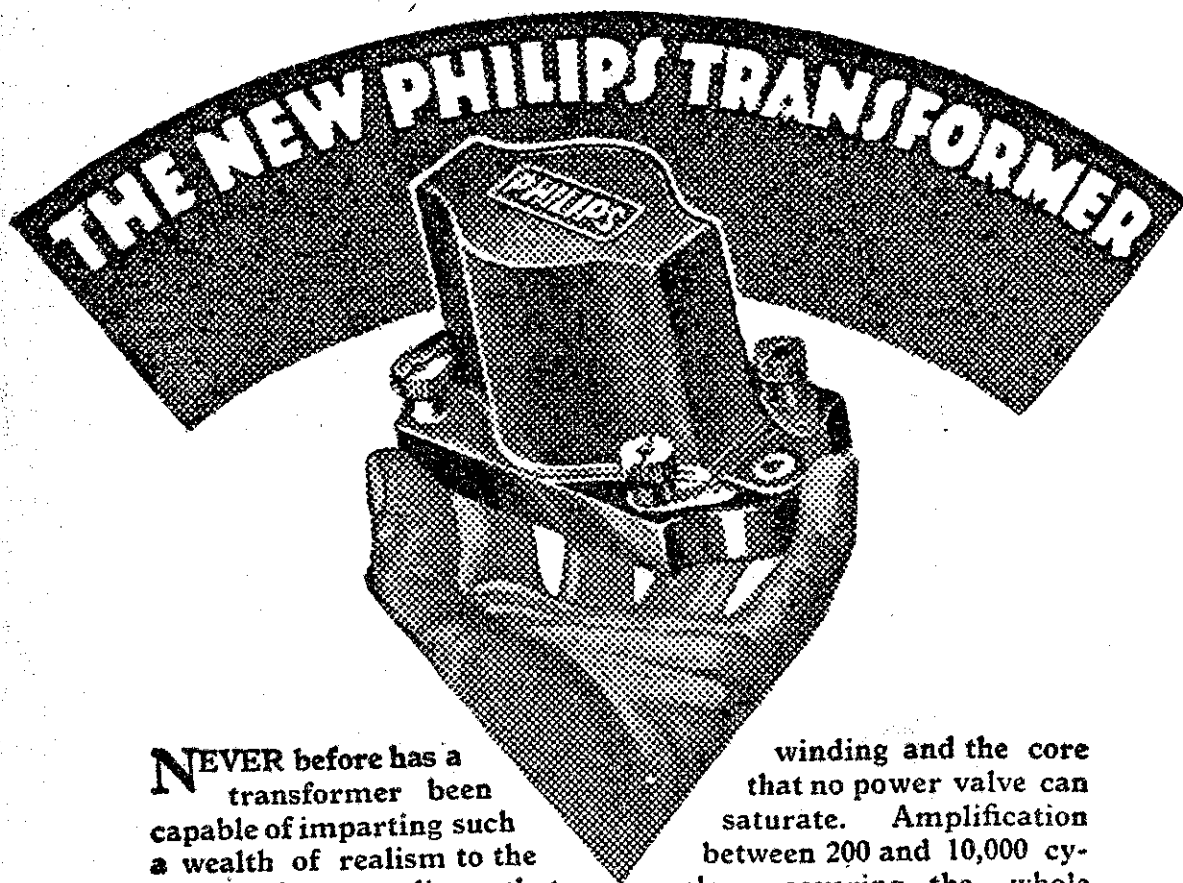
### A Satisfactory Test

**O**N Tuesday evening, October 2, the land line to Wanganui was again tested, and the result showed a great improvement on the conditions which obtained on the occasion of the previous test some months ago.

On this occasion the relay was conducted by one of the company's operators from Mr. Carrad's, radio dealer, Wanganui. Gramophone records, electrically reproduced, were transmitted, and the reports on the reception by the company's official listeners are generally favourable.

It is therefore very probable that the company will arrange shortly for the broadcasting of a concert provided Wanganui talent.

Wanganui, as is well known, is the home of the Dominion's champion band, Queen Alexandra's Own, and the vocal talent of the city, some of which has been heard at 2YA, is exceptionally good.



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