

aerial at one point passes over the telephone line, but about 30 feet above it. It would be interesting to know whether the effect is caused from the earth or the aerial.—Philip Williamson (Whangamata).

#### A Suggestion.

I FEEL I must make a suggestion as to DX listeners. During the last few months we have been reading some very interesting DX results received by listeners and new stations heard, which we cannot locate. My suggestion is that we have a DX club in a corner of the "Radio Record" to enable listeners to give new stations received during every week, with the wave-length and times logged.

Such keen DX listeners as Messrs. Holmes, Gray, Blucher, Ireland, Davis, Handley, and Vic.'s Radio Shack to give notes and send in new stations logged during the week. I received a letter from a DX listener in Los Angeles and they have got a DX club to enable listeners to exchange views on DX. I feel I must congratulate Mr. Ireland on his great log of 3RI, Melbourne. This log must be a New Zealand record as to the watt power. My lowest watt Aussie is 25 watts on a five-valve receiver. My log of Yanks, from December 2 to December 6, is: KEX, on 250 metres, every evening, very clear on speaker; also KFON, KGO, KNX, and another new one, KOIN, Portland, on 319 metres, time 7.15 p.m. Thursday. KPQ, on 230 metres, 500 watts, will broadcast an all-night programme from 12 midnight to 7 a.m. in the morning, American time. This information was received from my DX friend in Los Angeles. Cheerio.—S. Ellis, Okato.

#### The C. A. Larsen?

AS I have been puzzled as to the name of a station that I have heard frequently operating behind Wellington (2YA), I have heard it on speaker volume, and often hear it when 2YA is awaiting the next item, I have often tried to tune it in, but it seems to be exactly on 2YA's wavelength. I have often tried to get this station on a Wednesday night, or after 2YA has closed down. Could you also tell me if this station that I got on Sunday, December 9, operates on about 200 metres? It was operating from 11.30 until 2.30.—Valve Set (Lower Hutt).

[The C. A. Larsen operates on 2YA's wavelength, 420 metres, and is without call sign. The station near 250 metres may have been KEX, Portland, Oregon, on 254 metres.—Ed.]

#### American Data.

A RECENT letter from the owners of KEX, the Western Broadcasting Co., 201 Terminal Sales Blvd., Portland, Oregon, reports that after November 11 their power will be 5000 watts on a frequency of 1180 kilocycles (254.1 metres). Affiliated stations are KGA, KJR, and KYA. KFON is now on 240 metres, a friend in the States writes. Re KGER, I logged the low-power station last January 2. My log consists of 36 stations on a four-tube neutrodyne set, including 8NU, 3AJ, 150A, and 100Z.—J. G. Mason (R.M.), Tuakau.

#### Test with Berlin

#### Mr. A. P. Morrison Reports

MR. A. P. MORRISON (Brooklyn) writes:—"On Tuesday, December 11, 2ME Sydney was heard conducting tests with AGB2 Berlin, Germany. This test was not what you would call a success, the trouble being that AGB2 could not understand the English language too good, the receiving conditions not being good at that end. 2ME stated they would have someone there the following night who could speak the German language. Wednesday, December 12, the test was listened for again, but 2ME was unable to pick up AGB2. Sometimes their carrier wave was audible and nothing else, so no test was carried out with them, but 2ME conducted a test with VPD Suva, 37.5 metres. A test was also carried out with the Suva station on December 11, but the test carried out last night was more successful, the trouble being a defective "mike" at Suva end, on the first test.

To-night, December 13, AGB2 was tuned in at 7.30 p.m., calling 2ME Sydney, but on going up to 28.5 metres. 2ME was not on the air, but came on a few minutes afterwards. AGB2 Germany gave his wavelength as 26.5 metres. This test was more successful than its previous ones, and AGB2 was heard to state that on Wednesday's test he was not able to raise 2ME carrier, but stated that afterwards he heard 2ME conducting a test with Malabon, Java, ANE, and was heard very clear and strong in Germany (this test I did not hear). As regards

## Byrd's Mission to the Antarctic

### To Investigate Blind Spot Theory

THE Byrd Antarctic Expedition, now en route to the Bay of Whales, will study one of radio's most puzzling problems—the phenomena known as "radio 'blind' spots."

Commander Richard E. Byrd's radio engineers will conduct extensive experiments in an effort to determine the origin of the phenomena which make it impossible for powerful wireless transmitters to communicate with certain points, although they can easily reach surrounding and more distant areas.

A device known as the "osiso," with which time variations almost to the millionth of a second can be measured, will be the instrument with which these studies will be made. This device was invented by an oscillograph engineer of the Westinghouse company.

#### Heaviside Layer

WHILE it was found that some so-called "blind" spots are caused by peculiarities of land configuration, this cannot explain all of them. As the result of years of study, engineers developed the "Heaviside theory," which pictures the earth as girdled by a stratum through which radio waves cannot pass and by which they are reflected back to the earth.

This stratum has become known as the "Heaviside layer," but its exact character is unknown to engineers. They believe, however, that "blind" spots are caused by the interference of radio waves reflected from the "Heaviside layer" with radio waves passing direct from transmitter to receiver. Long-distance radiocasts are accomplished, it is believed, not by the direct passage of waves from trans-

mitter to receiver, but by reflection from the "Heaviside layer."

In numerous tests with the "osiso" it has been estimated by reckoning the speed of radio waves and the time it takes reflected waves to return to the earth, that the "Heaviside layer" encircles the earth at an average distance of about 350 miles. Because of the behaviour of radio waves under certain conditions, a theory has been advanced that at the north or south pole, or possibly both, the layer touches or approaches the earth. Definite confirmation or refutation of this theory is one of the results hoped for from the experiments.

The experiments, according to the announcement, carry the approval of the United States Navy, which is interested in eliminating the "blind" spots which exist at sea as well as on land.

#### Radio Echoes.

THE phenomena of radio echoes, static and fading, which may or may not have a relation to the "Heaviside layer," also will be studied minutely by the radio expert, Mr. Hanson, with the "osiso." It is thought that when the Byrd party returns home, Mr. Hanson will bring with him a comprehensive set of facts on these vexing mysteries of radio science.

The "osiso," with which potential values as small as one-hundredth thousandth of a volt have been measured, also will record voltages as high as 2,000,000 volts. It is an oscillograph of a design which makes it readily portable, being only a fraction of the size of the conventional laboratory devices for measuring electrical oscillations. Its portability, according to Westinghouse engineers, makes it particularly adapted to use under the conditions which will be encountered in the Antarctic.

#### Aeroplane Radio

IF aeroplane service tests undertaken by the American Telephone and Telegraph Company between the ground and a cabin aeroplane develop as rapidly as some of the recent experiments in radio communication, it will soon be possible for anyone within reach of a telephone to communicate with anyone who may be travelling by aeroplane.

"It may be a matter of five years," one of the engineers of the above company stated, "and it may quite possibly be a much shorter time, before we achieve our object of an actual connection-service between an object moving through the air and a station on the ground."

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