

Round the World with Two Valves

How New Zealand Stations Were Heard in U.S.A.

Walter R. Pierce, with an out-of-date two-valve set, on Rhode Island, off the Atlantic Coast of the United States, has heard 694 broadcast stations, including the four New Zealand stations. He attributes his success to a remarkable "earth" he has devised.

AL who have been holding records for long-distance reception of broadcasts, and those whose imaginations have placed them in the class with world champions, now can retire from the limelight (writes Armstrong Perry in the New York "Radio News"). Walter Rodman Pierce, Junior, a 17-year-old boy of Saunderson, Rhode Island, seems to have all the other known DX artists backed completely off the boards with a record of 694 stations in 41 countries.

When Pierce's friend and brother "ham," Franklin R. Rowell (IAMU), of Pawtucket, told me at a recent New England convention of the American Radio Relay League that Pierce was receiving broadcasts from Japan, the Philippines, Australia, and other countries in all parts of the world, on two tubes, it sounded like the result of a superheated imagination. But Pierce appeared to be an honest young man; and he gave me from memory the call letters and locations of so many stations that he said he had logged, that I knew he must have either heard most of them many times or else spent most of his time memorising the call books. He said that he had letters and cards from many of these stations, verifying his reception. Still, his record was so remarkable, so nearly incredible, that I decided to visit his home and see the evidence before making any unqualified statement.

Several months later I visited Saunderson. Pierce's home, I found, was a farm back in the woods. A grocer on the highway took me over in his truck. I talked with him and with members of the boy's family while I waited for the boy to come home from school. The house is in a good radio location, on a hill that rises west of Narragansett Bay, opposite Newport.

Pierce's receiver is a Radiola III, a two-tube set which was well known a few years ago, but which is now entirely off the market. He had the little set on a table in the living room; it was hooked up to three dry cells and two 45-volt "B" batteries. He was using tubes of the 199 type, with adapters. Instead of the WD-11 type for which the set was designed.

ELABORATE GROUND SYSTEM

From the looks of the outfit, I would have said that New York would have been DX for it; but outside the window there was something unusual. The wire that led from the ground connection on the receiver out through the window ended at a binding post on a porcelain base. From this post twelve wires led to the same number of pipes or other pieces of metal embedded in the ground (see illustration). Pierce said that he found that each new ground connection increased selectivity and reduced the effect of body capacity; so he added one after another.

A leaky automobile radiator was sunk in the ground, at the end of the row of pipes, with its caps just above the surface so that water could be poured into it. Circumstances alter cases. On a device for keeping the ground connection, that radiator could only have inspired profanity; here it was an ideal

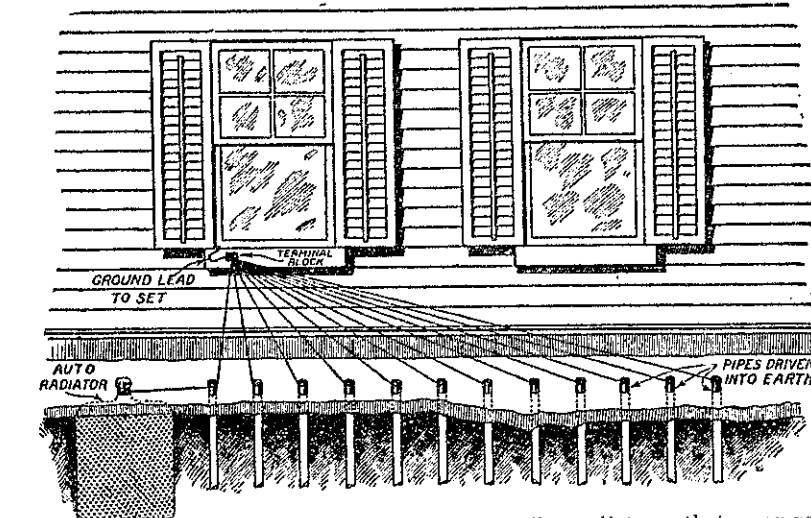
tions wet. The ground clamps on the pipes were bright. Pierce said that he put on new ones every few weeks. It became evident that his phenomenal record was not the result of accident.

AN ORDINARY AERIAL.

The aerial is 110 feet long and 26 feet high; it points N.N.E., with the set at the southerly end. Two glass insulators in series at each end prevented the escape of energy. The wire was of bare copper which, Pierce said, gives better results than tinned copper. He puts up new wire to replace the old every few months, or as soon as corrosion becomes noticeable. The aerial is kept taut, to prevent swinging.

ACROSS THE OCEANS.

It was still daylight, though late in the afternoon, when I sat down at the receiver. As soon as the tongue of the rheostat touched the first turn of wire, a station jumped at me. So many



The twelve pipes and the leaking automobile radiator that composes Pierce's ground system. The radiator keeps the whole ground system moist.

came in as I turned the knob that I advanced it only an eighth of the way to the maximum setting. These stations were within a radius of about 200 miles.

Pierce took charge of the set and turned the rheostat knob to the maximum position. There was another rheostat at the batteries, adjusted so that it was impossible to injure the tubes by turning the one at the set too far. Almost immediately he brought in 2LO, London, England!

When we tired of tuning in stations, we took off the phones and cut in the loudspeaker, an ordinary low-priced horn. Providence and New York stations came in with volume enough to fill the room and be heard anywhere in the house. Like his phones, his loudspeaker is a standard device, of a kind sold in most radio shops. There is not a piece of apparatus in the whole outfit that is of special design or expensive. Pierce is a farm boy, attending high school, and has little money to spend on luxuries. He said he had used the same "B" batteries for two years.

IYA, AUCKLAND HEARD.

After a night's rest, we rose at early dawn and went back to the set to listen for stations on the other side of the earth. Station IYA, Auckland, New Zealand, was one of the first to come in. The carrier wave was strong, but the music and announcements were weak. An orchestra was playing. When it stopped, the announcement "IYA, Auckland Station," was heard. This was between 5.35 and 5.37 a.m., Eastern standard time, on November 1, 1927. The announcement was logged again at 5.45.

A number of stations in the Antipodes, including JOCK, Nagoya, and JOAK (no joke!), Tokyo, Japan, and 2YA, Wellington, New Zealand, were recognised by their carrier waves. The average broadcast listener may doubt the ability of any person to identify stations by the sounds of their carrier waves; but some may have discovered, as Pierce did, that it can be done. For two years he has operated his set sev-

Some of the stations are so far away that four months elapse before the reply comes back. Among the letters and cards that he showed me were some from LOX, Buenos Aires, Argentina; 4QG, Brisbane, Australia; 6CL, Adelaide, Australia; KGBU, Ketchikan, Alaska; CZE, Mexico City; HHK, Port au Prince, Haiti. Several English stations answered his letters, but their replies were somewhat indefinite.

He has many verifications from stations in the United States and Canada, from coast to coast, but he considers nothing as real DX except from another continent or its islands.

SOME OF THE FOREIGN STATIONS.

Among the stations outside of the United States and Canada that Pierce has logged, many of them several times, are:—

Mexico: CYX, CZE, CYJ, CZI, CYO, CYB, CYH, Mexico City; CYS, Monterey; CYV, Merida; CYR, Tampico; FAM, Guadalajara; CYR, Mazatlan; CYU, Puebla; CYQ, Tampico.

Cuba: PWX, 2BB, 2TP, 2HC, 2HP, 2OK, 2RK, 2TW, Havana; 7SR, Central Elia; 6KW, Tuinucu (this station came in louder than any other that Pierce ever received). On December 30, 1926, he thought it was going to burn out his loudspeaker; 8JL, Santiago de Cuba; 6HS, Santa Clara; 7BY, Camaguey.

Haiti: HHK, Port au Prince.

Central America: AQM, San Salvador.

South America: CMAC, Santiago, Chile; SOIG, Sao Paulo, Brazil; AYRB, Caracas, Venezuela; CBC, Santiago, Chile; OAX, Lima, Peru; LOX, Buenos Aires, Argentina; CMAT, Tacna, Chile; CWOZ, Montevideo, Uruguay; Pernambuco, Brazil; LOP, Buenos Aires, Argentina; LOS, Buenos Aires, Argentina; CWOR, Montevideo, Uruguay; CNA, Valparaiso, Chile; Rio Janeiro, Brazil (no call letters announced); LOY, Buenos Aires, Argentina; LOV, Buenos Aires, Argentina; CMAB, Santiago, Chile; SPT, Rio de Janeiro, Brazil; LOU, Mendoza, Argentina; LOZ, Buenos Aires, Argentina; LOR, Buenos Aires, Argentina; LOY, Buenos Aires, Argentina; CWOZ, Montevideo, Uruguay.

Greenland: OGG, Godthaaven.

Iceland: Reykjavik.

Alaska: KGBU, Ketchikan; KFQD, Anchorage.

Europe: 2LO, London; RAJ3, Cadiz, Spain; IMI, Milan, Italy; 5PY, Plymouth, England; Skatudden, Finland; Oslo, Norway; Berne, Switzerland; RAJ7, Madrid, Spain; SRR, Brussels, Belgium; PPTT, Paris, France; 2ZY, Manchester, England; 5SC, Glasgow, Scotland; 5TT, Birmingham, England; 5NO, Newcastle, England; RAJ1, Barcelona, Spain; IL, Paris, France; LA, Langenberg, Germany; 2RN, Dublin, Ireland; RAJ4, Madrid, Spain; RAJ12, Oviedo, Spain; Stuttgart, Germany; RAJ2, Madrid, Spain; RAJ22, Salamanca, Spain (this was the loudest European station heard); IIA, Hamburg, Germany; PTT, Toulouse, France; INA, Naples, Italy; 6CK, Cork, Ireland; Copenhagen, Denmark; RAJ13, Barcelona, Spain; Bordeaux, France; RAJ25, Malaga, Spain.

CONVINCING EVIDENCE.

Pierce has more convincing evidence of his achievements in world-wide broadcast reception than the testimony of a visitor. When he hears enough of a programme to tell definitely whether the number was a piano solo, an orchestral selection or something else, he writes to the station to secure confirmation of the record in his log.

Views in Our Mail Bag

North Taranaki Reception.

J. R. Miller (Uruti): I have been putting off complaining regarding the reception of the Radio Broadcasting Company's stations for the past fortnight, in the hope that they might improve. In this week's "Record" a letter appears, written by "Disgusted," of Patea, who says the North Taranaki Radio Society are kicking up a row over nothing. Well, if "Disgusted" lived in this district he would not listen-in at all, as both 2YA and 3YA fade badly all the time; 4YA is not loud enough to enjoy; while 1YA, which was previously the only station received here without fading and distortion, is now fading badly and terribly distorted.

I have been listening to 1YA since its inception, and have never known it to fade before, so it is quite apparent that the transmission is at fault. On the other hand, I have never heard yet an evening's programme without fading.

Now, Sir, the company has improved the fare provided out of all sight during the past year, and I wish to congratulate them on this score; but, of course, there is always scope for improvement in this direction. If the company spent more money in improving the quality of its transmissions, much more progress would be made in the number of licenses, as people will not (in North Taranaki, anyway) buy sets until reception is better.

Mr. Harris promised the North Taranaki Radio Society that the fading problem would be investigated, and, if possible, relieved, but so far no such relief has occurred.

My other cause of complaint is that the voice of the announcer, Mr. Ball, of 2YA, is much too deep to be easily comprehended on a cone type speaker, and is bad enough on a horn type.

I would like to congratulate 2YA on the Symons-Hill Short Trio,

the Mellow Fellows, Mr. Billy Hart, Mr. Lad Haywood, Two Boiled Owls, and also many other artists whose items are presented.

Silent Day Desired.

Doug (Seaton): While listening-in on Thursday, 22nd, after the Australian stations had closed down, I turned around the dials, and at 31-66 I got a very faint whistle, and could then hear music which was hardly audible; so I turned round and at 20-66 heard another whistle. I tuned in very carefully and could hear jazzing and singing quite distinct. This was at 1.30 a.m. (23rd), and I listened until 1.45, but did not hear words I could understand, so I packed up. Now, could you tell me what stations they were? I have only a one-valve (Mullard PM3) set (home-made at a cost of \$4 10s.), and here are the stations I have heard:—20-66, at 1.30 a.m. (?); 31-66, at 1.30 a.m. (?); 60-70, 3YA; 64, whistle only; 68, 1YA; 70, 2BL, first choice; 75, 3LO, second choice; 80, 4QG, very blurred; 83, 5CL, very faint; 85, 2YA; 87, 2FC, third; 90, 4YA; 93, 3AR, almost as good as 3LO after 12; 96, whistle only (tell me); 98, Wellington Morse station; 15 stations.

There is one thing I would like to say. I would be very sorry if Wellington did not have a silent day, as some correspondents wish, otherwise how would a lot of listeners in Wellington get other N.Z. stations? [Yes, write your inquiry to Megolm.—Ed.]

Salvation Army Music.

H.C., Westport: Having taken the "Radio Record" since its inception and studied the weekly letters from the different towns asking what sort of music to put on. Well, I would like to ask for a little more of the Salvation Army concerts, such as cornet solos. While asking for this I for one am quite satisfied with what we are receiving, but this might appeal to quite a lot of radio listeners if published. I have a six-valve set and

get real good, clear results here. Have very often to cut 2YA back, volume too strong; receive 4YA at good loudspeaker strength and only have 80 volts B battery. Aussie stations very strong at present.

More Light Music Wanted.

S.S., Wellington: I am writing you a few lines to know if the radio programmes could not be brightened up a little, and I know a number of people who, like myself, would like to hear something different than what we have been getting lately. I would like in the first place to refer to the Musical Trio, who are without doubt very clever musicians, but we get fed up with first and second movements and sonatas, etc., which are played week after week with regular monotony, and often wish this clever trio would play tunes which most persons are familiar with, such as Gilbert and Sullivan operas or musical comedy tunes, which would be a very welcome change from the dreary drawn-out pieces we have to listen to. Also some new artists would be very much appreciated, as we hear almost the same ones week after week, singing and playing the same old songs and tunes. I may state that if a change is not made, fewer licenses will be taken out this year.

Exchange of Views Wanted.

E. J. Crabbe (Napier): I was very pleased to see several answers in this week's "Record" to my inquiry concerning the strange station on 2YA's wavelength, and wish to thank these gentlemen.

I see that one correspondent, Mr. S. R. Illis, of Taranaki, has apparently mistaken my letter for one of Dr. Ziehl's, and is asking a few inquiries concerning my set. If Mr. Illis would be kind enough to send his address to me, c/o P.O. Box 326, Napier, I would be pleased to correspond with him, and reception in Napier and Taranaki could be compared from time to time. The station Mr. Illis heard playing band music and fading badly on about 230 metres was undoubtedly KFON, the Piggly Wiggly Station, Long Beach, California.

Since last writing reception has improved, but static has been very bad during the last week. Last Sunday night was exceptionally good, although there were occasional loud bursts of static. On this night I tuned in 2TR, Sydney, at fine speaker strength. This is a fine result, as 2TR works on only 250 watts. I have received a chart from KFON, containing pictures of their station, artists, etc. 5DN and 5CL, Adelaide, as well as 30Z, Melbourne, along with the usual Australian stations, were heard to advantage on nights when static was not so bad. Morse interferes with reception here, and boats have some nights kept up their transmission for more than an hour on end. Needless to say, listening was out of the question. Thanking you and wishing the "Record" long life and every success.

ON SHORT WAVE

(Continued from Page 5.)

set, one valve, with No. 16 double cotton lunched wire coils, three in the aerial, five in secondary and primary fastened in telephone terminals. The aerial is made variable, being fastened on a 3/4" dowel stick and works backwards and forwards. I am using a 400 B valve, the base of valve being insulated with rubber. My aerial is electronic wire, 85ft. long to set; earth No. 18 ordinary electric light cable with three separate earths, one fastened to coil in ground, one on tin and the other runs into a bottle of water buried about 2ft. in ashes. I have only been experimenting with it a fortnight; in fact, only taking it up against seven months ago, so I am quite an amateur at the game. On Monday morning at 6.10 a.m. I got 3LO Melbourne at good crystal strength. This morning, imagine my surprise, when at 6.30 o'clock I got a clock booming out 7 p.m., then an announcement and piano solo. After that a lady sang and also a gentleman. Then a man spoke for some time, mentioning London several times. I saw Mr. Sellins personally about 8.45 and he told me I had got 5SV, Chelmsford, working on 23 metres, he having got the same station on his loud speaker.

RADIO TELEPHONY

BEAM PROMISES CITRAPNESS.

Wireless telephony across the Atlantic over a beam system which would not only be free from interference than the present service, but also could be furnished for about a fifth of the present cost, was predicted by Senator Marconi in an interview in London on February 3.

"We are devoting a good deal of attention to the super-imposition of telephony on the telegraphic signals now being sent over the beam system," he said. "The results have been so satisfactory as to warrant the hope that in a period of months we shall be able to take advantage commercially of this important development."

"Telephony under these conditions would be very much more economical than at present. The financial return from the telephony would pay largely for the operating expenses of the telegraphic service and make it possible for us to give wireless telephony service certainly at a much cheaper rate than the present 75 dollars (£15) for three minutes."

"The greater the success of our experiments, the greater reduction we may be able to make in the charge. It might be less than 15 dollars (£3) for three minutes."

What I think makes it more remarkable is the situation I am in: surrounded by houses and not the best of aerials, and the set is just an amateur made one.

Printed and published for the New Zealand Radio Publishing Company, at the registered office, Dominion Avenue, Wellington, of the Wellington Publishing Company, by Archibald Sando, of 47 Fyfeberg Street, Lyall Bay, FRIDAY, MARCH 30, 1928.