

Mr. A. P. Morrison (Brooklyn) writes:—

Having had so many requests from listeners from all parts of New Zealand (for my underground aerial) perhaps if space permits, you will publish a description and diagram for me in "Radio Record."

What is required for the aerial is this:—Eight copper pipes four feet long and 1 in. in diameter. Eight copper balls as used for the cistern. Each pipe to be three feet apart, laid down to form a circle, each copper ball to be spaced 1 ft. 6 in. from each pipe, connecting wire from ball to pipe until all are connected together, using 7.22 gauge wire. The whole thing to be sunk into the ground four feet. The balls to be sunk into the ground a foot deeper than the pipes. It is best to dig your hole first and lay your material out, and connect up. Take your connecting wire from the nearest possible joint to your receiver, a heavily insulated wire to be used for such. A counterpoise aerial must be used heavily insulated, preferably 20 feet from the ground. I have drawn a diagram of the whole thing, so as to give listeners a guide to work by.

In Mr. Sellens absence, probably my notes for the week may be of interest.

I do not know if KFON California possesses a s.w. transmitting plant, but on Friday 4th, from 7.30 p.m. till 8.30 p.m. this station was heard on approximately 60 metres, but throughout the programme of music, no mention was made about the possessing of s.w. plant, so think it was the fourth harmonic of KFON.

Mr. Pascoe, of Auckland, was enquiring through "Radio Record" about a s.w. station working on 60 metres, and I stated in some of my notes that I thought it to be a harmonic of one of the Australian stations, he has written to me since and mentioned that he was sure it was not an Aussie harmonic. Well, I give the mystery up. Has any other s.w. listener heard this station—from 7.30 p.m. till 8.30 p.m., he is supposed to be working.

Sunday, January 6.

W2XAF was heard at 3.30 p.m. with their usual dance programme at R5, but increased to R8 before closing down at 5 p.m.

KDKA at 3 p.m. was very weak about R4, heard again later with their message to the Byrd expedition strength R8.

A station heard at 6 p.m. on 32 metres, sending out American Stock Exchange reports, music was also heard. This station was still on the air at 10 p.m. I think it was W2XAF Rocky Point, because the noise was familiar, strength about R5 to 6. RFM was heard in the evening with talk and music R8 to 9.

Monday, January 7.

6.30 a.m. 7 LO, Nairobi, was transmitting music at about R4 to 5.

3LO, Melbourne, could not be found. I do not know if the fire has any effect on that station. At 9.5 RFM was heard with their usual long talk.

PCLL 18.4 metres was heard at 10 p.m. transmitting music, afterwards calling ANE Java, strength R8 to 9.

Afterwards ANE was heard also on music at R8, but was spoilt by their signals swinging back; stations afterwards carried out duplex telephony.

Tuesday, January 8.

6.30 a.m., 7LO, R4 to 5, but spoilt by morse. 6.45 a.m., 5SW at R6; a

talk was in progress, but did not have time to hear what it was all about.

At 10.55 p.m. both ANE and PCLL were heard again, with music and duplex telephony, both R8.

11.20 p.m.: A carrier was heard on 2ME wavelength, but nothing was heard from it.

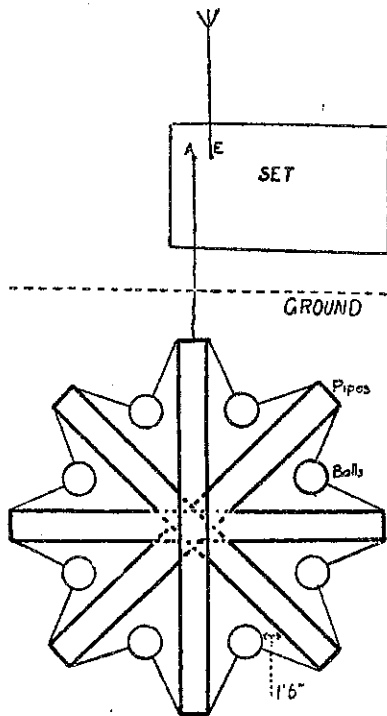
RFM was on with some good music, R8.

Wednesday, January 9.

6 a.m.: 7LO was very weak at about R2 and did not increase in strength.

5SW was at good strength at about R6 to 7; some good music being heard.

PCJJ was not heard by me. I do not know whether he was on the air.



Mr. Morrison's Underground Antenna.

A weak carrier was heard on 22 metres with a man talking in a foreign language, but was too weak to get its call.

No short-wave stations were heard in the evening.

Thursday, January 10.

Did not rise early enough to hear anything in the morning.

RFM was heard in the evening at good strength, R9.

2HC, Bondi, testing, R6, at 10.30. Also PK2RC testing with PK2J2, which I presume are Australian amateurs.

At 11 p.m. a foreign station on 45 metres with a good selection of musical items and vocal, but the language was difficult to understand, although modulation and strength were good, R7 to 8.

PCJJ CHANGES CALL.

FROM January 1, 1929, the call sign of Philips short-wave broadcasting station will be changed from PCJJ to PCJ, in accordance with the regulations drawn up at the recent Washington conference.

MR. N. C. FITZGERALD, Gisborne, has sent me, writes Mr. Sellens, the following particulars which he received from the respective stations:—

3AN transmits on 40 metres on Sunday, Tuesday, Thursday and Saturday from 11.30 p.m. till 1.30 a.m., New Zealand summer time. Address for reports: Sourabaya Radio Society, c/o M. W. M. Brussee, Sourabaya, Java, Dutch East Indies.

PKI, on 39.5 metres, is on the air every Monday morning from 2 a.m. till 4 a.m., New Zealand summer time. He usually works duplex telephony with 6AG, Perth, from 3 a.m., during these transmissions. Address: A. C. de Groot, Box F, Bandoeng, Java, Dutch East Indies.

Reports of reception are asked for by both of these Java stations.

A NEW record in radio reception has been established by the Canadian National Railways in receiving English short-wave transmissions on a moving train. The Continental Limited, moving eastward from Vancouver to Montreal, had installed on the observation car "Fort Osborne" a special short-wave receiver capable of being used for the short waves and the general broadcasting bands. While the Continental Limited was in the station at Vancouver at 8.30 p.m., Pacific time, the operator picked up 2XAD, Schenectady. On the journey towards the east various short-wave stations were heard, but that best received was 5SW, Chelmsford, England, which came in while the train was passing Favel, 1219 miles west of Montreal and situated between Sioux Lookout and Redditt, Ontario. The operator held the English station for 15 minutes, and then took up a popular programme. The time of reception was 4 p.m., Central time.

A New Short-waver St. Helena to go on the Air

A HIGH-POWERED short-wave broadcasting station is soon to be erected at St. Helena, in the North Atlantic Ocean.

The organisers of the station state that they hope to have it on the air about March or April. A power of 10 kilowatts will be used as a start, and all the apparatus will be supplied by the English Marconi Company. It is hoped tests can be carried out with a ship now in New Zealand waters, which will make the station widely known. Relays will be made of English broadcasting stations, principally 2LO, and in New Zealand the reception should be better than that from 5SW.

The island of St. Helena is rocky and barren, with a very high mountain in the centre. On this mountain will be erected the aerial. This certainly should be an ideal position. The aerial will be a one-mast type, and the transmitter will be housed just beneath it. On the other side of the island, at the foot of the hill, will be the studio, and about a mile away the relay station. This will consist of an extremely powerful receiver and apparatus to retransmit the music to the studio.

Static is very bad in the North Atlantic, however, and this may affect the relaying.

On Short Waves The Use of Adapters

SHORT-WAVE telephone is being used by a great number of stations in many parts of the world, and any owner of a valve set with the aid of a short-wave adapter may listen to these stations. The chief difficulty appears to be that operators of broadcast receivers who are used to comparatively easy tuning and strong signals from nearby stations find extreme difficulty in getting a short-wave set to function. It should be clearly understood that in order to tune in these long-distance stations the detector valve must be capable of oscillating.

It is often found that if a short-wave adapter is apply to the broadcast receiver, that the reaction condenser of the adapter can be turned all in without causing the detector to oscillate. There are two conditions which are likely to cause this.

The valve used as a detector in the short-wave adapter may be unsuitable, or the plate pressure may be insufficient. A great number of broadcast receivers will work very satisfactorily with from 16 to 22½ volts on the detector, and as the detector valve is taken out and replaced by the adapter, the same plate pressure will be fed to the detector in the adapter circuit. In order to bring the detector in the adapter circuit into a controllable oscillating condition a B battery pressure of from 45 to 60 volts is frequently required. It will be clear then that it will be necessary very often to change the detector tap on the B battery in the broadcast receiver to a higher value if the detector tube in the short-wave circuit fails to oscillate.

The reception of telephony is largely a matter of perseverance. The detector must be in an oscillating condition to first find the carrier wave of the distant station. It is here that the skill in tuning in the telephony is required. It merely consists of gradually reducing the oscillation and compensating on the tuning dial until the whistling carrier is smoothed out and the voice or music is cleared up. Provided the detector is capable of oscillating and being throttled by the control condenser, and that the correct coils are in for the particular wave length, it is desired to receive no difficulty should be experienced after a little practice in finding the international telephone stations.

CURIOUSLY enough, the large manufacturers do not complain of the competition of these private builders, as it proves that these privately and specially made sets are generally ordered for locations where special conditions have to be met and arrangements have to be considered by the expert on the spot—in regions, for example, where extreme congestion on the part of broadcasters renders extra selectivity necessary.

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