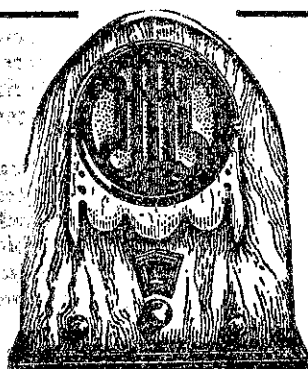


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**ABEL, SMEETON Ltd.** N.Z. House,  
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WHOLESALE AND RETAIL RADIO MERCHANTS.

(Continued from Page 1.)

The Post and Telegraph Department has been testing on the line for six months and has now brought the service as near perfection as engineers can. All other factors are beyond their control. During these tests it was found that the service is generally reliable at 7 a.m.

Let us for a moment look into the "inside" of this remarkable broadcast, and see exactly what is happening at each end and in between. A little before seven o'clock on the appointed day, New Zealand will call up England. Our transmitter ZLW, although powerful, is not sufficiently so to give the service every chance of success, so the call will be picked up by the La Perouse receiver in Sydney and transmitted by land-line to the transmitter in Pennington Hills. This mighty station is strong enough to be heard at the receiving station in Baldock, England. From here connection will be made to the London Telephone Exchange, which will call up the hotel where the cricketers are residing. Once the line is clear 2YA will be switched in and the announcer, who will speak through a microphone connected to the telephone, will ask for Mr. Lowry, or whoever represents the team. When Mr. Lowry speaks, marvellous switching gear will come into operation and his voice, after going to London, will travel to Rugby and be flung by direc-

tional antennae toward New Zealand. The receiver at our end is powerful enough to pick up the conversation without the services of Sydney, and he will be heard at Mount Crawford. The voice will then travel by telephone line to the Wellington Exchange, where, just like an ordinary suburban call, it will be put into 2YA's line. The line is connected with the broadcasting apparatus and the conversation goes out on the air. The announcer will also be able to hear what is being said. The switching device, which operates in three-millionths of a second, changes the connections from transmitting to receiving, and, although one speaks and hears as if merely calling up a friend in the same town, the inward and outward voices are separated by many thousands of miles at one stage of their journey. Truly a remarkable performance.

Reference to the diagram will show how the speech will take place. The voices undergo some wonderful changes. When the New Zealand representative in England speaks into the telephone his voice is conveyed to a transmitter which broadcasts it on shortwave. It is picked up in Wellington on shortwave, converted back into ordinary speech through the telephone, picked up at 2YA and broadcast again on longwave. In this time it will have travelled half-way round the globe, covering 18,000 miles by telephone,

(Concluded on Page 31.)

This illustration depicts the stages in the forthcoming broadcast of the telephone conversations between the cricketers and an R.B.C. representative. Ingenious switching arrangements in Wellington and London terminals determine the route the speech will take. Outgoing speech from Wellington will travel via Australia, while the reply will come direct.

