

On the Inside of a Rebroadcast

WITH the re-broadcasting of over-seas stations so much in evidence, it will be interesting to listeners to give them a little glimpse of the means by which these events were made possible. The Eucharistic Congress proceedings were broadcast in Sydney on both long and short waves for the benefit of Australian and overseas listeners and 2YA was enabled to make its successful rebroadcasts by picking up 2ME on the short wave band. It is usually found that the short wave band is less troubled with static than the ordinary broadcast band and in addition the waves are more reliable in daylight.

Advantage was taken by 2YA of the special equipment possessed by Mr. G. R. McCarthy ("Mack," of Macks Radio Co.) for short-wave reception, and the success of the rebroadcasts is undoubtedly largely due to his skill and public-spirited co-operation. The little "den" from which he raked the ether for 2YA is at his home some ten minutes walk from Courtenay Place, right under the shadow of 2YA itself. Yet in this

THE past has been an exceptional week for rebroadcasts. The Eucharistic Congress in Sydney, an event of world-wide importance, has been brought prominently before listeners in a series of successful rebroadcasts by 2YA and other stations. This has followed on last week's success by 3YA in re-broadcasting 5SW's treatment of the signing of the Kellogg Peace Pact in Paris. In addition, as re-broadcasts were so much to the fore, 2YA seemed to catch the habit, and on Saturday afternoon in the interval of the Wellington-Hawke's Bay football match reached out and dragged in PCJJ and put it on the air for a few minutes. The item was a novelty and was appreciated as such, but the reproduction could not be classed as perfect, although it was as perfect as human ingenuity could make it in the circumstances. Before the match quite a brilliant quarter of an hour was given listeners in the rebroadcast of 2XAD, Schnectady, New York.

area, with power lines for domestic reticulation and tramway operation within the sphere of influence as well as other sources of interference, "Mack" was able to pick the required signals out of the air, clean them, and amplify them and pass them over in "good order and condition" for 2YA to retransmit to New Zealand listeners.

THIS is delicate work and success waits only on the expert. Every amateur short wave enthusiast will appreciate the delicacy of reception attained in perfecting loudspeaker reception on these occasions. Fourteen years' experience lies at the back of Mr. McCarthy's attainment, the last two only being in New Zealand. After a preliminary grounding in telegraphic work, practically all corners of the world have seen him—even far Persia and the ice-bound North. By merit he is a member of the Institute of Radio Engineers. But in spite of his vast experience he classes himself still as a "beginner."

His "den" is packed full of receivers—big ones and little ones and a few medium ones. All are of his own design and make. The net outcome of his battery of equipment is a power of reception that is quite remarkable. There is no occasion to attempt a detailed outline of his receiving equipment and battery of filters. The results must speak for themselves. And the remarkable feature of the reception secured by "Mack" is its clarity and absence of noise. Four filters contribute to this result. The other main contributory is Mack himself. Throughout reception from Sydney—every minute of it—he sat beside his set in that little den, with head phones on his ears and fingers on the dials—ceaselessly on the alert to anticipate a developing fade or check any undue burst of atmospherics or volume. The delicacy of touch is wonderful. Right on the wave is perfection—a shade off and it is disaster.

AN experience preliminary to the rebroadcasting of Sydney is worth relating as indicating the difficulties that were overcome. Prior tests showed an exceptional volume of deafening noise. Try as he would "Mack" could not cut it out and in desperation was about to call the relay off for the day when the idea suddenly occurred that it might originate by induction from the land-line just put in between his home and the station. This line, two insulated telephone wires, ran from his window to the telegraph poles and then, some 200 yards away, passed through some high tension wires and so on to the station. Inside his room

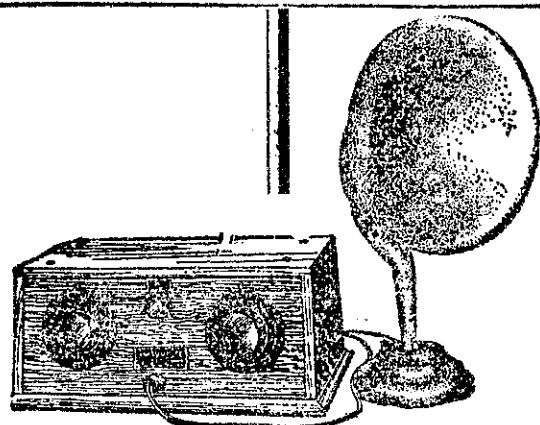
the land-line passed but twelve inches from one of his delicate instruments and thence into his set.

Investigation and test showed that induction from the electric power line was passing along the outside of his land-line and inside his room was jumping the gap to his gear and so entering the receiver to wreck clear reception. Thanks to so speedily locating the trouble, rectification was possible and the matter righted.

THAT the rebroadcasting of the Eucharistic Congress proceedings to the extent that was possible has been appreciated goes without saying. Both 1YA and 3YA also attained successful results for, fortunately, conditions for reception from Australia were fairly good. The Wellington transmission on Thursday evening was specially clear and has since been characterised by experts as the finest rebroadcast yet achieved on this side of the world. For their part in making these performances possible the thanks of listeners are due to all the operators concerned at the different centres. The Company laid itself out to make the most of the opportunity of so outstanding an event, and at each centre the preparations made resulted in definite success being attained. In Christchurch the Company's chief engineer, Mr. J. M. Bingham, working from his private residence, relayed 2ME, and on one evening, when searching for news regarding the Southern Cross, he picked up and relayed not only 2FC but a number of other Australian stations greatly to the interest of Christchurch crystal users. This, by the way, was on 3YA'S silent night willingly sacrificed to serve the public interest in the anticipated flight.

It may be added in conclusion that rebroadcasts of this nature have to be fitted in with the Company's regular sessions, arrangements for which have of necessity to be completed weeks ahead. In the circumstances it was remarkable how little of the big Sydney events had to be "cut out." For this, those listeners most interested have reason indeed to be grateful to the Broadcasting Company.

REBROADCASTS of the Eucharistic Congress were also efficiently handled by other stations. In the case of 3YA mid-day rebroadcasts were made on Wednesday and Thursday which, though noisy, demonstrated the station's keenness to supply service if at all possible. The hours of transmission in Australia were, however, very unfavourable for reception in New Zealand. This was noticeable early on Sunday evening when 3YA's rebroadcast steadily improved as darkness set in. The station went on the air at 6 o'clock, cutting short the children's session under Uncle David as it was deemed that the great demonstration in Sydney was such an event that the curtailment of the regular religious service at 3YA was justified. This rebroadcast was continued for thirty-five minutes, when the broadcast of the local church service commenced.



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