

Listening-in to the G.P.O.

First "Surprise Item" from 2YA



OR a brief period last Monday week 2YA listeners were privileged to "look in," per radio, to the telegraph room at the Wellington G.P.O.

Few members of the general public are acquainted with the telegraph room, with its clattering noise and intricate instruments which, when connected up with the network of wires which now covers New Zealand, can send messages from one end of the Dominion to the other. The reliability of the telegraph system, using the morse code—messages sent in dots and dashes—has been tested and established for many years. Yet few people outside the ranks of the telegraphists—those men who sit hour after hour, listening to the tap-tap-tapping of someone at the other end of a wire "somewhere in New Zealand"—know anything about it. When we want to send a telegram (or a "wire") we hand it over a counter to a clerk and think no more about it, for we know it will "get there."

So, on Monday evening it was a matter of great interest to the layman to learn how it all is done. It was the first of the "surprise items" at 2YA.

The first that the listener heard was a rattle of morse signals—just what he would hear if he opened the door of the telegraph room. Then the announcer began his descriptive talk. The listener could imagine that he was himself walking round the room and looking at the instruments as they ticked out the message.

"We have taken you over to the instrument room of the telegraph office, Wellington," said the announcer. Click, click, click, went the instruments.

"Those clicking sounds you heard were signals representing the word 'Hello' in the morse code and were signalled by a telegraph operator in the Auckland Telegraph Office. Now listen to an operator in the Hastings Telegraph Office signal the same word—(morse signals were heard)—Now Blenheim—now Christchurch—now Dunedin—now Greymouth—," and after the mention of each town the signals were heard again.

"He sounds a bit husky, doesn't he?" said the announcer, referring to the signals from Greymouth. "The slight difference you probably noticed in the sound of the signals from the various offices is due simply to differently adjusted receiving instruments and not to the fact that different operators were signalling or to the fact that the lines are of varying lengths. You have heard signals from six different offices separately—now hear them all together."

A chorus of signals followed.

"A babel of sound, you will think, but it is really quiet compared with the noise that would greet you should you enter the room at, say, 11 a.m. on a busy day. The noise would then be multiplied tenfold. At this hour of the night only the larger offices are in attendance, and, as I mentioned before, there is comparative quietness. What often puzzles the uninitiated is how the receiving operator at busy periods can distinguish the sound of his own particular instrument from the

score or more of others that are clattering all around him. The telegraph operator doesn't find this a difficult matter, for his sense of hearing has been highly developed by years of training, and to the experienced operator each instrument has a characteristic sound of its own.

"Where I am standing is known as the morse section of the room. This section is some 50 feet long by 40 feet wide, and contains a variety of morse instruments. The simplest of all morse systems is the 'Simplex,' which, as the name implies, is worked by one operator at each end of a telegraph line. The next step is the 'Duplex.' On this system two operators work at each end, one man sending messages and the other receiving from the distant station simultaneously, the circuit being so balanced that outgoing and incoming signals pass over the one line without interference with each other. Next comes the 'Quadruplex,' which arrangement permits of four operators being employed at each end of the one line. Two of these operators are senders and two are receivers, and two messages can be forwarded and two received simultaneously over the one telegraph line without any interference.

"Listeners will be interested to learn how correct time is obtained

at telegraph offices throughout the Dominion. A few minutes prior to nine each morning the telegraphists at Wellington commence what is known as the 'All station' call, and at every other transmitting centre the same procedure is followed. At Wellington a supervising officer stands facing a galvanometer which in appearance is something like a clock. Sharp at 9 a.m. an electric signal from the Kelburn Observatory flashes to the galvanometer needle, causing it to deflect, and the supervising officer immediately calls out 'Time,' which word is transmitted instantaneously throughout the country. Just listen a moment while we reproduce the 'All station' call and the transmission of time as is done at 9 a.m., each day."

The signals followed.

"I am now moving the microphone to the machine-printing section, and am standing alongside a table which supports what is called single-channel machine printing apparatus. This particular circuit is one which carries telegraph traffic between Wellington and Palmerston North. On a system of this kind, the sending operator operates a machine resembling a typewriter, having in fact almost a similar keyboard. Instead of producing printed characters on a sheet of paper,

however, this machine perforates holes in a ribbon of tape. These holes are signals corresponding to the type-writer keys depressed and are transmitted to the distant station when the tape passes from the keyboard through an instrument called a transmitter."

Listeners then heard the keyboard and transmitter working.

"At the receiving end the signals are printed on a very thin ribbon of tape having a gummed back. This tape is cut into suitable lengths by the receiving operator and pasted on to the received telegram form. Many listeners will be familiar with this type of telegram. This single channel system is the baby, as it were, of machine printing systems. I will now move the microphone to the full-grown apparatus.

"I am now standing by a long table bearing apparatus associated with what is called the quadruple machine printing system. This circuit I am describing is the one which carries the bulk of the telegraph traffic between Auckland and Wellington, and, when loaded to its fullest capacity, eight operators are employed at each end. Four of these are senders—that is, they perforate tape on a typewriter keyboard—while four are receivers, their duty being to cut the received tape into suitable lengths and place it on to the telegram form. Each sending operator's perforated tape feeds through a transmitter at a speed of 40



The "2YAleans," who are presenting a "Happy-Go-Lucky Hour" from 2YA on Thursday evening, February 11. Back row (left to right): Owen Pritchard, Jack Garry (alto sax.), Dick Colvin (trumpet), Fred Barker, Syd. Bernard (drums and trumpet). Front row (left to right): Frank Crowther (piano), Joyce Woodward, Will McKeon, Lynda Hastings, Denis Collinson (violin and tenor sax.).

—S. P. Andrew photo.