The Wellington Radio Exhibition

Exhibits Outside the Trade

PROBABLY the most active and enthusiastic body of radio listeners in New Zealand is that section of the listening and transmitting community known as the Association of Amateur Transmitters. With the head office in Auckland, this strong organisation has branches in the main cities of the country. From head office a journal representative of the whole society is regularly published, while the Canterbury branch publishes its own magazine, "The Canterbury Radio Journal."

The amateur transmitters of the world form a great brotherhood united by strong bonds. With transmitters ranging in power from a few watts to several kilowatts, these amateurs in all countries are able to hold two-way communication with those on the other side of the globe. Most of the New Zealand amateurs can claim at least more communication with England and the Continent. Some more fortunate have "worked" the foreign countries on telephony, but as this requires a fairly expensive plant there are few to be found amongst the amateurs. An amateur aims to develop resource, and a good amateur claims to be able to establish a communication at least over a radius of a few hundred miles or so with any old wireless "junk" and a wire fence.

The amateurs always aim to aid one another and to aid anyone who is interested in wireless with a view to ultimately putting him on the air. Having found someone more than passingly interested in radio he is entitled to join the Amateur Transmitters' Association, and some particular members mark him off for particular help. He is guided along lines of study and special slow morse is put over the air to assist him. When he finally takes his examination and qualifies as a transmitter, every assistance is given in the selecting of the components and the setting up of his transmitters.

"Ham fests" are held at regular intervals. Amateur transmitters gather together for a conference, lasting usually for several days. These are quite a feature with amateur transmitters.

Exhibition Activities.

AT the Wellington Radio Exhibition these amateur transmitters are having a stall. In it will be exhibited twelve or thirteen active transmitters, the details of which are as follow:—

The transmitter and receiver of 2GA: This is a unique exhibit. The transmitter and receiver are arranged in a case 12 x 5 x 5 inches, the transmitter itself being of no greater dimensions than 5 inches each way. Dry cells are carried to operate both receiver and transmitter, and a switching device enables it to be changed over at will. This particular receiver has been in constant use and proved itself fully reliable. 2GA is also exhibiting a portable crystal controlled transmitter with a power of 50 watts.

2GK's transmitter is of the master oscillator type, with a power amplifier. A Hartley H.C. circuit, taking 18 inches of space, is the exhibit of 2GO. Another portable receiver will be on show—that of 2BC, a Split Colpitts, which measures 3ft. x 2ft.. 2GR has a Hartley 18 inches long, using a 10-watt valve. 2BE has a 150-watt Hartley 2ft. square and 4ft. high. Within these dimensions is enclosed the whole transmitter arranged in tiers. On the bottom is the power pack containing the rectifying valve and the filter. Above this are the valves and the inductance coils, and so on, each tier representing a step forward. In no case is power or signals sent back to a lower level. The power enters at the bottom and leaves at the top as modulated current ready for the aerial.

A 'phone transmitter, with both modulator and oscillator, is the exhibit of 2AJ. In addition, there are several short-wave receivers, embodying the latest ideas in this class of receiver.

The stall will be covered with QSL cards denoting that signals from these transmitters have been heard all over the world. In addition, it is hoped to have a large map with tapes leading from the cards to indicate their country of origin.

Milestones in Radio History.

The "Radio Record" stall at the exhibition will be a departure from the others in that where the trade will be exhibiting the very latest that radio science can produce, this stall will be exhibiting apparatus that is long since antiquated. An endeavour will be made to trace the growth of radio as represented in its apparatus.

Noteworthy will be a series of cells depicting the methods in which electric power has been obtained. The first exhibit of this series will be the simple voltaic cell of 100 years ago. This was no more than two plates immersed in a solution of dilute sulphuric acid—a very feeble current could be extracted, and instruments will be employed to show how this feeble current flows from one plate to another. The next cell of importance is the Daniels cell, which for some considerable time was the standard cell for obtaining current electricity. This consists of a plate of copper immersed in copper sulphate and a zinc plate immersed in a dilute sulphuric acid kept from the CuSO4 by a porous pot. A steady current could be taken from such a cell for some considerable time, the voltage of each being approximately one volt. These cells were objectionable, in that they were both bulky and comparatively inefficient. However, they served their purpose in the march of electrical science.

Following the Daniels cell, the Leclanche cell which to-day forms the basis of dry battery power was evolved. This comprised a central porous pot filled with manganese dioxide surrounding a carbon rod. This porous pot was immersed in a weak acid solution in which stood a zinc rod. It was found that a voltage of 1.5 could be taken off this intermittently, but as soon as a continuous current was taken a gas collected round the zinc, the internal resistance rose, and the cell had to be left for some considerable time to recuperate. However, this was a distinct advance on anything yet invented.

The dry cell is merely an adaptation of the Leclanche, and this is the basis of our dry batteries. Sections of various cells comprising "A," "B," and "C" batteries will be on view, and there will be someone to tell the visitor all about them.

Following the Leclanche cell, the accumulator was evolved. This is entirely different from the others, in that electric power has to be put in before it can be taken out—in other words, electricity is stored, but with its form changed from active to inert electricity. An accumulator in a dismantled form will be on view, and visitors will be able to see exactly what is inside that heavy black object that they have laboriously to carry to the charging station to be regularly charged.

But electricity derived from the dynamo is tending to replace battery power, and the latest development of radio science will be represented by a power amplifier obtaining all its power from the 230-volt mains with which our houses are wired.

Besides these interesting exhibits of historical importance, there will be on view home-constructed models of more than passing interest. Of these, we can but mention a huge eliminator which will deliver half an ampere of current at a voltage at anything from 1 to 2000 at half ampere. A home-constructed electro dynamic speaker in dismantled form will be on view to visitors.

Experts from the "Radio Record" will be in attendance, and will be ready to discuss problems with anyone who may be interested.

An Epoch-Making Event

THE Radio Exhibition, the plans of which are now rapidly being drawn to finality, promises to be the most outstanding event in New Zealand radio history. Nothing of its kind has ever been attempted before, but success seems assured from every aspect. With the whole-hearted co-operation of the trade, the Post and Telegraph Department, the Wellington Amateur Radio Society, the Broadcasting Company, and the Amateur Transmitters' Association, it is difficult to picture anything but an outstanding success.

The idea of the exhibition has been to let the public see the very latest apparatus that is obtainable. We feel certain that there are a very large number who are withholding from purchasing for fear that they will later on see something they like better. The Exhibition has been planned so that within half an hour or so a prospective listener can see all that the trade is offering. It is extremely doubtful that the form of the exhibits will be materially changed for some considerable time. Radio appears well stabilized, and radical changes are not pre-eminent.

On this and the following page the activities of bodies other than the trade have been outlined, and our readers' attention is directed to them. We regret that at this date, we have been unable to detail the plans of the Post and Telegraph Department, but visitors are assured that something really worth while is coming from that quarter.