

Programme Features Broadcasting Theory

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obligato and piano and organ accompaniment, the part song "Unto Us a Son is Given," written for piano and organ accompaniment, and a choral fantasia of the opera "Faust." The choir will perform under the baton of Mr. H. Temple White. The supporting artists will be Mr. Leon de Mauny (violinist) and Miss Myra Sawyer (vocalist). Mr. de Mauny, who is one of the finest violinists in the Dominion, will play a sonata by Handel and Rimsky-Korsakoff's "Hymn to the Sun."

3YA's Programme

THE Optimists' Club will provide the concert, which will be of a vaudeville type. The Optimists have on a previous occasion entertained listeners when they presented an excellent programme, which will be excelled on this occasion. Some very popular choruses, such as "Pack up your Troubles," "Roses and Radishes," "My Old Kentucky Home," "The Stockrider's Song," "There is a Tavern in the Town," "Little Brown Jug," "My Bonny," and "The Soldiers' Chorus" (from "Faust"), will be sung. But the entertainment will by no means be confined to choruses; some excellent quartet and duet and solo numbers have been arranged. A banjo and banjoleone trio, consisting of Misses E. Churchill and M. and L. Straw, will contribute items. Mr. Mark Richards, a very capable elocutionist, is also on the programme, which will also include a number of specially-selected records.

American Broadcasting

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spective chains of broadcasting stations. Such equipment was installed aboard destroyers, airplanes and dirigibles. These costly and elaborate installations enabled the monotony to be taken from the broadcast description, by switching the description from one point to another, just as soon as the announcer at any one point exhausted the possibilities for colourful description. The polo games were also very acceptable, and the football schedules, soon to begin, will, as usual, provide the annual "piece de resistance" for followers of sport among the radio audiences.

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negative charges of electricity), and if a plate also in a vacuum is close by this, and positively charged, it will attract those electrons. Now if the third wire is placed between them and electrical surges imposed upon it, they will be magnified. This is how the valve amplifies. The electron emitting wire in the valve is now coated with thorium, and gives off plenty of electrons when heated only to a dull red. It is thus called a dull emitter. To heat the filament a battery or a constant source of electricity is needed, and so we build up our circuit. We can step up the half volt received from the broadcasting station before the high frequency current has been stripped away and afterwards.

If we step it up before, we speak of the amplification as being radio or high frequency. If afterwards, it is known as audio frequency amplification. The latter part of the set is concerned, not so much with amplifying at a high ratio as it is with handling the amplified current, adding a little amplification of its own and yet not twisting or distorting the signal. The amount of amplification that can take place in a set is really remarkable. Modern screen grid valves are capable of amplifying about 300 times, and if you have three stages of screen grid you are getting a theoretical amplification of 300 times 300 times 300. That is a total of 27 million. Now you wonder why when you turn your set on full you get static and parasitic noises. The audio side also amplifies.

The first may amplify by eight and the last two by three. If you have a power detector that will also increase the signals, so you see that if you are close to a transmitting station and turn on your set full there is going to be a little noise. Of course there are losses in a set, and this theoretical figure is not nearly reached, but the amplification is very great indeed.

The fundamental principles underlying transmission and reception should now be realised, and the different types of set can to a certain degree be appreciated. There is first of all the crystal set, which has no amplification of its own, the one-valve set, which is a detector, and, to a very small extent, an amplifier. And so by adding valves on either radio or audio sides we build up our signal until we have them just as strong as ever we want them. Of course, with apparatus that is in the ordinary household there is a limit to the amount your valves will handle without distortion, but this is the subject of another talk.

Then, there is the superheterodyne, a receiver which works on a different principle. The first valve is usually an ordinary amplifying one and the next an ordinary detector. Following these is not the audio amplifier but an oscillator which, generating another frequency, carries the signal on that like the transmitting station does. Like station, too, it is amplified by the intermediate stages and then passed to the second detector. Following that is the audio amplifier which is similar to that of an ordinary set. This type of set is now becoming very popular.

DO not use the same earth plate as your neighbour, as this is a common cause of interference between receivers.

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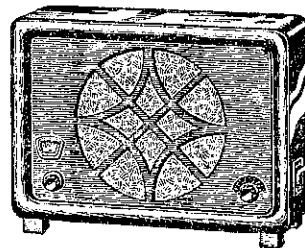
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