

## Laboratory Jottings

### Courier Radio, Mack's Short-wave Sets

#### Courier Radio.

ON the night of Friday, August 2, the writer journeyed to Takapuna, Auckland, to hear a demonstration of the "Courier" Sets.

The first set was the "Courier QR3," using an aerial approximately 70 feet long, with a 15-foot lead-in, and having an earth lead about 8 feet long. 2YA, tuned in about ten minutes past nine, was far too loud, and tuning-down became necessary. Turning to 2FC a couple of moments later, the reception was good, loudspeaker strength being maintained throughout. 4QG was logged without any difficulty, and 7ZL was more than satisfactory.

This set, although only a battery-operated model, has several distinct features of noteworthy design that should be of interest to those interested in a good, inexpensive receiver.

A new model at present being placed on the market by Messrs. J. Wiseman and Sons, Ltd., the manufacturers of all "Courier" products, is the model E.S. electric screen grid receiver.

This set incorporates a smoothing circuit, which supplies the electricity at the correct voltage to the valves, and, using component parts suitable to the design of this circuit, a silent and safe operation is ensured. The radio circuit employs an electric screen grid, special detector, and pentode valves,

a combination which gives excellent performance at a low cost.

This "Courier" model is made for an electric power supply of 230 volts, 50 cycle A.C., which is the usual electric supply in New Zealand. The "Courier" will not operate on any other supply.

Made up in a cabinet of metal, finished in deep bronze, with a panel of lighter shade, it is extremely attractive, and designed to fit in with any furnishings. A jack at the side of the cabinet allows for a gramophone pick-up, thus enabling the "Courier" to be used as an electrical reproducing machine.

On performance, this machine measured up very well, using no aerial. Several New Zealand stations were logged, and 2FC was received with volume and purity that would be hard to equal. The same may be said of 4QG, 8LO and 7ZL, the other Australian stations received.

#### "Macks" Famous Short-Wave Receivers.

RADIO construction is developing at a fast rate in New Zealand, and the latest all-New Zealand set that we have tested, Mack's Famous Radio Sets, are admirable examples of what we can produce. These sets have been designed by Mr. E. R. McCarthy, familiarly known as "Mack," and are assembled by him. The coils are made by

a New Zealand firm, as is also the very attractive metal case in which they are assembled. Neatness and efficiency are the outstanding qualities of these short-wave sets.

The Add-a-phone is a two-valve short-wave adapter designed to plug into any set or amplifier. This is a fine that should appeal to all who have a broadcast receiver and wish to adapt it to short-wave. The unit may be used as a separate single valve short-wave set, as an amplifier for a gramophone pick-up, or as a short-wave unit. The 'phones may be plugged in in the usual manner, a station tuned in, and with the 'phones still connected the amplifier of a broadcast receiver may be plugged in. Thus, a pair of 'phones and speaker are both being used simultaneously, with the amplifier on the 'phones alone. This enables very fine tuning and adjustment. A gramophone pick-up may be plugged in, and the signals superimposed on those coming in on short wave on both 'phones and speaker.

The reaction deserves special mention. As all short-wave enthusiasts know, smooth oscillation is something always desired, but seldom attained. Mack has attained it. By rotating gradually, the 200/1 vernier dial, the set goes into oscillation with an almost imperceptible hiss. The dials employing a ball-bearing in a unique fashion, are remarkably smooth in their operation.

The larger sets embody audio stages, but the detector circuit is identical with that of the Add-a-phone. Frequencies as high as 300,000 kilocycles (10 metres) may be tuned in. Mack has also designed coils to tune down to 5 metres.

Only first grade components have been used throughout this set, and the result is that every set can be fully guaranteed. Each one is submitted to an individual test before being turned out.

THE Parisian municipal authorities are considering what action shall be taken in regard to listeners' aeriols. The roofs of the city are disfigured by all kinds of masts and wires, many of which are not even properly fixed, but sway about in an alarming manner with every gust of wind. Some of the more daring even fling their aeriols across the streets in pursuit of the elusive millivolt.

## Motor-Boating

(Continued from page 25.)

possible, should be replaced by another.

#### Suspect the Condensers.

IN brief, therefore, the cause of motor-boating is generally an affair of condensers. If the trouble starts in your set, suspect the condensers first of all. They may be too low in capacity, or they may be faulty in construction.

It is a hundred chances to one that attention to details such as these will effect a cure of the trouble. If not, however, a remedy must be sought in other directions; and in the points enumerated in the above columns it will almost certainly be found.

## News Items

THE 21 stations of the B.B.C. operated for some 68,000 hours for the year 1928. At the end of the year 2,850,342 licenses had been issued, of which 13,826 were gratuitous.

A RECENT innovation in India is a new type of car designed for patrol work on rough roads. It is armoured, and the wireless transmitter and receiver can be operated while on the move.

THE fees paid to certain American artists for their services over the air read like an extract from the "Arabian Nights." Al Jolson receives £1000 for a quarter of an hour in front of the microphone and Paul Whiteman, the father of jazz orchestras, receives the same. The highest paid female star is Fanny Brice, who receives £500 for five songs.

IN one of the first-class carriages in a train which left Milan on Friday, June 23, there had been installed a receiving set. This experiment was a great success, and proved very popular with the passengers. It has been decided that radio is to be installed in all first-class carriages as a result of this successful trial.

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