

ceive a station on 300 metres, or 1000 kc. First of all the variable condenser tuning the frame aerial is adjusted to this frequency. Next the oscillator dial is adjusted to "beat" with this frequency, and produce a new one of 126 kc. Thus the oscillator can be tuned to 1000 kc. plus, or minus 126 kc. This explains why some stations may be heard at two settings of the oscillator dial. Now, in the grid circuit of the first valve, which is working as an anode bend detector, we have two signals, the broadcast from the frame and the oscillations from the oscillator. These together are rectified, and in the anode circuit we have a signal of 126 kc. This is magnified by the long-wave amplifier, and then, in the normal way,

rectified by the second detector and passed to the power valve.

One of the greatest advantages of the super-heterodyne type of receiver is the enormous amplification which may be obtained with complete stability, in the long-wave amplifier. An additional feature incorporated in the "Super Six" is the fixed tuning of the long-wave amplifier—thus obviating the need for ganged condensers and other complications—and the band pass characteristics of the coils themselves. Unusually high quality of reproduction is thus obtained.

**DX'ers!** Write for that verification on D.X. notepaper and avoid missing out important details. Takes a quarter of the time to write out, too. Obtainable from P.O. Box 1032, Wellington, in two-dozen lots (minimum order), price 1/6, or six dozen for 4/-, post free. Special paper for club members.

## NEW Longer Life Batteries at Low Prices!

New "Longer-Life" models of the world famous Lissen Batteries are now obtainable. These give a brilliant power output over an amazingly long period—they cut down operating costs!

And just look at the new low prices:—

100 volt .....	17/6
50 volt .....	10/6
9 volt .....	2/6

Stocked by all good radio dealers.

# LISSEN

**RADIO BATTERIES**

N.Z. Distributors:

**ABEL, SMEETON LTD**

74 Queen Street, Auckland.  
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TYPE W.

Codeword: Wipyt, E.M.F. volts, 45, overall dimensions, including terminals, in m/m, 67 x 213 x 82. Style of connection, sockets at each 4.5v., nett weight 3lbs.

Ask your dealer, or write to  
**JOHN CHAMBERS & SON,**  
Jervois Quay, Wellington.

## High Tension Portable Batteries

Forty years ago Hellesens made the first serviceable dry cell, and thereby obtained a lead over the many competitive imitators which later sprung up. This lead is still maintained. So, for longer service and your full money's worth, ask for Hellesens' Batteries every time. For Portable Battery Radios, Hellesens' Batteries are best.

# HELLESENS

## Spray Shielded Valves

ONE of the latest improvements to the screen-grid type valve is spray shielding, a process by which a heavy metal coating is sprayed directly on the glass. Two important advantages are secured by this sprayed on metal. First, the need for the round, perforated metal shielding cans or square metal compartments in receivers is eliminated, as this metal acts as an even better shield than did either of these two older methods. Second, this metal sprayed directly on the glass aids the screen-grid effect within the tube, making the types where used yet more stable and freer of feed-back and permitting a higher efficiency with more gain per stage. The metal coating is connected with the cathode pin of the valve.

Already sets employing this new feature are in New Zealand, and it is to be hoped that in a short time the valves will be available for home constructors.

## Future Features

WE regret that a certain delay has been caused in the publication of the schedule of technical articles which was announced some time back. However, everything is now in hand again and these sets should be published shortly.

A unique portable will be our next feature. Designed round the new light-consumption 230 type valves, this set is an ideal one for N.Z. conditions. It will appear in our special Christmas issue—December 18.

The "Cathode Super," an a.c. all-wave super-heterodyne receiver, which has brought in the American stations without an audio amplifier, will follow. This will be spread over two weeks, at least.

Following this will be the local station Loftin White, employing multi-mu and 245 or pentode. We are also making arrangements for an improved shortwave set, to be known as the "Megohm Shortwaver."

## Build the "Super Six" and be sure of Selectivity and Distance

We can supply a Complete Kit of  
**ENGLISH COMPONENTS.**

NOTE:—This set has been tested and passed by the Post and Telegraph Department.

### LIST OF PARTS

1 Set of "Super 6" Coils .....	£3/10/-
6 A.W.A. Sub Panel Sockets, 1/6 each .....	9/-
3 En. Base Sockets, W.B., 1/- each .....	3/-
2 Lotus .0005 Variable Condensers, 7/6 each .....	15/-
2 Ormond Vernier Dials, 6/6 .....	13/-
1 Sovereign 50,000 Potentiometer .....	6/-
1 Wearite Gridleak Holder .....	8d.
1 1 meg. Gridleak, Telsen .....	1/-
1 .0002 Grid Condenser, Telsen .....	9d.
2 .001 Manufacturers Type, Standard, 1/- each .....	2/-
5 1 mfd. Condensers, Standard, 2/3 each .....	11/3
2 Spaghetti Resistances 20,000 ohms., Telsen, 1/6 each .....	3/-
1 Spaghetti Resistance, 15,000 ohms., Telsen, 1/6 .....	1/6
1 Speaker Jack .....	1/6
1 Three-point Switch .....	1/9
1 Ebonite Panel .....	6/6
1 Punched Base Board .....	7/6
1 Oscillator Condenser Shield .....	4/-
8 Double-ended Solder Lugs .....	4d.
2 Terminal Strips .....	1/-
2 Stand-off Nuts and Bolts, 3 doz. 1/2 Bolts .....	1/6
3 Terminals, 3d. .....	9d.
Loop Wire, Glazite, etc. .....	5/-
1 Audio Transformer, Telsen Radio Grand .....	12/-
1 Battery Cable, 5 Cable Markers .....	3/-
1 Osram H2 Valve, 13/6; 2 L210, 13/6; 1 PT240, 25/-; 2 S215, 25/- .....	£5/15/6
1 Bush for Lead-in Cable .....	3d.

WHILE STOCK LASTS we offer AT SPECIAL PRICE the following

Philips Components:

3003 B and C Eliminator .....	£6
3002 B and C Eliminator .....	£5
Power Pack .....	£6/10/-
2 mfd. Condensers, 500-volt test .....	3/6
3 mfd. Condensers, 500-volt test .....	3/9
4 mfd. Condensers, 500-volt test .....	4/9
VALVES, Philips American 2½-volt Types:	
280 .....	7/6
227 .....	7/6
245 .....	7/6
224 .....	8/-
226 .....	7/-

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