

Announcing

The "Super-Six"



HE "Super-Six" is a six-valve super-heterodyne of revolutionary design. Though as simple to tune as a one-valve set, Australian stations may be brought in on the frame aerial at full loud-speaker strength, while the selectivity is remarkable.

First of all a word to those constructors who think superhets are complicated to build, and are thus to be avoided. In some cases this is undoubtedly so. The "Super-Six," however, is definitely much easier to build than an ordinary battery-operated set using the same number of valves, and no technical knowledge whatever is necessary for its construction, provided, of course, that the circuit and lay-out diagrams are closely followed.

The circuit is based on a well-known English circuit which has been remodelled to suit New Zealand conditions and to comply with the P. and T. regulations. Commercial super het. coils of standard English make are used throughout, and thus the construction of this receiver is greatly simplified. The three long-wave shielded coil units are accurately matched by the makers. All the user has to do is to plug them into valve-holders appropriately wired in the set. Ganging and trimming are not needed. It will be noted that the knob on the top of the oscillator coil may be set to three positions—viz., long, medium and short. As there are no stations out here operating on wavelengths above 550 metres the "long position" will not be used. However, it is always there if the constructor is keen on dxing and would like to try to log some of the long-wave European stations, which would possibly be best heard in New Zealand in the hours of 5.0 a.m. and 7 a.m.

For performance on dx the "Super-Six" is unrivalled. No benefit would be achieved by publishing the huge list of stations we have received on this set,

Simplify DX-ing.

DX CLOCK 9d.
DX VERIFICATION FORMS—
1/6 for 2 doz.; 8d. doz. over 6 doz.
"Radio Record," Box 1032,
Wellington.

CARRY THEM WITH YOU

Pulmonas

INVALUABLE PASTILLES for COUGHS 'FLU

An easily built six-valve battery-operated super-heterodyne giving amazing results

Parts List for the "Super-Six."

Ebonite Panel, 18in. x 7in.	One 15,000-ohms Spaghetti Type Resistance.
Aluminium Baseboard, 9in. x 18in. x 1in.	Two 20,000-ohms Spaghetti Type Resistances.
Two .0005mfd. Var. Condensers.	One 3-point Filament Switch.
Two Vernier Tuning Dials.	One Audio Transformer, 5—1.
One 50,000-ohm Potentiometer.	7-Wire Battery Cable.
Five 1mfd. Fixed Condensers.	One Distribution Strip, 4 1/2in. x 3in., with 7 soldering lugs.
Two .001mfd. Fixed Condensers.	One piece of Ebonite, 3in. x 3in.
One .0002mfd. Fixed Condenser.	Three Banana Plugs and Sockets.
Six UX Valve Sockets.	Speaker Plug and Jack.
Three English Valve Sockets.	Aluminium Shielding Box for Oscillator Tuning Condenser, 5in. x 3 1/2in. x 2 1/2in.
Set of Four Special Super-het. Coils.	
One Grid Leak Holder.	
One .75-ohm Grid Leak.	

this remarkable set is that, by the use of a suitable frame aerial, which may be purchased ready made, shortwave stations all over the world may be tuned in at good loudspeaker strength. On short waves the receiver is remarkably well behaved, but of course the tuning dials must be rotated much more slowly, in order to avoid passing over stations. Hand capacity is non-existent.

Finally, and this from the home-creator's point of view is very important, the total "B" battery current of this receiver is no more than 12 to 15 mamps., or about equal to that of the usual three-valve receiver.

The Circuit.

NOW for the circuit and a word or two about the principle on which the "Super-Six" operates. It's action is indeed the action of any straightforward super-het. First of all the signals are picked up by the frame aerial and are handed to an anode-bend detector. A separate valve is arranged as an oscillator in such a way that the energy from it is fed into the frame aerial by means of a coupling coil. The first detector therefore receives the in-coming signals and oscillations from the separate oscillator valve. In this way the signals picked up by the frame are converted into others having a wavelength of 2400 metres, or a frequency of 126 k.c.—the frequency for which the coils were designed.

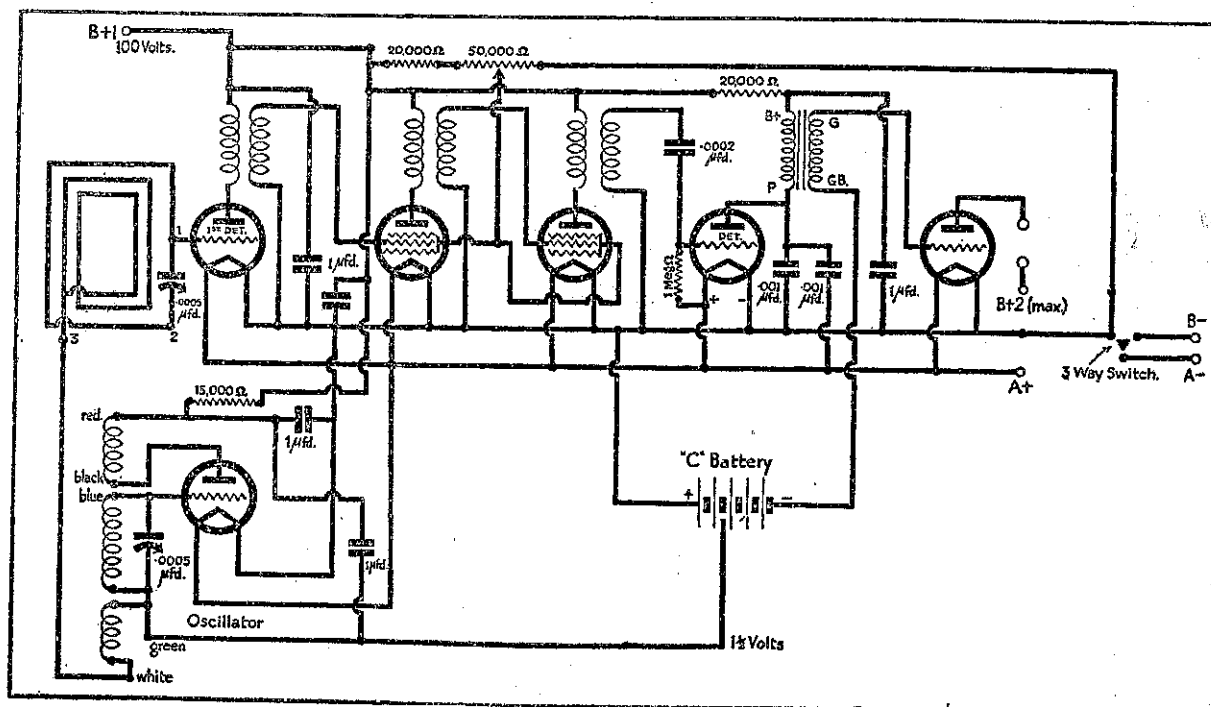
Our signals, which now have a new frequency of 126 kc., are passing through the long-wave (intermediate frequency) amplifier. To give a concrete example of the principle involved up to this point. Say we wish to re-

but those who know a little about dxing will realise something of the set's capabilities when they learn of the fact that 2FC, Sydney, has often been picked up in the early afternoon at good speaker strength, in the heart of Wellington.

The set is remarkably easy to handle. There are only three controls—two for tuning and one for volume. The first dial tunes the frame aerial and the second the oscillator, while the volume control is in the form of a potentiometer which controls the screen-grid

voltages of the two intermediate frequency amplifier valves. In tuning, the dials are kept in step by listening for the characteristic "live" sound from the speaker, which indicates that the set is in the most sensitive position for receiving and is picking up "mush" and other extraneous noises. As the dials are rotated, the stations come in and out within a degree, with no howling or overlapping.

Another very attractive feature of



Theoretical diagram of the "Super-Six."