

promise between infinite selectivity and easy handling. The tuning is broad enough to be easy to handle while being at least twice as sharp as the most difficult modulated conditions require; and when turning the dial we find a station, pass through it, find silence, and then, sure enough, the next station will come up clearly and distinctly, without a trace of interference, so soon as we reach the correct degree on the dial.

Phase Reversal.

"I HAVE already mentioned the phase reversal method of receiving which forms the basis of one of my Stenode receivers. In this the effects of persistence in giving a disproportionate building up of different frequencies are counteracted in the high frequency part of the circuit without in any way sacrificing selectivity, the audio frequency amplifier being of a normal type. The particular circuit used for this is one of great potentialities

and has already given admirable results, but at the moment is not quite so simple as that used in the Stenode Radiostat receiver which I have brought to this country.

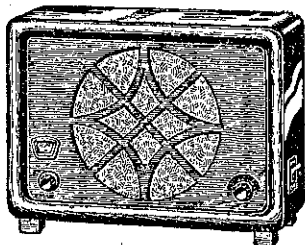
"The reproduced circuit diagram will enable you to see how the Stenode is worked out in practice. The high selectivity which is the great feature of the receiver is obtained by sending the incoming signal through a quartz resonance circuit, and in order that one quartz circuit can be made to function for all frequencies in the broadcast band, we utilise the superheterodyne principle, converting the incoming waves from their normal frequency to that of the quartz crystal circuit.

"We thus have a loop receiving circuit, or tuned circuit connected to an aerial if necessary, an oscillator circuit for beating the local oscillations with the incoming oscillations, so as to produce the intermediate frequency, screen grid intermediate circuits, a

Could You Like a Blue Spot

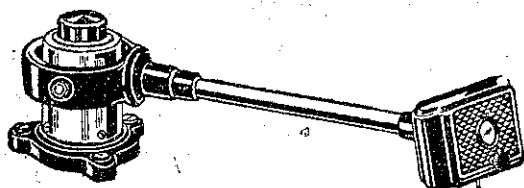
75 per cent. of the Speaker Units sold in England are of Blue Spot manufacture.

Every Blue Spot product offered in New Zealand is of the same exact quality as a Blue Spot product sold in England.



PRICE £15

The complete 3-valve all electric Radio Set, with built-in Blue Spot Loud Speaker, is a faithful receiver of broadcast. Chamber Music has the fine tone of the concert room; jazz music bubbles with pep and snappiness, whilst from the voice of the announcer or lecturer you can picture the very enthusiasm as he gives out good news or new information. Records also may be played electrically with the addition of the Magnet System Blue Spot pick-up.



Price £4

Volume control is noiseless, the music is clear perfect music, without scratch.

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"Pros and Cons"

ONE ACT PLAY

Written by

Keneth Barnes

Produced by

J. W. Bailey & Company,

from

1YA Friday, 30th

SCENES:

"Man Proposes,"

"Woman Espouses,"

"God Disposes."

highly selective quartz circuit (or the 'Gate' as we sometimes call it), the second detector and a specially designed audio frequency amplifier to correct the effects of persistence. For fixed wave-length working, such as amateur radio telephone, for example, or for trans-oceanic telephone communication, it is unnecessary to utilise the supersonic superheterodyne principles, for the special quartz tuned circuit can be tuned directly to the transmission frequency and considerable simplification effected in this way.

Numerous Problems.

"I HAVE not, of course, much space to deal with the thousand and one problems and difficulties which have had to be overcome in developing the Stenode receiver in its present form.

"The quartz crystal, for example, which is mounted in a vacuum, had to be very carefully investigated, and the best form of mounting found; the superheterodyne receiver had to be re-studied from the very beginning, for it was found that in the forms most

generally used the superheterodyne suffered from a number of defects which prevented me from obtaining really high-grade quality.

"Special precautions had to be taken in the design of apparatus to tune sharply enough for the Stenode. Thus, by many months of intensive work, with a laboratory staff held keenly interested in the development of something essentially new, all of the difficulties were overcome.

Basis of Operation.

"Finally, I would like to point out that the whole of the work on the Stenode has been based on well-known mathematical and physical principles and the fact that the apparatus works in a way which has hitherto been held impossible according to the side band theory does not worry me in the slightest.

"A number of scientists of international repute are now working on the theoretical basis of the Stenode, and it has already been indicated to me that at least two of them have found what may be termed the missing link in the side band theory which will enable it to accommodate the Stenode facts and also the basic theory of side bands.

What of the Future?

The ultimate theory may be a year or two in appearing, but meanwhile the practical work and application of the new facts go on. In this connection I would point out that there is no general agreement on the theory of the crystal detector which was rendered obsolete by the valve, and even Marconi's coherer is not properly understood!

"Probably the Stenode Radiostat will be in universal use long before scientists agree on the theory, but what does that matter so long as we have cleared the ether?"

NOTE THE LOW PRICES FOR 1931.

KOLSTER BRANDES Inductor Dynamic Speaker, usually £6, now £4/17/6. BLUE SPOT, all electric, built-in speaker sets were £17, now £12 10/- for a few weeks only. AEROTONE all-electric local receivers, two valves, were £16, now £11. GREDX 4 valve screen grid, all electric, all wave, was £36, made by Green & Dixon and guaranteed in writing 12 months, to clear at £24/10/-. COSSOR 3-valve screen-grid melody maker, was £11/15/- now £9. Junior model was £7/10/-, now £6, and gets Australian stations, too. IGRANIC push-pull transformers were £4, now £3/6 pair, absolutely new stock. BRIGHT STAR 45-volt B batteries usually £1, now 12/6, new stock too. PHILIPS B battery charger 1001, usually £5/5/-, now 30/-, new; all replacements guaranteed. HEGRA cone speakers, 3 impedances, were 75/-, now 58/6, and as good as dynamos; aerial insulators from 1/- per doz. BOND torch refills 5½d. each unit. Aerials and all accessories greatly reduced. Any Radio supplied. Send inquiries; postage paid on 10/- orders.

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