# Get Ready for London on the Short Wave

**This article is continued from the cover, and describes the process by which any skilful operator may adapt any valve set for the reception of short-wave London broadcasts. As from September 1, Mr. Gerald Marcuse will broadcast for Antipodean listeners. There is also available on the market reliable apparatus for short-wave reception. Enthusiasts are invited to send records of receptions.**

about three ohms resistance, should be used. Shunted across it is the common type of fixed condenser of .00025 microfarads capacity. Valves vary a great deal in characteristics, and a variable grid-leak will ensure the best results.

### RADIO FREQUENCY CHOKE.

A special short-wave radio frequency choke (10) may be purchased ready-made, or could be made to order by any radio mechanic for two or three shillings. Those who desire to make their own radio frequency choke will require No. 26 double cotton-covered wire. This should be wound haphazard, without any evenness, one hundred times around a small wooden reel with flanges half an inch in diameter, and the core about a quarter of an inch in diameter. This choke, however, should be purchased ready-made, if possible, for the factory-made article is generally of the honey-comb or duolateral wound type, which gives a very low distributed capacity, and is infinitely more efficient for radio-frequency currents on short wavelengths.

### BY-PASS CONDENSER.

The customary by-pass fixed condenser (9) should not be omitted. It is of .0001 microfarads capacity. The condenser is connected at one side between the radio frequency choke and the variable resistance. The other side of the condenser is connected between the A— (or F—) of the valve and the A— of the connecting cord which goes to the ordinary receiving set.

### TO CONNECT TO SET.

Connecting the adapter to the ordinary broadcast receiving set is a most simple process. Take an old valve, one that has outlived its usefulness, or procure a "dud" valve from one of the big radio houses, which always have a few burnt-out or defective valves on hand. Remove the glass bulb from the valve, using care for fear of cuts on the face or hands. The insulated flexible wires which connect the "A×," "A—," and "P" terminals of the adapter valve socket should then be soldered inside the old valve base to the corresponding prongs of the base. In the UX200A and UX201A type valves the thick prongs are for the A battery, and when the pin on the side of the valve base is pointed towards you, the thin prong on your left-hand side of the pin is the P prong. No connection is made, inside the old valve base, to the other thin prong—G. It is advisable, however, to note which way the A battery is connected, in your ordinary receiving set, to the detector valve socket, with respect to plus and minus. Care should be taken to see that the flex cords are well soldered and insulated inside the old valve base, so that the bare wires cannot come into contact with each other, and thereby cause a short-circuit. After they have been well soldered the inside of the old valve base could be filled with melted sealing-wax, resin, pitch, or plaster of paris. The flex cords should then be bound together with adhesive tape just above the top of the old valve base. The cords can also be plaited into a cable.

### THE CONNECTING CORD.

The flexible insulated wire cords which connect the adapter to the receiving set can be two or three feet in length. It is a matter of convenience for the best position to place the adapter. The most satisfactory position for the adapter is the closest to the aerial lead-in. If it is to be placed on top of the receiving set little rubber tips glued underneath the cabinet of the adapter will prevent scratches on the top of the receiving set.

### TUNING THE ADAPTER.

To tune the adapter very little skill is necessary. The tuning condensers of the receiving set are not touched, the attention being centred on the vernier-controlled single tuning dial of the adapter and the knob of the variable resistance. The latter should be turned backwards and forwards, while the condenser dial is moved very slowly in search of a "carrier" wave. When the whistle of the "carrier" is picked up it is cleared up by careful manipulation of the variable resistance and the tuning dial. With a little practice the novice will shortly become quite adept. It is advisable to keep a "log" of the dial readings of the condenser, so that stations once found will be promptly located again.

### THE SAME AERIAL.

No change in the length of the ordinary aerial will be necessary for tuning the short-wave stations. The standard broadcast aerial will serve the purpose without any reduction in length.

### LOTS OF SHORT-WAVE STUFF.

Listeners will find quite a lot of short-wave broadcasting is available at various times of the day. The Schenectady station, 2XAF, is heard regularly every Sunday afternoon in New Zealand, transmitting band, orchestral, vocal, and other items. Following are the principal short-wave broadcast stations which are frequently heard in New Zealand at irregular times:—

| | Metres. |
|---|---|
| 2XAD, Schenectady, U.S.A.... | 20 |
| 2XAG, Schenectady, U.S.A. ... | 26.02 |
| PCJJ, Holland ..... | 30.2 |
| 2XAF, Schenectady, U.S.A.... | 32.79 |
| WGY, Schenectady, U.S.A. ... | 89 |
| RFN, Russia ..... | 45 |
| WLW, Cincinnati, U.S.A. ..... | 52 |
| KDKA, Pittsburgh, U.S.A. .. | 68 |
| WGY, Schenectady, U.S.A. ..... | 89 |
| 6WF, Perth, Western Aust.... | 100 |

And now, from England, comes the news that Mr. Gerald Marcuse, the world-famed London amateur transmitter, is to give Australians and New Zealanders regular high-class broadcast concerts transmitted on a short wave-length. As he is to commence in a fortnight, now is the time to render your receiving set able to pick up the London concerts, by means of the "Radio Record short-wave adapter."

It may be said, generally, that reception of short-wave transmission calls for skill, and presents some problems. The service about to be broadcast by Mr. Marcuse is of an experimental nature, but it is unquestionably of the first importance, and will certainly prove a stepping-stone towards the attainment of regular Empire broadcasting. We will be glad to have details of the experiences of any listeners who get results on London short-wave transmission.

## A GROUP OF PROMISING AUCKLAND TALENT

—Photo., Tornquist.

**MISS INA THOMSON.**

**Miss Thomson won the contralto section at the Auckland Competition Society's Festival in 1926, and subsequently has risen to a prominent position with vocalists in this city. She is a well-known soloist at municipal concerts, and with the Bohemian Orchestra and Auckland Choral Society. Miss Thomson made her first appearance at 1YA on August 11.**

—Photo., Tornquist.

**MISS SYBIL PHILLIPS.**

**A young soprano, aged 14, whose performances at 1YA have given much pleasure to listeners. Miss Phillips is seen in the photograph wearing medals won at last year's Auckland Competitions. The opportunity of encouraging such youthful talent is an appealing feature of broadcasting.**

**MISS NELLIE LINGARD,**

contralto, late student at the Manchester School of Music, under Professor Thomas Robinson. She performed as a soloist for the Municipal Band on December 6, 1926, and received very favourable Press comment locally on her rendering of Hatten's "Enchantress" and "Praise of God."

## THE MASKED DUO

**On the right is Miss Beryl Poulton. Along with Mr. Arthur Prentine, she forms the "Masked Duo," so popular at 1YA. The duo was originally a trio, but Mr. Birch, the third member, recently paid a visit to Sydney in search of the latest songs and methods, and on his return listeners will again hear the old combination in a new form. On the left is shown Mr. Arthur Prentice, whose voice is well known to listeners-in to 1YA.**

A company has been formed in Africa to take over the bankrupt South African stations under the protection of a Government monopoly for a period of five years, according to Radio Broadcast magazine. Stock will be offered to the public. The interests backing the plan are in control of the most important South African theatres, and they promise better programmes, which should discourage the extensive evasion of license payments, the reef on which the original broadcasting plan was wrecked.

When he imposed fines of £2 each on two Aberdeenshire radio "pirates" (owners of sets for which the license is unpaid) the sheriff was told by the prosecutor that fines of £10 had been imposed in recent English cases. The sheriff replied that heavier fines might be required to bring Englishmen to their senses, but he hoped the Scotsman, with his appreciation of the value of money, would come to his senses through the imposition of a much smaller fine.—"Amateur Wireless," London.

## DARKNESS AIDS LONG-DISTANCE RECEPTION

If you are a long-distance enthusiast and stay up nights nursing dials in an effort to fill your log book with the call letters of distant stations, take a tip from the transmitting amateurs and use a small, opaquely shaded bulb as the only source of illumination in the room (writes a contributor to the New York "Radio News"). Turn out all the overhead clusters and wall brackets, then set the lamp on or near the radio table, so that it is below the level of your eyes and casts a glow only strong enough to make the dial readings on the receiver discernible. A more effective expedient in easing the reception of the elusive DX-ers you have never found.

**Strong Light Distracts.**

The weakness of the light has no electrical effect on the receiver, to increase the latter's sensitivity; but it has a marked effect, on your physical and mental condition, that directly facilitates reception. With a dull light in the room you unconsciously relax your muscles, put yourself at ease, and rest your eyes. You sit back comfortably, and the inactivity of your other senses tends to sharpen those of hearing and feeling. You are not distracted by a strong light, but feel only the soothing effect of a soft and indirect one. You are able to concentrate, fully and completely, with only your ears and fingers active.

When you turn the dials you are now scarcely aware of their presence, or of the presence of anything else in the room. You merely listen and decipher the sounds the earphones impress on your brain.

**Turn Out the Light.**

It seems incredible that the mere darkening of the room can so influence the mind, but the effect is really marked. Radio operators, who sit at a receiving set for hours at a time and must frequently "read" code signals of heart-breaking weakness, often turn out all light and listen in total darkness. By relieving their sensitive eyes of all strain, and keeping only their ears "alive," they are able to retain whole messages in their heads, and to write them down later on paper without a mistake. In many radio "shacks" the sole illumination is furnished by a lonely 10-watt lamp, hidden inside a blued reflector and hung a little to the side of the receiving set.

The next time you go on the trail of that distant station try this trick. You will be pleasantly surprised to find that it actually works.

## RENOVATING DRY CELLS

A dry cell is usually made with an outer covering of zinc which forms one plate of the cell. If the cell has gone "dead," it is possible to make it as good as new by comparatively simple methods. If the zinc is found to be still good, punch a few small holes through the zinc and immerse the battery in a concentrated solution of ammonium chloride (sal ammoniac). This will often be found to have the effect of giving a new life to the cell, the cause of the cell going "dead" being (if the zinc is all right) that the solution has dried up. For it must be remembered that a "dry" cell is only dry in the sense that the liquid in it is unspillable, since it is soaked into a piece of fabric.

"There is going to be a great exhibition of spring flowers. Are you going to see it?"

"No, I'll stay at home and listen to it on the wireless."

## WHAT IS OSCILLATION?

New Zealand cities are suffering from a plague of howling valves. If a neutrodyne or Browning-Drake is not correctly neutralised when the valves oscillate howling and interference with neighbouring listeners will result.

Unless controlled, oscillation will continue until the saturation point or climax is reached, the valve then being said to be in a state of oscillation. When a receiving set is in oscillation it causes howling and squealing in your own and your neighbour's receiving sets if you are using an incompletely neutralised set or a 3-coil set. Regeneration should therefore never be allowed to proceed this point, as it then coustitutes a public nuisance.

On commercial receivers, regeneration is not always described by this name, and the dial which controls this feature of the equipment may be designated by way of the following terms: Regeneration; reaction; tickler; feedback; amplification; sensitivity.

When a radio receiving set in a state of oscillation is being tuned to a broadcast station:

1—It causes whistles in radio receiving sets of all types which are tuned to the same station. This interference may be heard up to a distance of several miles.

2—It distorts the quality of your own music.

3—It uses more "B" battery power and therefore the life of the "B" battery power is reduced.

4—It tends to reduce the life of the detector tube.

When a radio receiving set, in a state of oscillation, is exactly tuned to a broadcast station it is said to be in the state of zero beat. This distorts the broadcast reception and also interferes with the neighbouring receiving sets which are tuned to the same station.

In a word, regeneration carried to oscillation causes great annoyance to your neighbours, as well as poor reception and expense to yourself, and has no advantages whatever.