

Short Wave Adapter--Sidelights on Programmes-- Afternoon Sessions for Ladies--2YA "Uncle" arranged

THE RADIO RECORD

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Get Ready for London on Short Wave

Easily Made Adapter To Work On Your Present Set

According to the latest cablegrams from Home, Mr. Gerald Marcuse, the well-known London amateur transmitter, will commence world-wide broadcast concerts on an ultra-short wave-length on September 1. New Zealand broadcast listeners by the thousands will regret that their ordinary receiving sets will not tune down to the ultra-short wave-lengths which have such a phenomenal range. However, "The Radio Record" has much pleasure in placing before its readers an inexpensive device which will instantly convert any ordinary broadcast receiving set into an ultra-short wave receiver without interfering with any wiring of the ordinary set. The device has been exhaustively tested in Wellington and has proved an unqualified success.

This wonderful short-wave adapter comprises a unit with one valve and socket, simple tuning coils, a variable condenser, radio-frequency choke, a small fixed condenser, grid leak and grid condenser, and three insulated flexible cords fastened into an old valve base. The unit can be assembled without any skilled technical knowledge.

HOW IT IS CONNECTED.

To connect the ultra-short wave-length adapter in circuit with the ordinary broadcast receiving set is the work of a few moments. The detector valve of the set is removed from its socket and placed in the socket of the adapter. The old valve base attached to the adapter is inserted in the detector valve socket of the ordinary set, and the aerial and earth are transferred from the ordinary broadcast receiving set to the short-wave adapter. Nothing could be simpler. No battery connections are changed. The loud-speaker remains plugged in, as usual, into the ordinary receiving set. The audio valves in the set are used as is customary.

APPLIED TO ANY SET.

The short-wave adapter can be applied to any broadcast receiving set—neutrodyne, super-het, Browning-Drake, tuned radio frequency, three-coil regenerative, etc. Once the adapter is connected to the broadcast receiver all the tuning is accomplished on the single variable condenser in the adapters. Novices should note the radio-frequency amplification, in the common application, is not practicable on ultra-short wave-lengths, therefore the radio frequency valve, or valves, are not required when using this adapter. If one rheostat controls all the amplifying valves of your set, then the radio-frequency valve, or valves, can be removed from their sockets when the adapter is being used. If there is a separate rheostat for the radio-frequency valves, then the A battery current can be shut off from these valves

to save current. As stated previously, the audio valves are required.

ONLY DETECTOR AND AUDIO.

Therefore, all that is necessary for operating your set in conjunction with the adapter is the use of the detector valve (which is transferred to the adapter), and the audio-amplification valves, which remain in their customary sockets in your ordinary receiving set. The simplicity of the whole arrangement does not impair its efficiency, as the adapter is designed on

ultra-short wave tuning coils may be purchased in any of the four New Zealand centres. Some very efficiently made sets of coils to suit the adapter are sold at a most reasonable figure. If, however, the broadcast listener possesses a little skill, and desires to make his own coils, he has no difficulties to overcome. It is advisable that those who are not familiar with coil construction should purchase their coils ready-made.

There are three coils, all of which

Still better results can be obtained by making the primary coil variable to increase selectivity in tuning. The coils may be of the spider-web or the pancake type. Another method of winding the coils is known as "pinch-winding." The coils should be wound on bakelite tubing, three inches in diameter. To cover two or more wave-bands the coils should be made on the plug-in principle to facilitate changing the coils.

In dealing with ultra-short wave-lengths, it is important that only the best variable condenser be used. It must be of the low-loss, straight-line frequency type of the highest grade, with a capacity of .00025 microfarads. Those who purchase inferior quality condensers should not expect good results, for efficiency cannot be obtained with poor quality condensers. Importance must be attached to the selection of a good vernier dial for operating the variable condenser. Ultra-short wave-lengths are strikingly sharp when it comes to tuning on them, and a vernier condenser control is, therefore, essential.

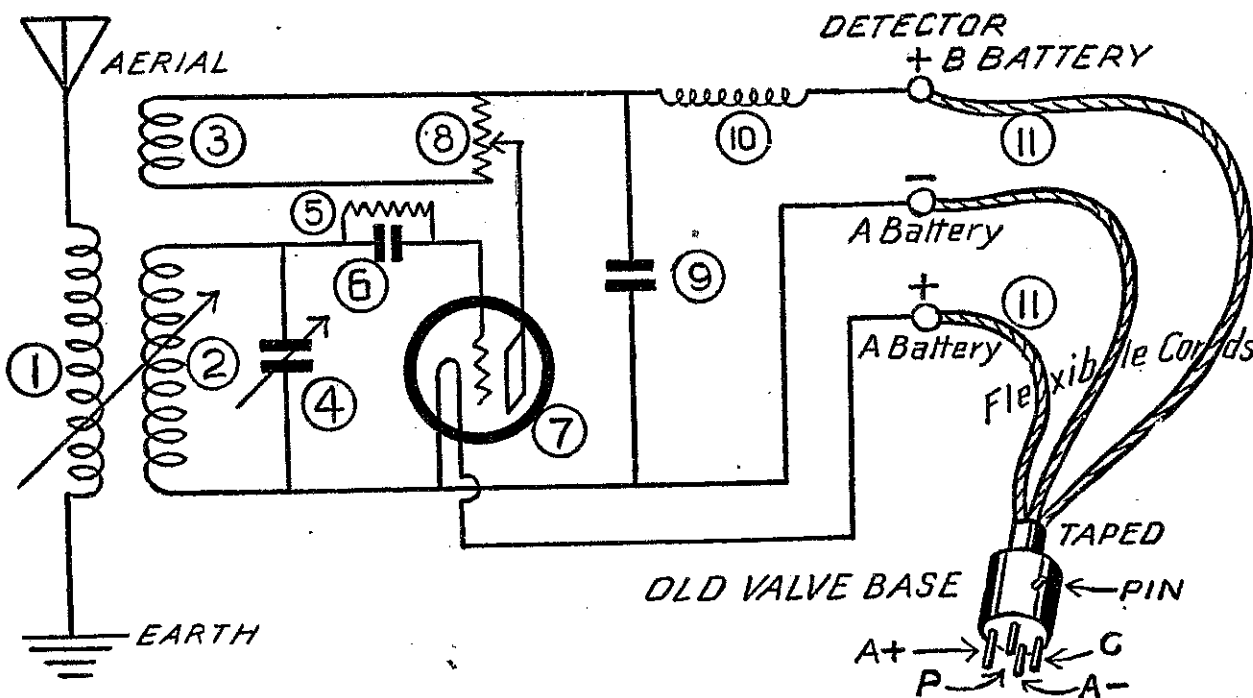
THE VARIABLE RESISTANCE.

Importance is also attached to the variable resistance (8). This resistance has a critical effect in the operation of the adapter, and should be of the smoothest-working type. This variable high resistance is shunted across the tickler coil, and thus eliminates an additional variable condenser, greatly simplifying the tuning and reducing the cost of the adapter. The variable resistance should be of 200,000 or 500,000 ohms. The most suitable is the Bradley type of variable resistance, owing to its smoothness in operation. The controlling knob should be on your right-hand side of the panel when facing the adapter.

GRID-LEAK AND CONDENSER.

There is nothing revolutionary about the grid-leak (5) and fixed condenser (6). The best variable grid-leak, of

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DETAILS OF THE "RADIO RECORD" SHORT-WAVE ADAPTER.

Figure (1) Primary coil; (2) secondary coil; (3) tickler coil; (4) variable straight-line frequency condenser (.00025 mfd.); (5) variable grid leak (3 meg.); (6) fixed grid condenser (.00025 mfd.); (7) Benjamin or similar type anti-shock valve socket; (8) variable high resistance (200,000 to 500,000 ohms.); (9) fixed by-pass condenser (.0001 mfd.); (10) short-wave radio frequency choke; (11) Flexible insulated cable.

thoroughly approved technical principles. In practice, if correctly constructed, the adapter will be found to be thoroughly efficient and easy to manipulate; in fact, easier than the ordinary broadcast receiver, as there is only one condenser to operate for the whole outfit, the condensers in the broadcast receiver not being used, although they are not disconnected in any way.

The parts embodied in the adapter are not in any way intricate. The

may be wound on the same tubing. The tickler should be at one end, the secondary in the centre, and the primary at the other end of the coil. The best wire for the purpose is No. 26 double-cotton-covered for all coils. The primary coil should have about five turns, the secondary ten, and the tickler six turns. The tickler should be wound to within one-eighth of an inch from the secondary coil, and at least an inch should separate the primary from the secondary.