

## Glossary of Wireless Terms

From week to week we give here a section of the glossary of wireless terms from the "Listener's Guide."

**INSULATOR.**—A term applied to all materials which form very bad conductors of electric currents. They do, however, allow high-frequency oscillations to pass when they act as the dielectric of a condenser. See "Conductor."

A substance used to prevent the loss of an electric current. The most common insulating mediums, or materials are air, ebonite, india-rubber, mica, glass, porcelain, paraffin wax, paper and oil. Also the term applied to the objects inserted in the wires supporting an aerial to prevent leakage of the high-frequency currents flowing in the aerial.

**INTERFERENCE.**—A term used to represent a difficulty in separating the desired signals from others on a close wavelength; such interference is usually cured by increasing the selectivity of the receiver. Interference may be caused by allowing a high-frequency or detector valve to fall into a condition of oscillation. Howling valves cause interference.

**INTERMEDIATE STAGES.**—Refers to the radio frequency stages between the oscillating or frequency mixing valve (first valve invariably) and the detector valve, which precedes the audio stages, in a super-heterodyne receiving set.

**INTERNAL OR INTER-ELECTRODE CAPACITY.**—The proximity of the elements of the valve within the tube causes interaction between the grid and the anode circuits. When such action is more than usually undesirable, special valves with more widely-spaced electrodes may be used, or else special circuits such as those on the neutrodyne principle may be employed.

**ION.**—A gaseous atom having a surplus or deficiency of electrons, the former being called a negative ion and the latter a positive ion. Ionisation is only met with in soft detector valves or certain gaseous rectifying units used for battery charging or eliminating apparatus. It formed the basis of action in valves of ten years ago.

**IONISATION.**—The liberation of charged particles of gas, known as ions, owing to the liberation of electrons from the atoms of the gas, generally due to collisions between the gas atoms and high-speed electrons. See Ion.

**JAMMING.**—Interference in the reception of signals caused by signals from other transmitters.

**JAR.**—The British Admiralty unit of capacity being 1.900th or .0011 of a microfarad.

**JUMBLE WOUND.**—A rough-and-ready unsystematic method of winding a coil. A common example of this is the radio-frequency "choke" coil used in short-wave receiving sets.

**KATHODE.**—See "Cathode" and "Anode."

**KEY.**—The conventional name for the switch by means of which telegraphic messages in Morse are sent. The circuit is made or broken as the key is depressed or released.

**KEY SWITCH.**—A neat form of switch having many varieties in which only the short operating lever projects through the panel and is visible.

**KILOCYCLE.**—Represents 1000 cycles. The practice is growing of quoting the transmission characteristics of a station in frequency in cycles instead of in wave-length in metres. To facilitate this the figure is quoted in kilocycles instead of cycles. Thus 300 metres is a frequency of one million cycles, and this is quoted as 1000 kilo-cycles.

**KILOWATT (K.W.).**—The unit used for measuring large amounts of electric power, being equal to 1000 watts, or 1 1/3 horse-power, 746 watts being equal to 1 h.p.

**KIT.**—Usually associated with the word "Knockdown." Represents the complete parts for a radio set in an unassembled condition.

positions of the valves provides an improvement in reception. In practically every case when a medium-sized or large loudspeaker is employed, what is known as grid bias is essential to pure reproduction of music. It takes the form of a small dry battery of 4 1/2 to 9 volts, and if the listener cannot trace it in his set he should endeavour to get the advice of an experienced friend on the subject. No wireless set employing two or more valves for audio amplifying should be unprovided with a grid-bias battery.

### Watch the A Battery.

**THE** accumulator employed for lighting the valves must be very carefully used. It should never be allowed to run down to a point where it cannot operate efficiently. Even when not in use it should be charged at least once a month.

### Adjacent Aerials.

**A**ERIALS in close proximity can cause a good amount of interference, and in some cases even a crystal set has been known to affect a valve set, either as a circuit absorbing the oncoming waves, or from the scratching of the cat's-whisker being heard in the valve set. A new listener should erect his aerial as much at right angles as possible to existing near-by aerials, in order to cut down possible interference to a minimum.

## RADIO DIRECTORY

### What to Buy and Where

#### AUCKLAND

- ATWATER-KENT RADIO** .. Frank Wiseman, Ltd.  
170-172 Queen Street, Auckland.
- ALTONA & HAMMARLUND-ROBERTS SETS.** Johns, Ltd.  
Chancery Street, Auckland.
- AMPLION LOUDSPEAKERS** . All Radio Dealers.
- BREMER-TULLY RADIO** .. Superadio, Ltd.,  
147 Queen Street, Auckland.
- BURGESS RADIO BATTERIES,** All Radio Dealers.
- CE-CO VALVES** ..... All Radio Dealers.
- FADA RADIO** ..... National Electric & Eng. Co., Ltd.  
Customs St.; Radio Supplies, Symond St.
- FEDERAL, MOHAWK, GLOBE** Federal Radio House,  
8 Darby Street, Auckland.
- FERRANTI RADIO COMPONENTS** ..... A. D. Riley and Co., Ltd. Anzac  
Ave., Auckland, and all leading dealers.
- GILFILLAN AND KELLOGG** . Harrington's, Ltd.,  
138-140 Queen Street, Auckland.
- GREBE RADIO** ..... Howie's,  
Dilworth Building, Custom st., Auckland.
- MARCONI ECONOMY VALVES** All Radio Dealers.
- MULLARD VALVES** ..... All Radio Dealers.
- RADIOLA RECEIVERS** ..... Farmers' Trading Co., Ltd.,  
Hobson Street, Auckland.
- RADIOTRON VALVES** ..... All Radio Dealers.
- RELIANCE BATTERIES** (N.Z. Made) .. Reliance Battery Mfg. Co., Ltd.,  
96 Albert Street, Auckland.
- T.C.C. CONDENSERS** ..... A. D. Riley and Co., Ltd. Anzac  
Ave., Auckland, and all leading dealers.

#### COUNTRY TOWNS

- CROSLEY ELECTRICAL AND BATTERY MODELS** ..... The Forrest-Crosley Radio Co., Ltd. Cuba Street, Palmerston North.
- CROSLEY RADIO SALES AND SERVICE** ..... D. A. Morrison and Co.  
The Avenue, Wanganui.
- FEDERAL AND AIR PATROL RADIO** ..... J. B. McEwan and Co., Ltd.,  
New Plymouth.
- GAROD, CROSLEY, RADIO AND ACCESSORIES** ..... The Hector Jones Electrical Co.  
King and Queen Streets, Hastings.
- GILFILLAN, FEDERAL, STAN-DARDYNE AND GARRARD ELECTRIC RADIO — ALL ACCESSORIES** ..... W. M. Pitcher and Co.  
Hamilton.
- GREBE, CROSLEY AND RADIOLA SERVICE** ..... E. Dixon and Co., Ltd.,  
Hawera.
- RADIOLA DEALER AND SERVICE** ..... G. C. Carrad.  
140 The Avenue, Wanganui.
- PHILIPS VALVES AND APPARATUS** ..... All Good Radio Dealers,

## Tips and Jottings

### Underground Aerials.

**VERY** good results are obtained by the use of underground aerials for the reduction of static, but volume is also much reduced. However, there are times when the absence of static is imperative, as it enables the weakened signals to be heard when they might otherwise be lost altogether. Such an aerial is usually made of a wire enclosed in a length of garden hose carefully stopped up and insulated at the outer end. The aerial is buried a foot or two deep, either in a straight line or coiled up in a hole.

### Oak Finish for Cabinets.

**CONSTRUCTORS** who build their own cabinets will find that an excellent stain for oak can be made by mixing Japan black and turpentine in equal quantities. The liquid should be applied with a rag to the well-sanded surface, and with two or three coats a rich brown shade will be obtained.

### Grid-Bias Essential.

**LISTENERS** should see that when valve replacements become necessary suitable valves are purchased, and here, by the way, it is worth mentioning that frequently it happens in multi-valve sets that the changing of the