

## Glossary of Wireless Terms

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

**RECTIFICATION.**—The high-frequency energy received on the aerial must be reduced to within the range of audibility before it can influence the telephones, and this function is carried out by either a valve or crystal detector which, by choking back each positive half-cycle of high-frequency oscillation and permitting only the remaining negative half-cycle to pass reduces high-frequency oscillation to low-frequency unidirectional impulse. For charging accumulators it is necessary to convert alternating current into direct or impulsive current, and this is done by a rectifier by cutting off those impulses of current flowing in the wrong direction.

**RECTIFIER.**—See "Rectification"; see also "Detector Valve," "Bulb Rectifier," "Electrolytic Rectifier," "Oxide Rectifier."

**REFLEX.**—Type of circuit in which amplification is repeated through one or more valves. Thus a valve may perform the duty of an amplifier of radio as well as audio-frequencies simultaneously. This is also known as dual amplification. See "Dual."

**RELAY.**—A piece of apparatus operated by a feeble current employed to import into the circuit a heavier local current, which latter is capable of performing the service for which the original current is too feeble. The valve is a species of relay, and in the early days of its development was called an "electron relay"—a particularly apt term.

**REGENERATION.**—See "Reaction."

**RESIDUAL CAPACITY.**—Refers to the small amount of capacity remaining between the fixed and moving vanes of a variable condenser when they are at minimum position.

**RESISTANCE.**—Measured in Ohms (see "Ohm's Law"), and refers to the opposition encountered by electricity in flowing through a conductor.

**RESISTANCE CAPACITY AMPLIFICATION.**—A system of either radio or audio frequency amplification whether two valves are coupled together with a resistance, condenser, or grid leak. Such amplification is relatively insensitive compared to transformer systems, and although credited with distortionless results has to be carefully arranged so far as values and valves are concerned to achieve this.

**RESONANCE.**—If two tuned circuits are both adjusted to the same wave-length they are said to be in resonance or resonant to one another. An aerial tuned to 400 metres will be resonant or respond to a station transmitting on that wave-length.

**RHEOSTAT.**—A variable resistancy used for the purpose of controlling the

heat of valve filaments. It is connected in series with the A battery.

**ROTOR.**—Moving or rotating elements of a variometer or vario-coupler. The rotor plates of a condenser are those which move.

**SECONDARY.**—See "Primary Battery"; also "Primary."

**SELECTIVITY.**—See "Sharp Tuning."

**SELF-CAPACITY.**—Refers to the capacity natural to a design of unit such as a choke or inductance coil, for instance. A condenser effect is always apparent between turns, and to keep this undesirable element at a minimum special methods of winding are resorted to. See "Honeycomb or Basket Windings."

A coil may exhibit large self-capacity because of the close proximity of metal.

**SELF HETERODYNE.**—Instead of using a separate apparatus for the generation of local oscillations for the reception of continuous wave telegraphy, the receiving valve itself may be made to oscillate and so render reception of the "beat-note" possible.

**SENSITIVITY.**—A highly-desirable quality in all receiving sets; mainly dependent upon efficient design and construction; applies also to telephone receivers, and valves or crystals.

**SERIES.**—Parallel connection. See "Parallel."

**SERIES-PARALLEL SWITCH.**—A double-pole, double-throw switch, used to change the connection of the aerial tuning condenser from series to parallel or the reverse.

**SHARP-TUNING.**—With an efficient set it should be possible to tune out even powerful stations within a few degrees on either side of the "optimum" condenser setting. Difficulty in tuning out the local station is usually due to a lack of sensitivity—that is, inability to tune sharply—in the receiver.

**SHIELDING.**—In order to retain a certain degree of compactness in a receiving set it is often necessary to place certain components closer together than is theoretically desirable, and in order to minimise possible interaction, the components (such as low-frequency transformers) are shrouded with soft iron, lead, tin foil, or copper foil.

**SHORT-WAVE.**—Prior to broadcasting, the wavelength now used for this purpose would have been regarded as short, but now in speaking of short waves something of the order of 15 to 200 metres is meant.

**SHROUDING.**—See "Shielding."

charging. It is when an attempt has been made to charge 20-volt B battery blocks that the voltage has sometimes proved to be insufficient. A couple of dozen extra turns on each secondary would remedy that.

**Discontinuance of Spark Transmission.** UNDER the Washington Regulations no new land stations may be established on the spark system, and the use of spark transmitters by land stations is to be discontinued entirely by the end of 1934. The Regulations permit the use of spark transmitters on ships, although after the end of 1929 no new spark transmitter may be installed of higher power than 300 watts, and after the end of 1939 no spark transmitter of higher power than 300 watts may be used on a ship.

### Testing Filter Condensers.

A MORE reliable method than by observing the spark discharge is to charge the condenser with about 90 volts d.c. from battery or eliminator, then wait, say, one minute and discharge through a voltmeter, observing the reading of the "kick," which will allow of comparison between different condensers. Care should be taken not to allow any leakage to the body by handling connections during the test. The voltmeter must be capable of reading at least as high as the charging voltage.

### The A Battery Charger.

AN Invercargill constructor reports complete success. No trouble is likely to be experienced on ordinary

# 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** .. 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

- ANCHORADIO, BREMER-TULLY, RADIOLA, BROWNING-DRAKE, AND ATWATER-KENT RADIO** Radio House,  
Hamilton. G. S. Anchor, Manager.
- BROWNING-DRAKE SALES AND SERVICE** ..... J. H. Sinclair,  
Otane, H.B.
- CROSLEY ELECTRICAL AND BATTERY MODELS** ..... The Forrest-Crosley Radio Co., Ltd. Cuba Street, Palmerston North.
- GAROD, CROSLEY, RADIO AND ACCESSORIES** ..... The Hector Jones Electrical Co.  
King and Queen Streets, Hastings.
- GILFILLAN, FEDERAL, STANDARBYNE 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,