

Glossary of Wireless Terms

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

PRESSURE.—A term synonymous with voltage.

PRIMARY.—Any circuit in which a transference of energy from one cell to another takes place (as in transformers, loose-coupled tuners, etc.) is distinguished as to its two coils by the terms primary and secondary, the former being the circuit in which the initial energy is flowing and the latter that to which the transference is made.

PRIMARY BATTERY.—A battery of cells in which the electric current is generated by chemical action as distinct from a secondary, or storage battery, in which an internal chemical change is wrought by the application of an external current, when the battery is said to be charged; this current is given back—or a considerable portion of it—on discharge, when the chemical change is reversed.

PROTON.—A positive particle of electricity. It is now supposed that each atom of matter consists of a nucleus formed by a proton and surrounded by a ring of satellite electrons. The nature of the matter is determined by the number of these particles and their arrangement.

RADIATION.—Wireless messages are propagated by the radiation of energy from the transmitting aerial. When a receiving set is allowed to "oscillate" (q.v.), a weak radiation occurs from the receiving aerial also, and causes interference with reception by other radio workers within range.

RADIO.—Colloquially, an alternative term for wireless. Used in conjunction with the word "frequency," it signifies the oscillations received by the aerial in their passage through the set before rectification, which educes the energy from high-frequency oscillations to low-frequency uni-directional pulsations. They are roughly reckoned as being greater than 10,000 cycles per second in contradistinction to audio-frequencies, which are also roughly reckoned as being below 10,000 cycles.

RADIO FREQUENCY.—The oscillations as received on the aerial and passed through high-frequency amplifying valves up to the point where they are rectified by crystal or detector valve, are said to be of "high" or "radio" frequency. Frequencies above 10,000 per second are usually reckoned to be at "high" or "radio" frequency.

RANGE.—Refers to the distance over which messages can be received with a given equipment, or the distance to which they can be transmitted for reception with an average set. Improvement in reception range usually necessitates an extension of the high frequency amplifying section of the set, presuming that the efficiency of the existing apparatus is beyond reproach.

The Railways and Wool.

THE Railway Department is leaving no stone unturned to place before wool-growers the advantages the rail offers for the safe and speedy transport of the golden fleece to market. In addition to a personal canvass by members of the staff, and extensive newspaper advertising, an attractive two-colour art circular, in the form of a blotter, has been mailed to sheep-owners. The circular, inter alia, says:—"The railways make a blotter bid for your business. Woolgrowers! your own railways will give you the best service moving the golden fleece to market.

RATIO.—Used in various senses in radio matters, but particularly in relation to the respective numbers of turns in transformer primary and secondary windings. According to whether the primary has a greater or lesser number of turns than the secondary, the output of the transformer is said to be "stepped down" or "stepped up" in relation to the input.

REACTANCE.—See "Inductance."

REACTION.—By coupling either electro-magnetically or electro-statically, the plate circuit of a valve back to the grid circuit of the same or a preceding valve, a portion of the amplified energy in the plate circuit is fed back into the grid circuit, from which it again passes through the valve and is re-amplified. Great improvement in signal strength is thus obtained, but if the coupling is made too tight the valve may fall into oscillation when not only are the signals badly distorted, but a continuous wave is radiated from the aerial causing interference with reception over a wide area.

REACTIVISATION.—A simple and efficient method of rejuvenating valves which have gone dead. It can be performed by an apparatus which is manufactured for the purpose, or by simpler methods. It is even applicable to valves which have through long and faithful use lost most of their activity. A simple method is to turn up the filament of the valve to normal brilliancy, then reverse the polarity of the B battery, connecting the plus to the plus A battery, and the minus to the side which normally takes the plus B. Leave the valves connected in this manner for a full hour, then turn the filament current down to its lowest point and leave the current on for another half-hour. It will be found that an hour and a half of this treatment is sufficient in most cases to rejuvenate the valves, but in cases where the valves are unusually dead, the treatment may be necessary for double that time. After treatment the valves should be allowed to cool off, and then the batteries are connected in their regular manner. Type 200-A valves cannot be treated in this manner successfully, as once this type has lost its sensitivity it is practically impossible to rejuvenate. The method will, however, bring back to normal all 199, 201A, A Hi-Mu, and power valves which have lost their vim. In testing this method, a set of valves have been used which were so dead that absolutely no signals could be heard. After the process was completed, a matter of nearly three hours, the valves worked as well as ever.

RECEIVER.—A term used indiscriminately to designate either a receiving set as a whole or the telephone or loud-speaker receiver. Either use is quite correct, but to avoid confusion, the limitation of the term to describe the set, and the use of the words "telephone" or "telephone receiver" is recommended.

Farmers, put your trust in the reliable train for satisfactory transport of yourselves and your goods.

"Special arrangements of the Railway Department will ensure quick and safe transport of wool. Free help will be given with loading of bales at all man-in-charge stations, and the whole service will be worked as urgent business. Farmers, your railways are helping you with cheap rates for farming machinery, manures, live-stock, wire-netting, and other concessions. The more you use your own railways, the more they will be able to increase their material assistance to the primary producers. Co-operate for your own benefit."

RADIO DIRECTORY

What to Buy and Where

AUCKLAND

- ATWATER-KENT RADIO** .. Frank Wiseman, Ltd.
170-172 Queen Street, Auckland.
- ALTONA & HAMMARLUND.** Johns, Ltd.
Chancery Street, Auckland.
- ROBERTS SETS.**
- 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

- 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.
- ROLA CONE SPEAKERS** J. B. MacEwan and Co., Ltd.,
Federal Radio Dealers, New Plymouth.
- PHILIPS VALVES AND APPARATUS** All Good Radio Dealers,