

ESSENTIAL VOCABULARY FOR THE RADIO AMATEUR

AC = Alternating Current. A current which varies amplitude with time and therefore has a frequency.

Actuator = an electrical device which produces mechanical movement when a current is passed through it.

AF = Audio Frequency. These are frequencies in the range 10 to 20,000 Hz that can be heard by people.

AMMETER = a device for measuring electric current.

AMP = Ampere = the unit we measure electric current in.

Antenna or Aerial = A wire or wires or metal rods which receive radio signals or transmit (radiate) them.

Armature = the moving part of an electric motor, actuator or relay.

Amplifier = an electronic device which adds power to an existing signal.

Audio Amplifier = an electronic circuit which makes audio frequency signals more powerful so they are louder in the speaker or headphones.

BFO = Beat Frequency Oscillator = Also called a CIO (see below) .Converts Morse transmissions into audible beeps. Also used to demodulate SSB.

Beacon = an automatic radio station which transmits an identifiable signal. Used as a guide to propagation.

Bearing = 1) the direction from which radio signals are coming. 2) A mechanical device that allows a beam antenna to be rotated.

Braid = the woven copper wire part of a coaxial cable which forms the outer conductor or shield..

Carrier = A radio frequency that carries information, usually speech.

CIO = Carrier Insertion Oscillator = another name for a BFO

Crystal = sometimes abbreviated to **Xtal** = a piece of quartz used to control the frequency of an oscillator or a filter.

Crystal Filter = A type of RF filter used to give a very narrow pass band.

Crystal Rectifier = an old term for a signal diode as in “Crystal Set” - a very simple receiver.

Capacitor = a device which stores small amounts of electrical energy temporarily.They are used in tuned circuits including oscillators and filters. They are also used to block DC while allowing AC to pass.

Coil = a coil of wire used as an inductor. Used with capacitors to make tuned circuits or on their own to make transformers.

Carbon Microphone = a type of microphone once commonly used in telephones and radios.

Carbon = a non-metallic element which displays some metallic properties; ie conducts electricity fairly well. Used to make resistors.

Diode = Also called a rectifier Allows current to flow in one direction only. Has numerous uses such as changes AC to DC (rectification) , detects signals and some types (LED) can emit light and are used to replace bulbs.

Duracell = a trade name for a type of battery.

Demodulator = a device for recovering the audio from a radio signal.

Electrode = a (usually) metal plate. Found in many electronic devices especially valves and batteries.

Electron = a small charged particle which carries electronic signals around a circuit.

Electric Current = a flow of electrons through a circuit.

FM = Frequency Modulation = a method of modulating an RF carrier by changing its frequency slightly in time with the modulating audio frequency

Filter = A device that separates out wanted frequencies from all others. They can be made to work at AF or RF.

Frequency = How often something happens. In radio terms it means how many waves pass a given point in one second. Radio waves can have frequencies of thousands of Hertz, Hz (waves per second) up to millions of millions (Tera Hertz)

Frequency Shift = This is a change or shift n frequency. Small shifts are used to send data in the form of “ones” and “zeros” Larger shifts are used in repeaters to separate incoming signals from re-transmitted ones.

FSK = Frequency Shift Keying = a modulation technique used to send data. PSK or Phase Shift Keying is very similar

Frequency Discriminator = a device for demodulating an FM signal.

Fuse = a piece of thin wire that melts and breaks the circuit when too much current flows. Used as a safety device the wire is usually mounted in a holder or cartridge.

Farad = unit of capacitance

F-layer = a layer in the ionosphere

Giga = prefix meaning 1,000,000,000 ie a thousand million as in Giga Hertz (GHz) Gigabyte

Ground = literally the ground, zero volts or a chassis connection.

Ground plane = a flat surface connected to or acting as ground. Sometimes reduced to 3 or 4 horizontal radials.

Ground plane antenna = a vertical antenna which uses the ground or radials.

Hand-held = a small transceiver with its own battery and antenna.

Heatsink = a lump of metal usually with fins used to take heat away from an electronic component.

Height = the distance above ground (of an antenna). Note the height above sea level is usually called “altitude”.

Henry = unit of inductance

Hertz = Hz = unit of frequency compare with kHz, Mhz & GHz.

Juliet = phonetic alphabet for the letter “J”.

kilo = 1000 = one thousand. Note use of lower case “k” in abbreviations: kHz = kilohertz; kV = kilovolts & kilo ohms.

K-index = a measure of solar activity.

LED = Light Emitting Diode; a type of diode which glows when powered up.

L.F. = Low Frequency = frequencies below 3 MHz.

M= Mega = 1,000,000 one million as in MHz & megabyte.

Micro = 1/1,000,000 or one millionth. The greek letter “mu” is used as an abbreviation – looks like the lower case “u” with a tail on it.

Microphone = a transducer which converts sound into electrical oscillations. Used in transmitters.

Microwaves = very short radio waves less than 1m long.

M.W. = Medium Wave = radio waves between 1 and 2 MHz.

Output = the power from a transmitter or audio amplifier.

Polarization = the plane in which the electric field of a wave is vibrating. Vertical elements emit vertical polarization.

Positive = the pole on a battery or PSU where conventional current flows from

PSU = Power Supply Unit

Pentode = an electronic device with five electrodes.

Quartz = a material used to make oscillator crystals.

Radio = a general term for a wireless set or wireless system.

Radio waves = electromagnetic radiation used to carry information.

Resistance = by how much a resistor limits current.

Resistor = a current limiting device, sometimes used as a heater.

RST = Readability, Strength, Tone a reporting system used by amateurs for received signals.

Semiconductor = a group of materials which have variable conductivity somewhere between that of metals and insulators. Used to make diodes and amplifying devices.

S-meter = a meter on a receiver for indicating signal strength.

S-points = signal strength on a 1-9 scale. Signals greater than 9 are said to be "S9 plus x dB" or "x dB over nine".

SHF = Super High Frequency = frequencies greater than 3 GHz.

Transmitter = A radio set which transmits radio waves.

Transceiver = a Transmitter-receiver where the transmitter and receiver share the same components.

Tuning = the act of adjusting a tuner to select a particular frequency.

UHF = Ultra High Frequency = anything above 300 MHz (up to 3GHz)

VHF = Very High Frequency = anything above 30 MHz (up to 300 MHz)

(Electromagnetic) **Waves** an alternating electric and magnetic field caused by an alternating current.

Wavelength = the length of one wave, usually measured in metres.

Xtal = abbreviation for crystal.

X-dipole = crossed dipole a type of omnidirectional antenna. Can also generate circular polarization

YIG (Yttrium Iron Garnet) Oscillator a type of UHF /SHF oscillator often used in spectrum analysers.

Zener diode = a type of diode used as a voltage reference or regulator.

Zero = the reference point for measuring voltages etc. Nothing more to be said.