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| 807 | Deceptive Ham term for a beer. Also a popular transmitting tube of the mid 1900's |
| A Battery | In early radios the A battery provided the filament voltage. |
| A Index | Represents the overall geomagnetic condition of the ionosphere over a given 24 hour period. Range is typically from 1-100 |
| A.M. | Ante meridian (before noon). |
| Absorption | The reduction in strength of a radio signal due to the ionosphere. |
| AC | "Alternating Current" - Current that reverses direction & polarity in a wire or circuit. The rate of reversals is dependent upon the frequency of the AC power. In the US a nominal 60 Hz is standard for household AC current. |
| Active Antenna | A physically short or small antenna with a high gain preamplifier; designed for use indoors or in limited space areas. |
| Active Filter | A circuit that eliminates unwanted audio frequencies from the audio output of a receiver. |
| AGC | "Automatic Gain Control" A feedback voltage in the receiver circuit to prevent fading |
| AGM | Absorbed Glass Mat - a type of battery |
| ALC | "Automatic level control" A feedback voltage in the transmitter's output amplifier used to prevent amplifier overload. |
| Alkaline | A type of dry chemical battery which is non rechargeable |
| Alligator | Repeater that transmits further than it can receive, big mouth, small ears! Also references to a repeater timer. If you talk on the repeater too long and the timer will cut you off. "The alligator got you!" |
| Alternating Current | SEE "AC" |
| AM | "Amplitude Modulation" - One method of adding information to an RF carrier. |
| Amateur Operator | An individual licensed by the FCC (in the US) to be the control operator of amateur station. |
| Amateur Service | An FCC regulated radio service for qualified persons of any age who are interested in radio technique solely with a personal aim and without pecuniary interest. |
| Amateur Station | The equipment necessary for a licensed operator to use the amateur service for communications. |
| Ammeter | Test equipment that measures current. |
| Ampere | The basic unit used for measurement of current. Usually abbreviated to Amps. |
| Amplifier | A device used to increase voltage, current or power. |
| Amplitude | The height of a wave from the average or median position. |
| Amplitude Modulation | SEE "AM" |
| Antenna | A device to either radiate radio signals or to receive them from another station. |
| Antenna Farm | Ham's dream -- Lots of antennae |
| Antenna switch | A device used to switch a single antenna between multiple radios or a single radio between multiple antennae. |
| Antenna Tuner | Device used to match the impedance of an antenna system to the impedance of a transmitter. Can be installed at the antenna feed point (ideal) or between the transmitter and the feed line (more practical and the "norm"). NOTE that an antenna "tuner" DOES NOT actually "tune" anything; it merely presents an impedance to the radio that allows it to maintain full power output and protects its internal circuits. Any impedance mismatch, and its effects, is still present in the antenna system. |
| Appliance Operator | Hams who neither build nor experiment with radio equipment, but merely operate commercial equipment, perhaps without understanding how it all works. |
| APRS | Automatic Position Reporting System, Automated Packet Reporting System. |
| ARES | "Amateur Radio Emergency Services" - licensed amateurs who have voluntarily registered their qualifications and equipment with their local ARES leadership, for communications duty in the public service when disaster strikes. |
| ARQ | "Automatic Repeat Request" used in AMTOR. |
| ARRAY | An antenna arrangement in which multiple antennae are used to enhance the desired performance. |
| ARRL | "American Radio Relay League" |
| ASCII | "American Standard Code for Information Interchange" - a method of representing upper and lower letters in addition to numbers and special symbols. |
| ASL | "Above Sea Level" - Vertical height above sea level. |
| Attenuation | Reducing a signal |
| Attenuator | A resistive device to reduce the amplitude or power of a signal. |
| ATV | Amateur Television, also known as fast scan television |
| Auroral Propagation | Propagation above 30 MHz via refraction using the highly ionized regions around the Earth’s poles. |
| Auto patch | A feature that allows a two way radio to connect to and initiate telephone calls through a repeater or base station by sending DTMF (touch tone) signals through the radio to the auto patch device which dials the number desired. In non-emergency situations if the phone connection encounters music, such as when put on hold, US amateurs must disconnect due to the prohibition of music being transmitted on amateur frequencies. |
| Automatic Control | The station operates completely under the control of devices and procedures that ensure compliance with FCC rules. A control operator is still required but need not be at the control point when the station is transmitting. Repeaters, beacons, and space stations can be automatically controlled. |
| AWG | “American Wire Gauge” – Standardized system (in North America) for expressing the size of an electrical wire based on its cross-sectional area. It was developed for solid conductors and the AWG of stranded wire is determined by the cross-sectional area of the equivalent solid conductor. Because of the tiny spaces between strands, stranded wire will have a larger physical diameter compared to an equal AWG wire of solid construction.  Increasing gauge sizes denote DECREASING wire diameters. |
| Azimuth | Horizontal directional angle measured clockwise from north. It is used in plotting direction to or from a given point, often to another point |
| B Battery | In early radios the B-battery furnished the B+ or the Voltage to the plates of the tubes. |
| Backscatter | Backscatter refers to the reflection of radio waves back in the direction from which they came as opposed to reflection or refraction which deflect RF waves but not 180 degrees. Dust, moisture, and other particulates in the atmosphere as well as areas of variation in the ionosphere can cause backscatter. It is a very weak signal propagation type but is capable of up to 300 miles over the horizon communications on a regular basis. |
| Balanced Line | Parallel conductors at equal and opposite potentials. Neither conductor is at ground potential. |
| BALUN | Contraction of balanced and unbalanced. An electrical device for placement between a balanced and unbalanced signal. Typically installed between feedline and antenna. |
| Band | A section of the radio spectrum set aside for the same purpose. |
| Band Pass Filter | SEE "BPF" |
| Band Plan | A “Gentleman's agreement” dictating how a particular band or bands is to be used. |
| Barefoot | Transmitting with a transceiver alone and no linear amplifier |
| Base Loading | A loading coil at the bottom of an antenna to achieve a lower resonant frequency. |
| Base Station | A HAM station with a fixed location. |
| Battery | A device to convert chemical energy to electrical energy. |
| Baud | The unit for symbol or modulation rate in symbols or pulses/second in a digitally modulated signal. |
| Beacon | A radio station that provides information on radio signal propagation. If a HAM can hear a beacon, it indicates that his transmissions can reach the beacon site on the band the beacon operates on. |
| Beam Antenna | A directional antenna that can concentrate radiated energy into and receive weaker signals from, a designed direction. Disadvantage is they must be rotated to cover more than a single direction. |
| Beat Frequency Oscillator | SEE: "BFO" |
| BFO | A circuit in receivers that provides a signal to the detector. The signal is then mixed with the received signal to produce audio for CW and SSB signals. |
| Bird | Slang term for a satellite. Also a brand name of a high-end, high quality directional wattmeter. |
| Birdie | A false or spurious signal in a receiver inadvertently produced by the receiver’s circuitry. |
| Block Diagram | A drawing using boxes that represent sections of a device or process. They give the "big picture" for ease of understanding the flow of the device or process at the expense of detailed information. Among other uses, they are helpful in determining what area of an electrical schematic to look at. |
| BNC | “Bayonet Neill-Conelman” connector. A small push-and-turn quick disconnect commonly used with VHF/UHF transceivers, test equipment, and COAX cables. Suitable for use below 4 GHz and less than 500 volts. |
| Boat Anchor | A slang term for antique radio equipment. Generally considered to be derived from the large size and weight of old equipment. |
| Bond | Term used to describe electrical connections in a grounding system |
| Bootlegger | Someone, usually not a Ham but a wannabe, making up a call sign, and getting on the air. |
| Bounce | Reflections of a radio wave off of an object, (e.g., the ionosphere or the moon) |
| BPF | "Band Pass Filter" - A filter circuit that only allows signals within a designed range to pass through. Signals outside of the range (band) are attenuated. |
| Break | (Repeater Term) used to interrupt a conversation. Indicates an emergency or urgent message. |
| Broadcasting | Transmissions intended to be received by the general public, with no expectation of a response. |
| Bug | A semi-automatic mechanical code key |
| Bunny Hunt | One of several names used to describe the activity of finding hidden transmitters. Sometimes called "T Hunting" or "Fox Hunting". |
| Bureau | An organization that processes physical QSL cards between amateurs. Devised as a method to lower the postage cost of exchanging QSL cards. |
| Burst | Reception of a signal for a few seconds via meteor scatter. |
| Busy Lockout | Circuitry that inhibits transmitting on a frequency in use. |
| C Battery | In early radios the C battery provided the grid-bias voltage for the tubes. |
| California Kilowatt | A power setting above the legal limit |
| Call sign | A unique identifier for each radio amateur and licensed radio station throughout the world |
| Calling Frequency | A standard frequency where stations attempt to contact each other. Example -- 146.52 is the USA National FM simplex calling frequency. |
| CAP | "Civil Air Patrol" - A volunteer auxiliary of the United States Air Force. Active in airborne Search and Rescue as well as other activities. During WWII, they patrolled coastal areas of the US. |
| Capacitance | The ability to store an electric charge. Unit of measure is the Farad |
| Capacitive Hat | Device consisting of wires or disks added to top of a vertical antenna. Reduces inductance & increases bandwidth. |
| Capacitor | A passive electronic component composed of two conducting plates separated by a dielectric (insulating material). |
| Capture Effect | The strongest signal received is the only signal demodulated in FM |
| Carrier | A transmitted signal with no modulation. |
| Carrier Frequency Offset | The distance between a mark and space in digital communications using the mark and space. |
| Cavity filter | A sharply tuned resonant circuit that allows only certain frequencies to pass. Usually constructed as cylinders & commonly called “Cans”. Capable of high selectivity even under high power loads. Common in repeaters where the receiver must be protected from overload by a transmitter on the same band on the same antenna tower. |
| CC&R's | "Covenants, Conditions, and Restrictions" - An extensive set of rules drawn up by homeowner's associations and their lawyers which, among other things, typically restrict or completely prohibit a homeowner from having most forms of antennae on their property. |
| CCW | "Counter Clockwise" - Common abbreviation. |
| Center Loading | A loading coil at the center of an antenna to achieve a lower resonant frequency |
| Chassis Ground | The common connection for all parts of a circuit that connect to the negative side of the power supply. |
| Chirp | A slight shift in transmitter frequency each time you key the transmitter. |
| CHIRP | Open source software capable of programming many different radio brands and models |
| Circular Polarization | Antenna polarized so the emitted electric field rotates around the axis of the antenna |
| Clear | Used to indicate a station is done transmitting |
| Clipping | SEE "Flat Topping" |
| Closed Circuit | A complete electrical circuit with an uninterrupted path for current flow. A switch can "open" or "close" the circuit. |
| Closed Repeater | (Repeater Term) a repeater whose access is limited to a select group. |
| Closed Repeater | A repeater that restricts access. |
| Cloud Warmer | An antenna which radiates most of the transmitted energy nearly straight up. |
| CME | "Coronal Mass Ejection" - The release of large quantities of matter (plasma) & electromagnetic radiation into space from the Sun’s surface. Radiation reaches Earth in about 8 minutes; CME’s take 20 to 40 hours to reach Earth. |
| COAX | Short for "Coaxial Cable". SEE: "COAXIAL CABLE" |
| Coaxial Cable | A type of cable with an insulating layer between an inner and outer conductor and another insulating layer over the outer conductor. Patented in 1880 by Oliver Heaviside. Dimensions of the cable components are engineered to provide the needed properties for use. COAX commonly used in HAM radio operations is of 50 or 75Ω. It is popular because it is simple and requires only a few common tools to work with. |
| Color code | Standardized system of colored bands on the body of resistors that indicate their values and some specifications. Can also be found on some other components. |
| Condenser | Former name used for a Capacitor. SEE: Capacitor |
| Conductor | An object or type of material that allows the flow of an electrical current in one or more directions. |
| Contesting | AKA “radio sport”. Individual or team activity where as many contacts as possible are made in a set time period. Each contest has its own rules, categories, restrictions, etc. The number of contacts and “multipliers” contribute to the final score. |
| Continuous Wave | SEE "CW". Morse code |
| Control Operator | An amateur operator designated by the licensee of a station to be responsible for the transmissions of an amateur station. |
| Control Point | The location(s) at which the control operator function is performed. |
| Controlled Environment | Refers to RF exposure limitations. Controlled Environments are locations where people are aware of their exposure and have the ability and knowledge to control it. |
| Core | The material used in the center of an inductor coil, where the magnetic field is concentrated. |
| Corona Ball | The small ball found at the end of some antennae. They are NOT there to save your eye. |
| Coronal hole | Associated with open magnetic field lines. Discovered when X-ray telescopes first flew above the atmosphere. They appear as dark spots on the Sun's surface and can lead to enhanced VHF and 10 meter propagation. |
| Courtesy tone | A tone or beep transmitted by a repeater to indicate the time out timer has been reset and next station can transmit. |
| CQ | Request for contact - specifically "calling any operator" |
| Critical Angle | The highest takeoff angle that will return a radio wave to the Earth under specific ionospheric conditions. |
| Critical Frequency | The limiting frequency at or below which a wave component is reflected by, and above which it penetrates through, an ionospheric layer. |
| Crossband Repeat(er) | A method of repeater operation where incoming signal is retransmitted on another band. i.e. incoming signal on 2 meter, outgoing on 70 cm. Many dual band radios have the capability to crossband repeat but only a few are capable of meeting the FCC's ID requirements. |
| CRT | Cathode-ray tube |
| Crystal Oscillator | An electronic oscillator circuit that uses the mechanical resonance of a vibrating crystal of piezoelectric material to create an electrical signal with a precise frequency that can then be manipulated through other circuits to arrive at the desired frequency. Named for most common piezoelectric resonator used in their construction, the quartz crystal. |
| CSCE | “Certificate of Successful Completion of Examination”. Good for one year. For previously licensed HAM operators who upgrade, the previous license and the CSCE comprise the upgraded license until it appears in the FCC’s ULS. |
| CTCSS | "Continuous Tone-Coded Squelch System" - Also called "PL" or "PL Tone". A system using sub audible tones to control access or interference and its effects. |
| CTCSS | "Continuous Tone-Coded Squelch System" - a sub-audible tone frequently used on repeaters. The tone "opens" the repeater for use. In practice, used to ensure only signals intended to go through the repeater activate the system |
| Cubical Quad Antenna | An antenna built with two elements in the shape of four-sided loops. |
| Current | The flow of electricity through a conductor |
| CW | "Continuous Wave" - used in Morse code transmissions. Also used to describe Morse code operation. |
| D Layer | The lowest level of the Ionosphere. Only present during daylight hours. Absorbs most or all of HF signals in the 40 meter and longer wavelengths. |
| Data | The digital information transmitted and received. |
| dB | Abbreviation. SEE "Decibel" |
| dBd | dB relative to a dipole. Also known as dBD |
| dBi | dB relative to a theoretical isotropic (point) source. |
| DC | SEE: "Direct Current" |
| Decibel | The ratio between two power levels on a logarithmic scale. A 3 decibel increase is a doubling of power; a 20 decibel increase is a power increase of 100 times. 6dB change in Voltage is a doubling or halving of Voltage. |
| Delta Loop | A loop antenna in the basic shape of a triangle in which the three sides are approximately 1/3λ (for a full wave delta loop). Polarization is dependent upon location of the feed point |
| Desense | (desensitization): the reduction of receiver sensitivity due to overload from a nearby transmitter. |
| Detector | The receiver stage where the modulated information (voice, data, etc.) is recovered from the received RF signal. |
| Deviation | The change in the carrier frequency of a FM transmitter produced by the modulating signal. |
| DF | "Direction Finding". Also known as ARDF and "fox hunting", the use of triangulation and directional antennas to find a hidden transmitter. May be done recreationally, or to locate the source of problematic interference. |
| Digipeater | A packet-radio station used to retransmit signals that are specifically addressed to be retransmitted by that station. |
| Digital Communications | Computer-based communications modes. This can include data modes like packet radio and text-only modes like radio teletype (RTTY). |
| Digital Signal Processing | SEE "DSP" |
| Dip Meter | or grid dip meter -- a device used to determine the resonant frequency of an electronic circuit |
| Dipole Antenna | A type of antenna in which two elements are attached to the feedline conductors. Can be horizontally or vertically polarized and can be fed at the midpoint or "off center". Also common use as the driven element of YAGI and other advanced antennae systems. Omnidirectional in vertical config, figure 8 propagation in horizontal configuration. |
| Direct Current | Electrical current that flows only in one direction. Battery power is Direct Current. |
| Director | One of the element types of a YAGI antenna. Shortest of the elements, approximately 5% shorter than the driven element, and there can be more than one reflector. |
| Doppler Shift | Signal distortion resulting from the speed of a satellite. |
| Doubling | (Repeater Term) On a repeater if two stations transmit simultaneously, the signals mix in the repeater's receiver and results in a raspy signal. FM has a characteristic where the stronger signal "captures" and over-rides the weaker one. |
| Downlink | In satellite communications, the frequency utilized to receive signals FROM the satellite. |
| Drift | Slow, gradual change in the frequency of a transmitter or receiver. |
| Driven Element | The antenna element to which the antenna feedline is attached thus "driving" the element electrically. |
| Dropping Out | (Repeater Term) a repeater requires a minimum signal in order to transmit, when a signal does not have enough strength to keep the repeater transmitting, it "drops out" |
| DSP | "Digital Signal Processing" - The processing of signals by digital methods for filtering, noise reduction etc. |
| DTMF | “Dual-tone multi-frequency signaling” - First developed by Bell telephone and known as the trademarked name “Touch-Tone” for use in push-button telephones. The method allocates a unique tone pair to each button which is recognized by a digital device. Used in HAM radio to input or receive numeric information for a number of reasons such as remote control of repeaters, auto patch, IRLP or Echolink nodes. |
| Dual Band Antenna | An antenna designed to be used on two amateur Bands. |
| Dummy Load | A device connected in place of a transmitting antenna that allows test or adjustment of a transmitter without sending a signal into space. Also called a “dummy antenna”. |
| Duplex | Duplex – Duplex operation means that a radio station transmits on one frequency and receives on a different frequency. Commonly used in repeater operation and use. |
| Duplexer | A device that allows an antenna to transmit and receive simultaneously. Commonly used in repeaters. |
| Duty Cycle | The ratio of transmit time to receive time. A lower duty cycle means less RF radiation exposure for the same PEP output. Can also be an expression of a transmitter specification such as 50% duty cycle per given time frame. |
| DVM | Digital voltmeter |
| DX | Distance or distant station. Originally "distant exchange". On HF radio, normally used to refer to a station on another continent or in an exotic location. |
| DXpedition | Radio expedition to remote and rare locations. |
| E Layer | Second lowest level of the Ionosphere. Present during daylight hours and into dusk. Under certain conditions, it may refract radio waves enough to return them to Earth and is usually responsible for most 10 meter and 6 meter skywaves over 1500 mile. |
| Earth Ground | A circuit connection to a ground rod, usually copper or copper clad, that is driven into the Earth. |
| Earth Station | An amateur station located on, or within 50 km of, the Earth's surface. |
| Earth-Moon-Earth | SEE: "Moon Bounce" |
| EchoLink | A free computer-based Amateur Radio system that uses VoIP technology for all or part of the path between radio operators. The software is available for Windows, Apple, and Android devices. Users must be licensed HAM operators and be validated by the system before it will work. Echolink allows devices such as a handie talkie to make contacts anywhere in the world so long as there is an Echolink node within radio distance of one or both stations. As an example, a user in the UK can access Echolink via a local node and contact an Echolink node in the US. It can also be used via smart phones, tablets, and computers to access nodes worldwide and enter a HAM repeater system with an Echolink node. |
| EGG NOG | Elmer's Grooming Growth, Not Only Grownups - Acronym for a net begun on the PEAK radio system to encourage HAM operators to get non licensed people on the air and build interest in HAM radio. Aimed particularly at youth but all non-licensed are welcome. |
| EHF | "Extremely High Frequency" - 30 to 200 GHz |
| Electromagnetic Waves | The waves emitted by an antenna, having two dimensions, electric and magnetic. They propagate at the speed of light through a vacuum. The oscillations of the two fields are perpendicular to each other. |
| Electromotive force | SEE: "EMF" |
| Electron | Negatively charged particles orbiting the nucleus of an atom in one or more "shells". They are the particles that compose electrical current. |
| Elephant | A repeater that receives further than it can transmit, big ears, small mouth! |
| Elevation | Angle above horizontal. |
| Eleven Meters | Currently the CB band, once a Ham band |
| ELF | Extremely Low Frequency (30 - 300 Hz) |
| Elmer | A person who helps other HAMs with advice or mentoring. Often thought of as helping newly licensed HAMs but can also be someone who helps other HAMs with advanced techniques, antenna building, etc. |
| EME | SEE: "Moon Bounce" |
| EME | "Earth Moon Earth" - bouncing a signal off the moon to a remote station that would not normally be accessible. Also called "Moon Bounce" |
| Emergency | A situation in which there are hazards to human health, human life, or property. |
| Emergency traffic | Urgent messages concerning hazards to human health, human life, or property. |
| EMF | "Electromotive Force" - Voltage. |
| EMI | "Electromagnetic Interference" |
| Emission | The energy released into the environment from an amateur station whether intended or not. |
| Emission types | Term for the different modes authorized for use on Amateur Radio bands. Examples are CW, SSB, RTTY and FM. |
| EMP | Electromagnetic pulse; an extremely high-energy magnetic field. Such as the current flow caused by a lightning strike or nuclear explosion. |
| Energy | The ability to do work; the ability to exert a force to move some object. |
| eQSL | "Electronic QSL" - a website for sending and receiving virtual QSL's via the Internet. |
| ERP | "Effective Radiated Power" - An IEEE standardized definition of directional RF power. It is the total power in watts that would have to be radiated by a half-wave dipole antenna to give the same radiation intensity as the actual source at a distant receiver located in the direction of the antenna's strongest beam. It is determined by subtracting system losses and adding system gains. ERP takes into consideration transmitter power output, transmission line attenuation, RF connector insertion losses, and antenna directivity, but not height above average terrain. ERP is typically applied to antenna systems. |
| Ether | Old theory for the medium once believed to conduct radio waves. The existence of the ionosphere is first discovered by the English physicist, Appelton in 1924. |
| Exchange | The passing of information between two stations during a contact. |
| F1 layer | The F1 layer is the lower sector of the F layer (Second highest of the Ionospheric layers) and exists from about 150 to 220 km above the surface of the Earth its height varying depending on the time of day, season of the year and amount of sunspot activity. It exists during daylight hours merging into the higher F2 layer as day fades to night. |
| F2 layer | The F2 layer is the highest of the Ionospheric layers and exists from about 220 to 800 km above the surface of the Earth. It is the principle reflecting layer for HF communications during both day and night operations. |
| FCC | Federal Communications Commission. US government body that regulates use of the radio spectrum. |
| FEC | "Forward Error Correction" - Abbreviation. An FSK mode that transmits each character twice to avoid errors. If the first character is received correctly, the retransmission of it is ignored. |
| Feedline | Wires or cable that connect a transmitter or receiver to an antenna. Also known as a transmission line. |
| FET | "Field Effect Transistor" - Controls current from Source to Drain dependent upon voltage applied to the Gate. |
| Field day | An annual training and public relations event in which HAMS move into the "field", set up portable stations, make contacts, perform public relations duties, and encourage non HAMs to join the hobby. |
| Field Strength Meter | A device that measures the strength of an electromagnetic field. |
| Filter | An electric circuit (often called a network) that allows certain frequencies to pass but rejects (attenuates) other unwanted frequencies. |
| Finals | The final tube(s) or transistors in an amplifier. |
| Fire Bottle | Any electronic vacuum tube |
| Fist | Early spark transmitters generated so many sparks that they would shower the operator. To mitigate the issue, Marconi's key lever was lengthened and the padded end beaten with the operators 'fist' to send dots and dashes. |
| Flat Topping | Signal distortion caused by excessive drive. |
| Flutter | Rapid variation in the signal strength of a station, usually due to propagation variations. |
| FM | "Frequency Modulated" or "Frequency Modulation" - The frequency of the carrier signal is changed (modulated) in direct proportion to the instantaneous amplitude of an input signal, usually the voice of the operator. The resulting transmitted signal is of constant amplitude, with increasing amounts of power removed from the carrier and displaced to the sidebands as the modulating signal increases in amplitude. |
| Fox Hunt | One of several names used to describe the activity of finding hidden transmitters. Sometimes called "Bunny Hunting" or "T Hunting". |
| Fox Hunt | Also known as ARDF (Amateur Radio Direction Finding). A contest to locate a hidden transmitter. |
| Frequency | The number of complete waves that pass a reference point per second. Expressed in Hertz (Hz) |
| Frequency Coordinator | (Repeater Term) an individual or group responsible for assigning frequencies to new repeaters without causing interference to existing repeaters |
| Frequency modulated | SEE: "FM" |
| Full Quieting | (Repeater Term) a phenomenon on FM transmissions where the incoming signal is sufficient to engage the receiver limiters - thus eliminating the noise due to amplitude fluctuations. |
| Fuse | An intentional weak “link” in an electrical circuit that guards against overload by self-destructing when too much current passes through it. |
| Gain | A measure of the directionality of an antenna. Gain in one direction comes at the cost of another direction. Usually expressed as gain over a dipole (dBd) or isotropic (dBi) antenna. A more directional antenna is considered to have higher gain. |
| Gallon | Slang for the maximum transmitter power authorized for ham radio operators. |
| GEL | A type of battery where the electrolyte is in gel form |
| GFCI | "Ground Fault Circuit Interrupter" - A device which instantaneously opens an AC electrical circuit if a ground fault is detected. |
| GHz | Gigahertz - one billion Hertz (1 000 000 000 Hz) |
| Giga | One Billion OR 1,000,000,000. |
| GMRS | General Mobile Radio Service. |
| GMT | Greenwich Mean Time - the time at Greenwich UK. Related to Zulu and UTC. |
| GPS | Global Positioning System |
| Great Circle Route | The shortest path by radio between any two points on Earth. The shortest distance between two points is a straight line…..except when moving across the surface of a sphere such as the Earth where the shortest distance is a constantly curving line between the two points that takes advantage of the shorter circumference of a given latitude as one moves from the equator towards the poles. The effect is more pronounced outside the equatorial regions and for distances greater than several hundred miles. Long distance air traffic uses great circle routes to save time and fuel. Radio waves also follow great circle routes.  Complicating the matter, maps are representations of a three dimensional surface in two dimensions and many common maps show a great circle route as a curved line. Some methods however, such as the Lambert Conformal used for U.S. aviation charts, shows a great circle route as a straight line.  The importance comes into play when attempting to aim a beam antenna to a particular station. Care must be taken to ensure the correct map technology is in use. |
| Green Stamp | U.S. dollar bill sent along with a QSL card (instead of an IRC) to offset postage costs of a return card. |
| Grey Line also Gray Line | The band around the Earth that separates daylight from darkness. |
| Grid Dip Meter | Test Equipment that causes a meter decrease (dip) when near resonant circuits |
| Ground | A direct connection from electrical equipment to the Earth - often achieved by driving a long copper or copper plated rod into the ground, and connecting equipment to it via heavy copper wire or straps. |
| Ground rod | A rod, usually of copper or copper-clad steel, that is driven into the earth. A heavy copper wire or woven strap from the ham shack connects all station equipment to the ground rod. |
| Ground wave propagation | A method of radio wave propagation that uses the area between the surface of the earth and the ionosphere for transmission. The ground wave can propagate a considerable distance over the earth's surface particularly in the low frequency and medium frequency portion of the radio spectrum. Ground wave radio propagation is used to provide relatively local radio communications coverage. |
| Ground Wave Propagation | The method by which radio waves travel along the Earth's surface. |
| Ground-plane Antenna | A vertical antenna with radials or another ground plane (such as a vehicle roof) extending horizontally from its base. |
| Half wave dipole | A half-wave dipole antenna consists of two quarter-wavelength conductors placed end to end for a total length of approximately L = λ/2 |
| Ham | A licensed radio operator licensed is the Amateur Radio service. |
| Hamfest | Events at which hams can buy, sell, and swap equipment. |
| Handi Talkie | SEE: "HT" |
| Handle | Slang for a radio operator’s name. |
| Hang Time | (Repeater Term) the short period following a transmission that allows others who want to access the repeater a chance to do so; a courtesy beep sounds when the repeater is ready to accept another transmission. |
| Hardline | A type of heavy coaxial cable designed for permanent installation. Typical construction employs solid shields, a foam dielectric, high power handling,  and much lower loss than ordinary coax cables. The most common diameters of interest to HAMs are 1/2-inch and 7/8inch. |
| Harmonics | Signals from a transmitter or oscillator that appear at integer (while number) multiples of the desired frequency. |
| Henry | (H) The unit electrical inductance. Named after Joseph Henry (1797–1878), the American scientist who discovered electromagnetic induction independently of and about the same time as Michael Faraday (1791–1867) in England. |
| Hertz | (Hz) The unit for measurement of frequency. Defined as one cycle per second. It is named for Heinrich Rudolf Hertz, the first person to conclusively prove the existence of electromagnetic waves. |
| HF | "High Frequency" - 3 to 30 MHz |
| HF | High Frequency - 3 MHz to 30 MHz |
| Hi Hi | "hi hi" is the Morse equivalent of a laugh as in Morse it sounds like someone chuckling. Most commonly used in CW (Morse Code), but has carried over to voice as well. |
| High Pass Filter | A filter designed to pass high-frequency signals, while blocking lower-frequency signals. |
| Hollow State | Slang for equipment that uses vacuum tubes. |
| Homebrew | Home built equipment. |
| Hop | Term describing a portion of a signal’s path from transmitter to receiver. A “hop” is from Earth, to the Ionosphere, and back to Earth. Multiple hops are normal in HAM communications. |
| Horizontal Polarization | An antenna which projects a radio signal in which the electric field is parallel to the surface of the earth OR a radio signal of which the electric field is propagated parallel to the surface of the Earth. |
| HT | Handheld Transceiver or HandiTalkie. Usually refers to transceivers that operate in the 2m and 70cm amateur bands; these are self-contained hand-held radios which include an antenna and battery and transmit at low power. |
| Hz | SEE "Hertz" |
| I/O | Input/Output |
| IC | Integrated Circuit |
| IC | Integrated circuit. |
| ID | Station identification at 10 minute intervals as required by FCC Rules and Regulations. |
| IF | "Intermediate Frequency" - The frequency to which a carrier wave is shifted as an intermediate step in transmission or reception. Created by mixing the carrier signal with a local oscillator signal in a process called heterodyning. |
| IF | The output frequency of a mixing stage in a super heterodyne receiver. The subsequent stages in the receiver are tuned for maximum efficiency at the IF. |
| Impedance | The opposition to electric current in a circuit. Impedance includes factors other than resistance, and applies to alternating currents. Ideally, the characteristic impedance of a feed line is the same as the transmitter output impedance and the antenna input impedance. |
| Impedance Matching Device | A device that matches one impedance level to another. Amateurs also call such devices a Trans match, impedance-matching network or antenna tuner. |
| Impedance Mismatch | Condition where components of a station (antenna, COAX, radio, etc.) do not have the same impedance. |
| Inductance | Energy stored in a magnetic field. Unit of measure is the Henry |
| Inductor | An electrical component usually composed of a coil of wire wound on a central core. An inductor stores energy in a magnetic field. |
| Input Frequency | The frequency you transmit on to access a repeater. |
| Intermediate Frequency | SEE "IF" |
| Intermodulation | The undesired mixing of two or more frequencies, producing sometimes undesirable additional frequencies. |
| Inverter | Device that converts DC input power to AC output power. |
| Ionizing radiation | Electromagnetic radiation with enough energy to cause electrons to leave their orbit around the nucleus of an atom producing an ionized atom. It is the radiation responsible for the ionosphere that surrounds the Earth. |
| Ionosphere | The region of the Earth's atmosphere that contains electrically charged gases and is responsible for reflecting or refracting radio waves. |
| Ionospheric Storm | A disturbed condition in the ionosphere caused by release of charged particles by the Sun which results in high absorption and poor radio propagation on most frequencies. |
| IRLP | "Internet Radio Linking Project" - Allows ham operators to use Internet connectivity to join repeaters or repeater systems together. |
| Isotropic Antenna | A theoretical antenna against which the gain of other antennae is compared. |
| ITU | "International Telecommunication Union" - The international organization responsible for standardization and regulation of radio communications worldwide. |
| Jam | To cause intentional interference |
| J-POLE | A simple antenna with two vertical elements of different lengths and electrically connected at their bases. The feedline is connected to the vertical elements (center conductor to long element, shield to shorter one) at a point that provides the desired Ohmic value. They are often the first antenna built by a new HAM. |
| JT65 | A digital mode capable of communication below the noise floor. Initially developed for VHF/UHF use, an HF version is now available as well. |
| Junkbox | Slang for the collection of spare parts and miscellaneous items kept by a radio operator or hobbyist. |
| K Index | The overall geomagnetic condition of the ionosphere over the past 3 hours. Ranges from 0-9 (Log). A lower K-Index generally suggests better propagation on the 10, 12, 15, 17, & 20 Meter Bands |
| Kerchunk | Activating a repeater with a short press of the PTT without identifying or modulating the carrier. As it is a transmission, it is a violation of FCC ID regulations. |
| Key | A simple mechanical device used to send Morse code. |
| Key Up | (Repeater Term) to turn on a repeater by transmitting on its input frequency. |
| Keyer | Electronic circuit that serves as an interface between a radio and "paddle switch". Unlike the "straight key" originally used in Morse code transmissions, the paddle switch produces the dits and dahs of Morse for the operator in a more efficient manner. |
| KHz | One thousand (1,000) Hertz (Hz) or one thousand cycles per second. |
| Kilohertz | SEE "KHZ" |
| Knife Edge | Knife-Edge Bending (or diffraction) is a propagation mode taking advantage of a phenomenon in which radio waves are bent around sharp edges. The method can be used to send radio signals over a mountain range or building when a line-of-sight path is not available. Under the right conditions the mode can cause “obstacle gain” in which the received signal is stronger than if the obstacle wasn’t present. The phenomenon is rarely noticeable below VHF frequencies due to stronger signals from other paths and sources. |
| Ladder Line | A type of feedline in which the conductors are separated by "rungs". Can be made of insulated or non-insulated conductors. 450Ω and 600Ω are typical. |
| Landline | Slang for land (physical wire) telephones. |
| LCD | "Liquid Crystal Display" - Type of viewing screen that has replaced the cathode ray tube (CRT) in most applications. Often used as the display of modern radios and in computer screens. |
| LED | "Light Emitting Diode" - A special diode that, when power is applied in the correct direction, emits light while consuming very little energy. |
| LEO | "Low Earth Orbit" - |
| LF | (Low Frequency) - 30–300 kHz range signals. |
| Lid | Term that originated in early land based telegraph line operators and carried over into radio. It is a derogatory term used to describe a poor or incompetent operator. |
| Li-Ion | "Lithium Ion" - rechargeable battery technology w/ better capacity than previous technologies & no "memory" effect. |
| Line of Sight | The term used to describe VHF and UHF propagation directly from one station to another. |
| Linear Amplifier | A type of amplifier in which the output is directly proportional to the input. Produces a clean output with no additional byproducts a non-linear amplifier would generate. |
| Load | An electrical device which consumes, converts, or emanates energy |
| Loading Coil | An inductor in series with an antenna element in order to lower the antenna's resonant frequency. |
| Lobes | Areas of an antenna's radiation pattern in which signal radiation is significantly greater than other areas in the pattern. |
| Local Control | The control operator is physically present at the control point. |
| Logging software | Computer software used to track contacts and confirm QSO's for the exchange of QSL cards, contest points, etc. |
| Long Path | The path that is the longest distance between the two points communicating. Can be useful when the direct or “short” path does not support signal propagation. It is also responsible, along with other phenomenon, for the echos that can be heard on during HF communications. |
| LOS | See "Line of Sight" |
| Low Pass Filter | SEE "LPF" |
| Lower Sideband | SEE "LSB" |
| LPF | "Low Pass Filter" - A filter that allows signals below the designed cutoff frequency to pass through and attenuates signals above the cutoff frequency. |
| LSB | "Lower Sideband" - Used primarily in single sideband operation below 10 MHz |
| LUF | "Lowest Useable Frequency" - the lowest frequency that can support propagation between two points. |
| mA/h | milliampere per hour |
| Machine | Slang for a repeater station. |
| Mag-mount | Antenna with a magnetic base that allows quick installation and removal on a metal surface. Commonly used on vehicles for mobile operation. |
| Magnetic Mount | SEE "Mag-Mount" |
| Major Lobe | The direction of maximum radiation or received signal strength for a directional antenna. |
| Making The Trip | Phrase meaning "successfully transmitting a readable message" |
| Maritime Mobile | Amateur radio operation from aboard a ship at sea. |
| Maritime Station | A two-way radio unit aboard a ship or a station on land that communicates with ships. |
| Mark Frequency | In FSK, the higher of the two frequencies used. |
| MARS | "Military Affiliate Radio Service" - A U.S. DOD sponsored civilian auxiliary program consisting primarily of licensed amateur radio operators. The service assists the military with communications on a local, national, and international basis as an adjunct to normal communications. For many years MARS has handled morale, welfare, and other traffic for authorized military and civilian personnel stationed abroad. The MARS slogan is "Proudly Serving Those Who Serve". Each year MARS conducts a military and amateur radio cross-band exercise as part of the annual Armed Forces Day. |
| Maximum Permissible Exposure | SEE "MPE" |
| Maximum Useable Frequency | SEE "MUF" |
| MAYDAY | From the French m'aidez (help me). The international proword for emergency assistance in voice communication. Generally repeated three times. |
| Mega | 1,000,000.00 |
| Megahertz | One million Hertz (HZ) - same as one million cycles per second. |
| MF | "Medium Frequency" - 300 kHz–3 MHz range signals. |
| Micro | One millionth or 1/1,000,000. |
| Microwave | Signals above 1GHZ in frequency. |
| Milli | One thousandth or 1/1000. |
| Mixer | A circuit that uses two or more input signals to produce an output that includes the sum and difference of those signal frequencies. |
| Mobile | A station operating while on the move or able to move location such as from a vehicle or ship or while hiking. |
| Mode | The method used to impart information to a radio wave. CW, FM, AM, LSB, USB, etc. are modes. |
| Modulate | Imparting information into a signal by varying the amplitude, frequency, or phase. |
| Modulation | The process of varying an RF carrier in some way (the amplitude or the frequency, for example) to add an information signal to be transmitted. |
| Monitor mode | A mode in packet radio that allows one to receive a transmission even if not the intended recipient. Helpful for determining if a frequency is in use. |
| Monoband Antenna | An antenna suitable for operation on just one band of frequencies. |
| Moon Bounce | Communications method in which signals are bounced off the surface of the Moon and back to Earth. |
| Morse Code | Method of transmitting text information as a series of on-off tones, lights, or clicks that can be directly understood by a skilled listener or observer without special equipment. It is named for Samuel F. B. Morse, an inventor of the telegraph. It uses a standardized sequences of short and long signals called "dots" and "dashes", or "dits" and "dahs". |
| MPE | "Maximum Permissible Exposure" - An exposure limit based on whole-body SAR values. The FCC has determined various MPE's and exemptions based upon frequency and power output. |
| MT63 | A weak signal, digital mode used for MARS traffic. |
| MUF | "Maximum Useable Frequency" - Highest frequency at which a radio signal will be reflected back to earth by the Ionosphere at the currently existing conditions. |
| Multiband Antenna | An antenna suitable for operation on several different bands of frequencies. |
| Multihop | A radio signal refracted more than one time between the transmitting and receiving stations. |
| Multimeter | Analog or digital test equipment used to take electrical measurements such as voltage, current, resistance. |
| mV | millivolt (1/1,000 volt) |
| MW | "Medium Wave" - 300-3000 kHz. This range includes the 160 meters amateur band, the AM broadcast band and the 2182 kHz marine radiotelephone band. |
| mW | milliwatt (1/1,000 watt) |
| National Electrical Code | SEE "NEC" |
| NB | (Noise Blanker) - A function in a radio used to reduce certain types of noise such as ignition noise from an automobile. Effective for pulsing reducing noises. |
| NCVEC | "National Conference of Volunteer Examiner Coordinators" - The organization that coordinates all of the VEC's responsible for testing US Amateur Operator candidates. |
| NEC | "National Electrical Code" - Nationally recognized, and often required, electrical safety guidelines. |
| Negative | Term used instead of "No" or "Incorrect". |
| Negative Copy | Unsuccessful communication attempt. |
| Negative Offset | When a repeaters output frequency is higher than the input frequency. |
| NET | Structured on the air gathering of HAMs. Can be "Directed" where one operator acts as the control and guides the Net OR "Non Directed" in which no individual is "in charge". |
| NiCad | "Nickel Cadmium" - A type of rechargeable battery |
| NiMH | "Nickel Metal Hydride" - A type of rechargeable battery. Newer technology than NiCad with increased capacity and no "memory". |
| Noise | Undesired electromagnetic energy that manifests itself in the audio of a radio transmission or with reception. |
| Noise Blanker | SEE "NB" |
| Nonionizing radiation | Electromagnetic radiation with insufficient energy to knock electrons out of their atomic orbits. Radio frequency (RF) radiation is nonionizing. |
| Notch filter | A narrow filter with sharp edges for elimination of interfering signals |
| NPN | A type of bipolar transistor that has a layer of P-type semiconductor material sandwiched between layers of N-type semiconductor material. |
| NR | "Noise Reduction" - A digital processing feature of a receiver that reduces noise in a signal before sending it to the radios speaker. |
| NTS | "National Traffic System" - an amateur radio relay system for passing messages. |
| NTSC | “National Television System Committee” – A standard for analog television transmissions first developed in 1941. Largely replaced by digital standards, but is still in use. |
| Null | Location in an antenna's emissions pattern where emissions are at or near zero. |
| NVIS | "Near Vertical Incidence Skywave" - a type of antenna designed to propagate and receive RF signals at high angles and used for close in communications. Typically used to communicate within the "skip zone" that would otherwise be unusable on a given frequency. |
| Ø | Distinguishes a ZERO from the letter "O". Resolves ambiguity in written call signs like"KØOF". |
| OCF | "Off Center Fed" (referring to a Dipole) - A dipole in which the feed point is not at the center as in a standard dipole. OCF dipoles are multiband antennae. |
| Odd Split | Frequency separation between input and output frequencies that does not conform to normal conventions. |
| Ohm | Ω The basic unit of electrical resistance, used to describe the amount of opposition to current. |
| Ohm's Law | A basic law of electronics. Ohm's Law gives a relationship between voltage (E), current (I) and resistance (R). The voltage applied to a circuit is equal to the current through the circuit times the resistance of the circuit (E = IR). Named after George Ohm :- V = IR. V = voltage, I = current, R = resistance |
| Omnidirectional | “Existing in every direction”. As applies to an antenna, one that radiates equally in all directions. |
| One-way communications | Transmissions that are not intended to be answered. The FCC strictly limits the types of one-way communications allowed on the amateur bands. |
| OO | Official Observer volunteer who monitors the Amateur Bands for infractions |
| Open Circuit | When an electrical circuit does not have a complete path such as when a switch is open or a failure has occurred. Current cannot flow. |
| Open repeater | A repeater that has no restrictions on its use by licensed operators. |
| Optoisolator | Mechanism employing a light source, something to interrupt the light source, and one or more light sensors. Commonly used in radio tuning knobs to sense the direction and amount of turning so that the electrical circuits can perform the appropriate functions. |
| OSCAR | "Orbiting Satellite Carrying Amateur Radio" |
| Oscillator | The basic component of all radios. The Oscillator vibrates at a given frequency and all other frequencies are accomplished through mathematical manipulations. |
| Out | Spoken at the end of a transmission to indicate you have made your last transmission and no response is expected. |
| Output Frequency | Repeater's transmitting frequency. Transmit on the input frequency & receive on the output frequency. |
| Over | Used during a two way communication under difficult conditions to alert the other station that you are returning the communication back to them. Not necessary on 2 Meter FM repeaters, as the courtesy beep serves this function. |
| P.M. | Post Meridian (after noon). |
| Parallel circuit | Circuit in which current flows through more than one path. |
| Parasitic Array | A type of antenna in which a single driven element is connected to the feedline in conjunction with other elements which are not. The non-driven elements are called parasitic elements. The Yagi antenna is a type of parasitic array. |
| Parasitic Element | Part of a directive antenna that derives energy from mutual coupling with the driven element. Parasitic elements are not connected directly to the feed line. |
| Part 15 | The section of FCC rules that permits operation of low power transmitting devices without a license. |
| Pass | The period during which signals from an orbiting satellite can be heard at a ground location. |
| Path | The route taken by a signal from the transmitting station to the receiving station. |
| PEAK | Refers to power and equals 1.417 x the RMS voltage for a sine wave |
| Peak envelope power | SEE "PEP" |
| Pecuniary Interest | Monetary or non-monetary (barter) gain. HAMs may not have a pecuniary interest in operating their stations. An exception is made for instructors at educational institutions where operation of a radio is part of their instruction. |
| PEP | "Peak Envelope Power" - Average power output to the feed line. Equals RMS voltage squared divided by the Resistance of the load |
| Personal | Slang for a persons, usually a HAM operators, first name. It is CB jargon that has infiltrated HAM radio. |
| Phase | The time interval between one event and another in a regularly recurring cycle. |
| Phone | Voice communications |
| Phonetic Alphabet | Specific, easily identifiable, non-confusable words are used instead of the letters of the alphabet. |
| Photovoltaic | Process of converting light energy (photons) to electric energy such as with a solar cell. |
| Picket Fencing | Descriptive term for a signal that rapidly fluctuates in amplitude. Often associated with mobile operation due to multipath propagation or shadowing. The term relates the sound to the rapid up and down sound levels that would be heard by passing a picket fence that alternately blocked and allowed sound to pass. |
| Pico | One Trillionth or 1/1,000,000,000,000. |
| Pileup | Multiple stations calling a DX or contest station |
| Ping | Brief reception of a radio signal via meteor scatter propagation. |
| Pirate | Station using an existing call sign and illegally operating on the air |
| PIV | "Peak Inverse Voltage" |
| PL | "Phase-lock loop" - Also called "CTCSS" for "Continuous Tone-Coded Squelch System". A system using sub audible tones to control access or interference and its effects. |
| PM | "Phase Modulation" - One method of imparting information into a signal. |
| PNP | A type of transistor consisting of a layer of N-type semiconductor sandwiched between layers of P-type semiconductor material. |
| Polarization | The electrical-field characteristic of a radio wave. An antenna that is parallel to the surface of the earth, such as a dipole, produces horizontally polarized waves. One that is perpendicular to the earth's surface, such as a quarter-wave vertical, produces vertically polarized waves. An antenna that has both horizontal and vertical polarization is said to be circularly polarized. |
| Pole Pig | Slang term for a step down transformer used by power transmission companies. Some units can be reverse wired for use in high voltage supplies for HAM radios. |
| Portable | A mode of operation in which a station may be moved for rapid deployment from a temporary location, but is not able to operate while mobile. In CW, portable operators may identify using /P. Portable stations differ from mobile stations in that large antennas or other structures must be folded or stowed away in order to move the station to a new location. While well-suited to field day or emergency/disaster operations, portable stations normally do not have a mobile station's ability to continue transmission while in motion. |
| Potentiometer | Another name for a variable resistor. The value of a potentiometer can be changed over a range of values without removing it from a circuit. |
| Power | The rate of energy consumption. We calculate power in an electrical circuit by multiplying the voltage applied to the circuit times the current through the circuit (P = IE). |
| Power Density | The power flow per unit area. It is commonly expressed in terms of watts (or decimal portions of a watt) per square meter. Used to determine RF exposure levels among other things. |
| Power supply | Circuit that converts a nominal 110VAC source to a nominal 12VDC output. Often purchased as a standalone device with its own cabinet but can be built into a radio or other electronic device. |
| Preamble | In message forms, the preamble contains information necessary to track the message. |
| Preamp | A receiving circuit that gives extra amplification to weak signals at the cost of additional background noise and possible distortion. |
| Preselector | A circuit that tunes a receiver’s signal amplifying circuitry for maximum sensitivity on a desired frequency range. |
| Primary User | When two radio services have allocations in the same portion of the radio spectrum one group is designated as the primary and any others as the secondary. The primary service (user) is protected by harmful interference by signals from secondary services. When conflicts (interference) arise during use of that portion of the spectrum the secondary user(s) must take action to eliminate the interference. |
| Priority Traffic | Emergency-related messages, but not as important as Emergency traffic. |
| Priority Watch | Reception mode, in which a selected frequency is always checked periodically when VFO is set to a different frequency |
| Product Detector | Type of demodulator used for AM & SSB signals that uses the product of the modulated signal & a local oscillator. |
| Propagation | The behavior of radio waves as they travel from one point to another via various paths and phenomena. |
| PSK31 | A type of radio-teletype using Phase Shift Keying with a very narrow bandwidth. |
| PTT | "Push To Talk" - Switch that changes a transceiver over from receive mode to transmit mode. Often contained in a hand held MIC but may of a desk or other type mounting. |
| Pull the Plug | Phrase often used when an operator is shutting down the station. |
| Q | Response of a circuit over a specific bandwidth. |
| Q Code | Three letter codes used instead of sentences or phrases. Originally used in Morse code operations to reduce the number of key strokes required to send common phrases. |
| Q of a circuit | The quality factor of a resonant circuit - the ratio of stored power to dissipated power in the Reactance and Resistance of the circuit. |
| QRL | Radiotelegraph abbreviation meaning "this frequency is busy." |
| QRM | Q code for interference by manmade sources. Can be used with simple noise or intentional interference. |
| QRN | Q Code for interference by natural sources |
| QRO | Radiotelegraph abbreviation meaning "increase transmitter power." |
| QRP | Low power operation. 5 watts or less unless phone operation then 10 watts or less. |
| QRS | Radiotelegraph abbreviation meaning "send more slowly." |
| QRT | Radiotelegraph abbreviation meaning "stop transmitting." |
| QRU | Radiotelegraph abbreviation meaning "I have no messages for you." |
| QRV | Radiotelegraph abbreviation meaning "I am ready to communicate." |
| QRX | Radiotelegraph abbreviation meaning "wait." |
| QRZ | Radiotelegraph abbreviation meaning "who is calling me?" Also used to solicit the next contact in a series. |
| QSL | Radiotelegraph abbreviation for "I confirm," it refers to a card or letter confirming that a contact did take place between two stations or that a listener did indeed hear a certain station. |
| QSL Card | Confirmation of a communication between two HAMs. Traditionally accomplished via postcard. |
| QSO | A conversation between two radio amateurs. |
| QST | Radiotelegraph abbreviation for a transmission directed to all ham radio operators; it is also the name of the ARRL’s monthly magazine. |
| QSY | Radiotelegraph abbreviation for "change frequency." |
| QTH | Radiotelegraph abbreviation for a station’s location. |
| Quad | A directional antenna consisting of two full wavelength square loop elements a quarter-wavelength apart. |
| RACES | “Radio Amateur Civil Emergency Service” - Provides radio communications during local, regional or national civil emergencies. |
| RADAR | "Radio Detection And Ranging" - |
| Radio Check | Query from a station desiring a report on his stations signal strength and audio quality. |
| Radio Frequency | SEE "RF" |
| Radio Frequency Interference | SEE "RFI" |
| Radio teletype | SEE "RTTY" |
| Rag Chew | Term used to describe informal conversation on the radio |
| RAM | "Random Access Memory" - |
| RDF | "Radio Direction Finding" - The process of using directional antennae to locate a transmitter |
| Reading the Mail | Listening to a QSO without participating |
| Receiver | Electronic device that converts radio waves into audio or visual presentation. |
| Receiver Incremental Tuning | SEE "RIT" |
| Reflected Power | Non-radiated power dissipated as heat when the transmitter is mismatched to the antenna or load. |
| Reflection | Redirection of a Line Of Sight signal by large objects such as buildings, cliffs, etc. |
| Reflector | One of the element types of a YAGI (and some other) antennae. Longest of the elements, approximately 5% longer than the driven element, and there can be more than one reflector. |
| Refraction | The bending of a wave such as light or radio waves. If refraction is sufficient, waves are bent back to earth. |
| Remote Control | The control point is located away from the transmitter, but a control operator is present at the control point. |
| Repeater | Radio system that receives incoming signals and automatically re-transmits them. Useful for extending the range of low powered or line of sight transmitters. Repeaters are usually located on high locations such as mountain tops or high buildings and used extensively VHF/UHF communications. Repeaters contain a transmitter, receiver (or transceiver), antenna(e), controlling hardware, and may contain other hardware such as IRLP or Echolink nodes, Auto patch technology, etc. |
| Repeater Directory | A publication in paper or electronic format that lists repeaters. |
| Resistance | Opposition to the flow of electric current. Unit of measure is the OHM. Symbol is Ω |
| Resistor | A device or material that opposes the flow of electric current in a circuit. Also a component designed to oppose current flow. |
| Resonance | The condition where capacitance (Xc) equals Inductance (XL). |
| Resonant Frequency | The desired operating frequency of a tuned circuit. In an antenna, the resonant frequency is one where the feed-point impedance contains only resistance. |
| RF | "Radio Frequency" - Electromagnetic radiation that can pass through space. |
| RF burn | A burn resulting from contact with RF energy. |
| RF Carrier | A continuous radio signal that is modulated to impart information. |
| RF Ground | Connection of amateur equipment to earth ground for the purpose of eliminating hazards from RF exposure, AC voltages, and reduction of RFI. |
| RF safety | Preventative measures to preclude human injury from RF energy. |
| RFI | "Radio Frequency Interference" - Interference caused to electronic equipment such as televisions, broadcast radio receivers, wireless telephones, etc., that is caused by radio frequency signals. |
| RIT | "Receiver Incremental Tuning" - Making very small adjustments to the receive frequency without changing the transmitter frequency. |
| RMS | Root Mean Square |
| Roger | "I understand" |
| Roger Beep | A dit-dah-dit sent at the end of a transmission. The function is usually turned off by operators. |
| ROM | "Read Only Memory" |
| Rotator | Device attached to an antenna mast to enable rotating a directional antenna. |
| Rover | A station that operates from several grid squares or counties during a contest. |
| RS-232 | Computer interface standard set by Electronics Industries Association (EIA). Largely replaced by USB interfaces. |
| RST | Signal reporting system. R = Readability, S = Signal strength, T - Tone (CW only). RST reports are inappropriate when using repeaters. |
| RTTY | "Radio Teletype" - A mode in which one operator types into his equipment and the remote station prints it on their screen, paper, etc. |
| Rubber duck | Slang for the short, flexible antennae usually supplied with a hand held radio. |
| RX | "Receive" - Common abbreviation |
| S Meter | An analog meter or a digital representation of such a meter that is on a receiver and displays the relative strength of an incoming signal. The scale is Logarithmic. |
| S/N | "Signal to Noise ratio" - Common abbreviation. The ratio of signal power to noise. The better (higher) the S/N is, the easier the signal is to read. |
| Safety interlock | A switch that automatically turns the power off (usually AC) when the cabinet of a device is opened. |
| SAR | "Specific Absorption Rate" - The rate that RF energy is absorbed by the human body. |
| Scan | Process in which a receiver constantly sweeps through radio frequencies until a signal is detected. Scanning can be accomplished across entire bands in small steps, through a bank of memory channels, and a few other methods all depending upon the design of the equipment. |
| Schematic Symbol | A pictoral representation of a component. Used in drawing schematic diagrams. |
| Secondary User | SEE "Primary User" |
| Selectivity | The ability of a receiver to discriminate between two closely spaced signals. |
| Semiconductor | An element that is normally an insulator but which can, under certain physical conditions, be made to conduct. |
| Sensitivity | The ability of a receiver to detect weak signals. |
| Series Circuit | A circuit in which the flow of current has only one path through the circuit. |
| SFI | The measure of total radio emissions from the sun at 10.7cm (2800 MHz), on a scale of 60 (no sunspots) to 300, generally corresponding to the sunspot level. Higher Solar Flux generally suggests better propagation on the 10, 12, 15, 17, & 20 Meter Bands; Solar Flux rarely affects the 30, 40, 60, 80, & 160 Meter Bands. |
| Shack | The room or area where a HAM keeps their station equipment. |
| SHF | "Super High Frequency" 3 - 30 GHz |
| Short circuit | An electrical in which current escapes the intended circuit path. Often the current will short into other circuits or to ground. A short circuit is an electrical FAULT and can cause minor to extensive damage, shock, or fire. |
| Short Path | The direct great circle bearing, in degrees, path between two locations. Long path is the reciprocal bearing. |
| Short Skip | Propagation via the ionosphere over a distance of a few hundred miles or less. |
| Sidewinder | Slang for a SSB station. |
| Signal to Noise Ratio S/N | SEE "S/N" |
| Silent Key | A deceased Amateur Radio operator. |
| Simplex | Radio operations in which transmitting and receiving is on the same frequency. Common use is for direct, radio to radio, communication without using a repeater. |
| Single Sideband | SEE "SSB" |
| SK | "Silent Key" - See separate entry for "Silent Key" |
| Skip | Radio phenomenon in which signals are reflected or refracted by the atmosphere and return to earth in unexpected places, far away from the normal reception zones. |
| Skip Zone | Area of RF signal propagation between Ground Wave & Sky Wave signals in which communication is not possible. |
| Skyhook | Slang for an antenna. |
| Sky-wave propagation | The method by which radio waves travel through the ionosphere and back to Earth. Sometimes called skip, sky-wave propagation has a far greater range than line-of-sight and ground-wave propagation. |
| SLA | "Sealed Lead Acid" - A type of battery |
| SMA | “Sub-Miniature version A” – Type of antenna coaxial RF connectors developed in the 1960s as a minimal connector with a screw-type coupling. The connector has 50 Ω impedance and is most commonly used for hand-held radio antennae and more recently with USB software-defined radio dongles. |
| Solar Flare | A solar phenomenon that occurs on the surface of the Sun often accompanied by a Coronal Mass Ejection. Solar flares eject clouds of material consisting of electrons, ions, and atoms as well as electromagnetic waves. |
| Solar Flux Index | SEE "SFI" |
| SOS | "Save Our Souls" - Internationally recognized distress signal whether spelled out, verbalized, or sent via Morse code. |
| Space Station | An amateur station more than 50 km above the Earth's surface. |
| Spark Gap | An early transmitter design which used electrical sparks to generate radio frequency oscillations. The design is now prohibited as it generates massive interference across multiple bands |
| Specific Absorption Rate | SEE "SAR" |
| Spectrum | The electromagnetic spectrum or some portion of it |
| Spin Fading | Signal distortion resulting from the spin of a satellite. |
| Splatter | A type of interference resulting from over modulation of a transmitter. |
| Split Operation | Direct communications in which transmission and reception are on separate frequencies. Often used when a highly sought after station is on the air as it facilitates contacts. |
| Sporadic E | Unpredictable skip propagation via the E Layer. |
| Spurious emissions | Emissions on a frequency other than the desired (operating) frequency. |
| SQL | "Squelch" - User adjustable muting of audio output that can be adjusted for varying conditions. |
| Squelch | SEE "Squelch" |
| SSB | "Single Side Band" - A form of AM. One sideband and the carrier are suppressed allowing more efficient use of transmitter power. A common mode for Phone communications. |
| SSN | A measure of the quantity of sunspots and groups of sunspots present on the surface of the sun. |
| SSTV | "Slow Scan Tele Vision" - A type of communications in which images are transmitted. |
| Standard Shift | The standard frequency offset value and direction for repeater operation. |
| Standing Wave Ratio | SEE "SWR" |
| Station grounding | Term used to describe the connection of all station equipment to a common Earth ground in order to provide electrical and RF safety as well as station performance. |
| Stub | A length of transmission line that is open or shorted at one end. It is effectively a capacitor or inductor, depending on length, and can be used to achieve a match (SWR = 1:1) if connected at the correct point in the transmission line. |
| Sun Spot Number | See "SSN" |
| Sunspot | Electromagnetic storm on the Sun's surface which can be see because the area is relatively cooler. During periods of reduced numbers sunspots, HF propagation is reduced compared to periods with larger numbers of sunspots. |
| Sunspot cycle | A repeating cycle of 11 years in which the number of sunspots increases and decreases. |
| Super heterodyne | A radio receiver scheme which beats or heterodynes a second radio frequency to the incoming radio signals. The combined frequencies form an intermediate (IF) third frequency. Aids in selectivity characteristics. |
| Switch | Electrical component which Opens or Closes a circuit to control the flow of current through that circuit. |
| SWR | "Standing Wave Ratio" - A measure of the impedance mismatch between the SWR meter and the antenna system (feedline and antenna). When using an "antenna tuner" or "trans match", a measurement of the impedance mismatch presented to the Transmitter by the "tuner" but not an accurate measurement of the antenna system. |
| SWR meter | An instrument, analog or digital, for measuring SWR. |
| T Hunting | One of several names used to describe the activity of finding hidden transmitters. Sometimes called "Bunny Hunting" or "Fox Hunting". |
| Tactical Call Sign | Names or other identifiers used to identify a station or location during ongoing operations. Use of a Tactical call sign allows other users to know the location or position of the station as different operators rotate through actually manning the station. Use of Tactical Call Signs does NOT negate the requirement for the operator(s) to fulfill FCC station ID requirements with their FCC Call sign. |
| TCXO | "Temperature Compensated Crystal Oscillator" - A crystal oscillator that has its temperature controlled for better frequency stability by reducing variation in the oscillator due to temperature differences. |
| Telecommand | A one way transmission that sends control signals to a remote station such as a satellite |
| Telemetry | A one way transmission that sends data to a control or monitoring station |
| Teleprinter | Largely obsolete (due to computers) machine that can convert keystrokes to electrical impulses and vice versa. Used for radio teletype. |
| Temperature inversion | An atmospheric condition in which temperature increases with altitude. The normal condition is that temperature decreases with increased altitude. |
| Terminal Node Controller | SEE "TNC" |
| Third Party | Message sent to a non-licensed person via HAM radio or a non-licensed person using HAM radio under the direct supervision of a licensed operator. |
| Third-party agreement | An official understanding between the United States and another country that allows amateurs in both countries to participate in third-party communications. Without agreement in place, 3rd party communications are NOT allowed. |
| Ticket | Slang term for an amateur radio license |
| Time Out Timer | SEE "TOT" |
| TNC | "Terminal Node Controller" A type of modem for data communication. |
| Toroid | A round core resembling a doughnut and usually made of ferrite material. Used in the manufacture of transformers and inducers. |
| TOT | Circuitry which limits the amount of time a transmitter remains open. Can be on a personal station or on a repeater. |
| Traffic | Handling of messages as in "message traffic". |
| Transceiver | A radio that contains both a transmitter and receiver in a single unit. |
| Transistor | A solid-state device that controls the flow of energy in a circuit. |
| Transmission line | The wires or cable used to connect a transmitter or receiver to an antenna. Also called feed line. |
| Transmitter | An electrical device that produces radio frequency signals. |
| Trap Dipole | A dipole antenna with several coils, or "traps," that allow the antenna to be used on several bands. |
| Troposphere | Earth's atmosphere between the surface and the bottom of the ionosphere. |
| Tropospheric bending | The refraction of radio energy in the troposphere. Allows communications beyond line of sight. |
| Tropospheric ducting | VHF propagation phenomenon that can occur when there is a temperature inversion. |
| TSQL | "Tone Squelch" - Squelch function that uses sub audible tones to selectively open the squelch only when the correct tone is transmitted. |
| Tuned Circuit | A capacitor and an inductor, usually in parallel. The circuit responds strongly at its resonant frequency and is used to select or tune in wanted signals. |
| Turns Ratio | The ratio of turns between the primary and secondary windings of a transformer. |
| TX | "Transmit" - Common abbreviation. |
| U/V Mode | A split band mode for satellite work in which the uplink frequency is in the 70cm band and the downlink frequency is in the 2 meter band. |
| UHF | "Ultra High Frequency" - 300 to 3,000 MHz |
| UHF connector | Also called a PL-259 (plug) and SO-239 (socket). The most common connector in HAM radio use, it was designed in the 1930's for use from 40-300 MHz. Today it is commonly used up to the 70 cm (440 band) and down to 1.8 MHz (160 m band). The connector is of the threaded type. It is not water proof or resistant. |
| Unbalanced line | Feed line with one conductor at ground potential. COAX is unbalanced line. |
| Uncle Charlie | Slang term for the FCC |
| Uncontrolled Environment | Refers to RF exposure limitations. Uncontrolled Environments are areas where people would not normally know they are being exposed. This includes "public" areas such as your property line or a neighboring apartment. |
| Unity Gain | An antenna that gives no gain or loss; its effective radiated power is equal to the transmitter power applied to it. |
| UnUn | "unbalanced - unbalanced", a device which couples an unbalanced antenna of one impedance to an unbalanced feed line of another impedance |
| Uplink | In satellite communications, the frequency utilized to send signals TO the satellite. |
| Upper Sideband | SEE "USB" |
| USB | "Upper Sideband" - The upper side band when operating in SSB mode. The carrier and lower side band are suppressed in order to achieve more efficient use of transmitter power. |
| UTC | “Coordinated Universal Time” – Generally interchangeable with Greenwich Mean Time (GMT) but precisely defined by the scientific community using atomic clocks. |
| VAC | "Volts Alternating Current" - Standard abbreviation. |
| Variable capacitor | A capacitor of variable value, within a range, and capable of changing value while remaining in the circuit and in use. |
| Variable Frequency Oscillator | SEE "VFO" |
| Variable resistor | A resistor of variable value, within a range, and capable of changing value while remaining in the circuit and in use. |
| VE | "Volunteer Examiner" - A person accredited by a VEC to administer HAM radio license tests. Also the prefix for Canadian HAM call signs |
| VEC | "Volunteer Examiner Coordinator" - An entity that has entered into a formal agreement with the FCC to coordinate Volunteer Examiners and the administration of HAM radio tests. |
| Velocity Factor | The speed at which RF energy travels through a conductor (feedline or antenna). It is expressed as a decimal value (fraction) of the speed of light. |
| Vertical antenna | A common antenna type in Amateur radio in which the radiator is vertical. It can be mounted at or above ground level and may have a number of ground elements running parallel to the ground or inclined towards the ground in the case of an antenna mounted above ground. |
| Vertical Polarization | Used to describe an RF signal or antenna in which the electric field is perpendicular to the Earth's surface. It is NOT necessarily the apparent orientation of the antenna structure but the angle of the RF energy. |
| VFO | "Variable Frequency Oscillator" - An oscillator used in transmitters and receivers that allows the operator to freely change frequencies by applying various circuits to the base frequency to derive any other frequency within the systems capabilities. |
| VHF | "Very High Frequency" - 30 to 300 MHz |
| Visible Horizon | The most distant point one can see by line of sight without consideration of atmospheric obstructions such as fog, smoke, etc.. It is limited by the curvature of the Earth |
| VLF | "Very Low Frequency" - 3 - 30KHz |
| Volt | Basic unit of electrical "pressure" or EMF. Symbol "V". |
| Voltage | The electromotive force moves electrons a conductor. |
| Voltmeter | Test equipment, analog or digital, used to measure voltage. |
| VOX | "Voice Operated Transmission" - A method, implemented via dedicated circuitry, to automatically switch the transmitter on when you talk into the microphone. Performs function of PTT based on detecting sound at the MIC. |
| VSWR | SEE "SWR" |
| WAC | "Worked All Continents" - award from the IARU, administered by ARRL. |
| Wallpaper | Slang term for QSL cards, awards, special event certificates |
| WARC Bands | The 30, 17, and 12 meter band allocations that were added to the Amateur bands at the 1979 World Administrative Radio Conference (WARC) |
| WAS | "Worked All States" - Refers to a HAM making contact with stations in all states in the United States. |
| Watt | The unit of measure for power. It is used to describe the amount of electrical energy consumed in a circuit or circuits. Symbol "W". |
| Watt meter | Test equipment used to measure the power output of a transmitter in Watts. Directional watt meters can measure forward and reflected power. |
| Wavelength | The distance a radio wave travels in one cycle. Can also be described as the distance between corresponding points (such as the peaks or troughs) of a wave. It is related to frequency with higher frequencies having shorter wavelengths. Symbol "λ". |
| WAZ | "Worked All Zones" - award from CQ magazine for confirmed contact with each of 40 zones. |
| WFWL | DXing term used when the validity of a DX station is in doubt. Work First Worry Later" |
| White Noise | A scientific term used to describe a spectrum of broad band noise generated in a receiver's detector and sampled to control the receiver's squelch. Often incorrectly used in repeater work to describe the sounds heard when the received transmission is noisy and hard to understand, usually attributed to a weak signal. |
| WilCo | "Will comply" |
| Window Line | A type of feedline in which the conductors are separated by insulating material that has sections removed for weight and wind resistance savings. The conductors are insulated along the entire length of the line. |
| Work | To communicate with another radio station, a valid two way contact |
| WPM | "Words Per Minute" - as in Morse code or typing speed |
| WX | "Weather" |
| X | Used to denote reactance in mathematical equations. |
| XCVR | "Transceiver" - Common abbreviation. |
| XYL | Wife of an amateur operator. A somewhat dated but traditional code. All female operators and the girlfriends of operators are referred to as "YL" (young lady) with a married female apparently assumed to no longer be a "young lady" but HAM operators were smart enough to not call a female operator "old" by implication that she is no longer a "young lady". |
| Yagi | A type of directional antenna consisting of a boom with a dipole antenna mounted between parasitic reflector and director elements. Invented in 1926 by Hidetsugu Yagi and Shintaro Uda. The reflector elements are approximately 5% longer than the driven elements of the dipole while the director elements are approximately 5% shorter. Yagi antennae have become one of the, if not the, most popular directional antennae in Amateur use. |
| YL | Young Lady, any female amateur radio operator or the significant other of an amateur. Apparently HAMs are smart enough not to call a female operator "old" by implication that she is no longer a "young lady". |
| Z | Used to denote impedance in mathematical equations. |
| Zener Diode | A diode used to regulate voltage. |
| Zero Beat | Adjust the frequencies of two signals so that they are exactly equal and in phase |
| Zulu | Greenwich Mean Time which has been designated by Z since the 1950’s is commonly referred to as “Zulu time” as Zulu is the phonetic for “Z”. It is close to UTC time but not as scientifically accurate. It is also the universal, worldwide standard time for aviation so that pilots can avoid any confusion between time zones. |