This glossary contains general definitions of typical amateur radio terms. Not all of the definition listed may apply to your specific model of radio. Consult the manufacture for further clarification of model-specific terms.
ACC (ACCessory)

Adaptive filter
Digital filter associated with Digital Signal Processing.

Adjacent-channel interference
When a receiver is tuned to a specific frequency and interference is received on a nearby frequency.

AF (Audio Frequency)

AFC (Automatic Frequency Control)
Automatically compensate frequency drift.

AFSK
Audio Frequency Shift Keying, a form of digital signalling.

AGC (Automatic Gain Control)
Automatically optimize receiver amplifier gain.

ALC (Automatic Level Control)
Limits RF drive level to power amplifier during transmit to prevent distortion.

AM (Amplitude Modulation)

Amplifier
A device used to increase the output power of a device.

AMSAT (AMateur SATellite)

AMTOR (AMateur Teleprinting Over Radio)
A form of RTTY, radio teletype.

Anderson power poles
Used by many emergency radio operators to connect 12 volts DC to their radios.

ANF (Automatic Notch Filter)

ANL (Automatic Noise Limiter)
Eliminates impulse and static noise peaks.

ANT (ANTenna)

Antenna ground system
Term used for a RF reference potential for some types of antennas. Most unbalanced or asymmetrical antennas need a good RF ground.

Antenna impedance
The impedance of an antenna at its resonance. Although an antenna’s impedance fluctuates with the frequency of operation, an antenna should be 50 Ω for most transceivers.

Antenna matching
When the antenna’s impedance at resonance is at optimum performance for your transmitter output circuit.

Antenna tuner
Device used to match an antenna to the output impedance of a transmitter.

APC (Automatic Power Control)
Current limiting of power amplifier to prevent damage to finals in high SWR conditions.

APRS (Automatic Position Reporting System)
In conjunction with a GPS and TNC provide position reporting.

ARES (Amateur Radio Emergency Service)
ARES is a public-service organization of the ARRL.

ARRL (The American Radio Relay League)
The National Association for Amateur Radio in the US.

ASCII (American National Standard Code for Information Interchange)
A seven-unit digital code for the transmission of teletype data.

ATT (ATTenuator)
A network designed to reduce the amplitude of a signal.

ATV (Amateur Television)
FSTV, SSTV

Auto patch
Used in repeater operation for telephone interconnect.

Average power
Power measured on standard power meter.
Backscatter  
Radio signals reflected back from ionized patches in the ionosphere.

Backstay  
Rigging to support the mast in maritime mobile installations, usually insulated for HF antenna purposes.

Balun  
A simple transformer used to change an unbalanced input to a balanced output.

Band  
A range of frequencies.

Bandwidth  
Frequency needed for particular type of emission.

Bank  
Memory bank

BCI (BroadCast Interference)

Beacons  
Ham radio signals used for propagation study, found on specific frequencies.

BFO (Beat Frequency Oscillator)

BNC (Bayonet Neill-Concelman)  
A type of antenna connector.

BPF (BandPass Filter)

Bunny hunt  
Finding hidden transmitters, sometimes called “T HUNTING” and “Fox Hunting.”

Busy lockout  
Inhibits transmit on a frequency in use.
Call sign  
Sequence of letter and numbers used to identify amateur radio operators and issued by the countries licensing bureau.

CAP (Civil Air Patrol)  
Volunteer affiliate of the United States Air Force.

Capture effect  
Only the strongest signal heard over an FM receiver.

Carrier  
An unmodulated transmitted signal.

Carrier frequency offset (=Carrier Shift)  
Distance between mark and space of the carrier for RTTY or similar communications.

CBR (Cross Band Repeater)  
A repeater which receive incoming signal and re-transmit it in different bands— e.g. receives 144 MHz bands and re-transmits 430(440) MHz bands.

CCW (Counter ClockWise)

CH (CHannel)  
Sequence of memory positions where frequency and related information is stored.

CI-V  
Icom computer Control Interface allows multiple radio control simultaneously.

Clipping  
Overdriving an amplifier circuit, causing the signal to drop out on voice peaks. (AKA: Flat topping a signal)

Contesting  
Working as many stations as you can over a specific amount of time.

Conversion  
Number of IF circuits in the receiver.

Coronal hole  
Sunspot activity that may lead to enhanced VHF and 10 meter propagation.

CPU (Central Processing Unit)

CQ  
Radio communications term used to call others.

Crossband repeat  
A mode in many dual band radios where a radio transmits on one band, a crossband repeater transmits the received signal on another band, which is heard back by the radio on the other band.

CTCSS (Continuous Tone Coded Squelch System)  
Adds a continuous sub-audible low frequency tone to the transmitted carrier. Receivers set for the same low frequency tone can decode signal to hear the audio.

CW  
1) Carrier Wave  
2) ClockWise

CW filter  
Used to narrow the IF passband to improve reception selectivity in crowded band conditions.
D-RATS
Multi-platform integrated tool for communicating
digital information, developed for First Responders,
using D-STAR radios.

D-STAR
Digital Smart Technologies for Amateur Radio, an
open protocol.

Data communications
Transfer of data between two or more locations.

dBd
Unit of RF power as compared to an ideal half wave
dipole antenna.

dBi
Unit of RF power as compared to an isotropic an-
tenna.

dBm
Decibels measure, 1 mW with a load impedance of
600 Ω (0 dBm = 1 mW).

DC (Direct Current)

DC ground
A connection point directly to chassis or battery
ground to prevent build-up of hazardous DC volt-
ages.

DCS
Digital Coded Squelch, a method of silencing radios
until a specific string of tones are received to open
the audio stage. An alternate to CTCSS.

Deviation
A measurement for an FM signal for the maximum
frequency changes on either side of the carrier fre-
quency.

Digital communications
Information sent digitally, which may be decoded as
voice, data, and/or video.

Dipole
A half wave antenna, with a bi-directional radiation
pattern.

Distress call
Signals a life-threatening situation. Most commonly
referred to as an SOS or MAYDAY call.

Distress frequency
A frequency or channel specific for use in distress
calling. Radiotelephone distress frequencies are
2.182 MHz and 156.8 MHz. Survival craft use 243
MHz. Maritime distress frequencies are the same,
while general aviation frequencies are 121.5 MHz.

Doppler shift
Common in satellite communications, where signals
may very up or down in frequency, as the satellite
approaches and departs from view.

Downconverter
A device to take higher frequencies, and lower them
to appear at a lower frequency, for reception.

Downlink (↔ Uplink)
Frequency that repeater or satellite transmits on to
a user.

DSP (Digital Signal Processor)
Used to improve the signal to noise ratio for clearer
and more legible communications. Relatively new to
the ham radio.

DTCS (Digital Tone Coded Squelch)
A Selective call system.

DTMF (Dual Tone Multi-Frequency (=touch-tone))
Used for transmit/receive numeric information such
as phone number, PIN, remote radio control com-
mands, etc.

Dualwatch
Receiving two signals simultaneously.

Dummy load
A non radiating 50 Ω load connected to the transmit-
ter to replace the antenna for testing purposes.

Duplex
An operation mode in which the transmit and receive
frequencies are different.

Duplexer
A device which divides transmit and receive sig-
als.

Duty cycle
The ratios of transmit to receive time.

Dx'pedition
Trip to foreign land or rare entity to operate ham
radio.
### E

**E Layer**
The ionospheric layer usually responsible for most 10 meter and 6 meter skywaves over 1500 mile paths. Appears especially in summer season.

**EBS (Emergency Broadcast System)**
A system where at first an attention tone is transmitted over all station ad the second tone followed with specific instruction regarding the receivable frequency in the national emergency.

**EEPROM (Electrically Erasable and Programmable Read Only Memory)**

### F

**F Connector**
Found on 440 MHz and 1.2 GHz antenna circuits.

**Fading**
Signal reduction due to atmospherics.

**Feed point**
Where the coaxial cable or ladder line joins the active antenna.

**Filter**
A circuit designed to pass only the desired frequency(s).

**FM**
1) Frequency Modulation
2) FM broadcast

**Foldback**
A circuit to limit power output when the transmitter senses elevated SWR or temperatures.

**FSK (Frequency Shift Keying)**

**FSTV (Fast Scan TV)**
Graphics (and audio) communication using TV broadcast signals, requires a wide bandwidth.

**Full duplex**
An operation mode, which transmits and receives on different frequencies at the same time, as a telephone communication.

**Fuse**
An intentional weak link to guard against overload.
<table>
<thead>
<tr>
<th><strong>G</strong></th>
<th><strong>H</strong></th>
</tr>
</thead>
</table>
| **GaAs FET**  
Sensitive transistor, found in VHF/UHF receiver amplifiers, with a low noise floor. | **Ham**  
A licensed radio operator who enjoys the hobby and service of radio communications. |
| **Ground Plane**  
A type of Omni-directional antenna. | **Harmonic**  
Multiple of a fundamental frequency. |
| **Ground Wave**  
Electrical wave directly travelling from transmitter. | **Heat sink**  
The heavy fins on the back of a transmitter to dissipate heat buildup. |
| **Grounding**  
Electrical connection to the earth. | **HF (High Frequency)**  
3–30 MHz range signals. (Normally, 1.9 MHz band also included.) |
|       | **HPF (High Pass Filter)** |
|       | **Hz (Hertz)** |
IC
 Integrated Circuit, found in large scale chips within a radio.

IF (Intermediate Frequency)
 Internally converted frequency for amplification and other signal processing.

IF shift
 A function that electronically shifts the IF frequency from a center frequency to reduce interference.

IMD (Inter-Modulation Distortion)
 Distortion within RF circuits made with upper and lower adjacent channel signals.

Inverter
 An electrical device that converts direct current, DC, to alternating current, AC. Can be a source of noise on HF bands.

IRLP
 Internet Radio Linking Project, allowing ham operators to join in on a party line, with the internet connecting repeaters together.

JT65
 A weak signal digital mode, primarily used on HF and 6 m, for weak signal and EME type contacts (moon bounce, meteor scatter).
Knife edge
The refraction of a signal over tall buildings and mountains.

LCD
Liquid Crystal Display, primarily used for displaying frequency and radios operations.

LED
Light Emitting Diode, a low current low voltage component to illuminate a radio dial.

LF (Low Frequency)
30–300 kHz range signals.

Li-Ion (Lithium Ion)
Rechargeable battery which has better capacity than Ni-Cd, Ni-MH, etc., no memory effect after repeated non-full charge/discharge cycles.

Logging software
A computer log of contacts, used for QSL card confirmations on contacts.

LPF (Low Pass Filter)

LSB (Lower Side Band)
<table>
<thead>
<tr>
<th>M</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maritime mobile</strong></td>
<td><strong>NB</strong> (Noise Blanker)</td>
</tr>
<tr>
<td>Amateur radio operation from aboard a marine vessel.</td>
<td>A function reducing pulse-type noises.</td>
</tr>
<tr>
<td><strong>MARS</strong> (Military Affiliate Radio Service)</td>
<td><strong>NBFM</strong> (Narrow Band FM)</td>
</tr>
<tr>
<td><strong>Memory bank</strong></td>
<td><strong>Ni-Cd</strong> (Nickel-Cadmium)</td>
</tr>
<tr>
<td>A set of memory channels organized into a group.</td>
<td><strong>Ni-MH</strong> (Nickel-Metal Hydride)</td>
</tr>
<tr>
<td><strong>Memory effect</strong></td>
<td><strong>Notch filter</strong></td>
</tr>
<tr>
<td>Rechargeable batteries such as Ni-Cd and Ni-MH types may be temporarily getting less capacity as a result of repeated non-full charge/discharge cycles. It is called so since rechargeable batteries lose capacity as if “memorize” wrong full capacity level at less than full charge. Li-Ion batteries are free from this effect.</td>
<td>Sharp and narrow rejection filter for elimination of interfering signals.</td>
</tr>
<tr>
<td><strong>MF</strong> (Medium Frequency)</td>
<td><strong>NR</strong> (Noise Reduction)</td>
</tr>
<tr>
<td>300 kHz–3 MHz range signals.</td>
<td>DSP feature reduces unwanted signal noise</td>
</tr>
<tr>
<td><strong>MIC</strong> (MICrophone)</td>
<td><strong>NVIS</strong></td>
</tr>
<tr>
<td><strong>Mobile</strong></td>
<td>Near Vertical Incidence Skywave, a method of lowering a dipole, or an angled vertical, to enhance a high elevation of signal radiation and reception.</td>
</tr>
<tr>
<td>In a vehicle, or other type station no fixed at a specific location.</td>
<td><strong>Modulation</strong></td>
</tr>
<tr>
<td><strong>Method of adding information to a radio frequency carrier.</strong></td>
<td><strong>MT63</strong></td>
</tr>
<tr>
<td><strong>Ni-Cd</strong> (Nickel-Cadmium)</td>
<td>A weak signal, digital communications mode, being used in MARS net traffic.</td>
</tr>
<tr>
<td><strong>Ni-MH</strong> (Nickel-Metal Hydride)</td>
<td><strong>MUF</strong></td>
</tr>
<tr>
<td><strong>Notch filter</strong></td>
<td>Maximum Usable Frequency, the highest frequency that may return a skywave back to earth.</td>
</tr>
<tr>
<td><strong>Noise Reduction</strong></td>
<td><strong>NVIS</strong></td>
</tr>
<tr>
<td>DSP feature reduces unwanted signal noise</td>
<td><strong>Near Vertical Incidence Skywave, a method of lowering a dipole, or an angled vertical, to enhance a high elevation of signal radiation and reception.</strong></td>
</tr>
</tbody>
</table>
Offset frequency
Frequency difference between transmits and receives.

Ohm
Unit of resistance.

Optoisolator
Found in tuning knob circuits, where an LED shines through an interrupter to signal a data pulse.

OSC (OSCillator)

Oscillator
The heart of all radios, needing a small amount of feedback to keep it oscillating.

PA (Power Amplifier)

PACTOR
Digital radio modulation used mostly on the HF bands for digital messaging.

Parawatch (=Dualwatch)

PBT (PassBand Tuning)
A function to reduce interference by electronically narrowing the IF bandwidth.

PEP (Peak Envelope Power)
RF power at maximum amplitude.

Photovoltaic
Solar cell, converting photons to electricity.

PLL (Phase Locked Loop)
Circuit to synthesize the different frequencies a radio will operate on.

Pocket beep
Beeping function when specific signal is received.

Power supply
Usually converts 110 Volts AC to 12 Volts DC. Sometimes built in, sometimes external to the equipment.

Priority watch
Reception mode, which by a selected frequency is always periodically, checked when VFO is set to different frequency.

PSK31
A type of radio-teletype using Phase Shift Keying with a very narrow bandwidth as an efficient way of communicating.

PTT (Push To Talk)

PWR (PoWeR)
**Q**
Response of a circuit over a specific bandwidth. Also, Ham Slang for a contact, or QSO.

**QRP**
Low power operation, usually 1 watt or less.

**R**

**Reflected power**
Non-radiated power dissipated as heat when the transmitter is mismatched to the antenna or load.

**Refraction**
Radio waves are bent back to earth, via the ionosphere, by refraction.

**Repeater**
Radio systems, which receive incoming signal and re-transmit it for extended communication area. Normally put on geographically high locations for VHF/UHF hand portables.

**RF** (Radio Frequency)

**RF ground**
Connection of amateur equipment to earth ground to eliminate hazards from RF exposure and reduce RFI.

**RFI** (Radio Frequency Interference)

**RIT** (Receiver Incremental Tuning)
Fine-tuning receive frequency without changing displayed or memory frequency.

**RTTY** (Radio TeleTYpe)

**RX** (Receive)
S

S/N (Signal to Noise ratio)

SAR (Search And Rescue)

Safety
   RF exposure limits, set by ANSI (American National Standards Institute), to minimize over exposure to RF signals from a nearby antenna.

Scan
   Continually sweeping frequencies looking for signals.

Scan Edge
   End and start frequencies for a scanning range.

Scratch Pad Memory
   Temporary frequency memories for quick access.

Semi Duplex
   An operation mode in which transmits and receives is accomplished on different frequencies alternatively.

Sensitivity
   Indicates how weak a signal the receiver can detect.

Set mode
   An operation mode used for radio. To set less frequently used control features.

Simplex
   An operation mode where transmit and receive frequency is same.

Skywarn
   Trained volunteer storm spotters for the National Weather Service.

SMA (Sub-Miniature a connector)
   Type of antenna connector, used in VHF/UHF portable.

SP (SPeaker)

Split
   An operating mode in which the transmit and receive frequency is different.

SQL (SQueLch)
   A function muting audio output for set conditions.

SSB (Single Side Band)

SSTV (Slow Scan TV)
   Graphics communication using narrow bandwidth.

SWL (Short Wave Listener)

SWR (Standing Wave Ratio)
   Measurement of forward vs. reflected power output during transmit.
<table>
<thead>
<tr>
<th><strong>T</strong></th>
<th><strong>U</strong></th>
</tr>
</thead>
</table>
| **TCXO** (Temperature Compensated Crystal Oscillator)  
Heated crystal oscillator for better frequency stability. | **UHF** (Ultra High Frequency)  
300 MHz–3 GHz range signals. |
| **TNC**  
1) Terminal Node Controller  
Modem for data communication.  
2) A type of antenna connector. | **UHF connector**  
Sometimes called a PL-259 plug, for coaxial cable, on VHF. |
| **TOT (Time Out Timer)**  
Time limiting function for continued repeater or other operations. | **Uplink** (↔ Downlink)  
Frequency that user transmits to the repeater or satellite. |
| **Towers**  
Antenna support structures. | **USB**  
1) Upper Side Band  
2) Universal Serial Bus |
| **Transverter**  
A device similar to a downconverter, but used for both receive and transmit. | **UTC** (Universal Time Coordinated)  
An astronomical time based on the Greenwich meridian (zero degrees longitude). |
| **TS (Tuning Step)**  
Incremental steps |  |
| **TSQL (Tone SQueLch)**  
Squelch function using subaudible tones, selective call. |  |
| **TVI (TeleVision Interference)** |  |
| **TWT**  
Traveling Wave Tube, found in microwave amplifier circuits. |  |
| **TX (Transmit)** |  |
VCO
Voltage Controlled Oscillator, found in the PLL section of the modern radio.

VFO (Variable Frequency Oscillator)
An operation mode in which operator can change frequency freely.

VHF (Very High Frequency)
30–300 MHz range signals.

VOX (Voice Operated transmission)
A function that automatically switches the transmitter to transmit when you talk into the microphone.

VSC
1) Voice Scan Control
2) Voice Squelch Control

Waveguide
The carrier of microwaves from radio to antenna, and back.

Weather Alert
NOAA broadcast station transmitting alert signals.

WFM (Wideband FM)
<table>
<thead>
<tr>
<th>Yagi</th>
<th>Zener diode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directional antenna.</td>
<td>A diode used to regulate the operating voltage.</td>
</tr>
</tbody>
</table>
Number/Others
Count on us!