



## GLOSSARY

# HAM RADIO TERMS

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This glossary contains general definitions of typical amateur radio terms. Not all of the definitions listed may apply to your specific model of radio. Consult the manufacturer for further clarification of model-specific terms.

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## A

**ACC** (ACCessory)

**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)

**AGC** (Automatic Gain Control)

Automatically optimize receiver amplifier gain.

**ALC** (Automatic Limiting Control)

Limits RF drive level to power amplifier during transmit to prevent distortion.

**AM** (Amplitude Modulation)

**AMSAT** (AMateur SATellite)

**AMTOR** (AMateur Teleprinting Over Radio)

A form of RTTY, radio teletype.

**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  $\Omega$  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.

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**ASCII** (American National Standard Code for Information Interchange)

A seven-unit digital code for the transmission of teleprinter 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.

## B

**Backscatter**

Form of ionosphere propagation via the E and F layers allowing stations to hear other stations within the skip zones.

**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)

**BFO** (Beat Frequency Oscillator)

**BNC** (Bayonet Neill-Concelman)

A type of antenna connector

**BPF** (BandPass Filter)

**Busy lockout**

Inhibits transmit on a frequency in use

A

B

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## C

### **Call sign**

Sequence of letter and numbers used to identify amateur radio operators and issued by the FCC.

### **CAP** (Civil Air Patrol)

Volunteer affiliate of the United States Air Force.

### **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.

### **Conversion**

Number of IF circuits in the receiver.

### **CPU** (Central Processing Unit)

### **CQ**

Radio communications term used to call others.

### **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.

### **CW**

- 1) Carrier Wave
- 2) ClockWise

### **CW filter**

Used to narrow IF passband to improve reception in crowded band conditions.

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## D

### Data communications

Transfer of data between two or more locations.

### dBd

Unit of RF power as compared to a dipole antenna.

### dB*i*

Unit of RF power as compared to an isotropic antenna.

### 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 voltages.

### Deviation

A measurement for a FM signals for the maximum carrier frequency changes either side of the carrier frequency.

### 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.

### 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 commands etc.

### Dualwatch

Receiving two signals simultaneously.

### Dummy load

A non radiating 50 Ω load connected to the transmitter 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 signals.

### Duty cycle

The ratios of transmit to receive time.

### Dx'pedition

Trip to foreign land to "be DX."

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## E

### **EBS** (Emergency Broadcast System)

A system where at first an attention tone is transmitted over all stations and the second tone followed with specific instruction regarding the receivable frequency in the national emergency.

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

### **EME** (Earth-Moon-Earth)

Moon bounce communication.

### **EMI** (Electro-Magnetic Interference)

Often called RFI (Radio-Frequency Interference).

### **Emission**

Transmission of a signal

### **Encryption**

Transmitting cryptic form so that only certain people understand what has been sent.

## F

### **Fading**

Signal reduction due to atmospheric.

### **Filter**

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

### **FM**

- 1) Frequency Modulation
- 2) FM broadcast

### **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.

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## G

### Ground Plane

A type of Omni-directional antenna

### Ground Wave

Electrical wave directly travelling from transmitter.

### Grounding

Electrical connection to the earth.

## H

### Harmonic

Multiple of a fundamental frequency.

### HF (High Frequency)

3–30 MHz range signals. (Normally, 1.9 MHz band also included.)

### HPF (High Pass Filter)

### Hz (Hertz)

E

F

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H

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**I**

**IC** (Integrated Circuit)

**IF** (Intermediate Frequency)

Internally converted frequency for amplification and other signal processing.

**IF shift**

A function that electronically shifts IF frequency from a center frequency.

**IMD** (Inter-Modulation Distortion)

Distortion within RF circuits made with upper and lower adjacent channel signals.

**L**

**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.

**LPF** (Low Pass Filter)

**LSB** (Lower Side Band)



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## M

**MARS** (Military Affiliate Radio Service)

**Memory bank**

A set of memory channels organized into a group.

**Memory effect**

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.

**MF** (Medium Frequency)

300 kHz–3 MHz range signals

**MIC** (MICrophone)

**Modulation**

Method of adding information to a radio frequency carrier

## N

**NB** (Noise Blanker)

A function reducing pulse-type noises.

**NBFM** (Narrow Band FM)

**Ni-Cd** (Nickel-Cadmium)

**Ni-MH** (Nickel-Metal Hydride)

**Notch filter**

Sharp and narrow rejection filter for elimination of interfering signals

**NR** (Noise Reduction)

DSP feature reduces unwanted signal noise

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## O

### **Offset frequency**

Frequency difference between transmits and receives.

### **OSC** (OSCillator)

## P

### **PA** (Power Amplifier)

### **Parawatch** (=Dualwatch)

### **PBT** (PassBand Tuning)

A function electronically reduce interference by narrowing IF bandwidth

### **PEP** (Peak Envelope Power)

RF power at maximum amplitude.

### **PLL** (Phase Locked Loop)

Circuit to synthesize the different frequencies a radio will operate on.

### **Pocket beep**

Beeping function when specific signal is received.

### **Priority watch**

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

### **PTT** (Push To Talk)

### **PWR** (PoWeR)

## R

### **Reflected power**

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

### **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 )

### **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 will pick up.

### **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)

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S

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## T

### **Split**

A 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.

### **TCXO** (Temperature Compensated Crystal Oscillator)

Heated crystal oscillator for better frequency stability.

### **TNC**

- 1) Terminal Node Controller  
Modem for data communication.
- 2) A type of antenna connector

### **TOT** (Time Out Timer)

Time limiting function for continued repeater or other operations.

### **TS** (Tuning Step)

Incremental steps

### **TSQL** (Tone SQuELch)

Squelch function using subaudible tones, selective call.

### **TVI** (TeleVision Interference)

### **TX** (Transmit)

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## U

### **UHF** (Ultra High Frequency)

300 MHz–3 GHz range signals.

### **Uplink** (↔Downlink)

Frequency that user transmits to the repeater or satellite.

### **USB** (Upper Side Band)

### **UTC** (Universal Time Coordinated)

An astronomical time based on the Greenwich meridian (zero degrees longitude).

## V

### **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 automatically put the transmitter in transmit when talk into a microphone.

### **VSC**

- 1) Voice Scan Control
- 2) Voice Squelch Control

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**W**

**Number/Others**

**Weather Alert**

NOAA broadcast station transmitting alert signals.

**WFM** (Wideband FM)



**Count on us!**

A-6156D-1EX  
Printed in Japan  
© 2002 Icom Inc.

**Icom Inc.**  
1-1-32 Kamiminami, Hirano-ku, Osaka 547-0003 Japan