

# Inland Empire Amateur Radio Club

San Bernardino County, California

## Amateur Radio Terms

### 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.

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## **Antenna Impudence**

The impedance of an antenna at 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 the power amplifier to prevent damage to the 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 Amateur Radio Relay League)

The National Association for Amateur Radio in the United States.

## **ASCII** (American national Standard Code for Information Interchange)

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

## **ATT** (ATTuator)

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 a 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

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### **Balun**

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

### **Band**

A range of frequencies.

### **Bandwidth**

Frequency needed for a particular type of transmission

### **Bank**

Memory Bank

### **BCI (Broadcast Interference)**

### **BFO (Beat Frequency Oscillator)**

### **BNC (Bayonet Neill-Concelman)**

A type of antenna connector.

### **BPF**

Band Pass filter

### **Busy lockout**

Inhibits transmit on frequency in use.

## C

### **Call Sign**

Sequence of letters 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 and re-transmits 430(440) MHz bands.

### **CCW (Counter Clockwise)**

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### **CH** (Channel)

A sequence of memory positions when 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.

### **CTSS** (Continuous Tone Coded Squelch)

Adds a continuous, sub-audible, low frequency tone to the transmitted carrier. Receivers set for the same low frequency tone can decode signals.

### **CW**

- 1) Carrier Wave
- 2) Clock Wise

### **CW Filter**

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

## D

### **Data Communication**

Transfer of data between two or more locations.

### **dBd**

Unit of RF power as compared to a dipole antenna.

### **dB<sub>i</sub>**

Unit of RF power as compared to an isotropic antenna.

### **dBm**

Decibels measure, 1 mW with a load impedance of 600  $\Omega$  (0 dBm=1 mW)

### **DC** (Direct Current)

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### **DC Ground**

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

### **Deviation**

A measurement of 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 specifically for use in distress calling. Radiotelephone distress frequencies are: 182 MHz and 156.8MHz. Survival craft use 243 MHz. Maritime distress frequencies are the same, while general aviation frequencies are 121.5 MHz.

### **Downlink**

Frequency that repeater or satellite transmission to a user.

### **DSP (Digital Signal Processor)**

Used to improve the signal to noise ratio for clearer and more legible communication. Relatively new to 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 of commands, etc.

### **Dualwatch**

Receiving two signals simultaneously

### **Dummy Load**

A non radiating 50  $\Omega$  load connected to the transmitter to replace the antenna for testing purposes

### **Duplex**

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

### **Duplexer**

A device which divides transmits and receives signals.

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S

## **Duty Cycle**

The ratios of transmit to receive time.

## **DX'pedition**

Trip to a foreign land to "be DX"

## **E**

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

A system where at first, an attention tone is transmitted over all station and a second tone followed with specific instructions 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 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.

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## **Full duplex**

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

## **G**

## **Ground Plane**

A type of Omni-directional antenna.

## **Ground Wave**

Electrical wave directly travelling from the transmitter.

## **Grounding**

An 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)**

## **I**

## **IC (Integrated Circuit)**

## **IF (Intermediate Frequency)**

Internally converted frequency for amplification and other signal processing.

## **IF Shift**

A function that electronically shifts frequency from a center frequency.

## **IMD (Inter-Modulation Distortion)**

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

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### L

#### **LF** (Low Frequency)

30-300 kHz range signals.

#### **Li-ion** (Lithium Ion)

Rechargeable battery which has better capacity than Ni-CAD, Ni-MH, etc. no memory effect after repeated non-full charge/discharge cycles.

#### **LPF** (Low Pass Filter)

#### **LSB** (Lower Side Band)

### M

#### **MARS** (military Affiliate Radio Service)

#### **Memory Bank**

A set of memory channels organized into a group.

#### **Memory Effect**

Rechargeable batteries such as Ni-Cad 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 it memorized 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)

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**NI-CD** (Nickel-Cadmium)

**NI-MGH** (Nickel Metal Hydride)

### **Notch Filter**

Sharp and narrow rejection)  
DSP feature reduces unwanted signal noise.

**NR** (Noise Reduction)

DSP feature, reduces unwanted signal noise

## O

### **Offset Frequency**

Frequency difference between transmit and receive.

**OSC** (OSCillator)

## P

**PA** (Power Amplifier)

**Parawatch** (=Dualwatch)

**PBT** (PassBand Tuning)

A function electronically reduce interference by narrowing the 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)

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**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 signals and re-transmits it for extended communications. Normally put on geographically high locations for VHF/UHF hand portables.

**RF** (Radio Frequency)

**RF Ground**

Connection of amateur equipment to an 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.

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### **Semi Duplex**

An operating mode in which transmit and receive 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.

### **Skywarn**

Trained volunteer storm spotters for the e national Weather Service.

### **SMA (Sub-Miniature connector)**

Type of antenna connector, used in VHF/UHF portables.

### **SP (Speaker)**

### **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 communications using narrow bandwidth.

### **SWL (Short Wave Listener)**

### **SWR (Standing Wave Radio)**

Measurement of forward vs. reflected power output during transmit.

## T

### **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.

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**TS** (Tuning Step)  
Incremental steps.

**TSQL** (Tone SQueLch)  
Squelch function using sub audible tones, selective call.

**TVI** (Television Interference)

**TX** (Transmit)

## U

**UHF** (Ultra High Frequency)  
300 MHz - 3 GHz range signals.

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

**USB** (Upper Side Band)

**UTC** (Universal Time Coordinated)  
An astronomical time based on Greenwich meridian (zero degrees longitude)

## V

**VFO** (Variable Frequency Oscillator)  
An operating mode in which the 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 you talk into a microphone.

**VSC**

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

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W

## **Weather Alert**

A NOAA broadcast station transmitting weather alert signals.

**WFM** (Wideband FM)