Unit 1.0 Electronic Principles: Terms

You don't have to be an electronics engineer to get a Technician Class license, but it does help to know the basics of electricity and some of the units we use in electronics. The most important concepts are current, voltage, resistance, power, and frequency.

Voltage is the force that causes electrons to flow in a circuit. Voltage is sometimes referred to as electromotive force, or EMF. Voltage is the electrical term for the electromotive force (EMF) that causes electron flow. (T5A05) The volt is the basic unit of electromotive force. (T5A11) The letter V is the symbol we use for volts. About 12 volts is the amount of voltage that a mobile transceiver usually requires. (T5A06)

Current is the name for the flow of electrons in an electric circuit. (T5A03) Electrical current is measured in amperes. (T5A01) Direct current is the name for a current that flows only in one direction. (T5A04) Batteries supply direct current, or simply DC.

Alternating current is the name for a current that reverses direction on a regular basis. (T5A09) Frequency is the term that describes the number of times per second that an alternating current reverses direction. (T5A12) Alternating current, or AC, is what is available from your home's wall sockets. Power supplies convert the AC into DC, which is required for most modern amateur radio equipment.

Resistance is the term used to describe opposition to current flow in a circuit. The basic unit of resistance is the ohm. The Greek letter omega (Ω) is shorthand for ohm. Conductors are materials that conduct electrical current well, or, in other words, have a low resistance. The copper wires that we use to connect a power supply to a radio are good conductors because copper is a good electrical conductor. (T5A07)

Insulators are materials that have a high resistance to current flow. They do not conduct electrical current very well. Plastics and glass, for example, are good electrical insulators. (T5A08)

The term that describes the rate at which electrical energy is used (or generated) is power. (T5A10) Electrical power is measured in watts. (T5A02) The letter W is the symbol we use for watts.

QUESTION POOL: (12)

T5A05	T5A11	T5A06	T5A03	T5A01	T5A04
T5A09	T5A12	T5A07	T5A08	T5A10	T5A02