

# Basic Components

A resistor is the electrical component used to oppose the flow of current in a DC circuit. (T6A01) Most resistors have a fixed value, which is specified in ohms.

Some resistors are variable that is you can change the resistance of the resistor by turning a shaft or sliding a control back and forth. These variable resistors are called potentiometers.

A potentiometer is the type of component that is often used as an adjustable volume control. (T6A02) Resistance is the electrical parameter that is controlled by a potentiometer. (T6A03)

The type of electrical component that consists of two or more conductive surfaces separated by an insulator is a capacitor. (T6A05) A capacitor is the electrical component that stores energy in an electric field. (T6A04) Capacitance is the ability to store energy in an electric field. (T5C01) The farad is the basic unit of capacitance. (T5C02)

The type of electrical component that stores energy in a magnetic field is an inductor. (T6A06) The electrical component that is usually composed of a coil of wire is an inductor. (T6A07) The ability to store energy in a magnetic field is called inductance. (T5C03) The henry is the basic unit of inductance. (T5C04)

A switch is the electrical component used to connect or disconnect electrical circuits. (T6A08) A fuse is the electrical component used to protect other circuit components from current overloads. (T6A09)

As amateur radio operators, we often use batteries to power our radio equipment. Some types of batteries are rechargeable, while others are not. The battery type that is not rechargeable is the carbon-zinc battery. (T6A11) All of these choices are correct when talking about battery types that are rechargeable (T6A10):

- Nickel-metal hydride
- Lithium-ion
- Lead-acid gel-cell

## REVIEW QUESTIONS: (15)

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|-------|-------|-------|-------|-------|
| T6A01 | T6A02 | T6A03 | T6A04 | T6A05 |
| T5C01 | T5C02 | T6A06 | T6A07 | T5C03 |
| T5C04 | T6A08 | T6A09 | T6A11 | T6A10 |