

R

R
Symbol for resistance

Radio Frequency (RF)

Radio-Frequency. Usually considered to be frequencies ranging from 1MHz TO 30Hz.

Range

Number of sizes of connectors or cables of a particular type.

Receptacle

Usually the fixed or stationary half of a two-piece multiple contact connector. Also the connector half usually mounted on a panel and containing socket contacts.

Reflection

The change in direction (or return) of waves striking a surface. For example, electromagnetic energy reflections can occur at an impedance mismatch in a transmission line, causing standing waves.

Reflection Loss

The part of signal that is lost due to reflection of power at a line discontinuity.

Reflow Soldering

A process in which a solder paste is used to temporarily attach one or several electrical components to their contact pads, after which the entire assembly is subjected to controlled heat, which melts the solder, permanently connecting the joint.

Repeater

A receiver and transmitter combination used to regenerate an attenuated signal.

RF

Abbreviation for radio frequency.

RGB

Abbreviation for the three parts of color video signal: red, green and blue, and also refers to multi-coaxial cables carrying these signals.

RG/U

Symbol used to designate coaxial cables that are made to Government Specification (e.g., RG-58U; in this designation the "R" means radio frequency, the "G" means Government, the "58" is the number assigned to the government approval, and the "U" means it is an universal specification).

rms

Abbreviation for root mean square.

Rubber (Wire Insulation)

A general term used to describe wire insulations of thermosetting elastomers, such as natural or synthetic rubbers: neoprene, Hypalon®, butyl rubber, and others.

S**Screening Effectiveness**

Ratio of the power fed into a coaxial cable to the power transmitted by the cable through the outer conductor.

Screw machine contact

A contact which is machined from solid bar stock

Semi-Rigid

A cable containing a flexible inner core and a relatively inflexible sheathing.

Shield

(1) A conducting housing or screen that substantially reduces the effect of electric or

magnetic fields on one side thereof, upon devices or circuits on the other side. Cable shields may be solid, braided, or taped (longitudinally or spirally).

(2) In cables, a metallic layer placed around a conductor or group of conductors to prevent electrostatic or electromagnetic interface between the enclosed wires and external fields.

Shield Effectiveness

The relative ability of a shield to screen out undesirable interference. Frequently confused with the term shield coverage.

Shielding

The metal sleeving surrounding one or more of the conductors, in a wire circuit to prevent interference, interaction or current leakage.

Shock (mechanical)

(1) An abrupt impact applied to a stationary object.

(2) An abrupt or non-periodic change in position, characterized by suddenness, and by the development of substantial internal forces.

Signal

Any visible or audible indication which can convey information. Also, the information conveyed through a communication system.

Silicone

General Electric trademark for a material made from silicone and oxygen. Can be in thermosetting elastomer or liquid form. The thermosetting elastomer form is noted for high heat resistance.

Skin Effect

The phenomenon wherein the depth of penetration of electric currents into a conductor decreases as the frequency of the current increases.

SMA (Subminiature A)

50Ω-Subminiature coaxial connector with screw type coupling mechanism. Frequency range DC-18GHz.

SMB (Subminiature B)

Subminiature coaxial connector with snap-on coupling mechanism. Frequency range DC-4GHz.

SMC (Subminiature C)

Subminiature coaxial connector with screw type coupling mechanism. Frequency range DC-10 GHz.

Snap-on

Used to describe the easy removal or assembly of one part to another. A connector containing socket contacts into which a plug connector having male contacts is inserted.

Solder Contact

A contact or terminal having a cup, hollow cylinder, eyelet or hook to accept a wire for a conventional soldered termination.

Spectrum

Frequencies that exist in a continuous range and have a common characteristic. A spectrum may be inclusive of many spectrums (e.g., the electromagnetic radiation spectrum includes the light spectrum, radio spectrum, infrared spectrum, etc.).

Speed of Light (c)

2.998 X 10⁸ meters per second.

Standing Wave

The stationary pattern of waves produced by two waves of the same frequency traveling in opposite directions on the same transmission line. The existence of voltage and current maxima and minima along a transmission line is a result of reflected energy from an impedance mismatch.

Standing Wave Ratio (SWR)

A ratio of the minimum amplitude to the minimum amplitude of a standing wave stated in current or voltage amplitudes.

Stripline

A type of transmission line configuration which consists of a single narrow conductor parallel and equidistant to two parallel ground planes.

SUCOPLATE®

A plating material made of a combination of copper, tin and zinc. Good corrosion and abrasion resistance

Surface Mount Device (SMD)

An active or passive device designed to be soldered to the surface of the printed circuit board.

Surface Mount Technology (SMT)

The process of assembling printed circuit boards with components soldered to the surface rather than to plated through-holes.

Surge

Sudden quick movement of a liquid, electricity, chemical etc through something

T**TCP Plating**

It means a kind of platings made by TELCON which is more corrosion and scratch resistant, and offers at the same time better electrical performance than Nickel plating.

Teflon

Dupont Company trademark for fluorocarbon resins. (See FEP and TFE)

Termination

Ending a transmission line, cable or system properly to prevent interference

TFE

Tetrafluoroethylene. A thermoplastic material with good electrical insulating properties and chemical and heat resistance.

Thermal Rating

The temperature range in which a material will perform its function without undue degradation.

Thermal Shock

The effect of heat or cold applied at such a rate that non-uniform thermal expansion or contraction occurs within a given material or combination materials. The effect can cause inserts and other insulation materials to pull away from metal parts.

TNC (Threaded Navy Connector)

Coaxial connector with screw type coupling mechanism. Available in 50 Ohm; and 75 Ohm versions.

Frequency range DC-11GHz (50 Ohm) and DC-1 GHz (75 Ohm), respectively.

Transfer Impedance

For a specified cable length, transfer impedance relates a current on one surface of a shield to the voltage drop generated by this current on the opposite surface of the shield. Transfer impedance is used to determine shield effectiveness against both ingress and egress of interfering signals. Cable shields are normally designed to reduce the transfer of interference, shields with lower transfer impedance are more effective than shields with higher transfer impedance.

Transmission Line

A signal-carrying circuit composed of conductors and dielectric material with controlled electrical characteristics used for the transmission of high-frequency of narrow pulse type signals.

Transmission Loss

The decrease or loss in power during transmission of energy from one point to another. Usually expressed in decibels.

Triaxial Cable

A cable consisting of one center conductor and two outer concentric conductors (with an insulating layer separating them). Notable for increased shielding efficiency.

Twinaxial Cable

Two conductors that are insulated from one another, twisted together and surrounded by a common shield.

U**UHF**

Coaxial connector with screw type coupling mechanism. Non-defined impedance. Frequency range DC. The general term of completely processed printed circuit or printed wiring configurations. It includes single, double, and multi-layer boards, both rigid and flexible. 200MHz

UL

Abbreviation for Underwriters Laboratories, a nonprofit organization which tests and verifies construction and performance of electronic parts and equipment, including wire and cable.

Unbalanced Line

A transmission line which voltages on the two conductors are unequal with respect to ground. A coaxial cable is a common type of unbalanced line.

V**V**

Volt

VA

Volt-ampere. A designation of power in terms of voltage and current.

Velocity of Propagation (VP)

The transmission speed of electrical energy in a length of cable compared to speed of light in free space. Usually expressed as a percentage.

VHF

Abbreviation for very high frequency, 100 to 300 MHz.

Video

Pertaining to picture information in a television system.

Volt

A unit of electromotive force.

Voltage

Electrical potential or electromotive force

expressed in volts.

Voltage Rating

The highest voltage that may be continuously applied to a cable construction in conformance with standards or specifications.

Voltage Standing Wave Ratio (VSWR)

The ratio of the transferred signal voltage as compared to reflected signal voltage measured along the length of a transmission line.

VSWR

Abbreviation for Voltage Standing Wave Ratio. The ratio of the maximum to minimum voltage set up along a transmission by reflections.

W

W

Symbol for watt or wattage.

Watt

A unit electrical power.

Wave Length

The distance, measured in the direction of propagation, of a repetitive electrical pulse or waveform between two successive points that are characterized by the same phase of vibration.

Wave Soldering

The most widely used mass soldering process, primarily for through-hole boards, where the board is passed over a wave of solder which laps against the bottom of the board to wet metal surfaces to be joined.

Wire

A conductor, either bare or insulated.

X

X

Symbol for reactance.

Z

Z

Symbol for impedance.