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facilitate and enhance gatherings of people for work, collaboration on a project involving a common interest, or the like. One or more participants may assist to conferences remotely, via a network such as the Internet.

electronic memory Computer memory, such as semiconductor memory, with no moving parts. Currently, almost all memory is of this type.

electronic messaging Any form of sending, receiving, and exchanging messages, such as emails, instant messages, MMSs, or SMSs, utilizing a communications network.

electronic micrometer A micrometer which utilizes electronic devices, such as semiconductors or electron-tube circuits, for enhanced sensitivity and accuracy.

electronic money Same as **electronic cash**.

electronic motor control The use of an electronic circuit to control the speed of a DC motor which is fed by an AC power line. Also called **motor control** (1).

electronic multimeter A multimeter which utilizes electronic devices, such as semiconductors or electron-tube circuits, for enhanced sensitivity and accuracy.

electronic music Music which is created and/or enhanced by electronic means. There are many examples, including the use of electronic components to amplify or process sounds, or the use of computers to synthesize music.

electronic music distribution The distribution of music via electronic means, such as a communications network. Such music is in a digital format.

electronic musical instrument Also called **electronic instrument** (2). 1. A musical instrument, such as an electronic organ or an electric guitar, which amplifies, synthesizes, or enhances sounds. 2. A musical instrument, such as an organ or guitar, which is emulated by electronic means. An example is the use of a computer to synthesize sounds corresponding to a given instrument.

electronic navigation The use of electronic devices, instruments, or systems, to navigate or aid in navigation. For instance, the use of radars or GPS systems.

electronic organ An electronic device which synthesizes sounds which emulate those of an organ which utilizes pipes. An electronic organ usually provides many enhancements, such as the ability to interface with a computer. Also called **electric organ** (2).

electronic organizer A usually handheld device, such as a PDA, which stores information and performs functions which help organize an individual. Such a device may include a telephone, email, and address book, an appointment scheduler, a notepad, and so on. Also called **organizer** (1).

electronic packaging The process of assembling, interconnecting, embedding, or mounting electronic components, circuits, or devices, so that they can perform their functions while sealed or otherwise protected. An example is a dual in-line package for a chip. Also called **packaging**.

electronic paper A storage medium analogous to regular paper, except that it can be written upon or refreshed numerous, often millions, of times via electronic means. Such paper may be made of a plastic coated with the proper electronics, and can be used, for instance, in ebooks, newspapers that update their content via satellite, portable signs, or the like. Electronic paper may or may not be fully flexible, and/or offer full color images. Its abbreviation is **epaper**. Also called **digital paper**.

electronic payment Payment for goods and/or services via the Internet. Its abbreviation is **e-payment**, or **epayment**. Also called **Internet payment**, or **Web payment**.

Electronic Performance Support System A system which provides help, tips, and other information which assist a user in better performing a given task, while utilizing an electronic device such as a computer. For instance, a user may

be working with a given application, encounter an unknown feature, ask a question out loud, and then be presented with a multimedia explanation of its use. Its abbreviation is **EPSS**.

electronic photometer A photometer which incorporates an electronic device, such as a phototube or phototransistor, for measuring the intensity of light. Also called **photoelectric photometer**.

electronic piano Also called **electric piano**. 1. An electronic device which synthesizes sounds which emulate those of a piano which utilizes vibrating wire strings. An electric piano usually provides many enhancements, such as the ability to interface with a computer. 2. A piano whose sound is enhanced and/or amplified electronically.

electronic point-of-sale A point-of-sale with electronic equipment, such as bar-code, RFID, and/or magnetic stripe readers, and a terminal, utilized for pricing and recording transactions, for obtaining purchase authorizations, and the like. Its abbreviation is **EPOS**. Also called **point of sale** (3).

electronic postcard Same as **electronic card**.

electronic postmark A digital certificate providing an authenticated time and date stamp.

electronic power supply A source of power for electronic components, circuits, devices, equipment, or systems. Such sources include batteries and power packs. Also called **power supply** (2), or **supply** (3).

electronic precipitator Same as **electronic air cleaner**.

electronic publishing The providing of information in electronic form, such as in DVDs, or over networks, as opposed to being published in paper form. Such publishing has various advantages, including interactivity, and the ability to keep fully current.

electronic recording The use of electronic means to produce recordings. For example, the recording of sounds onto a voice chip, or those produced by a cathode-ray oscillograph.

electronic rectifier A rectifier which incorporates, or consists of, an electronic component or device. An example is a semiconductor diode.

electronic regulation Same as **electronic control**.

electronic regulator Same as **electronic voltage regulator**.

electronic relay 1. A relay with no moving parts. 2. A relay, such as a solid-state relay, which incorporates electronic components or devices.

electronic scanning The use of electronic means to scan, as opposed to mechanical means, such as moving antennas or mirrors. Used, for instance, in radars.

electronic security 1. The incorporation of electronic components and devices, such as transistors and video monitors, into a security system. 2. The protection of computer data, communications signals, and networks. Passwords and firewalls are examples of protective measures utilized.

electronic serial number A number which uniquely identifies each cellular phone. Each time a call is made, this number is transmitted to the mobile telephone switching office for verification. Its abbreviation is **ESN**.

electronic signature An attachment to an electronic transmission which uniquely identifies and authenticates the sender of a message, file, or other information such as a credit card number. To be effective, an electronic signature must not be forged, and measures such as public-key cryptography are employed to insure its integrity. Its abbreviation is **e-signature**, or **esignature**. Also called **email signature** (2), **digital signature**, or **signature** (2).

electronic software distribution The distribution of software via electronic means. For instance, the use of a network to issue an upgrade to an application. Its abbreviation is **ESD**.

serial mouse A computer mouse that connects to a **serial port**. This contrasts, for instance, with a **bus mouse**.

serial number 1. A number or sequence of characters which uniquely identifies an item or product. 2. A number that identifies an item or position within a sequence.

serial operation 1. The performance of two or more operations in sequence. 2. Operation of a circuit or device whose components are connected in series.

serial output One of multiple outputs which are delivered in sequence. Seen, for instance, in serial transmission. This contrasts with **parallel output**, in which all outputs are delivered simultaneously.

serial/parallel Supporting or utilizing both serial and parallel functions or devices. For example, a controller card which supports both serial and parallel interfaces.

serial port A computer port utilizing a **serial interface**.

serial printer 1. A printer which prints a single character at a time. Examples include daisy-wheel printers and dot-matrix printers. Also called **character printer** (1). 2. A printer that connects to a computer via a serial interface.

serial processing The execution of multiple computer operations one after the other. This contrasts with **parallel processing** (2) in which multiple operations are executed simultaneously.

serial programming Computer programming in which steps or operations are performed in sequence. In **parallel programming**, multiple steps or operations are performed simultaneously. Also called **series programming**, or **sequential programming**.

serial SCSI The use of a SCSI Interface implementing a serial protocol. Since SCSI provides a parallel interface, the appropriate signal conversions must be performed.

serial storage Same as **serial access** (1).

Serial Storage Architecture Same as **SSA**.

serial stream The transmission of bits, characters, or data units one at a time in sequence. A **parallel stream** provides for the simultaneous transmission of bits, characters, or data units utilizing multiple lines, fibers, channels, or the like.

serial transfer The transfer of bits, characters, or data units one at a time in sequence. This contrasts with **parallel transfer**, in which multiple bits, characters, or data units are transferred simultaneously. Also called **serial data transfer**.

serial transmission The transmission of bits, characters, or data units one at a time in sequence. This contrasts with **parallel transmission**, in which multiple bits, characters, or data units are transmitted simultaneously. Also called **serial data transmission**.

serialize To convert parallel streams of bits into a serial stream of bits. A parallel stream consists of one more bytes, while a serial stream has one bit after the other.

series 1. An arrangement of two or more related things, entities, or events, in a given order. 2. An arrangement of two or more related things, entities, or events, in a successive order. 3. That which is ordered by a **series** (1) or **series** (2). 4. Characteristic of, or pertaining to a **series circuit** or **series connection**. 5. The sum of a finite or infinite sequence of numbers or terms. 6. A group of related objects or entities which vary or occur in a given sequence. For example, a radioactive decay series.

series-aiding Two or more sources of emf which aid in current flowing in the same direction. In sources which are **series-opposing** the converse is true.

series capacitance The total capacitance of **series capacitors**.

series capacitors Two or more capacitors connected in series. The total capacitance is the reciprocal of the sum of the reciprocal of the value of each of the individual capacitances. Also called **capacitors in series**.

series circuit A circuit whose components are connected in series. That is, they have a **series connection**.

series connection The end-to-end connection of the components within a circuit. There is a single path for the current, which flows through all the components in sequence, while the voltage is divided among the components. This contrasts with **parallel connection**, where the connection is side-by-side, or otherwise in a manner where the current is divided among the components. Also called **in series**.

series decay The transformation of a nuclide into another nuclide through radioactive decay, followed by further transformations until a stable, or nonradioactive, nuclide results. In such a series, the first member is called the parent, and the last is the end product. For instance, the chemical element uranium undergoes a series of radioactive decay steps which eventually ends with a stable isotope of lead. Also called **series disintegration**, **chain decay**, or **radioactive chain decay**.

series disintegration Same as **series decay**.

series dropping resistor A resistor used in series with a load, which reduces the voltage applied to said load. The voltage reduction is equal to the voltage drop across the terminals of the resistor. Also called **dropping resistor**.

series-fed That which has a **series feed**. Also, pertaining to that which has a series feed.

series feed The application, in series, of a DC voltage and an AC voltage to a component or device.

series generator An electric generator whose armature and field windings are connected in series. Also called **series-wound generator**.

series impedance An impedance acting in series with another quantity or magnitude, such as another impedance.

series inductance An inductance acting in series with another quantity or magnitude, such as a capacitance.

series inductors Two or more inductors connected in series. When said inductors are sufficiently shielded or apart from each other, the magnetic inductance is considered to be negligible. Otherwise, such inductance, or coupling, must be factored in.

series motor An electric motor whose armature and field windings are connected in series. Also called **series-wound motor**.

series network An electric network whose components are connected in series. That is, they have a **series connection**.

series operation 1. The performance of two or more operations sequentially. 2. Operation of a circuit or device whose components are connected in series.

series-opposing Two or more sources of emf which oppose current flowing in the same direction. In sources which are **series-aiding** the converse is true.

series-parallel Also called **series-parallel circuit**. 1. A circuit which incorporates both parallel connections and serial connections of its components. For instance, a circuit with multiple parallel paths, each with components connected in series. Also, pertaining to such a circuit. 2. A circuit whose components can be arranged either in a parallel or series manner.

series-parallel arrangement Same as **series-parallel connection**.

series-parallel circuit Same as **series-parallel**.

series-parallel connection The arrangement of a **series-parallel circuit**. Also called **series-parallel arrangement**.

series-parallel switch A switch that allows two or more components to be connected in series or in parallel.

series programming Same as **serial programming**.

series regulator A regulator, such as a voltage regulator, which is connected in series with a device or load.