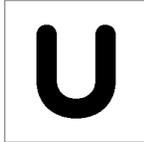


UDP: *Abbreviation for user datagram protocol.* An Internet protocol for datagram service.



UHF: *Abbreviation for ultra high frequency.* See **electromagnetic spectrum**.

U interface: For basic-rate access in an Integrated Services Digital Network (ISDN) environment, a user-to-network interface reference point that is characterized by the use of a 2-wire-loop transmission system that (a) conveys information between the 4-wire user-to-network interface, *i.e.*, the S/T reference point, and the local exchange, (b) is located in the servicing central office, and (c) is not as distance sensitive as a service using a T interface.

ULF: *Abbreviation for ultra low frequency.* See **electromagnetic spectrum**.

ultra high frequency (UHF): Frequencies from 300 MHz to 3000 MHz. (188)

ultra low frequency (ULF): Frequencies from 300 Hz to 3000 Hz. (188)

ultraviolet (uv): The portion of the electromagnetic spectrum in which the longest wavelength is just below the visible spectrum, extending from approximately 4 nm to approximately 400 nm. *Note:* Some authorities place the lower limit of uv at values between 1 and 40 nm, 1 nm being the upper wavelength limit of x-rays. The 400-nm limit is the lowest visible wavelength, *i.e.*, the highest visible frequency, violet.

unallowable character: *Synonym illegal character.*

unavailability: A expression of the degree to which a system, subsystem, or equipment is not operable and not in a committable state at the start of a mission, when the mission is called for at an unknown, *i.e.*, random, time. *Note 1:* The conditions determining operability and committability must be specified. (188) *Note 2:* Expressed mathematically, unavailability is 1 minus the availability. *Note 3:* Unavailability may also be expressed mathematically as the ratio of the total time a functional unit is not capable of being used during a given interval to the

length of the interval, *e.g.*, if the unit is not capable of being used for 68 hours a week, the unavailability is 68/168.

unbalanced line: A transmission line, such as a coaxial cable, in which the magnitudes of the voltages on the two conductors are not equal with respect to ground. (188)

unbalanced modulator: A modulator in which the modulation factor is different for the alternate half-cycles of the carrier. (188) *Synonym* **asymmetrical modulator**.

unbalanced wire circuit: A circuit in which the two sides are inherently electrically dissimilar. (188)

unbound mode: *Synonym radiation mode.*

unbundling: In the context of the FCC's Computer III Inquiry, the process of separating individual tariffed offerings and services that are associated with a specific element in the CEI or ONA tariff from other tariffed basic service offerings. [After para. 158, FCC *Report and Order*, June 16, 1986.]

underflow: In computing, a condition occurring when a machine calculation produces a non-zero result that is smaller than the smallest non-zero quantity that the machine's storage unit is capable of storing or representing.

underground cable: A communication cable designed to be placed under the surface of the Earth in a duct system that isolates it from direct contact with the soil. (188) *Contrast with* **direct-buried cable**.

underlap: In facsimile, a defect that occurs when the width of the scanning line is less than the scanning pitch.

undershoot: *See overshoot.*

undesired signal: Any signal that tends to produce degradation in the operation of equipment or systems. (188)

undetected error rate: *Deprecated synonym for undetected error ratio.*

undetected error ratio: The ratio of the number of bits, unit elements, characters, or blocks incorrectly received and undetected, to the total number of bits, unit elements, characters, or blocks sent. *Synonyms residual error rate, undetected error rate [deprecated].*

undisturbed day: A day during which neither sunspot activity nor ionospheric disturbance causes detectable interfere with radio communications.

UNICOM station: *Synonym aeronautical advisory station.*

unidirectional channel: *Synonym one-way-only channel.*

unidirectional operation: Operation in which data are transmitted from a transmitter to a receiver in only one direction. (188)

uniform encoding: An analog-to-digital conversion process in which, except for the highest and lowest quantization steps, all of the quantization subrange values are equal. *Synonym uniform quantizing.*

uniform linear array: An antenna composed of a relatively large number of usually identical elements arranged in a single line or in a plane with uniform spacing and usually with a uniform feed system. (188)

uniform quantizing: *Synonym uniform encoding.*

uniform-spectrum random noise: *See white noise.*

uniform time scale: A time scale made up of equal intervals.

uniform transmission line: A transmission line that has distributed electrical properties, *i.e.*, resistance, inductance, and capacitance per unit length, that are constant along the line, and in which the voltage-to-current ratio does not vary with distance along the line, if the line is terminated in its characteristic impedance. *Note 1:* Examples of uniform transmission lines are coaxial cables, twisted pairs, and single wires at constant height above ground, all of which have no changes in geometry, materials, or construction along their length. *Note 2:* In a uniform transmission line, signal attenuation is a function of

the length of the line and the frequency of the signal. [From Weik '89]

unilateral control system: *Synonym unilateral synchronization system.*

unilateral synchronization system: A system of synchronization in which signals from a single location are used to synchronize clocks at one or more other locations. *Synonym unilateral control system.*

unimode fiber: *Synonym single-mode optical fiber.*

unintelligible crosstalk: Crosstalk that consists of unintelligible signals, hence from which information cannot be derived. (188)

unintentional interference: *See interference.*

uninterruptible power supply (UPS): A device that is inserted between a primary power source, such as a commercial utility, and the primary power input of equipment to be protected, *e.g.*, a computer system, for the purpose of eliminating the effects of transient anomalies or temporary outages. *Note 1:* An UPS consists of an inverter, usually electronic, that is powered by a battery that is kept trickle-charged by rectified ac from the incoming power line fed by the utility. In the event of an interruption, the battery takes over without the loss of even a fraction of a cycle in the ac output of the UPS. The battery also provides protection against transients. The duration of the longest outage for which protection is ensured depends on the battery capacity, and to a certain degree, on the rate at which the battery is drained. *Note 2:* An UPS should not be confused with a standby generator, which may not provide protection from a momentary power interruption, or which may result in a momentary power interruption when it is switched into service, whether manually or automatically.

unipolar signal: A two-state signal where one of the states is represented by voltage or current and the other state is represented by no voltage or current. (188) *Note:* The current flow can be in either direction.

unique key: Key held only by one crypto-equipment and its associated distribution center. (188)

unit-distance code: An unweighted code that changes at only one digit position when going from one number to the next in a consecutive sequence of numbers. *Note 1:* Use of one of the many unit-distance codes can minimize errors at symbol transition points when converting analog quantities into digital quantities. *Note 2:* An example of a unit-distance code is the Gray code. [From Weik '89]

unit element: In the representation of a character, a signal element that has a duration equal to the unit interval. (188)

unit impulse: A mathematical artifice consisting of an impulse of infinite amplitude and zero width, and having an area of unity. *Note:* The unit impulse is useful for the mathematical expression of the impulse response, *i.e.*, the transfer function, of a device. *Synonym Dirac delta function.*

unit interval: In isochronous transmission, the longest interval of which the theoretical durations of the significant intervals of a signal are all whole multiples. (188)

universal personal telecommunications number: *Synonym UPT number.*

Universal Personal Telecommunications (UPT) service: A telecommunications service that provides personal mobility and service profile management. *Note 1:* UPT service involves the network capability of identifying uniquely a UPT user by means of a UPT number. *Note 2:* The general principles of UPT are given in ITU-T Recommendation F.850. *Note 3:* UPT and PCS are sometimes mistakenly assumed to be the same service concept. UPT allows complete personal mobility across multiple networks and service providers. PCS may use UPT concepts to improve subscriber mobility in allowing roaming to different service providers, but UPT and PCS are not the same service concept.

universal service: The concept of making basic local telephone service (and, in some cases, certain other telecommunications and information services) available at an affordable price to all people within a country or specified jurisdictional area.

Universal Time (UT): **1.** The basis for coordinated dissemination of time signals, counted from 0000 at midnight. **2.** In celestial navigation applications, the time which gives the exact rotational orientation of the Earth obtained from UTC by applying increments determined by the U.S. Naval Observatory. **3.** A measure of time that conforms, within a close approximation, to the mean diurnal rotation of the Earth and serves as the basis of civil timekeeping. *Note:* Universal Time (UT1) is determined from observations of the stars, radio sources, and also from ranging observations of the Moon and artificial Earth satellites. The scale determined directly from such observations is designated Universal Time Observed (UTO); it is slightly dependent on the place of observation. When UTO is corrected for the shift in longitude of the observing station caused by polar motion, the time scale UT1 is obtained. When an accuracy better than one second is not required, Universal Time can be used to mean Coordinated Universal Time (UTC). [JP1] **4.** The official civil time of the United Kingdom. *Formerly called Greenwich Mean Time. Contrast with Coordinated Universal Time.*

UNIX™: A portable, multiuser, time-shared operating system that supports process scheduling, job control, and a programmable user interface. *Note 1:* There are many proprietary operating systems that are based on UNIX™ and are colloquially referred to as UNIX™, but are not necessarily interoperable. *Note 2:* Most UNIX™-based operating systems are POSIX compliant.

unnumbered command: In a data transmission, a command that does not contain sequence numbers in the control field.

unnumbered response: In data transmission, a response that does not contain sequence numbers in the control field.

unsuccessful call: *Synonym unsuccessful call attempt.*

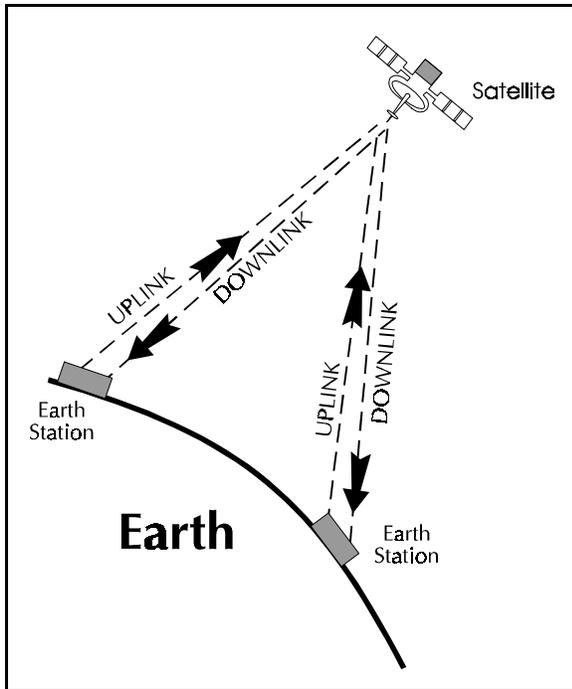
unsuccessful call attempt: A call attempt that does not result in the establishment of a connection. *Synonym unsuccessful call.*

unused character: *Synonym illegal character.*

up-converter: A device that translates frequencies from lower to higher frequencies. (188)

update: The regeneration of a display to show current status, based on changes to the previously displayed data. *Note:* An update can be accomplished upon user request or by automatic means.

uplink (U/L): **1.** The portion of a communications link used for the transmission of signals from an Earth terminal to a satellite or to an airborne platform. *Note:* An uplink is the converse of a downlink. (188) **2.** Pertaining to data transmission from a data station to the headend. (188)



uplink

upright position: *Synonym* erect position.

UPS: *Acronym for uninterruptible power supply.*

upstream: **1.** The direction opposite the data flow. **2.** With respect to the flow of data in a communications path: at a specified point, the direction toward which data are received earlier than at the specified point.

UPT: *See Universal Personal Telecommunications service.*

UPT access code: In universal personal telecommunications service, the code that UPT users may need to dial, when using some terminals and networks, to enter the UPT environment before executing any UPT procedures.

UPT database: In universal personal telecommunications service, a repository for information, such as a service profile, that is related to a set of UPT customers and UPT users.

UPT environment: In universal personal telecommunications service, the environment within which the UPT service facilities are offered, consisting of combinations of networks and UPT service control facilities that, when combined, enable UPT users to make use of telecommunication services offered by these networks. *Note:* To the UPT user, the UPT environment appears as a single global network that provides personal mobility. However, when utilizing telecommunication services, the UPT network user may be limited by restrictions imposed by the network, by the capabilities of the terminal and network used, or by regulatory requirements.

uptime: The time during which a functional unit is fully operational. (188)

UPT indicator: In universal personal telecommunications, that portion (or portions) of the UPT number that identifies a call as a UPT call.

UPT number: In universal personal telecommunications, the number that uniquely identifies a UPT user and that is used to place a call to, or to forward a call to, that user. *Note:* A user may have multiple UPT numbers, *e.g.*, a business UPT number for business calls and a private UPT number for private calls. In the case of multiple numbers, each UPT number is considered, from a network vantage point, to identify a distinct UPT user, even if all such numbers identify the same person or entity. *Synonym* **universal personal telecommunications number.**

UPT routing address: In universal personal telecommunications, the number used by the network to direct a call according to the user's UPT service profile.

UPT service profile: In universal personal telecommunications, a record that contains all information related to a UPT user, which information is required to provide that user with UPT service such as subscriptions to basic and supplementing services and call-routing preferences. *Note:* Each UPT service profile is associated with a single UPT number. *Synonym* **service profile**.

UPT service profile management: In universal personal telecommunications, authorized access to and manipulation of the UPT service profile. *Note:* UPT service profile management can be performed by the UPT user, by the UPT customer (subscriber), or by the UPT service provider. *Synonym* **service profile management**.

UPT subscriber: In universal personal telecommunications, a person who (or entity that) obtains a UPT service from a UPT service provider on behalf of one or more UPT users.

UPT user: In universal personal telecommunications, a person who (or entity that) has access to universal personal telecommunication (UPT) services and who has been assigned a UPT number.

UPT user group: A specific set of universal personal telecommunication users.

usable line length: *See* **available line**.

usage: *Synonym* **occupancy**.

useful line: *Synonym* **available line**.

user: **1.** A person, organization, or other entity (including a computer or computer system), that employs the services provided by a telecommunication system, or by an information processing system, for transfer of information. (188) *Note:* A user functions as a source or final destination of user information, or both. *Synonym* **subscriber**. **2.** [A] person or process accessing an AIS by direct connections (*e.g.*, via terminals) or indirect connections. *Note:* "Indirect connection" relates to persons who prepare input data or receive output that is not reviewed for content or classification by a responsible individual. [NIS]

User Datagram Protocol (UDP): In the Internet Protocol suite, a standard, low-overhead, connectionless, host-to-host protocol that is used over packet-switched computer communications networks, and that allows an application program on one computer to send a datagram to an application program on another computer. *Note:* The main difference between UDP and TCP is that UDP provides connectionless service, whereas TCP does not.

user information: Information transferred across the functional interface between a source user and a telecommunications system for delivery to a destination user. *Note:* In telecommunications systems, user information includes user overhead information.

user information bit: A bit transferred from a source user to a telecommunications system for delivery to a destination user. *Note 1:* User information bits do not include the overhead bits originated by, or having their primary functional effect within, the telecommunications system. *Note 2:* User information bits are encoded to form channel bits.

user information block: A block that contains at least one user information bit. (188)

user line: *Synonym* **loop (def. #2)**.

user overhead information: *See* **overhead information**.

user service class: *Synonym* **class of service**.

UT: *Abbreviation for Universal Time*.

UTC: *Abbreviation for Coordinated Universal Time*.

UTC(i): Coordinated Universal Time (UTC), as kept by the "*i*" laboratory, where *i* is any laboratory cooperating in the determination of UTC. *Note:* In the United States, the official UTC is kept by the U.S. Naval Observatory and is referred to as UTC (USNO).

utility load: *Synonym* **nonoperational load**.

utility program: A computer program that is in general support of the operations and processes of a

computer. *Note:* Examples of utility programs include diagnostic programs, trace programs, input routines, and programs used to perform routine tasks, *i.e.*, perform everyday tasks, such as copying data from one storage location to another. *Synonyms* **service program, service routine, tool, utility routine.**

utility routine: *Synonym* **utility program.**

uv: *Abbreviation for* **ultraviolet.**

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