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A/B Switch : A switch that selects one of two inputs (A or B) for routing to a common output while providing adequate isolating between the two signals.

A/D : Analog/Digital (Conversion).

ABC : Analog to Digital Conversion. Process of sampling and coding an analog quantity or signal or produce a digital representation.

Absolute Zero : The coldest possible temperature at which all molecular motion ceases. It is expressed in degrees Kelvin as measured from absolute zero. Zero degrees Kelvin equals minus 273.16 °C or minus 459 °F.

Aerial Cable : A cable suspended in the air on poles or other overhead structure.

AFC : (Automatic Frequency Control) A circuit which locks an electronic component onto a chosen frequency.

AGC (Automatic Gain Control) : A circuit that uses feedback to maintain the output of an electronic component at a constant level.

Alignment : The process of fine tuning a dish or an electronic circuit to maximize its sensitivity and signal receiving capability.

Alloy : A metal formed by combining two or more different metals to obtain describe properties.

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Backhaul : A terrestrial link connecting an earth station to its local switching center or population center.

Band : A unit for designating a specific frequency or range of frequencies in the electromagnetic spectrum.

Band Separator : A device that splits a group of specified frequencies into two or more bands. Common types include UHF/VHF, Hi/Lo band and FM separators. This device is essentially a set of filters.

Bandpass Filter : A circuit or device that allows only a specified range of frequencies to pass from input to output.

Bandwidth : The range of frequencies occupied by a signal, or passed by a transmission channel. Services requiring a bandwidth greater than 20 kHz, such as TV transmissions, are known as "broadband". Those requiring less capacity, such as audio transmissions, are known as "narrowband".

Baseband : The band of frequencies containing the information, prior to modulation (and after demodulation).

BCD : Binary coded decimal.

Beam width : The acceptance angle of an antenna, usually measured between half-power (3 dB) points.

Bearer Circuit : One circuit that can be divided by circuit multiplication equipment to carry more than one derived circuit.

BNC Connector : A weatherproof twist lock coax connector standard on commercial video equipment and used on some brands of satellite receivers.

Boresight : The direction along the principle axis of either a transmitter or a digital antenna.

Box : A set top converter which replaces the television's tuner thus expanding the television set's channel tuning capability.

BPF : Band-Pass Filter.

BPSK : Binary Phase - Shift keying.

BPU : Baseband Processor Unit.

Broadcast : A signal transmitted to all user terminals in a service area, or the process

B/s : Abbreviation for Bits per second.

Byte : A digital "word," usually consisting of eight bits.

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C/T : Carrier-to-noise-Temperature ratio.

C/I : Carrier-to-interference ratio.

C/No or C/kT : Carrier/Noise Density, i.e., CNR per unit bandwidth.

Carrier : A pure-frequency signal that is modulated to carry information. In the process of modulation it is spread out over a wider band. The carrier frequency is the center frequency on any television channel.

CCD : Charge coupled device. In this device charge is stored on a capacitor which are etched onto a chip. A number of samples can be simultaneously stored. Used in MAC transmissions for temporarily storing video signals.

CCIR : International Radio Consultative Committee.

Channel : A segment of band width used for one complete communication link.

Circuit : A two-way communications link, most commonly used for sending and receiving voice and data information. Satellite capacity is most often stated in the number of circuits that a satellite can carry.

Circular Mil : The area of a circle one mil (.001") in diameter, 7.854×10^{-7} sq.in. Used in expressing wire cross sectional area.

Cladding : A method of applying a layer of metal over another metal whereby the junction of the two metals is continuously welded.

Clamp (also Line Clamp, Black Level Clamp) : A video procession circuit that removes low-frequency disturbances (e.g. energy dispersal) from the waveform.

Color Code : A system for circuit identification through use of solid colors and contrasting tracers.

Common Carrier : A company providing telecommunications services to users under rates and regulations set by the TRAI.

Companding : A noise-reduction technique involving compression applied at the transmitter, with complementary expansion at the receiver. A form of noise reduction using compression at the transmitting end and expansion at the receiver. A compressor is an amplifier that increases its gain for lower power signals. The effect is to boost these components into a form having a smaller dynamic range. A compressed signal has a higher average level, and therefore, less apparent loudness than an uncompressed signal, even though the peaks are no higher in level. An expander reverse the effect of the compressor to restore the original signal.

Composite Signal : Ambiguous term, variously used to refer to composite baseband or composite video.

Composite Baseband : The raw demodulator output, prior to filtering and clamping and (usually) prior to de-emphasis. Contains all transmitted subcarriers. In some receivers this output is not intended for video use, and a roll-off may be applied to the lowest baseband frequencies.

Composite Video : Complete video signal including synchronizing, luminance and color information, with teletex where transmitted. Does not include audio or data subcarriers.

Conductivity : The capability of a material to carry electrical current - usually expressed as a percentage of copper conductivity (copper being 100%).

Conductor : An uninsulated wire suitable for carrying electrical current.

Conduit : A tube or trough in which insulated wires and cables are run.

Conical-scan : A complex type of autotracking system.

Connector : A device used to physically and electrically connect two or more conductors.

Copolymer : A compound resulting from the polymerization of two different monomers.

Crazing : The minute cracks on the surface of plastic materials.

Cross-Site : Link or cable connection between antenna and equipment building.

Cut-Through Resistance : The ability of a material to withstand mechanical pressure, usually a sharp edge or small radius, without separation.

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De-emphasis : A reduction of the higher frequency portions of an FM signal used to neutralize the effects of pre-emphasis. When combined with the correct level of pre-emphasis, it reduces over-all noise levels and therefore

increases the signal-to-noise ratio.

Decoder : A circuit that restores a signal to its original form after it has been scrambled.

Delta Modulation : Digital coding system based on the transmission of a change in value, rather than the absolute value of a sample. Exhibits a softer threshold than PCM.

Demodulation : The recovery of baseband information from a modulated carrier.

Demodulator : A device which extracts the baseband signal from the transmitted carrier wave.

Derived Circuit : The created circuits derived from the bearer circuit. The number of actual voice circuits being carried.

Direct Broadcast Satellite (DBS) : A term commonly used to describe Ku-band broadcasts via satellite directly to individual end-users. The DBS band ranges from 11.7 to 12.2 GHz.

Direct Current Resistance (D.C.R.) : The resistance offered by any circuit to the flow of direct current.

Discrimination : Measure of the ability of a component or system to separate wanted from unwanted signals, using some parameter such as polarization.

Discriminator : Type of FM demodulator.

Distribution System : A communication system consisting of coax but occasionally of line-of-sight microwave links that carries signals from the headend to end-users.

DPCM : Differential Pulse - Code Modulation

DPSK : Differential Phase - Shift Keying

Drain Wire : In a cable, the uninsulated wire laid over the component or components to make a ground connection.

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ED : Energy Dispersal.

Electromagnetic Spectrum : The entire range of wavelengths of electromagnetic radiation - including visible light - which extend from gamma rays to microwaves and radio waves, all of which travel at the speed of light (186,000 miles per second or 300,000,000 meters per second).

Elongation : The fractional increase in length of a material stressed in tension.

EMI Abbreviation for electromagnetic interference.

Encoder : A device used to electronically alter a signal so that it can only be viewed on a receiver equipped with a special decoder.

Encryption : A satellite TV receiving antenna component that collects the signal reflected from the main surface reflector and channels this signal into the low-noise amplifier (LNA).

Energy Dispersal : A low-frequency waveform added to the baseband signal before modulation to reduce the FM signal's peak power per unit band-width, and thus reducing its interference potential. The modulation of an uplink carrier with a triangular waveform. This technique disperses the carrier energy over a wider bandwidth than otherwise would be the case in order to limit the maximum energy compared to that transmitted by an unclamped carrier. This triangular waveform is removed by a clamp circuit in a satellite receiver.

Exciter : The modulator and driver section of a transmitter, as used in an uplink.

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FCC : The Federal Communications Commission, the regulatory board which sets standards for communications within the United States.

FDM : Frequency Division Multiplex

FDMA : Frequency Division Multiple Access

FET : Field-Effect Transistor. Semiconductor device used in LNAs, LNBS, and LNCS. See also GaAs.

FM : Frequency modulation. A modulation method whereby the baseband signal varies the frequency of the carrier wave. Also referring to audio service broadcast over 88 MHz-108 MHz.

Filter : A device used to reject all but a specified range of frequencies. A bandpass filter allows only those signals within a given band to be communicated. A rejection filter, the mirror image of bandpass filter, eliminates those signals within a specified band but passes all other frequencies.

Flame Resistance : The ability of a material not to propagate flame once the heat source is removed.

FMFB : Frequency Modulation Feedback, a technique for deviation reduction and threshold extension.

Frequency : The number of times that an alternating current goes through its complete cycle in one second of time. One cycle per second is also referred to as a Hertz, 1,000 cycles per second a kilohertz, 1,000,000 cycles per second a megahertz, and 1,000,000,000 cycles per second a gigahertz.

FSK : Frequency shift keying.

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GaAs : Gallium Arsenide. High-mobility semiconductor material used in low-noise microwave devices.

Gain : The amount of amplification of input to output power often expressed as a multiplicative factor or in decibels.

Gateway : A network access point. An interchange between two networks, for instance between national and international telecommunications networks (INTELSAT Gateway).

GHz : Unit of frequency equal to 1000 MHz, one billion (10^9) cycles per second.

Giga : A numerical prefix denoting one billion (10^9).

GMT : Greenwich Mean Time. The international universal standard time

Ground : A conducting connection between an electrical circuit and the earth or other large conducting body to serve as an earth thus making a complete electrical circuit.

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Hall Effect Sensor : A semiconductor device in which an output voltage is generated in response to the intensity of a magnetic field applied to a wire. In an actuator, the varying magnetic field is produced by the rotation of a permanent magnet past a thin wire. The pulses generated serve to count the number of rotations of the motor.

HDTV : High-definition television.

HEMT : High Electron Mobility Transistor.

Hertz : The name given to the basic measure of radio frequency. An electromagnetic wave completes a full oscillation from its positive to its negative pole and back again in what is known as a cycle. A single Hertz is thus equal to one cycle per second.

High Power Amplifier (HPA) : An amplifier used to amplify the uplink signal

HPA : High-Power amplifier (esp. in an upline). Usually a TWTA or a Klystron.

HPF : High-Pass Filter.

Hue : Spectral tint parameter in a color video signal.

Hypalon : Dupont's trade name for their chlorosulfonated polyethylene, an ozone resistant synthetic rubber.

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I Signal : One of the two color video signals which modulate the color subcarrier. It represents those colors ranging from reddish orange or cyan.

IF : Intermediate Frequency. A middle range frequency generated after down conversion in any electronic circuitry including a satellite receiver. The majority of all signal amplification, processing and filtering in a receiver occur in the IF range.

Impedance Matching : The matching of the resistive values of the input and output of electronic devices to reduce signal reflection and ghosting. Also known as Back Match.

Inductance : The property of a circuit or circuit element that opposes a change in current flow, thus causing current changes to lag behind voltage changes. It is measured in henrys.

Injection Locking : Low-cost technique for phase-locking a cavity or resonator oscillator to a crystal source, to improve its frequency stability.

Insertion Loss : The amount of signal energy lost when a device is inserted

into a communication line. Also known as "feed through" loss.

Insulation : A material having high resistance to the flow of electric current. Often called a dielectric in radio frequency cable.

Interference : An undesired signal intercepted by a TVRO that causes video and/or audio distortion.

IPA : Intermediate Power Amplifier (Uplink Transmitter).

Isolation Loss : The amount of signal energy lost between two ports of a device. An example is the loss between the feed through port and the tap/drop of a top-off device.

Isolator : Transmission-line component which passes signals with low loss in a preferred direction, while presenting high attenuation in the reverse direction.

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K-band : The frequency spectrum 10.9 to 36 GHz.

Ka-Band : Used loosely for 30/20 GHz satellite systems.

Kelvin Degrees (deg K) : The temperature above absolute zero, the temperature at which all molecular motion stops, graduated in units the same size as degrees Celsius (OC). Absolute zero equals -273° C or -459° F.

KHz : Kilohertz. One thousand hertz (cycles) per second.

Kilo : A numerical prefix denoting 1000 (10³).

Kilohertz (kHz) : One thousand cycles per second.

Klystron : Type of high-power beam tube used in some HPAS.

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L-Band : The frequency range from 0.5 to 1.5 GHz. Also used to refer to the 950 to 1450MHz used for mobile communications.

Latitude : The distance, expressed in degrees, from the Earth's equator to points north or south. The equator is assigned a value of 0 degrees; North and South poles are 90 degrees.

LED : Light emitting diode. Type of semiconductor that lights up when activated by voltage.

LOS : Line of Sight.

LOS (1) : Loss of Signal.

Loss : Energy dissipated without accomplishing useful work.

LPF : Low Pass Filter.

Luminance : Light and shade information in a video signal.

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Mill : one-thousandth or 10^{-3} .

Mega , one million or 10^6 .

Marginal : Describes a system operating with nil, or inadequate, signal margin.

Match : The condition that exists when 100 percent of available power is transmitted from one device to another without any losses due to reflections.

Matching Transformer : A device used to match impedance between devices. A matching transformer is used, for example, when connecting a 75 ohm coax to a television 300 ohm input terminal.

MATV : Master Antenna Television - private cable.

MegaHertz (MHz) One million cycles per second.

Meridians : Lines circling from pole to pole which cross each of the 360 degrees which comprise the Earth's equator.

Microprocessor : The central processing unit of a computer or control system, either on a single integrated (IC) circuit chip or on several Ics.

Microwave : The frequency range from approximately 1 to 30 GHz and above.

MMDS : Microwave Multipoint Distribution Service also known as wireless cable.

Modem : Modulator/demodulator, Usually applied to a device for converting digital data to audio tones (and vice versa) for transmission via an analog channel.

Modulation : A process in which a message is added or encoded onto a carrier wave. Among other methods, this can be accomplished by frequency or amplitude modulation, known as AM or FM, respectively.

Modulator, AM : Consumer satellite receivers are equipped with a VHF or UHF demodulator to supply a standard AM TV channel to home TV receiver

Modulus of Elasticity : The ratio of stress to strain in an elastic material.

Monochrome : A black and white television picture.

Multiplexing : Techniques that allow a number of simultaneous transmissions over a single circuit.

Multiburst : A video test waveform included in ITS.

Multiple Analog Component (MAC) Transmissions

An innovative television transmission method which separate the data, chrominance and luminance components and compresses them for sequential relay over one television scan line. There are a number of system in use and under development including A-MAC, C-MAC, D-MAC, D2-MAC, E-MAC and F-MAC.

Multiplexing : The simultaneous transmission of two or more signals over a single communication channel. The interleaving of the luminance and chrominance signals is one form of multiplexing, known as frequency multiplexing. MAC transmissions make use of time division multiplexing

Multipoint : A single communications line or circuit interconnecting several

stations. Use of this type of line usually requires some kind of polling mechanism to address each terminal with a unique address code.

Must carry : Legal requirement in India that cable operators carry DD broadcast signals. Cable systems must carry at least three DD channels

Mutual Capacitance : Capacitance between two conductors when all the other conductors including ground are connected together and then regarded as an ignored ground.

Mux : Multiplexer.

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Nano : A numerical prefix denoting one-billionth (10^{-6}).

NASA : National Aeronautics Space Administration. U.S. agency which administer the American space program, including the deployment of military satellites via its fleet of space transportation system (STS) space shuttles.

NTSC Color Bar Pattern

The standard test pattern of six adjacent color bars including the three primary colors pulse their three complementary shades.

NTSC : The National Television Standards Committee which created standard for North American TV Broadcasts

Nutation : The imbalance associated with a spinning object.

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OFHC : Abbreviation for oxygen-free, high conductivity copper. It has no residual deoxidant, 99.95% minimum copper content and an average annealed conductivity of 101%.

Ohm : A unit of electrical resistance.

Orthogonal : Mutually at right angles (e.g., horizontal and vertical polarization, or right-hand left-hand circular polarization).

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P.f.d. (or PFD) : Power-flux Density (related to field strength)

PAL : Phase Alternation System - the German developed TV standard based upon 50 cycles per second and 625 lines.

Palapa : Indonesia / ASEAN regional satellite system, now bought over by.

Parabola : The geometric shape that has the property of reflecting all signals parallel to its axis to one point, the focal point.

Paraboloid : A parabola of revolution. Classical shape of a satellite antenna's reflector.

Paramp : Parametric Amplifier. Sophisticated type of LNA.

Path Loss : The attenuation that a signal undergoes in travelling over a path between two points. Path loss varies inversely as the square of the distance traveled.

Pay-Per-View : Pay-per-view is a method of purchasing programming on a per-program basis.

PCM : Pulse Code Modulation. Coding system for digital audio transmission.

PE : Pre-emphasis.

Peltier : Thermoelectric cooling system for cryogenic INAS.

Percent Conductivity : Conductivity of a material expressed as a percentage of that of copper.

Periodicity : The uniformly spaced variations in the insulation diameter of a transmission cable that result in reflections of a signal, when its wavelength or a multiple thereof is equal to the distance between two diameter variations.

Persistence of Vision : The physiological phenomena whereby a human eye retains perception of an image for a short time after the image is no longer visible.

Phase : A measure of the relative position of a signal relative to a reference expressed in degrees.

Pico : A numerical prefix denoting one-millionth of one-millionth (10^{-12}).

Plasticizer : A chemical agent added to plastics to make them softer and more pliable.

PLL : Phase Locked Loop (type of demodulator) Pulse width modulation.

PM : Phase modulation

Point-to-Point : A communications line connected directly from one point to one other point as opposed to multipoint lines.

Polymer : A material of high molecular weight formed by the chemical union of monomers.

Polyolefin : Any of the polymers and copolymers of the ethylene family of hydrocarbons.

Positive Picture Phase : Positioning of the composite video signal so that the maximum point of the sync pulses is at zero voltage. The brightest illumination is caused by the most positive voltages.

PPV : Pay-per-view. A system by which a viewer can pay and view the programme he wants from a programming menu.

Primary Colors : Red, green and blue.

PSD : An abbreviation for polarity selection device.

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Radio Frequency : The approximately 10 kHz to 100 GHz electromagnetic band of frequencies used for man-made communication.

Rated Temperature : The maximum temperature at which an electric component can operate for extended periods without loss of its basic properties.

Rated voltage : The maximum voltage at which an electric component can operate for extended periods without undue degradation or safety hazard.

Reed Switch : A mechanical switch which uses two thin slivers of metal in a glass tube to make and break electrical contact and thus to count pulses which are sent to the antenna actuator controller. The position of the silver of metal is governed by a magnetic field applied by a bar or other type of magnet sliver.

RF : Radio Frequency.

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Saturation : colour intensity parameter in a video signal.

SECAM : Sequence Couleur a Memorie. French-designed color TV encoding system.

Shortwave : Transmissions on frequencies of 6-25 MHz.

SHF : Super high frequency.

Specific Gravity : The ratio of the density (mass per unit volume) of a material to that of water.

Spectrum : The range of electromagnetic radio frequencies used in transmission of voice, data and television.

STL : Studio - Transmitter Link.

Subcarrier : An information-carrying-wave, which in turn modulates the main carrier in a communications system. Subcarriers are used for color information, TV audio, independent audio, and data transmission.

Subscription television : Television programming/channels that can be viewed in your home only if you pay for them. The signal of subscription satellite television channels is scrambled and beamed down. Only subscribers who have an IRD for those particular subscription services have access to them.

Surface Resistivity : The resistance of a material between two opposite sides of a unit square of its surface. It is usually expressed in ohms.

Surface Acoustic Wave : A sound or acoustic wave traveling on the surface of the optically polished surface of a pie zoelectric material. This wave travels the speed of sound but can pass frequencies as high as several gigahertz.

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T/R : Transmit/Receive.

TDA : Tunnel Diode Amplifier (early type of LNA).

TDM (1) : Time Division (or Domain) Multiplex.

TDMA : Time Division Multiple Access.

Tear Strength : The force required to initiate or continue a tear in a material under specified conditions.

Teletext : Broadcast Videotex An on-screen text information service transmitted in digital format using spare lines in the VBI of a TV signal.

Tensile strength : The pull stress required to break a given specimen.

Thermal Noise : Random, undesired electrical signals caused by molecular motion, known more familiarly as noise.

Trap : An electronic device that attenuates a selected bank of frequencies in a signal. Also known as a notch filter.

Truncation : Loss or outermost side frequencies of an FM signal due to filtering. Shows as "tearing" effect of noise on video transients, sharp vertical edges.

TWT : Traveling - Wave Tube.

TWTA : Traveling - Wave Tube Amplifier.

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U-Band : A band of frequencies in the 10.9 to 17 GHz range that are used for fixed satellite service applications.

UHF : The spectrum 300 MHz through 3 GHz. Terrestrial broadcasts television occupies 470-890 MHz. The 620-790 MHz band is allocated for community DSS downlinks in developing countries and remote areas.

UL : Abbreviation for Underwriters Laboratory, a nonprofit independent organization, which operates a listing service for electrical and electronic materials and equipment.

Upconverter : A device that increases the frequency of a transmitted signal.

UT : Universal Time. Same as GMT.

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VDU : Visual/Display Unit. TV-type monitor used as a computer display.

Video Signal : That portion of the transmitted television signal containing the picture information.

Video Monitor : A television that accepts unmodulated baseband signals to reproduce a broadcast.

Videotex : An electronic textual information distribution system, from a central computer to remote VDUS. (Also See Teletext, Viewdata).

Viewdata : Interactive videotex.

Velocity of Propagation : The speed of an electrical signal down a length of cable compared to speed in free space expressed as a percent. It is the reciprocal of the square root of the dielectric constant of the cable insulation.

Volt : A unit of electromotive force.

Voltage Rating : The highest voltage that may be continuously applied to a wire in conformance with standards or specifications.

VTO : Voltage Tuned Oscillator.

VW-1 : A flammability rating established by Underwriters Laboratories for wires and cables that pass a specially designed vertical flame test, formerly designated FR-1.

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Watt : A unit of electric 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.

Waveguide : A rectangular or oval metal pipe that is commonly used as a transmission line for microwave signals. The dimensions and tolerances of waveguides are directly related to the wavelength of the microwave signals which they are to carry.

Wegener : Proprietary system for subcarrier stereo (or additional audio) transmission. Uses discrete low-level companded subcarriers.

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X,Y : The two planes of linear polarization in a satellite system normally horizontal and vertical, respectively.