

Access Card

Approximately the size of a credit card, these are specially coded cards given to employees and allow them access to secure locations or devices at work. Access cards utilize several technologies such as magnetic strips, Barium Ferrite, proximity (active or passive), and other methods. They are often 'swiped' and read by a device that allows the user or employee access.

Access Code

Similar to a password, this series of numbers or letters enables a user to access a system or computer. At job sites an access code can be the system or process that oversees employees or cars both in and out of certain areas.

Access Point

These are specific entry points in certain secure areas. A card reader and monitor switches allow authorized entry by individuals with access cards.

ActiveX

ActiveX is Microsoft software component technology, mainly used by Microsoft Windows. They facilitate sharing of information between differing applications. Digital video recorders utilize ActiveX to remotely view security cameras online.

Activity Detection

Multiplexers use this feature, which is a video motion detection technique, to give relay closure for alarms and to improve the update times of video cameras.

AGC (Automatic Gain Control)

AGC increases the signal strength of security cameras when the light level decreases, and puts a cap on it during higher levels; this keeps the output signal consistent.

AI (Auto Iris)

A useful feature to have in a video camera, an auto iris compensates for variations in light levels, from sunlight to shadows. Essentially, the auto iris opens and closes the lens iris as the light changes; this also prevents the camera from being damaged by very bright sunlight.

Alarm Input

When attached to a security camera, an alarm input provides enhanced security in the form of a sensor device, often a door contact or a Passive Infra-red detector for motion detection. Alarm inputs can be self powered or can require external power (usually 12V).

ALC (Automatic Level Control)

Some security cameras feature ALC, which means the camera can bring out detail in bright or dark areas of an image. If too much sunlight makes an image too dark, ALC can focus on the needed image.

Algorithms

Its general definition means a set of mathematical instructions to solve a task. In the field of video technology, they enable digital compression of the video picture.

Ambient Light Level

This is the amount of background light present at any specific time.

Analog Signal

Analog signals are produced by most security cameras. Analog signals are continuously variable, and are greatly affected by 'noise' (disturbances) within the system, and recordings of analog information (such as videotapes) degrade over time. This doesn't occur with digital signals recorded on media like CDs, DVDs and computer hard drives.

Angle of view

Also known as viewing angle, this refers to the angular range available within a certain image size. It is given in degrees as in the degrees of a circle. Small focal lengths give a wide angle of view, and large focal lengths give a narrow field of view (FOV). See also Field of View.

Annunciator

This is a signaling device, either visual or audio based. For example, wireless annunciators use infrared beams that trigger an audible signal when interrupted, and can be used for security or retail purposes.

Aperture

An aperture is a lens opening that controls how much light reaches the film or digital sensor. Iris adjustment controls aperture size, and a series of f-stop numbers dictate how much light passes through the lens. A smaller aperture allows for better focus on objects outside the camera's plane of focus.

ARP (Address Resolution Protocol)

ARP is a method determining a host's Ethernet address from its Internet address. The network receives the ARP request, and then names the IP address. Next, the machine at this address returns its physical address so the information can be sent to it. If supported by all hosts, Internet addresses can be independent of Ethernet addresses.

Aspect Ratio

Aspect Ratio refers to the ratio between an image's height and width. In standard TV systems it is 4:3. Differing mediums such as television, HDTV, and film, use different aspect ratios. Within computer graphics, it refers to the shape of an individual pixel in a digital image.

Aspherical Lens

A lens with a non spherical shape so that it refracts the light passing through it to either lower the lens aperture so that it passes more light or decrease barrel distortion on wide angle lenses.

Attenuation

A reduction in light strength or electrical signal, usually because of absorption or scattering, is called attenuation. The use of triaxial cables can minimize attenuation.

AUTOMATIC FREQUENCY CONTROL (AFC) –

An electronic circuit used whereby the frequency of an oscillator is automatically maintained within specified limits.

AUTOMATIC GAIN CONTROL (AGC) - An electronic circuit used by which the gain of a signal is automatically adjusted as a function of its input or other specified parameter.

AUTOMATIC IRIS LENS - A lens in which the aperture automatically opens or closes to maintain proper light levels on the faceplate of the camera pickup device.

AUTOMATIC LEVEL CONTROL (A.L.C.) - A feature on Auto Iris lenses (also known as the peak/average control). Adjusting this control allows the auto iris circuitry to either take bright spots more into consideration (peak), bringing out detail in bright areas, or less into consideration (average) bringing out detail in shadows.

Automatic White Balance

Cameras with this feature installed will automatically adjust color settings to achieve consistent quality in the white areas of the image.

AVC (Advanced Video Coding)

Both the ITU and MPEG groups have agreed upon AVC as the current video compression standard. ITU calls it H.264, the MPEG group refers to it as MPEG-4, and the public calls it AVC.

Back Focus

Cameras are focused by moving the image sensor in relationship with the lens, which enables differing back focal lengths for the lens. This adjustment is called Back Focus and is important when fitting a zoom.

Backlash

Backlash (measured in degrees) is when a camera's Pan Tilt head cannot stop instantaneously, and is usually caused by excessive looseness in gears, pulleys, or other parts. Pre set PTZ surveillance cameras are rendered ineffectual by Backlash.

Balun

This stands for Balanced – Unbalanced. Physically, a Balun is a small transformer used to convert audio, video, or VGA signals from balanced to unbalanced, and vice versa. Its practical use is in creating required impedance adjustments for signal transmission between differing wiring systems (like UTP to coaxial cable).

Bandwidth

Measured in bps, Bandwidth refers to a telecommunications link's transmission capacity. The bandwidth available in a connection plays a large role in the speed of an Internet connection.

Biometrics

Biometrics is the technology and science of authenticating individuals by measuring their physiological or behavioral features. In the field of security, they are technologies ('readers') used to analyze fingerprints, voice patterns, irises or retinas, etc.

BLC (Back Light Compensation)

Cameras with this feature will automatically bring more detail to darker areas of an image when bright lights (usually shining from behind) obscure it.

Blooming

This refers to the defocusing and glow present around the bright areas of a picture when the brightness is increased. Some video cameras feature blooming suppression abilities to avoid this.

BNC connector

These are a type of RF connectors that interconnect two coaxial cables or connect a cable with CCTV components. They're used in Ethernet networks, video connections, network cards, and cable interconnections.

bps (Bits Per Second)

This unit is used to measure the speed data is moved between sources. For example, a 56kbps modem can move 56,000 bits per second.

Bridging

When a high impedance video line is paralleled to a video source, this is known as bridging.

Broadband

This term defines a high bandwidth signal that is capable of carrying many channels of information simultaneously. Coaxial and fiber-optic cables are popular types of physical transmission paths for broadband signals.

Bullet Camera

Named in reference to its shape, a bullet camera is a type of security camera similar to a spot cam. Its limitation is a fixed focal lens (not zoom), but its small, narrow size makes it suitable for areas other cameras might not fit.

Burn

Burn is the permanent freezing of an image onto a sensitive area of a camera or monitor, and can be avoided by shutting off the device when not in use, or closing an image or application when finished.

Bus Network

This is a network type where a transmission medium served as a bus between all attached terminals, and it's the easiest and cheapest way to connect multiple clients. Computer motherboards and Ethernet networks both employ bus architecture.

Byte

A unit of eight bits is known as a Byte.

Cable tray

This tray is installed in many sites, and lays cables out lengthwise for economics and organization.

Cameo

A small part of a monitor's viewing area (1/16th the screen area) is called a cameo. Multiplexers create multiple analog signals from security cameras and then combine them into multiple cameos on the screen, which enables simultaneous viewing of up to sixteen different camera pictures.

Candela

A candela is a measurement of luminous intensity and is a replacement to the candle.

CCD (Charge Coupled Device)

This is a computer chip that converts the light energy that enters a camera into an electrical charge, which is then converted into an electronic image. The image is then optimized into a very high quality picture. There are two types of CCD: frame transfer and interline transfer.

CCTV (Closed Circuit Television)

CCTV refers to the use of television cameras for surveillance purposes. Unlike broadcast television, all devices are linked directly, usually by cables. CCTV pictures are viewed and/or recorded, but are not broadcast. Usually involving analog cameras and recorders, CCTV is the precursor to digital network systems.

CIF (Common Intermediate Format)

The default frame resolution of 352x288 for DVR systems is known as the CIF.

CMOS

The use of Complementary Metal-Oxide Semiconductors in imagers to sense images improves over CCD technology in resolution, dynamic range, and noise sensitivity.

C-Mount

This is a specific type of camera, as well as its corresponding lens mount. The C-mount lens is found in older versions of security cameras, and has a flange back distance of 17.5mm. In order to achieve a focused image, a 5mm ring must be inserted between the camera and lens.

Coaxial Cable

A cable with a central conductor that's surrounded by a shield sharing its same axis is called a coaxial cable. It's used primarily for carrying high frequency or broadband signals. RG59 video coaxial cable is used for digital video recorder (DVR) installations.

CODEC

CODEC means compressor/decompressor and is any technology used to compress and decompress data. It converts analogue input into digital, and then converts it back to analogue. CODECS can be either software applications or hardware components, or both. DVRs use CODECS to compress video streams from security cameras, and then store this compressed data on a hard disk.

Compression

Compression Techniques are used in Digital CCTV to reduce the file sizes of recorded video images. Typical compression formats used for video are: MJPEG, MPEG-4 & H.264.

Composite Video

This type of video is a combination of different source video signals, usually YUV, field, line, blanking pedestal, color sync, and field equalizing pulses. The end result is one composite signal, allowing it to be modulated onto a RF carrier.

Concave

A concave optical lens has an inward curving surface, causing incoming light to diverge.

Convex

A convex lens curves outwards, and is sometimes known as converging. Light that passes through converges to a focal point.

Covert

A CCTV surveillance system that uses hidden cameras and lenses is considered to be covert.

Crosstalk

In a multiplex signal, video, audio, or data channels with adjacent signal frequencies can create interference. This interference produces a noise known as crosstalk.

CRT (Cathode Ray Tube)

The CRT is a tube found in most televisions, monitors, and video monitors. Once heated, it creates images by emitting a beam of electrons that hit a phosphor-coated surface. The glow of the surface is dependent on the beam's intensity. Each CRT uses deflection circuitry to control the beam's movement.

CS Mount

CS mount lenses offer a longer focal distance than their C mount predecessors. They have a flange back distance of 12.5mm. Because they are more practical for compact cameras, CS mounts are used in most modern cameras. A 5mm spacer ring (known as a C ring) enables CS cameras to also use a C mount lens.

D1

D1 is a resolution of 720x486 (NTSC) or 720x576 (PAL), and was one of Sony's first digitized videotape formats.

Day/Night Camera

A camera that is 'Day/Night' means it can capture video in both day and nighttime. In low light conditions, the Sony Day/Night chipset switches from color to black & white at night to enhance the picture quality.

dB (Decibel)

A decibel is a logarithmic unit that measures the loudness, power, or strength of a signal.

DC (Direct Current)

DC differs from AC (alternating current) in that electricity always flows through it in the same direction. A pair of wires has one positive wire and one negative. Many security cameras are 12 Volt DC, although some can operate at different voltages.

DC Type Lens

An auto-iris lens with internal circuit that receives voltage and a video signal from the camera to adjust the iris.

DD (Direct Drive)

This uses a gearless drive mechanism, making it less prone to mechanical failure. PTZ security cameras will often use them for pan, tilt, and zooming.

Default Gateway

In order to send data or video between networks, the IP Address of the Router is required. This address is known as the Default Gateway.

De-multiplexing

This refers to the procedure of separating different channels of video, audio, or data that were multiplexed at the source.

Depth of field

The front to back zone in a field of view (FOV), which is in focus in the televised scene. With a greater depth of field, more of the scene, near to far, is in focus. Increasing the f-stop number increases the depth of field of the lens. Therefore, the lens aperture should be set at the highest f-stop number usable with the available lighting. The better the lighting, the greater the depth of field possible. In other words, the depth of field is the area in front of the camera, which remains in focus. The larger the f-number the greater is the depth of field.

DHCP (Dynamic Host Configuration Protocol)

A DHCP refers to the protocol used by a host computer to obtain an IP address so that it can communicate with other host computers. These addresses are usually dynamic, meaning they change periodically, so a connection cannot be obtained (or maintained) over the open Internet. Use of both static IP addresses and dynamic DNS helps establish a consistent connection.

Digital Signal

A sequence of binary bits that represent ones and zeros makes up a digital signal.

Distribution Amplifier

This device amplifies and distributes an audio or video signal to multiple outputs, such as several video monitors or recording devices. This device allows the maintenance of the original signal's output impedance to avoid mismatches which could reduce the power required to properly drive the signal's end point.

DISTRIBUTION AMPLIFIER

A device that accepts a (video) signal and sends it out to a number of independent outputs.

DUPLEX (MULTIPLEXER)

A multiplexer that allows the user to look at multi-screen images while performing time multiplex recording.

DivX

DivX Networks created DivX, a MPEG-4 digital video technology. Among its benefits is compression technology, which allows DivX equipped network cameras to store a month of video on a 20 gigabyte hard drive.

DNS (Domain Name Service)

DNS is the system that matches server IP addresses to web site domain names.

Dome Camera

A common indoor security camera, dome cameras are mounted on the ceiling. Their two main advantages are a more appealing visual appearance and being easily movable. Their drawback is a lack of usefulness during low light situations (therefore not effective when the lights are off).

DSL (Digital Subscriber Line)

DSL is a digital telecommunications protocol that allows existing copper phone lines to be used for high-speed transfer of data between home and business end-users. xDSL refers to the various types of Digital Subscriber Lines which include: ADSL (Asymmetric DSL), SDSL (Single-line DSL), HDSL (High-data-rate DSL) and VDSL (Very-high-data-rate DSL). In theory,

ADSL (the most common of these types), allows for download speeds of up to 9 Mbps and upload speeds of up to 640 Kbps. In reality, commercial performance is normally up to 1.544 Mbps download and 128 Kbps upload.

DSP (Digital Signal Processing)

These chips can compress video independent of the CPU, which avoids the need to draw processing power from the CPU, allowing it to focus on other applications and computing tasks.

DTMF (Dual Tone Multi-Frequency)

The scientific term for the Touch Tone signal used on telephones, it is the existing standard for the use of twisted wire pairs to send signals. Some PTZ cameras use DTMF signals in the transferring of telemetry information to the camera. This allows users to move the camera by dialing the number for that camera and then pressing buttons on their phone.

Duplex

A type of multiplexer that allows you to simultaneously record images to tape and display live multiple-picture (or single picture) screen images of security cameras. Another capability that is provided is the ability to record images on one VCR while at the same time playing back previously recorded images on a second VCR. Compare with a simplex multiplexer which provides less features and capabilities.

DVR (Digital Video Recorder)

This device transforms analog video signals from security cameras into digital format, suitable for storage on a hard drive. It also helps the user manage the stored video files, as well as providing motion detection settings and PTZ security camera control. DVRs can often be remotely accessed over the Internet.

Dwell Time

The time a multiplexer or DVR stays on an individual camera before moving onto the next one in the sequence is known as dwell time.

Dynamic IP address

This is the rotation of IP addresses such that every time a user logs onto the Internet, their IP address changes. This is done for Internet security purposes, either by the user or by their ISP. This process can interfere with the use of networked devices such as Network IP Cameras because they normally require a static IP address to function properly.

Dynamic Range

A camera with a wide dynamic range is able to operate in variable light conditions (known as lux levels), especially those of low light. A "dB" is usually the unit used to measure the dynamic range of security cameras, with more being better. A camera with a 60 dB dynamic range would be well suited to clearly record a scene in low or high light levels.

EI (Electronic Iris)

Automatically changes a CCD camera's shutter to mimic Auto Iris control, allowing fixed or manual iris lenses to be used in a range of areas that used to require an auto iris lens.

EIA (Electronic Industries Association)

EIA is both an electronics trade organization that develops industry standards and a term associated with serial communications applicable to digital video recorders.

Electronic Shuttering

This term applies to video cameras that compensate for moderate indoor changes in light without use of auto iris lenses.

E-mail notification

This is a feature of certain motion detecting Network IP Cameras. When activity is detected, they can email authorized users images or video.

Embedded operating system

Cameras with this can also operate as computers. With an OS like Linux installed, they can perform other tasks such as sending images to a web site via FTP, email notification, and being simultaneously accessible by multiple users.

EMI (Electro Magnetic Interference)

If improperly shielded, most electronic equipment causes EMI. The FCC sets the standards for electronic equipment shielding.

Ethernet

Ethernet can send information either wirelessly (known as WiFi) or, more commonly, over wires. It runs at 10mbps, and all terminals connect to a single common bus (sometimes called a highway). It serves as the IEEE (Institute of Electrical and Electronics Engineers) 802.3 standard, which ensures that networks adhere to a particular set of technical standards. A new type, known as Fast Ethernet, or 100Base-T, runs at 100Mbps, and the newest type, Gigabit Ethernet, runs at 1 gigabit per second.

Event recorder

This type of recorder is kept in pause mode, and only records if activated by an alarm.

Extruded aluminum

This type of aluminum is used to construct housings for CCTV (closed circuit television) applications and provides the added benefits of increased strength, durability and resistance to harsher environmental conditions as compared to plastics.

Fast lens

Having a larger iris (and smaller F-stop), a fast lens gathers and transmits increased light to a surveillance camera.

FCC (Federal Communications Commission)

This United States commission regulates communications by setting rates, controlling broadcast licensing, and testing electronic equipment to RF (radio frequency) transmission and related standards.

Fence disturbance sensor

The perimeter fence around a site may have one of these installed around it for intrusion detection. These sensors can be interfaced with a CCTV switcher so that specific cameras are activated in an area where the disturbance is detected.

FI (Fixed Iris)

These widely used fixed focal length iris lenses are inexpensive and are found in smaller types of fixed CCTV security cameras, usually small case or dome cameras.

Fiber Optics

These high-speed computer-networking cables transmit data using light instead of copper.

Field

A field is one half of a frame, with 262.5 lines in the NTSC standard. Interlaced television monitors display their images in two steps. The first step paints every other line, while the second paints the remaining ones. Progressive monitors present a complete field with each frame. Sixty fields are transmitted each second.

Field of view

This is the total height and width of the view seen through the lens. It is sometimes referred to as the Angle of view or angular field of view and is given in degrees as in the degrees of a circle. The horizontal degrees can then be converted to a dimension of what can be seen. See Chart for more info.

1/3" CCD image device

Size of Lens	FOV Horizontal Degrees	FOV@ 25 ft	FOV @50 ft	FOV @100 ft
50mm	5.4	2.4	4.8	9.6
35mm	7.8	3.4	6.9	13.7
25mm	10.9	4.8	9.6	19.2
16mm	17	7.5	15	27.5
12mm	22.6	10	20	40
8mm	33.3	15	30	60
6mm	43.6	20	40	80
4mm	68	30	60	120
2.6mm	80	46.2	92.3	184.6

Firewall

A firewall is a software or hardware application installed on a home or office computer that is intended to prevent unauthorized users from accessing that computer. With hacking and network intrusions on the rise, they are becoming essential in protecting private information. Four popular types of firewall are packet filtering, application gateways, circuit-level gateways, and proxy servers. Although they can be difficult to configure correctly, they are a critical component to protect unauthorized access and hacking of IP based surveillance systems that are LAN based.

Flange back

This refers to the distance from lens flange (the beginning of the lens mount) to the focal plane. The flange back measurement for C-mount lenses is 17.52mm, while CS-mount is 12.5mm.

f-number

This is used to indicate image brightness as formed by the lens and controlled by the iris. The smaller the f-number, the brighter the image is.

F-STOP - A term used to indicate the speed of a lens. The smaller the f-number, the greater is the amount of light passing through the lens.

Focal Length

Focal length is measured in mm or inches, and is the distance between the optical center of the lens and the point on which it focuses. A lower focal length results in less magnification with a greater field of view (FOV), and vice versa for longer focal lengths.

Footcandle - It is the light intensity (illumination) of a surface one foot distant from a source of one candela. It is equal to one lumen per square foot. (1 FC = 1 lm ft²). The footcandle is the unit used to measure incident light.

fps (Frames Per Second)

In the field of video surveillance, fps means the number of frames a DVR is able to capture per second. Three steps are required: video capture, compression, and storage. Each step affects a DVR's true fps number. The use of DSP chips in both IP cameras and DVRs can assist in the optimization of fps.

Frame

One complete picture is called a frame, and it contains 525 lines (NTSC) or 625 lines (PAL).

Frame Rate

The quality of a Digital Surveillance Systems is often determined by the Total Frame Rate it can record at. The higher the Frame Rate, the higher the quality of recording and the more Real Time your CCTV recording will be - Real Time recording for 1 camera is 25 Frames Per Second (PAL).

f-stop

The light gathering ability of a lens (known as a camera lens aperture setting) is indicated by an f-stop. Using a smaller f-stop number results in a greater amount of light passing through the lens, as well as a shallower depth of field.

FTP (File Transfer Protocol)

FTP is a client/server protocol used for the exchange of data between computers. Network cameras with an embedded operating system use FTP to send camera images to an authorized user's computer or web site.

Gamma correction

This refers to an automated correction installed into surveillance cameras that adjusts for the brightness characteristic of the monitor, with the range being from .6 to 1.

Gen-lock

The use of composite video, composite sync, or vertical or horizontal sync to synchronize one or more cameras is known as Gen-lock.

Ghost

Also known as ghosting, this is when an image moved across a computer screen leaves a brief lingering shadow of itself where it had just been, creating a kind of smear or blur. Lower quality computer screens often leave ghosts. Technically, the secondary visual signal has been created and received either earlier or later than the primary signal itself.

Ground Loop

This type of picture interference is caused when the ends of a video cable have differing ground potential, causing an AC current. This is either a black shadow bar onscreen or a tearing in the top corner of the picture results. The use of ground loop insulators prevents this problem.

GUI (Graphical User Interface)

Pronounced 'goeey', this is the interface between the computer and the matrix switcher. Active areas of the computer screen are programmable, feature menus, icons, are clickable, and able to activate devices such as VCRs and matrix switchers. Essentially, the GUI makes the CCTV system easier to use.

Hertz

A Hertz (Hz) is the unit used to measure frequency, with 1 Hz equal to 1 cycle per second.

Horizontal hum bars

Sometimes called Venetian blinds because they are horizontal bars (either black or white) that extend across an entire picture. They're either moving or stationary, and are the result of roughly a 60 Hz interfering frequency (usually from a 60 Hz AC power source).

Horizontal resolution

This measures the maximum amount of individual picture elements recognizable in a single scanning line.

HTML (HyperText Markup Language)

HTML is the language used in the creation of WWW pages, with use of hyperlinks and markup for text formatting.

HTTP (HyperText Transfer Protocol)

This is the protocol utilized to transmit and request information from WWW servers to browsers, either online or over networks.

Hub

Networks rely on devices called hubs to connect multiple computers together into a LAN. Standard hubs share the bandwidth across all ports (so an eight port 100 Mps hub allocates this 100 Mps among the eight ports), while switching hubs are able to give each individual port a dedicated bandwidth amount (so these same eight ports could conceivably each receive a full 100 Mps of bandwidth on a switching hub).

IFrame

An IFrame is a complete image frame (known as an Intra Frame) in MPEG encoding that is coded without reference to other pictures. Compression is achieved by reducing spatial redundancy in the image, but not temporal redundancy.

Image intensifier

This device is used to intensify low-level lighting conditions via light sensitive phosphor screens, and is specifically used to improve the performance of surveillance cameras in low light conditions.

IMAGE SIZE - Reference to the size of an image formed by the lens onto the camera pickup device. The current standards are: 1", 2/3", 1/2" and 1/3" measured diagonally.

Impedance

Measured in ohms, impedance describes the input and output characteristic of an electrical system. For the best signal quality, both input and output impedances should be equal, with CCTV systems having 75-ohm impedance throughout.

Index of refraction

This ratio measures the angle of incidence to the angle of refraction of light, with a denser medium bending more light and having a higher index of refraction.

Infrared camera

These cameras are well suited for surveillance of low light areas or areas with no light at all. Infrared LEDs surround the lens and shine infrared light, illuminating the scene. They usually have a fixed focal length lens, and present b/w images during low light (though some offer color in the day and b/w at night).

Infrared detector

This is an alarm that uses infrared light to detect nearby movement.

Infrared illuminator

A light source working in the infrared frequency range is called an infrared illuminator.

Infrared radiation

Invisible to the human eye, this electromagnetic radiation has a wavelength of greater than 750 nanometers.

Injection molded plastic

Smoked or tinted plastic (but still translucent) is melted into a liquid from pellets and injected into a "dome-shaped" mold to construct security camera dome housings.

Insertion loss

If the inclusion of an electronic device into a line diminishes the signal's strength, it's called insertion loss.

Interlaced

This refers to a type of display where the electron beams alternate between scanning the even numbered lines and then the odd numbered lines, resulting in the two vertical scans on the screen, with the field (each set of lines) being updated 60 times a second, and with the frame (both fields) updated 30 times a second.

Interleaving

Some alarms and security systems use the process of interleaving to add extra frames from alarmed cameras to a time multiplexed sequence while the alarm is activated. This prioritizes the view from alarmed cameras in the sequence of camera views.

IP (Internet Protocol)

This is the protocol used to route a packet of data from source to destination over the Internet. Every computer on the Internet has a different IP address that identifies it from other computers.

IP address

This is a numeric address that is then translated into a domain name by the DNS (domain name server). When we type in a website's name, the computer translates this into its IP address, which is a unique 32-bit number. The TCP/IP protocol then uses it for routing the data packets to their destinations. Each host has a unique IP address.

IP Camera (or Network Camera)

This signal from an IP camera is delivered over an IP network. The camera digitizes the images, compresses them, and then sends them over the network (if this sounds similar to a webcam, that's because there is digital webcam technology contained within a network camera). But a typical IP network camera is much more advanced as compared to a consumer web camera which needs to be attached to a computer to operate. IP enabled security cameras usually offer a browser interface so that the user can operate and view the video remotely over the Internet. A DVR system is often comprised of an IP camera and a NVR.

IP Rating

Ingress Protection Scale - 2 numbers indicating the protection level of an outside enclosure - e.g. IP68

First Digit	Protection from solid objects	Second Digit	Protection from moisture
0	No Protection	0	No Protection
1	Protection against objects >50mm	1	Protection against vertically dripping water
2	Protection against objects >12.5mm	2	Protection against spraying water $\pm 15^\circ$ from vertical
3	Protection against objects >2.5mm	3	Protection against spraying water $\pm 60^\circ$ from vertical
4	Protection against objects >1.0mm	4	Protection against spraying water $\pm 90^\circ$ from vertical
5	Dust Protected (limited ingress)	5	Protection against low pressure jetting water
6	Dust Tight Protection	6	Protection against high pressure jetting water
7	N/A	7	Protection against temporary immersion (15cm and 1m)
8	N/A	8	Protection against continuous immersion under pressure

Iris

The section of the lens adjusted to control how much light passes through it and onto the CCD chip is called an iris.

IR Cut Filter

An IR Cut Filter is an extra filter inside the camera that moves behind the camera lens when it gets dark. A camera with an IR Cut Filter will produce very high quality images in low light conditions.

ISDN (Integrated Services Digital Network)

ISDNs are digital telecommunications lines that transmit voice and digital network services. Many telephone companies provide them, due to their superior reliability and speed (up to 128K) over analog modems. The ISDN standard improves compatibility for the integrated digital transmission of voice, video, and data over normal copper telephone wires, which allows for better quality and speeds. There are two primary types of ISDN: BRI (Basic Rate Interface) and PRI (Primary Rate Interface). PRI is faster, with speeds on par with T-1 circuits.

ITU (International Telecommunications Union)

Currently, 113 countries participate in the ITU, which is an agency of the United Nations. Existent since 1865, the ITU is responsible for developing international telecommunications for networked telecommunications. The ITU-R is a subchapter, and is responsible for managing radio frequency spectrum (including television and video) standards.

Joystick

PTZ controllers utilize this stick as a control device for pan and tilt movement of a PTZ security camera's pan and tilt head.

JPEG (Joint Photographic Experts Group)

This is one of the most common file formats for compressed photo images. A small amount of data, though not noticeable enough to be significant, is lost in the compression process, making JPEGs a lossy compression algorithm.

LAN (Local Area Network)

A LAN is a high-speed network connecting computers that are nearby (probably in the same building), and offers differing connection protocol options.

Latency

The speed of a network is dependent on both latency and bandwidth, with latency referring to the time needed for an IP packet to travel from source to destination. Wide bandwidth and low latency are preferable.

LED (Light Emitting Device)

Monochrome surveillance cameras use LEDs to provide infrared light. An LED creates an infrared light frequency when stimulated by an electric charge.

Lens

This is the device responsible for focusing the image on the CCD, and most offer adjustable focal length and aperture.

Level control

Level control is control of the main iris, and sets the auto-iris circuit to a specific video level of the user's choice. The iris is therefore set to maintain this video level no matter what the light condition may be. A high level opens the iris; a low level closes it.

Light sensor

Often used to turn infrared illuminators on or off, this device is triggered when it detects a pre-set amount of light, and helps cope with low (or no) level light conditions.

Limit switch

A security camera's pan and tilt head with one of these devices installed (either inside or outside it) is limited in the angles it can move.

Linux

Linux is an open source UNIX implementation, and a popular alternative to the Windows operating system. It is often used in embedded operating systems found in advanced Network IP Cameras. Linux is freeware.

Loss Prevention

Best summarized as 'not having anything stolen', loss prevention is the practice of securing devices or information from theft or loss. Video surveillance is a common practice in preventing theft or other losses of property like vandalism.

Lumen

A lumen (abbreviated as lm) is a unit that measures the visible power output of a light. While watts measure the power the bulb needs, lumens measure the visible light that the bulb generates.

Lux

Used more often than lumens when discussing security cameras, a lux is a unit of illumination. It measures the amount of uniform light that falls on one square meter (expressed in one lumen per square meter). Security camera specs use the lux to indicate how much light they require to operate, with lower lux levels indicating a camera as more effective in lower ambient light. Look for 0.2 lux or less when choosing a low-light camera, and 2 lux or higher for daylight cameras.

Matrix switcher

When a CCTV system needs to route one camera input to many monitor outputs, it utilizes a device called a matrix switcher.

Mega Pixel Resolution

Mega Pixel resolution refers to video resolutions now achievable using IP Cameras. Unlike Analogue cameras, whose resolution is usually limited to around 752 x 582 (0.4 Mega Pixels), a Mega Pixel IP Camera can achieve far greater resolutions such as 1280 x 1024 (1.3 Mega Pixels) or 1600 x 1280 (2 Mega Pixels). This increase in resolution produces far better image quality than a traditional analogue camera could ever achieve.

Mimic panel

This panel displays a site's layout, including the location of surveillance cameras. When the panel is interfaced with a switcher, it can be used to switch any specific camera to the monitors.

Minimum scene illumination

This information (found on a camera's data sheet) displays the minimum light level the particular camera needs in order to provide an acceptable monitor picture.

MJPEG (Motion JPEG)

Even though it's not as efficient as MPEG-4, the MJPEG is still an effective way of creating video from the sequencing of JPEG images. The video from store security cameras often uses this method when being formatted.

MMS (Microsoft Media Services)

MMS is the first streaming protocol created for the Microsoft Windows Media Player.

MOD (Minimum Object Distance)

This refers to the closest an object can be to the vertex of the lens and still be in focus. The wider the lens angle, the smaller the MOD.

Monochrome

Monochrome means having a single color, or black and white for television.

Motion Detectors

These devices are used to detect motion on security cameras. Simple motion detection triggers the camera to either record or set an alarm. Motion detection by frame region instructs the camera to respond only if a certain area of the screen/frame detects motion. Finally, advanced motion detection analyzes the type of motion to see if it warrants alarm (such as crossing into a secure area). One benefit of motion detectors is that cameras only record when motion has been sensed, which saves disk space.

Motion Detection

Recording method for digital surveillance systems. When someone walks in front of a camera, the pixels change and the DVR defines this as motion. The surveillance system will then record these images to the hard disk. This is a popular recording setup as every event recorded is actually motion driven as opposed to a static image if the system was set to record 'round-the-clock'.

MPEG (Moving Picture Experts Group)

One of the most common coding standards for internet transferable video images, the MPEG format is playable on nearly all free and payware video players. MPEGs use lossy data compression. MPEGs first predict the initial picture content, and then code differences between that and the copy, as well as any extra information.

MPEG4

MPEG4 has a newer codec and supports 3D content, low bit rate encoding, and support for Digital Rights Management, which controls the use of copyrighted digital work. MPEG4 is used for web streaming media, broadcast television, videophones, and CD distribution. MPEG-4 is widely used in video surveillance, and has recently been improved to the AVC standard.

MTBF (Mean Time Between Failures)

MTBF measures the average time that a device works properly without failure; unfortunately, it's usually measured in hours. An hour measurement does not translate well to the average consumer looking for life expectancy in years.

Multicast (or Multicasting)

This term refers to the Internet protocol that allows a single IP address (the host) to send a packet to multiple destinations at once with a single, local transmit operation. It also is used in video streaming to enable the broadcasting of video to multiple recipients at once.

Multiplexer

A video surveillance device with multiple video inputs and one video output is called a multiplexer. Multiple security cameras are connected to it and their images can be presented on one monitor. A front panel displays the buttons that toggle each camera, and the signal from

one camera or a combination thereof can be displayed. Multiplexers are simpler to use as compared with similar procedures on a DVR which normally requires a system login, operating a keyboard and controlling a mouse.

Nema Ratings

US rating that is used for outdoor enclosures. Typical for CCTV cameras is Nema 4. GSP America using IP Ratings to rate outdoor enclosures and outdoor cameras.

Network Camera

Also known as a Network IP Camera, this is a stand-alone camera that uses a standard web-browser to view live, full motion video from a computer network, including over the Internet. They often feature an embedded OS (operating system) and features like: FTP of images, web server capability, and built-in motion detection.

Neutral Density Filter (N/D)

This category of lens filter reduces light of all wavelengths in equal amounts.

NTSC (National Television Standards Committee)

The NTSC represents the American and Japanese standard television video signal format of 525 picture lines and a 60Hz field frequency.

Noise

Random spurts of electrical energy or interference.

NTSC

National Television Systems Committee that worked with the FCC in formulating the standards for the United States color television system.

NVR (Network Video Recorder)

Functionally similar to a DVR, a NVR also accepts IP camera inputs. NVRs can be software based, making them suitable only for accepting IP camera streams over the Internet.

Ohms

These are units that measure the impedance or resistance of an electrical device.

Optical Filters

These filters selectively allow for different frequency light to pass through.

Oscilloscope

This troubleshooting device translates electrical signals into voltage versus time based waveforms that are displayed onscreen, allowing visual feedback when adjusting CCTV components.

Outdoor Camera Housing

A protective shell for security cameras to be placed in outdoor environmental conditions, these housings typically include cooling fans for summer use and heaters for winter use. The heaters also eliminate fogging of the glass anytime this occurs. See IP Rating.

Outdoor Dome Housing

This housing is dome shaped for insertion of dome security cameras, is very tamper resistant, and allows for PTZ.

PAL (Phase Alternating Line)

Europe's television video signal standard is known as PAL. PAL uses 625 picture lines and a 50Hz field frequency, and is incompatible with NTSC.

Passive

If a system component is non-powered, it is considered passive.

PCMCIA Card (Personal Computer Memory Card International Association)

These storage devices resemble a credit card and are typically used to expand the hardware functionality of portable devices such as laptops. In video surveillance application, PCMCIA cards can be used with portable PCs to add real-time full motion video capture of live security video. When used with digital cameras, they provide portable storage and a method for saving and transferring photos between digital cameras and PCs.

Peak to peak

Video Signal measurement from the base of the Sync pulse to the top of the white level. A full video signal should be one volt.

Pelco-D

This Pelco created protocol is used to control PTZ security camera movement.

Photon

A photon is the basic unit of light.

Pinhole Camera

Perfect for covert surveillance, this quarter sized camera is nearly impossible to detect. With it's small size comes limited abilities though, primarily a small lens and limited zoom capabilities.

Pixel (Picture Element)

Pixels are the smallest possible display unit of visual information available for building a graphical image. It is also the basic unit of a CCD chip, with most CCD chips being comprised of over 300,000 pixels.

PoE (Power over Ethernet)

This abbreviation refers to a method of supplying power to an IP camera using Category 5 Ethernet cables over a physically wired LAN network. This is often used with the installation of IP Cameras saving time/money by reducing cabling.

Polarizer

This filter eliminates light reflected from glass, water, and other surfaces, thereby minimizing unwanted visual glare affects from glass and other non-metallic surfaces.

Post-Record

Sometimes referred to as post-record time, this is a DVR's ability to record after a motion detection event has occurred. It records for a specified amount of time after the event has been triggered, even though the motion may have ceased.

Potentiometer

This device measures voltage or a potential voltage difference by comparing it with a standard voltage. It can also change resistance by moving the contact point, and is used to record pre-set positions in both zoom lenses and pan tilt heads.

Power supply

Most security cameras utilize 24V AC or 12V DC power supplies. A power supply is usually plugged into a regular electrical outlet or part of a centralized power supply.

PPP (Point-to-Point Protocol)

Point-to-point Protocol is the primary method used in establishing a direct connection between two devices on a network (usually a computer and the Internet). It is a communication protocol between computers using one of several methods: usually TCP/IP, telephone lines, or ISDN.

Pre-Record

This DVR capability will record video prior to motion being detected, then send to the disk as much prior video as memory allows and video of the motion itself.

Pressure mat

Placed before doorways, gates, and other entrances, this device responds to pressure (usually being walked or stood upon) to either open doors or activate the surveillance camera trained on that area.

Progressive

Since it scans all lines onscreen at once, 60 times per second, this type of scanning is used by computer monitors to minimize flickering. It is also better able to show movement, offering more detail and less ghosting than interlaced scanning.

Protocol

Protocols are standard procedures used for regulating data transmission between computers. Protocols exist to minimize errors during the exchange of data.

PTZ Camera

PTZ stands for Pan, Tilt, and Zoom. These cameras are usually remotely controlled by software or a joystick. PTZ cameras are used when active real time monitoring with the ability to point the camera's viewing area to a specific action or event is desired.

PTZ controller

The controller used to control PTZ camera movement, usually software or a joystick.

QCIF

This resolution is one quarter of CIF, with 144 lines and 176 pixels per line.

Quad Splitter

Utilizing digital video, this piece of equipment displays signals from four surveillance cameras on one monitor.

Range finder

This is a device that determines the required focal length and the resulting monitor image. While looking through it, the user can adjust the range finder to get the optimal image, with numbers on the range finder displaying the needed focal length.

Raster

A raster is a rectangular scan pattern of lines that the picture is created upon. It also refers to an active TV monitor that has no video information displayed.

Real time video

Any picture having 24 or more frames per second appears continuous, or in real time.

Reed switch

This type of alarm activating device becomes active when contact is either opened or closed, as in a door or window being opened or closed. They are also capable of switcher activation to activate the relevant security camera.

REFLECTED LIGHT - The scene brightness or the light being reflected from a scene. Usually it represents 5 to 95 percent of the incident light, and it is expressed in foot-lamberts.

Regulated power supply

A DC power supply with a minimal ripple factor is considered to be regulated.

Remote head surveillance camera

For surveillance situations where space is limited, this type of camera separates the CCD chip from the camera body by cable, considerably shrinking the overall camera size.

Remote monitoring

This allows an off site user to monitor surveillance camera feeds, so a user can survey a site regardless of their location from it. The transfer of data from camera to user can be either over the Internet or the Ethernet, with IP cameras being suited to the task.

Resolution

The number of horizontal lines a system can display. Typically referred to as TVL (TV Lines). TVL is the hold over terminology from analog technology. A standard DVD is 520 lines of resolution. A higher resolution camera would be 540 TVL. It can also be converted in terms of digital resolution.

- ◆ 330×480 (250 lines): Umatic, Betamax, VHS, Video8
- ◆ 440×480 (330 lines): Analog Broadcast
- ◆ 720×480 (520 lines): NTSC DVD, NTSC MiniDV, Digital8, Digital Betacam (professional)
- ◆ 1280×720 (720 lines): AVCHD, Blu-ray Disc, D-VHS, HD DVD, HDV
- ◆ 1920×1080 (1080 lines): AVCHD, Blu-ray Disc, D-VHS, HDCAM SR (professional), HD DVD, XDCAM EX, XDCAM HD 4:2:2

Digital Resolution (e.g. 720 x 480)

720 = number of points in each row that make up the picture

480 = number of rows

RF (Radio Frequency)

In order to be broadcast across a wireless network, video signals must be modulated into a RF signal.

RG-11

Having a thick center core, this type of coaxial cable is used to transmit video signals of up to 550m which is approximately 1800 ft.

RG-59

More commonly used than RG-11 for CCTV, this coaxial cable transmits video signals of up to 230m which is approximately 800 ft.

RGB (Red Green Blue)

These are the three primary colors of light. All other colors are derived from their mixture.

Ripple factor

Too little filtering in a DC power supply creates an amplitude variation called the ripple factor; with large amounts of it able to damage DC powered surveillance cameras.

ROI (Region of Interest)

Applied to the field of video surveillance, ROI stands for Region of Interest, meaning an area of the frame where motion is detected, in turn activating the surveillance camera.

Router

A router is a piece of equipment facilitating the exchange of packets throughout LAN or WAN networks. It moves packets across a predetermined path to their destination by storing and forwarding the packets, and then determining their optimal path along the network. A router is hardware based, but can also include software.

RS232 (or RS-232)

This is the communication standard that applies to PC serial communications. RS232 is commonly used as the mechanism for sending instructions that control PTZ security camera movement.

RTP (Real-time Transport Protocol)

The Internet Engineering Task Force (IETF) developed RTPs to specify audio and video signal management. It standardizes the packet formatting for both for easy synchronization and Internet delivery. Streaming media systems and video conferencing systems use RTP, while DVR systems rely on this protocol in the implementation of the remote view feature. Since it doesn't specify how video surveillance playback is implemented, the data from different RTP based surveillance systems usually cannot interoperate.

RTSP (Real Time Streaming Protocol)

This open standard for Internet streaming of audio and video is popular among DVR makers for remote viewing of live or stored security camera video over the Internet. RTSP controls the transmission of the data stream much the way a television remote controls the television. Like RTP, interoperability problems exist between different DVR systems.

SAD (Sum of Absolute Difference)

This acronym refers to a mathematical technique used in motion detection.

Scanning

Applied to the field of video surveillance, scanning is the panning of a camera across the horizontal field of view.

Security Camera

The traditional CCTV camera is a multipurpose device capable of numerous configurations and superb quality. They usually don't include a lens, mount, or enclosure. They also can be expensive to configure in comparison to cameras designed for a specific purpose.

Sensitivity of a surveillance camera

This term refers to the minimum level of light the CCD chip needs to generate an acceptable video picture, and is measured in lux.

Sequential switcher

A sequential switcher enables the simultaneous display or recording of multiple surveillance cameras.

Shutter speed

This is the speed which the CCD chip can read out the charge. Using either dipswitches or a surveillance camera's menu (if one has been built in), the default setting of 1/50 sec (PAL) or 1/60 sec (NTSC) can be increased up to 1/100,000.

Simplex

A type of multiplexer that allows you to simultaneously record images to tape and display the live, full screen image of any individual security camera (compare this to the duplex type which can also display multiple-picture screen images while recording). A simplex multiplexer can display multiple-picture screen images, but it cannot record at the same time. Also unlike a duplex multiplexer, it is unable to record and playback recorded tapes simultaneously.

Signal to Noise Ratio (S/N)

The ratio between useful video signal and unwanted noise.

SMS (Short Message Service)

Some of the more advanced Network cameras feature software that sends notifications via the Cellular network to authorized users after programmed events. Griffid is one example of SMS being implemented in network surveillance software.

SMTP (Simple Mail Transfer Protocol)

This is the standard server-to-server protocol for the delivery of electronic mail, either via Internet or on other TCP/IP networks.

SNR (Signal-to-Noise Ratio)

SNR measures the ratio between the usable video signal and noise or interference.

Spot Cam

Spot Cams are effective security cameras, useful for general surveillance needs. They are intended to be operable out of the box (mounting bracket often not included), and most have their own integrated varifocal lens. Be certain to choose a Spot Cam with its own auto iris feature and day/night capability.

Static IP address

This is an IP address that doesn't change. Any computer can connect to it, thereby making video surveillance systems with static IP addresses remotely accessible from any location on the Internet.

S-Video

Representing an improvement in quality over composite video, S-Video separates chrominance and luminance onto two different signal wires, resulting in better picture quality.

Sync generator

This piece of equipment generates sync pulses that are used for the synchronization of surveillance cameras.

Synchronization

Frame formation in multi surveillance camera systems is started simultaneously by the process of synchronization, and there are differing ways this process can be achieved.

TBC (Time Base Corrector)

Multiplexers and quad splitters rely on a TBC circuit to align unsynchronized video signal before the signal processing begins.

TCP/IP (Transmission Control Protocol/Internet Protocol)

These protocols enable communication between differing computer and computer networks. The IP is a connectionless protocol that provides the packet routing, while the TCP is connection based to provide reliability in communication and multiplexing.

Telemetry

Control of PTZ cameras is provided using Telemetry Control. This signal is sent down 'twisted pair' cable or along the same coaxial cable the video signal is being sent down. Typical Telemetry signals are RS-485 or RS-422.

Telephoto lens

In order to make distant objects appear larger, cameras require a telephoto lens.

Test Pattern Generator

When adjusting and testing a monitor, a test pattern generator is used to create a test pattern for the required visual feedback. This device can also create a test pattern that can be used to verify the integrity and possibly troubleshoot the source video signal.

Time lapse VCR

Used primarily by CCTV systems, this VCR enables increased recording time on a videocassette by not recording all the frames.

Touch Screen

Advances in monitor technology have enabled touch sensitive monitors that can perform specific actions by responding to a user touching relevant screen areas.

Tracking

A zoom lens that can stay in focus while zooming from wide angle to telephoto position is said to be tracking.

UDP (User Datagram Protocol)

UDP is a communications protocol that makes possible the sending of datagram messages from one computer to an application in another computer. It's connectionless and suffers from unreliability, since it is unable to check for any errors in delivery. UDP is often a protocol used

in video streaming because it ignores lost data and continues the live feed of information (this being preferable to the interruption of real-time data while attempting to retransmit lost data).

UPS (Uninterruptible Power Supply)

Justifiably popular with many electronics users, a UPS stores electricity in a battery and supplies power to a system (allowing a user to shut down w/out losing data or continue for a specific time period) during a power failure.

URL (Uniform Resource Locator)

The URL is the Internet address that a software browser requires in order to find that Internet resource.

UTP (Unshielded Twisted Pair)

This type of cable is used to transmit video signals across distances greater than a coaxial cable can handle. The RG59 standard of UTP cable is roughly 800 ft. In conjunction with video baluns, they can stretch over 1200 ft. for full color video. UTP is cost effective too, mainly due to lower costs than coaxial cable, being easily terminated, and being capable of carrying data, video, and audio signals across the same cable with little interference.

Variofocal lens

This type of lens has the capability of varying its focal length in order to zoom in on images. An auto iris feature is required in order to achieve this. Variofocal lenses are contrasted with fixed focal lenses, which are less expensive and often allows more light to pass through them at their set length, enabling better detection in low light circumstances. Typical Vari Focal lens lengths are: 2.5mm-10mm, 3.5mm-8mm, 5mm-50mm

Vertical resolution

The number of horizontal lines resolved in a picture is called the vertical resolution, and is determined by the television scanning method in north America of NTSC.

Vibration sensor

A device that activates when it detects vibrations in its detection zone, and then activates a specific surveillance camera is known as a vibration sensor.

Video amplifier

This device boosts the strength of a video signal.

Video compression

This technique (often a MPEG format) compresses video into lower bit rates for easier Internet transmission, often along narrower bandwidths. Video or audio is compressed to shrink file size, ensuring acceptable transfer speed. Compressed video can sometimes be of a noticeably lower quality, but still clear enough to be useful. AVC is the successor to MPEG as the new video compression standard.

Video distribution amplifier

This amplifier is able to boost signal strength and also to create multiple video signal outputs.

Video intercom

Used at door entryways, this system utilizes audio and video for communication or movement control of people.

Video server

This enables an analog camera to be converted into an IP camera, able to stream digital video over an office network, phone, or ISDN connection. Therefore, an analog based surveillance system can be upgraded and networked to function as an IP surveillance system.

Video Splitter

CCTV device that splits the video signal from a camera (or cameras) so it can be used more than once.

Video streaming

Streaming video delivers compressed multimedia content over the Internet in a stream of packets. Viewers view the file as it downloads, instead of downloading the entire file first. Streaming video first initializes the transfer, and then buffers it. Bandwidth determines both picture quality and whether or not the viewed video catches up with the downloading content, which causes the video to stop. RealPlayer is one of the most popular free streaming video players available. Video streaming is commonly used for viewing live feeds from security cameras, with RTSP/RTP being the main streaming technology currently in use.

Video surveillance

This term refers to the use of CCTV and DVR to monitor secure sites, or portions thereof. Video Surveillance systems can start with a few as one camera. For systems using more than 16 cameras, enterprise video surveillance systems are preferable. The many terms defined in this glossary give an idea of the many options available for different security needs and situations. In today's professional world, Video Surveillance (often referred to as CCTV) is the most cost effective way to achieve loss prevention.

WAN (Wide Area Network)

A WAN is a communications network serving a geographically large area using satellite communications or telephone lines. The Internet is a WAN. Network IP Cameras are capable of utilizing WAN systems.

Wavelength

Wavelength is how far an electro magnetic wave travels during one cycle. When discussing DVR, the term refers to the color of light, which every color having a different wavelength.

Wavelet

This type of image compression is mainly used for single images and not video streams. Because it's superior to JPEG compression, it is however used in some video surveillance codecs, though there isn't a universally adopted standard for usage of this codec.

WDM (Wavelength Division Multiplexing)

This economical procedure enables data from different sources to be simultaneously transmitted over the same fiber optic link. It achieves this by assigning a unique wavelength to each data channel, resulting in many possible wavelengths traveling across one link, which allows one fiber link to do the same work as two or more.

Webcam

Webcams are cameras that connect to the Internet, either via PC or directly, and that allow remote user access. An IP camera is a popular webcam for video surveillance that does not need a PC connection.

White balance

CCD security cameras feature this adjustment to compensate for ambient light color. Since there's a color difference between standard light bulb light and sunlight, white balance adjusts to ensure a more realistic picture. This feature may be set by manual adjustment, or it may have preset settings for the most common situations.

Wide angle lens

This lens enables a wide view of the scene, with a magnification ratio less than 1.

Wireless

The wireless transmission of video signals can be carried out over both short and long ranges, with 2.4 to 5 GHz devices for short distances and high-power line dedicated site solutions for several miles or more.

Y/C

Occasionally known as s-video, this video signal splits chrominance (c) and luminance (y) onto two separate signal wires for better composite video picture quality.

YIQ (Luminance In-Phase Quadrature)

The color space used in NTSC is called the YIQ.

YUV (Luminance Chrominance)

YUV is the color space used in PAL, and is preferred for video signals. YUV and RGB can be converted back and forth.

Zoom lens

A zoom lens has the advantage of offering a variable focal length to view both wide angle to telephoto scenes and keep them in focus.

Zoom ratio

This measures the ratio between the maximum and minimum focal length that a zoom length is capable of.