

CCTV Glossary

In order to choose the best CCTV security system and CCTV Cameras, you will need to understand some basic terminology. Below is a glossary of CCTV terms to help you discuss your surveillance system needs with your sales representative.

Terms

Aperture

Aperture is the area of the camera lens that gathers light. The iris of the CCTV lens controls the size of aperture.

Auto Iris

Auto iris lenses adjust for changing light conditions in a camera view. If the sun shines on a camera with an auto iris lens, the lens will adjust the amount of light so the picture remains clear.

BNC

A type of coaxial cable connector that consists of a pin and a spring loaded locking mechanism. Commonly used for secure termination of CCTV cabling and cameras.

Box Camera

A common type of camera that has rectangular shape. Box cameras often have interchangeable lenses and offer a versatile platform for a variety of applications.

CCD

Charge Coupled Device - a light sensitive imaging device for almost all cameras. Typical sizes for CCTV cameras: 1/2", 1/3" & 1/4".

C Mount

Type of screw-on mounting for CCTV camera lenses. C mount lenses need an adapter ring when used with CS mount cameras (see CS Mount).

Coaxial Cable (COAX)

Coaxial cable is a cable type that has a signal wire surrounded by a protective braided shield commonly used connect cameras back to the DVR.

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.

iTech Digital i2i Systems Terms (continued)

CS Mount

More recent type of mounting for CCTV camera lenses. Designed for 1/2", 1/3" 1/4" CCD cameras, the CS mount is the more common lens mount used in CCTV cameras today.

Day/Night Camera

A type of camera that can capture video during the day or night. In low light conditions, the sensor may switch from color to black & white in order to enhance the picture quality

Dome Camera

The most common type of CCTV camera. Consists of a plastic or polycarbonate dome and camera body and is usually attached to a ceiling. The dome serves to both protect the camera and hide where the lens is pointed. Commonly used as a discreet camera setup in most interior buildings. Domes vary in size based on application.

DSP

Digital Signal Processing - a technique by which video quality can be improved by adjusting parameters of the video signal.

DVR

Digital Video Recorder – Camera images are converted to a digital signal and stored on a storage hard disk. This is now standard CCTV recording practice.

Environmental Camera (Enviro)

A sealed type of camera used in both outdoor and cooler/freezer applications. Sealed cameras prevent water/condensation infiltration and allow for function in harsh environments.

F-Stop

Also called the focal ratio, F-ratio, or relative aperture. The ratio of focal length to the diameter of the lens. The smaller the F-Stop number, the more light is passed through the lens to the sensor.

Field of View (FOV)

The view of the camera - in relation to the angle of view and distance of the object from the lens.

Frame

A frame consists of 2 fields with ½ the horizontal resolution (interlaced) or a single field with full resolution (progressive). Frames are the still images that, when displayed in rapid succession; create the appearance of motion (video).

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 30 Frames Per Second (NTSC).

IP Rating

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

iTech Digital i2i Systems Terms (continued)

IR Cut Filter

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

Iris

A device inside a CCTV lens that opens and closes as light conditions change. This in turn adjusts the amount of light passed to the sensor.

JPEG

Joint Photographic Experts Group - an image compression technique used for still images. Still images captured from many DVRs are stored using the .jpg or JPEG file format.

Lens

The optical part of a CCTV camera: the lens controls light access to the CCD or CMOS panel. Lenses may be fixed or adjustable and come in a variety of focal lengths and sizes.

Lens Mount

See C Mount or CS Mount.

Luminance

The brightness of a video signal.

LUX

A light scale. Used to specify how sensitive cameras are to light (measured in lumens/sq meter). e.g a camera with a LUX Level of 0 can see when no light is visible to the human eye. The lower the LUX level the better the camera will see in the low light.

Motion Detection

Recording method for digital surveillance systems. When a subject walks in front of a camera, the pixels change and the DVR defines this as motion. The surveillance system will record these images to the hard disk. This is a popular recording setup since motion recording reduces or eliminates unnecessary recording of unoccupied spaces.

MPEG

Motion Picture Experts Group. A video compression technique for video images. MPEG-4 has fast become the Digital CCTV standard recording compression format and is a variant of the compression technique used for DVD movies.

Multiplexer

A multi-screen CCTV device that allows input of 4, 9, 16 etc cameras and provides a 'Mutli-Plexed' (or split screen) display of those cameras

Noise

Video signal interference that usually appears as "graininess" or "snow" on the picture.

NTSC

National Television System Committee. Video encoding standard for the USA and parts of Asia.

iTech Digital i2i Systems Terms (continued)

PAL

Phase Alternate Line. Video encoding standard for Europe.

PTZ

Pan Tilt Zoom. A camera that can be controlled via Joystick or DVR and moved up/down, left/right and zoomed in/out.

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.

Quad Splitter

A CCTV device used to display 4 cameras on one monitor.

Resolution

The number of horizontal lines a system can display.

Digital Resolution (e.g. 720 x 576)

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

576 = number of rows

RG59

A type of CCTV coaxial cable used to transmit CCTV camera video signals to a DVR or CCTV System.

Sensitivity

The motion sensitivity of a camera is often configured on your digital surveillance system. The more sensitive the setting, the more likely the camera will record during limited activity.

Telemetry

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

Vari-Focal Lens

A CCTV camera lens whose focal length / viewing angle can be manually adjusted to suit the camera view required. Typical Vari-Focal lens lengths are: 2.5mm-10mm, 3.5mm-8mm, 5mm-50mm.

Video Splitter or Video Distribution Amplifier (VDA)

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

Zoom Lens

A lens that has variable focal lengths. The image can be 'zoomed' in or out while the view of the camera remains in focus.

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