Video Frame Rates

Product Name

Digital Video

General Information

Indoor Surveillance – (~7-8 FPS)
–General Security Video
–Office Environments Outdoor Surveillance – (~15 FPS)
–Parking Lots
–Faster Moving Objects 'High Speed' Applications (~25-30 FPS)
–Allow very detailed "slow motion" playback
–Use ONLY when absolutely necessary (i.e. where required by industry regulation or law)

Higher frame rate will result in a larger file size
–Movies are typically shot in 25 – 30 fps
–Security video is typically set to no more than 15 fps

Analog video converted to digital is a maximum of 720x480 (NTSC), D1 resolution
–Commonly used resolution is 4CIF (704 x 480) 1.3 Megapixel network camera resolution is 1280 x 1024
 Industry standards are:
–Motion JPEG (MJPEG)
–MPEG-4
–H.264
 Stream consists of multiple frames
•I-frame (intra frame) / Key Frame – self-contained reference frame encoded as a still image
•P-frame (predictive inter frame) – depends on previously displayed reference frame
•B-frame (bi-predictive inter frame) – makes reference

TCP and UDP are IP protocols used to transmit data across a network TCP is a reliable connection based transfer
–Potential delays as TCP ensure data is received UDP is a connectionless transfer and does not guarantee the data is sent
–Error control and data checking is up to the application
–Smallest overhead HTTP is the most common communication method for network cameras and it uses TCP/IP
–Uses Port 80
 RTP (Real Time Protocol) can be used with H.264 and MPEG-4
–Sequential and time stamping of video data packets allows for more efficient reassembling of the packets
–TCP and UDP are supported
–Can be selected in OnGuard if the camera supports RTSP (Real Time Streaming Protocol) can be used with H.264 and MPEG-4
–Uses TCP only
–Port 554
–Can be selected in OnGuard if the camera supports

CPU utilization on client machines should be less than 70% for best performance
–Use task manager to monitor –Starting at 70%, OnGuard will not display all frames being sent from the recorder in order to prevent 100% CPU utilization

Applies To

Digital Video

Additional Information

None