

Tech Note - 19

Surveillance Systems that Work!™



Video Surveillance - 101

Often customers have a need for video surveillance but they really don't know where to turn to find local resources that are capable of delivering quality products and services. The purpose of this article is to help prospective clients understand the basics of today's video surveillance systems as well as help them understand what to look for in reputable providers.

DIGITAL VS. ANALOG

There's a wide gulf between equipment that may only be 5-7 years old and that which is commonly available today. Generally speaking, if a system includes any recording equipment that employs VCR style tape it is considered "analog." Alternatively, if a computer hard drive is the storage medium, that system is considered "digital." While this may not be 100% technically correct, the storage/retrieval and ease of use benefits from "digital" systems described in this fashion are huge compared to their "analog" counterparts of the past.

Following is a short list of these benefits.

Tape (Analog)	Digital Video
Time consuming manual search to find specific footage	Instant date, time, or event search
Ongoing purchase of videotapes and related tape "clutter"	Weeks or months of "built in" storage
Must remember to change tapes	High storage capacity requires no effort
Video image deteriorates with age, duplication or re-recording	There is no video loss with age, duplication or re-recording
Risk of lost data with failure to change tapes or record	Automatically overwrites oldest video footage
Poor video quality	Digital images are much "cleaner"
Inflexible configurations and settings	Flexible configurations and settings
Limited remote monitoring ability	Remotely view multiple locations from any Internet connected computer
Lack of redundant off-premises recording capability	Record video off-premises to a remote server
Low storage capacity	High storage capacity
Limited security	Multiple levels of user security
No intelligence	Intelligent features - motion detection, remote notification, image masking

CAMERA TECHNOLOGY

While much can be said about camera selection and/or camera technology in general we prefer to begin this dialogue with a simple, perhaps philosophical approach to the subject;

Regardless of how much one invests in recording equipment, the system can never record images any better than the cameras deliver.

It's never a wise idea to opt for inferior cameras when quality, high resolution (minimum of 480 horizontal line) cameras cost only slightly more. Similarly, infrared technology has come a long way and is now available in virtually any camera configuration for almost no additional cost. **Note:** IR equipped cameras provide color video during daylight conditions and automatically switch to b/w when the available light dips below an acceptable (different for different cameras) level.

Camera Types

Domes – Sleek, non-intrusive dome housed cameras are most popular. They blend into the environment and are available in a wide range of fixed lenses or with adjustable focal length (VariFocal) lenses. Specify “armored housings” to combat high risk locations or for areas where the camera may be subjected to vandalism.



Bullet or Cylinder - These small cameras (the size of a lipstick case) are ideal for outdoor applications as they are vacuum sealed against the elements. They also work great in indoor environments where they might occasionally get wet, (car wash, above a restaurant dishwasher, etc.) or in cold environments, (walk-in coolers/freezers, etc.).



Professional (or box) – Regardless if a wide-angle or a zoomed-in narrow field of view is required box cameras (with the proper lens) are the answer.



Covert – Camera housings can be made to look like virtually anything (smoke detectors, motion sensors, clock radios, etc.) Sometimes a covert camera is the answer.



Pan-Tilt-Zoom (PTZ) – Perhaps the most versatile cameras available, PTZs can be programmed to “tour” multiple presets or set to run a continuous scan. With zoom both optical and digital zoom capability crisp video of 1-foot square images from 300 feet are possible. Motion on a fixed camera can also be used to trigger a preset zoom to capture an event from multiple angles.



Wireless – While wireless cameras are available, often, their wireless signal interferes with other devices and “noisy” video is the result. Please consult with your trained **GuardDog** rep regarding our proven wireless solutions.

IP Cameras – Short for Internet Protocol, IP cameras are the cutting-edge of video technology today. Available in many forms, (even wireless) we suggest you consult with your trained **GuardDog** rep to determine if your application requires an IP solution.

VIDEO RECORDERS

In the “system equation,” the Digital Video Recorder (DVR) comes right behind (arguably just ahead of) quality cameras. Regardless of where they fall in the importance pecking order, DVR selection is an extremely important consideration. DVR’s can be evaluated in two broad classifications – Stand Alone and PC Based. For a more detailed discussion please request our Tech Note specific to the subject.

At **GuardDog Surveillance Systems**, we build custom PC-Based DVR’s that allow us to tailor your hardware to specifically meet your existing as well as your anticipated future requirements. Additionally, should you ever “outgrow” your **GuardDog** provided hardware, rather than being forced into upgrading to a completely new system, we can simply update your existing hardware with the latest in necessary components – at a fraction of the cost of totally new.

Our custom DVR solutions not only provide exceptional live and recorded video they can also be equipped with advanced video surveillance features such as Point-of-Sale, alarm, e-mail, text and automated voice phone messaging. Additionally, at no additional cost, we’ve designed our PC-Based DVRs to also perform as complete self-monitoring security systems. As law enforcement in many areas have ceased replying to 3rd party security monitoring alarms, this feature alone may very well be the difference between your business being protected and not! For further information please ask your **GuardDog** rep or contact **GuardDog Surveillance Systems** directly.

Stand Alone DVR’s – Utilize chip based (ROM – short for Read Only Memory) to store the operating system and video processing software. The advantage of a ROM based operating system is it cannot easily be written to from the outside world. This prohibits external file based viruses from corrupting the system. The disadvantage is the DVR software (that does all the video processing) must be comparatively simple (usually menu driven) which greatly reduces reasonably priced stand-alone DVRs from having the capability to perform much more than basic record and/or playback functions.

PC-Based DVR’s - The vast majority of High End surveillance system DVRs are PC-Based. Reason, they’re better. Programmers have developed video processing software that is very comprehensive. Search functions, database creation, storage and high level post processing, input/output functions and most network and/or Internet communication functions are greatly enhanced by the Windows user interface. Additionally, since most people are “familiar” with Windows, ease of use is enhanced. The downside of this is that

less than reputable capture card suppliers have entered the marketplace with a host of sub-par and/or unreliable components.

SYSTEM DESIGN, INSTALLATION AND AFTER THE SALE SERVICE

Complete system design, integration, and professional installation with solid after the sale relations are the value-add “services” most often overlooked by those looking for the lowest price. ***Inadequate material selection and poor wiring practice can render even the best of hardware to provide poor video quality.***



Professional system design (open customer dialogue), proper installation and a solid, contractual service/maintenance agreement are your keys to assuring: (A) Your system will provide adequate surveillance protection, (B) All system components will function as designed, and (C) You will understand and be comfortable operating your new system now and well into the future.

At **GuardDog**, we're committed to all three.

Professional System Design – ***Any potential supplier that quotes his/her price without first making the investment in conducting an on-site survey is not worthy of further consideration.*** Countless times, our professionally developed camera layouts have saved our clients considerable sums while at the same time provided a fully functional understanding of a system that works – both on paper and in reality.

Installation – While some approach the subject with little more than, “*Yeah we'll install it for you...*” at **GuardDog**, we go to extreme measures to teach our staff the rights (*and the wrongs*) when it comes to installation. We use only the industry's top-shelf materials, our video ends are terminated with crimp-on connectors (none of the screw-in type that are prone to problems) and we never let our wire drape across the unseen side of your drop ceiling. The **GuardDog** philosophy: ***“If it's worth doing, it's worth doing right!”***

Service after the Sale - **GuardDog Surveillance Systems** differentiates itself from all other surveillance system providers with our commitment to exceptional after the sale customer relations. From providing “As-Built” camera layouts and complete wiring schematics to including two appointments for on-site system performance tune-ups and additional training, we're not shy to advertise our commitment to service – AFTER the system's been installed. We're also proud that much of our business is referred from satisfied customers.

In conclusion, we trust this short piece has provided you significant insight into the broad technology subject of video surveillance as well as helped you better understand what to look for in a quality provider of hardware, software and system services.

We welcome your comments and trust that before too long, we'll have the pleasure of adding you to our long list of satisfied clients that are also willing to provide **GuardDog Surveillance Systems** as a ready and worthy reference to others you know will benefit from our fine products and services.