Wireless camera with or without digital video recorder (DVR) forms an integral part of a comprehensive home/office security system. Even if used as stand-alone, the wireless camera presents itself as a serious deterrent to thieves and criminals. Apart from security reasons, the wireless cameras are also used for situation or asset monitoring purposes.

Why Wireless?

During the past few years, wireless cameras have become increasingly popular. Traditionally, wired cameras have been in use (to a very limited extent). This was partly due to the high price of wired cameras, and partly due to the need to lay wires from camera to image/video recorder and/or monitor.

With the advent of new and cheaper technologies in video processing and memory enhancement, it has become much more feasible to set up a low-budget wireless camera for home and office surveillance.

Certainly, the advancement in technology and price cut-down applies to wired cameras as well, but use of inexpensive wireless technology gives an edge to wireless cameras over wired devices because cost of copper wires and running them from point A to B is eliminated. Also, wires are an easy target and can be attacked if visible. Wires can also point to the recording device, which may become subject to attack or manipulation. These issues are taken care of by the wireless cameras, as there are no wires carrying the video signal, and the recording device can be hidden, or even not present within the same premises.

Similar to wired cameras, wireless cameras can be manipulated by distorting the frequency at which the camera operates. However, it is possible to set up a system that operates on two different frequencies, so that if one frequency is distorted or blocked, the other frequency keeps relaying the image/video signals.

Wireless cameras are also easy to install and easy to displace if required, as the cabling overhead is absent.

The Composition

Ideally, you should have the following components to set up a wireless camera system.

1. Wireless Camera
You should choose a wireless camera that employs CCD technology, constructs image/video in colour and provides a resolution of around 500(H)* 500(V) pixels or better. It is very important that the camera should provide night vision. Infra-red LEDs enable the camera to see in the darkness. Look for a minimum of 20 infra-red LEDs and more than 10 meters night vision range.

If the wireless camera is to be mounted outdoors, make sure the camera housing is sufficiently robust and sturdy to withstand sun, rain, strong wind and tempering.

It is desirable to choose a camera with very low lux rating. A low lux rating enables the camera to construct a clear image even in low light conditions.

Be aware that although signal wires are absent, you may still need to provide power to the camera using mains connection. Alternatively (if possible), use of battery power renders the camera totally portable and completely wire-free.

2. Receiver

Receiver is the component of the system that receives the image or video signals (wirelessly) and converts these signals in a format suitable for monitor (or TV) input. If this unit has the image or video storage facility, then the device is called DVR (digital video recorder). Usually, your DVR should support at least 1GB memory. Receiver (or DVR) may have more than one channel. This means, it should be possible (ideally) to use as many wireless cameras as many channels are available. Technically, this may not be possible, however, as some of the channels may be overloaded with noise or signals present due to other wireless devices operating nearby.

3. Monitor

In most cases, you should be able to use your home TV in order to see the captured images or video. The receiver (or DVR) connects to your TV via cables. Your TV however, does not have to be connected to the DVR all the time. If it is a simple receiver, you can monitor images or videos in real time only. It is possible to find small screen dedicated battery-operated monitors, most of which include the receiver (or DVR) unit as well. If you intend to use your computer monitor for viewing purpose, be assured that the receiver or DVR generates signals compatible with PC monitors.

A subsequent article will explain how to troubleshoot common problems associated with wireless cameras and how to achieve optimum range in a given home/office building.

The author is an experienced engineer who is engaged with an online business "misky wireless". More information about wireless cameras can be found at the website: Misky Wireless. You can read Misky Wireless WebBlog Here

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