

Other Features

DVR: Digital Video Recorder. A computer that records video to a hard disc drive. Most DVRs have enough storage to record footage for 2-3 weeks. DVRs come with 4, 8, 16, or 32 channels – each channel allows for a camera hook-up.

Motion Detectors: Many camera systems available today have built in motion detectors that can serve several purposes:

- Trigger recording* --> saves space on your DVR because you are only recording significant events.
- Send email or SMS updates* --> Notifies you when an event is occurring on your property.
- *More for indoor*--> Outside there is often too much normal motion to distinguish typical movement from a home invasion.

Infrared (IR): Almost all cameras include built in infrared LED's that allow the camera to record in the dark. Each infrared LED adds approximately 2' of "illumination." This technology works best in conjunction with outside lights.

IP cameras: (internet protocol) are high-resolution cameras that transmit video over your Local Area Network (wirelessly or through CAT-5 Cables), so that the footage can be accessed by other devices on the network, sent directly to an Internet router, and / or recorded by a network DVR (NVR)

Powerlining: A system where video streams through normal electrical outlets (Logitech Model)

Introduction to Home Security Cameras



Recommended Specifications:

CAMERA	DVR
•Frames per second (FMS): 7.5 minimum, 30 recommended	•500 GB hard drive (minimum)
•Analog minimum resolution: 480 horizontal TV lines	•Industry standard cables
•Infrared LED's (built-in)	•Exportability (USB drive or DVD burner)
•Industry standard cables	•USB port (to extract files onto a portable jump drive)
•Weather resistant	•If you have Apple products: compatibility with Mac OS and Mac supported Internet browsers

Camera & Safety Resources

- Oakland Neighborhood Crime Prevention Services:
<http://tinyurl.com/3qjh5fe>
- Caught on Camera: Easy to watch video made by the FBI which explains technology, and explains how security cameras can assist law enforcement agencies in investigations:
<http://www.youtube.com/watch?v=u5Oj2FDwLXs>
- "Top Ten Review of Wired & Wireless Cameras:
 - <http://home-security-systems-review.toptenreviews.com/>
 - <http://wireless-camera-review.toptenreviews.com/>

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Residential Security Cameras... Quality is Up, Price is Down

Residential surveillance camera technology has made great strides in recent years while prices have dropped. New features, such as movement detection with text message alerts and remote viewing on mobile devices, have transformed surveillance cameras into a crime prevention tool as well as a deterrent.

A Tool For the Whole Community

Video produced from private security cameras have been used by police as corroborating evidence to solve other crimes that occurred nearby, signaling the opportunity for individual security cameras to contribute to greater neighborhood safety. Neighbors can share video with each other when they notify each other of an unrecognized person or automobile in the vicinity.

Things to Consider When Purchasing Cameras:

- (1) Focus on placement. Cameras should be installed above the entrances, exits and other key points as close to eye level as possible. Consider installing a camera that captures the street in front of your property.
- (2) Installation & Set-up. Installation involves mounting cameras on house or pole, routing wires (wired only), and the set-up will involve software set-up – luckily Oakland has many residents with hardware and IT skills. Residents can opt to hire a local vendor for installation and better customer service.
- (3) Avoid proprietary cables (for wired cameras). Some common manufacturers' cameras and DVRs are only compatible with their own cables. Instead, search for systems that use industry standard cables such as coaxial cables for analog cameras and Cat 5 cables for IP cameras.
- (4) Consider installing extra lighting. Good lighting is key to capturing good video. Focus on how the lighting conditions around a house change from day to night. You may need to install lamps to compensate for shadows at sunset or intense backlighting.
- (5) Make a site plan to determine how many cameras you need. A site plan should cover doors, gates, and other likely entry points.
- (6) If you use a Mac, make sure your DVR is compatible with Mac OS, otherwise you will not be able to view or record your footage.

A Variety of Camera Technologies

The basics are the same: multiple cameras that record video, both in day & night conditions, remote viewing and motion detection with text/email alerts.

*** Technology and prices are evolving – check for updates.**

Wired (CCTV) Cameras (most commonly purchased)

- **Pro:** Reliable, stable, signal cannot be intercepted
- **Pro:** Cameras do not need electrical outlets – powered through cables
- **Pro:** Less expensive system, which allows for many cameras, weeks of recording time (DVR), and cameras can be replaced by better cameras
- **Con:** Requires wire routing installation through attic, roof or walls
- **Con:** Resolution not as good as high-end IP – but good enough for single family residence
- **Examples*:** Q-SEE QT428-436-5 (\$300: 4 cameras, 8 channel DVR, cables) – purchased by a Lincoln Heights resident

Wireless Cameras

- **Pro:** Flexibility, easily installed or moved – no connecting of wires
- **Con:** Concrete, dense materials block signal range, and cordless phones, other wireless devices weaken the signal and video quality
- **Pro:** Some systems (Logitech's "Powerlining" - video streams through electrical outlets), not affected by range and signal issues
- **Con:** Still needs to be plugged in, or use batteries (must be replaced)
- **Con:** More expensive and recording device usually sold separately
- **Con:** Usually a max of 4 wireless cameras per installation environment
- **Examples*:** Lorex LW1012 (\$107: 2 cameras, no DVR), Logitech 750e (\$350 per camera) – choice of some in Montclair

IP Cameras

- **Pro:** Very high resolution
- **Con:** Quality IP systems are much more expensive
- **Con:** Most systems do not include a recording device
- **Example*:** Sony IPPZ6114 (\$1,000 per camera, no DVR)