

CCTV SURVEILLANCE IN ACE HARDWARE STORES

WHY CCTV?

- The primary purpose of utilizing closed circuit television in an Ace Hardware store is to **deter theft**.
- The secondary purpose is to provide a capability to **review** a suspicious transaction at the POS terminal, determine who shoplifted an item from display, confirm who exited a perimeter door, or simply assess an event that you know occurred, but did not see firsthand.
- High quality video can also be used as a **training tool** to graphically demonstrate the right (or wrong) way to accomplish a task.
- CCTV can be used in support of criminal action against a shoplifter and both administrative and criminal action against a dishonest associate.
- When a dishonest or criminal act is captured by a CCTV system, it provides evidence that is rarely challenged.

In short.....

“NOTHING BEATS VIDEO”

WHERE TO PLACE THE CAMERAS

State-of-the-art CCTV systems are not inexpensive. And while today's systems offer a wealth of features, their ultimate value and effectiveness is affected by decisions made prior to, during and following installation. One of, if not the most, critical decision is the layout (placement of the cameras). As there are only so many cameras in the system, it is imperative that their placement be well thought out and, when installed, hung in a manner that maximizes both their deterrent value and their actual surveillance capability. Remember that the camera sees what it sees; however, what it sees is displayed on a monitor normally no larger than 21" in size.




Thus, what would appear larger and clearer to you if you were looking (with your own eyes) at what the camera is seeing will appear smaller on the monitor. And since the image is digital, you will not be able to enlarge that image very much before it loses definition due to pixelization (when the pixels become obvious). Therefore, you want the camera to be as close to the target as possible, while providing the optimum field of view. For example, if your fixtures are 7' tall, you want the camera to normally be no higher than 12'-14' off the floor. So if the store has an acoustical tile ceiling that is 10'-14' high, mounting the cameras flush on the ceiling tile would be appropriate. If, on the other hand, the ceiling is open and/or is 20'-30' high, then *pendant* mounts will be required to bring the camera down to the 12'-14' height. Also, be sure that the cameras are at the same height or slightly lower than the lighting. Cameras should never be placed higher than the lighting, as the light fixtures will block portions of the field of view. Consider using *pan-tilt-zoom (PTZ)* cameras in areas where there is a large expanse of required coverage and/or where the physical characteristics of the interior (or exterior) space allow for using this type camera to provide close-in coverage of an area that may be distant from the camera. Keep in mind that a PTZ camera is significantly more expensive than a standard

fixed camera, and its value is diminished if there is not someone who is monitoring and using it real time to pan, tilt and zoom in on specific targets. PTZ cameras can, however, be programmed to automatically pan a defined area when not being managed by an operator.

THE 'MUST HAVES'

These are locations where it is imperative that cameras be placed to deter and detect theft by associates and to maximize shoplifting deterrence.

- Starting at the front, there should be a camera that covers the entrance door (from inside the store) and captures a frontal view of customers entering the store. We recommend that a *public view monitor* be hung inside the front door approximately 20'-25' inside the door at a height of no more than 8'. The only video on that monitor should be from the camera that is covering that door. We also recommend that a sign be attached to bottom of the monitor mount that advises customers that CCTV is in use to deter theft and thus allow the store to maintain the lowest pricing possible. This camera/monitor will not have a negative impact on the honest customer, but will send the message to customers who are contemplating shoplifting that the odds of being detected in your store are greater than in your competitors' stores. The additional value of this camera will become evident when there is a shoplifting and while there may be video of the actual shoplifting, there is not enough definition to clearly identify the shoplifter. Simply review the video from the front door camera, then freeze and print the shot of the shoplifter as he/she is entering the store. That, along with video of the actual shoplifting should be sufficient for prosecution purposes.
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- If there are sufficient cameras in the system, we also recommend a camera on the exterior front wall of the store that covers both the entrance and exit doors from the outside. This camera could also cover any exterior displays that are vulnerable to theft during hours of operation or after-hours.
 - There should be a camera mounted over each POS terminal. The proper placement of these cameras is critical, as theft by dishonest cashiers is normally quick and often with sleight of hand movements. And while theft at the point of sale is normally an independent act, there are occasions when theft is accomplished through collusion between the cashier and the customer, an act known as "sweethearting." All cameras hung to cover cashier operations should be hung directly above the POS terminal with an offset of 5°-10° so that the checkout counter and the customer are in the field of view. In other words, if you are standing at the POS terminal and the counter is to your *right*, then the camera should be mounted directly above and 5°-10° to the *left* of the POS terminal, angled so that the cashier, his/her hands, the open drawer, the counter and the customer are in the field of view. The field of view should not be expanded beyond those targets, as doing so will reduce the size of those targets in the video and will also cause the camera to record when placed in the *motion detection mode* and thus use hard drive space unnecessarily.

DVRs configured to "interface" with the POS system provide a tool unlike any other control you can place on POS operations. With the interface in place, not only do you observe the cashier's activities, but also a representation of your

customer receipt tape as scans and keyboard entries occur. This feature includes the ability to search for any transaction type, SKU or word on the receipt. Thus, if your RDS report says there were 10 refunds, but there are only eight refund documents, it is a simple matter of conducting a “search” for all refunds, selecting the 2 for which documents were not turned in and reviewing the transactions, to include the receipt tapes which were produced by those transactions. It is the ‘ultimate weapon’ for both deterring and detecting dishonesty at that most sensitive of positions. A dishonest cashier processing bogus refunds, bogus voids, bogus suspended sales, “sweethearting” and simple underringing can embezzle very large sums of money in a relatively short period of time. The DVR-POS interface is an essential element in any retail store’s CCTV setup. The Activant POS system is configured to accommodate the interface setup through use of a TCP/IP connection at the server. Contact your Activant Local Platform Specialist for assistance.

- There should be a camera that covers the area where cashiers count down their tills. Ideally that will be in the same office where the store safe is located; thus one camera can cover the countdown area and the safe. It is important that this camera be mounted so that, to the extent possible, you get *frontal views of the cashiers* (as opposed to seeing just their backs) as they count down their tills. As with shots at the POS terminals, *you want to see their hands*.
- There should be a camera that covers the back doors, both the overhead (or double door receiving door) and any personnel doors. We do not recommend that cameras be mounted in these areas so that the field of view includes the doors themselves, as when doors are opened and strong outside light appears in the field of view, it is easy for the camera to “white out” and thus lose its ability to accurately capture all activity in the foreground. We recommend that cameras be placed on the wall directly above or to the side of overhead doors, and on the wall directly above the door frame for double or single doors.
- As rear doors and the activity that occurs outside rear doors are very high risk, we also recommend that an environmentally housed camera be placed on the rear exterior wall of the building that covers the rear doors and the trash/Dumpster area.



- If the store includes an exterior, contiguous lawn and garden center that is accessed via a (sliding) door on the sales floor, we recommend a camera be mounted on the wall, directly above the door frame so that customers walking out that door will walk face into that camera. If that door is a designated fire exit (large, lighted EXIT sign above the door), then the nearest gate within the fenced lawn and garden area *must remain unlocked during hours of operation*. Thus it is appropriate that an environmentally housed camera be mounted outside to cover that exit.
- If the camera will be covering an area where activity you want recorded may occur during hours of darkness, consider using a camera with built-in IR Illuminators.



- Further, if there is a risk of vandalism to the camera, specify a vandal-resistant camera.

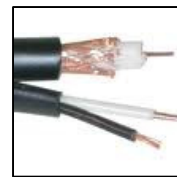


THE SALES FLOOR

There are two factors to be concerned about when planning sales floor coverage. First, you want to cover those displays that are high risk for shoplifting (e.g., hand tools, power tools, small electrical gadgets, etc.) and second, you want to cover those areas where shoplifters tend to move to in order to secrete/hide the items they have removed from display (e.g. rear corners or out-of-the-way aisles). Further, it is advisable that if the aisle is 40' or more in length and there are high risk items displayed in that aisle, a camera be mounted at both ends of the aisle.

It will quickly become apparent that there are not enough cameras in your system to cover all of needed locations with live cameras. Thus, it is advisable that drones (identical domes, but without a camera) be used to augment the live dome cameras. It is also recommended that Siamese cable be run to the drones as well, and that the head-end of each cable be marked to show where the drone is located. Should it later become advisable to put a live camera at the location of a drone, it will be a simple matter of moving a live dome to the drone location, swapping them, connecting the Siamese cable to the camera, and swapping the cables at the head-end.

Siamese cable is currently the cable of choice for CCTV systems. Consisting of both video cable and low voltage wiring, it provides a convenient method of running both the video and power back to the DVR and a nearby power supply box. Be sure to add an extra ten feet of cable at the camera end of each run to accommodate minor camera relocations determined necessary during the camera installation phase.



Here are the departments/displays that we recommend camera/drones be mounted. They are listed in what we consider to be priority order.

- Tool department (drill bits, saw blades, screw drivers, hammers, chisels, etc.).
- Power tool department (particularly if they are not alarmed or secured, and if batteries are left in the cordless power tools).
- Electronics/technology department aisles where small electronic devices are displayed.
- Electrical department aisles where circuit breakers and other small, expensive electrical items are displayed.
- Plumbing department aisles where copper and brass fittings/tubing are displayed.
- Sporting goods department aisles where small, expensive items are displayed.
- Automotive department aisles where small, expensive items are displayed.
- Glove and battery displays.
- In the vicinity of restrooms to deter/observe customers who may enter with merchandise. (NOTE: DO NOT place cameras inside restrooms or outside restrooms in a manner that allows surveillance through an open door into a restroom.
- In the vicinity of emergency exit doors on the sales floor.

- Paint department aisles where paint brushes, glues, tape and other small items are displayed.
- Housewares department aisles where small, expensive items are displayed.
- Small appliance department aisles.
- Rear corners of the store.
- Remote aisles where associate coverage is limited.

THE DVR

The modern-day digital video recorder (DVR) has a wealth of features. As this item of equipment is virtually the 'heart' of your system, it is important that before you commit to the purchase of a DVR, you ensure that it has the features deemed important in a retail setting. The following listing is not all-inclusive, but does contain what we consider to be very important features that the DVR should contain:

- The DVR should come with a hard drive large enough to accommodate at least 30 days' worth of video recorded at a 15 IPS or FPS rate. The typical 16-camera DVR should have at least a hard drive with at least a 500GB capacity, ideally one terabyte.
- The DVR should have the capability of recording from all cameras at (at least) a 15 IPS/FPS rate. That means that a 16 camera DVR should have a minimum 240 IPS/FPS rating (15 IPS X 16 cameras).
- Integrated DVD burner w/Automatic Client Software Insertion - This is a built-in DVD burner on which video sequences can be archived/copied, and each time a DVD is burned, the software necessary to play it on anyone's PC is automatically inserted in the recording.
- Remote Access Capability - This means that the DVR must contain a modem and be configured to allow access to it through a designated IP address that can be accessed remotely.
- Motion Detection - This camera-specific feature ensures that HDD space is not used to record video when there is no motion. This feature should allow you to isolate a specific area of the view, a door frame, for example, so that recording begins only when the door is opened, even though there is constant movement around the door. This feature should be camera-specific.
- Camera-Specific Frame Rate Setting on Motion Detection - This feature allows the user to set specific record frame rates for specific cameras that would automatically start when motion is detected. For example, a faster record frame rate would be advisable for the cameras that cover the POS terminals.
- Smart Search - This feature allows you to draw a zone (box) around a specific area within a camera's field of view, say a display of saw blades, and then perform a search of recorded video for any movement within that zone (box). For

example, if ten blades that were on a peg yesterday are discovered missing, and quantity on hand check confirms that there should be 10 on the peg, simply go back in the video recording to when they were there, perform a 'smart search' and you will instantly see the video of who removed the saw blades.

- Virtual Keyboard Support - Most DVRs do not come with a keyboard, thus it is important that it contain a virtual keyboard, allowing the user to type required text to support operation of the DVR.
- Automatic Overwrite - This feature will automatically overwrite the oldest video on the HDD with the newest video.
- Image Printing - This feature allows printing of freeze frame (snapshot) images on a designated printer (wired or wireless).

IN SUMMARY

CCTV, while once a luxury in retail stores, has become a necessity. Once a decision is made to employ CCTV coverage to augment your loss prevention program, it is important to do it with as much knowledge at your disposal as possible. Do your homework before committing to the expense. Resist the temptation to buy what appears to be a deal too good to pass up. Like most things, 'you get what you pay for' (*most of the time*) and this is especially true when talking about CCTV systems. If you choose to buy a one size fits all boxed CCTV system at your local discount supermarket, the odds are very high that you will soon regret it.

RETAIL LOSS PREVENTION OFFERS A FREE SERVICE IN WHICH WE WILL LAY OUT RECOMMENDED CAMERA LOCATIONS, DETERMINE SPECIFIC EQUIPMENT TYPES REQUIRED, TAKING INTO ACCOUNT ANY SPECIAL NEEDS, AND THEN OBTAIN AN EQUIPMENT-SPECIFIC, TURNKEY QUOTE FROM ADT- SENSORMATIC, OUR PREFERRED VENDOR-PARTNER AND TRUSTED LEADER IN CCTV SYSTEMS THROUGHOUT THE U.S.

CALL US AT 630-972-2670 OR E-MAIL US AT INFO@ACELOSSPREVENTION.COM TO TAKE ADVANTAGE OF THIS FREE SERVICE.