

**Video Verification in the Central Station:  
Implementation and Practices**

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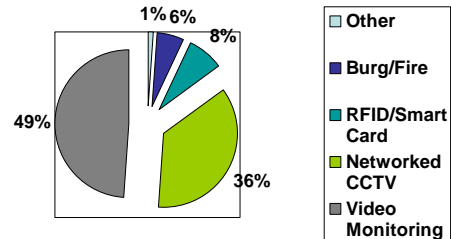


Don Childers, S.E.T.  
Security Central  
Director of Technical Training  
1-888-668-3110 (Direct)  
dchilders@security-central.com

**AGENDA**

- 1) Principles of video verification.
- 2) How video monitoring relates to the industry-wide problem of false alarms and false alarm reduction.
- 3) Video transmission techniques.
- 4) Establishing SOPs for video monitoring, operator training.
- 5) Verification and the central stations' role in dealing with various emergency dispatch agencies.
- 6) The alarm dealer's interaction with the end user regarding instructions for the video.
- 7) Operator's role in assessing the received video.

Security Sales & Integration Magazine  
March 2005 reader poll asks which technology  
market sector will grow the most in 2005?



January 2005 poll.  
This is an informal and nonscientific pool.

**According to statistics...**

Alarm ownership increases annually by eight to ten percent, yielding an almost identical rise in false activations.

Seventy-six percent of false alarms are caused by subscriber error, ten percent by equipment malfunction, and the remaining fourteen percent by weather or telephone problems.

On the average, each system activates falsely 1.3 times a year. The commercial rates are three times the residential rate. Banks, schools, and municipal facilities falsely activate seven to ten times the residential rate.

**DEFINITIONS**

**Alarm Verification**

Generic name given to many techniques used to confirm or deny the validity of alarm signals received at the monitoring facility.

**Visual Alarm Verification**

The transfer to the monitoring facility of visual conditions existing at the protected premises as a result of activation of one or more non-video sensors, to confirm or deny the validity of the alarm signal.

**Verified Alarm**

An alarm that has been confirmed by monitoring facility contact with the protected premises or an authorized user agent, an alarm from sequentially detected and reported events, a multiple-sensor detected event, or an alarm reported by a system user.

**Dial-Up Network**

The public dial-up telephone network used to establish a temporary link between the monitoring facility and the PSAP. Serves voice and data communication needs.

**Circuit Switched Network**

Circuit-switched is a type of network in which a physical path is obtained for and dedicated to a single connection between two end-points in the network for the duration of the connection. Ordinary voice phone service is circuit-switched.

**Packet Switched Network**

A data transmission network, shared by many users, in which multiple data transmissions can be sent concurrently. The communication paths are supervised and managed by the service providing telephone company and are generally equipped to provide alternate paths automatically and quickly without interruption of service.

**What is verification?**

Verification is a generic name given to many techniques used to:

- (1) to permit authorized personnel to appropriately identify themselves, thereby preventing emergency response agencies from being requested to respond to situations that do not represent an emergency; and
- (2) to confirm or deny the validity of alarm signals received at a Central Station or Monitoring Center.

**Principles of video verification**

**Forms of Verification**

**Standard Verification.** Standard Verification is the attempt by monitoring personnel to verify that an emergency does not appear to exist at the monitored premises, by means of a phone call or voice contact

**Enhanced Verification.** Enhanced Verification is the attempt by monitoring personnel to verify that no emergency exists, at the monitored premises, by means of more thorough procedures such as 2 verification calls, live audio or video, cross zoning, other means or a combination of these procedures.

**Methods of Verification**

**Electronic Verification.** An electronic signal transmitted to the monitoring facility that indicates to its personnel or to its dispatch computer that no emergency appears to exist.

**Verbal.** A personal contact by means of telephone or audio conversation with an authorized pass code holder or other authorized person for the protected premises to verify that no emergency exists.

**Video.** An electronic picture, pictures or images viewing an area of the protected premises from which an alarm signal has been received which permits monitoring personnel to view the area which has an alarm to verify an emergency condition exists or alternately that no emergency appears to exist.

**False Alarm Reduction**

Police and fire departments across the United States, are facing a significant problem of false calls for emergency services. Nationwide, burglar alarm calls **comprise 10-20 percent of all 911 calls**, and **94-99 percent of them are false activations**.

For example, in Baltimore 10 percent of all 911 calls are burglaries of which 98 percent are false activations.

The direct cost of resources for response by various police departments ranges from \$30 to \$95 per call, while the annual nationwide cost was \$1.8 billion in 2000, and occupied the equivalent of 35,000 police officers.

But hold on just one second...

When does it actually become a  
**FALSE ALARM?**

*In the central station world,  
not until it is dispatched on!!*

The International Association of Chiefs of Police state that a false alarm is when:

their officer is *dispatched* to a protected premises *and there is no visible evidence of forced entry.*

**How does video verification  
and false alarm reduction work together?**

Video:

Is an electronic picture, pictures or images viewing an area of the protected premises from which an alarm signal has been received which permits monitoring personnel to view the area which has an alarm to verify an emergency condition exists or alternately that no emergency appears to exist.

**What is a "Verified Alarm"**

A "verified alarm" is one where a person at the scene can confirm:  
a crime in progress *or*  
that a crime has occurred *or*,  
a video verification of the same.

Once we have a "verified alarm", we can have a "verified response".

We are not alone out there...

## SIAC

The goal of the *Security Industry Alarm Coalition* is to create a structure for all interested parties to come together under the banner of "dispatch reduction" and "alarm management" and through a coordinated effort maximize the impact on "false dispatch reduction" and "alarm management" across North America.

By maintaining a liaison with national and state law enforcement leadership, while educating and empowering local alarm communities to proactively foster relationships with law enforcement before a crisis develops.

On behalf of the north american alarm associations, SIAC is committed to:

- 1) Make every reasonable effort to reduce false alarms that result in false dispatches by law enforcement.
- 2) Be diligent in educating alarm dealers, law enforcement, consumers and other interested parties.
- 3) Provide assistance to law enforcement at no charge.

SIAC Contact Information: Glen Mowrey (Chief Ret)  
Law Enforcement Liaison  
Ph: 704-573-9759  
[glen@siacinc.org](mailto:glen@siacinc.org)  
[www.siacinc.org](http://www.siacinc.org)

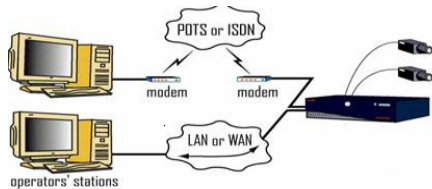
### Video transmission techniques.

POTS (Plain Old Telephone Service)

Intranet (LAN)

Broadband (WAN)

Wireless (Wi-Fi)



Does your central station have the infrastructure to support video?

Do you currently monitor over the internet?

Do you monitor video over the PSTN?

Does your current automation package support video?

### How does video verification work?

- 1) A protected zone is violated and the alarm goes off.
- 2) The alarm signal arrives at the central station along with the associated video.
- 3) The operator looks at pre-alarm, alarm, and post alarm video.
- 4) The operator then makes a decision on whether to dispatch or not, [according to dealer instruction](#).

### Establishing a standard operating procedure for video monitoring, operator training.

What makes a good operator?

How much experience should they have?

Do they currently dispatch on two-way voice accounts?

Should there be specialized video trainings?

What type, how long, and should the training be recurring?

How long should the operator remain in the video department?

What type of "post incident" treatment should there be?

### Verification and the central stations' role in dealing with various emergency dispatch agencies.

Smaller cities, and in particular large ones face an increasing demand for emergency services. These services have both public and private interests. If the call for service is real, then public involvement but not necessarily public liability is justified. However, in case of a false incident, it is in the public's best interest not to needlessly expend emergency personnel. Whether the service is indeed needed is unknown until the service is actually delivered. This attribute of this newly defined public service suggests a public/private partnership to deliver the need in a socially efficient manner.

To determine an efficient response to requests for emergency services, including alarms, requires understanding the nature of the service. Since government delivers the service, it is helpful to discuss the theoretical evolution of local government.

Such a service may not be produced at all or in non-optimal amount under free market conditions. However, the service can provide net social benefits and only government which represents the public interest would supply these benefits. It is very costly or even impossible to *exclude* any one from using a public service, and each and every person benefits from that service at some time.

Local governments often provide emergency services because of life threatening conditions and/or a significant level of externalities. In case of a major disaster, like a tornado, emergency services need to be in place in order to serve the general population. Emergency services include fire protection, police response to alarms, gas leaks, and ambulance services.

When police are dispatched, their priority is as to whether a real break-in has occurred or not has yet to be determined. Only after the officers actually arrives is it known whether an actual break-in is in progress or has occurred.

In case of a real event, public intervention can be justified. However, in case of non-real event, public financing or intervention is unwarranted. When a real break-in occurs, the public interest requires that police attempt to catch the burglar. Apprehending burglars diminishes the number of burglars and reduces the probability that others will become victims of burglary. Apprehension also has a deterring effect on criminal activity, and thereby may even reduce the future supply of burglars.

When an activation occurs, a signal is sent to a central or monitoring station. The central station is supposed to verify whether an intrusion or attempted intrusion occurred.

In case of a suspected real event, the protocol is for the central station to call the residence/business to verify, then request police response. In most situations two officers respond in one or two vehicles.

More than one officer is required because of the possibility of a violent confrontation if the burglar is on site. Also, most police departments will not accept a central station's cancellation of the request for police response once the police have been dispatched. They may slow down and turn off the sirens, but they are still will make an appearance.

Furthermore, officers who are trained to handle crisis situations and are expecting to confront a burglar, instead deal with a non-event.

**The alarm dealer's interaction with the end user regarding instructions for the video.**

The alarm dealer can only make suggestions as to how to handle an alarm event.

They may get it right the first time...but they may not.

In handling a digital alarm activation, the operator typically has instructions in front of them.

With video, they may have instructions in front of them as well.

However...

The alarm dealer must realize who will be speaking to their customers more than they will...their central station.

**Operator's role in assessing the received video.**

Let's look at two different scenarios.

**Video Verification**

Involves an alarm operator viewing real time video of what triggered a sensor to go off. In most cases the operator may only be able to move from camera to camera, have multiple screens, or simply playing back an event to see the loss that may have already incurred. There is no intervention.

The operator will dispatch on what the alarm dealer's instruction page tells them.

**Interactive Monitoring**

Is a real-time virtual presence. The operators are connected to the site within moments of a detected intruder. They use live video and audio and control pan-tilt-zoom cameras to determine who is on the premises and what they are doing. Two-way video and audio is employed so that all activity is being monitored and recorded. If police are dispatched, they respond to a live crime-in-progress, which receives a much higher level of response than a typical ringing alarm. This also means that false alarm fines will be reduced or eliminated entirely. Operators stay live on line, directing police and providing details of the subjects including description, location, how they are armed, and more.

**SUMMARY**

Before getting into video for your central station, consider this:

Transmission of data is critical in most operations, but in the case of remote verification, ensuring sufficient video quality in transmission is key. Picture quality should be at least sufficient for an operator to determine the nature and detail of a viewed event.

The operator concerned needs to make a decision quickly and on the spot. This calls for operators with good judgment and who are well trained, confident, and who can also clearly see the criteria that decisions should be based on. In this context, client expectations are important to determine as part of the operational requirements and these need to be accurately explained to the alarm dealer. The design of the security system and the match to the remote monitoring capability requires skilled and knowledgeable personnel, both alarm Dealer, technician, and central station.

Before you get into monitoring video, remember to make knowledge based decisions, not an emotional ones.

## Thank you from CSAA and Security Central

Ellen Meihaus, C.E.O.  
Security Central  
1-800-428-4171 x 1010  
[emeihaus@security-central.com](mailto:emeihaus@security-central.com)

Cathy McBride  
Security Central  
Central Station Manager  
1-800-438-4171 x 1013  
[cmcbride@security-central.com](mailto:cmcbride@security-central.com)

Don Childers, S.E.T.  
Security Central  
Director of Technical Training  
1-888-668-3110 (Direct)  
[dchilders@security-central.com](mailto:dchilders@security-central.com)

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- 6) False Alarm Reduction through Video Verification.
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- 9) VoIP and Burglar Alarms.
- 10) Server and Network Basics