Alarm Confirmation, Verification and Notification Procedures

ANSI/CSAA CS-V-01-2016 (Version July 27, 2016)

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Foreword

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Central Station Alarm Association
8150 Leesburg Pike, Suite 700, Vienna, VA 22182
Tel: 703-242-4670
email: Membership@csaaintl.org

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Acknowledgements

CSAA Standards Chairman: Louis T. Fiore, L. T. Fiore, Inc.

CSAA Staff Administrator: Jay Hauhn, Executive Director, CSAA
Becky Lane, VP Membership and Programs, CSAA

Sub-committee Membership 2016

Louis T. Fiore, Sub-committee Chair

Robert Bonifas, ADS Alarm of IL

Robert Bean, Alert Alarm of Hawaii

Jim McMullen, COPS Monitoring

Larry Dischert, Tyco Integrated Security, LLC

Peter Giacalone, Peter Giacalone, Inc.

Mark McCall, Security Central/Alarm South

Larry Folsom, I-View NOW

Anita Ostrowski, Vector Security

This standard was approved by the Security Industry Standards Council in April 2016

Revision History:

Original Version 2004

Revised-New Edition 2016

1) Reorganized to include CS-V-01, CS-V-02 and CS-AUD-01

2) Minor modifications

3) Minor clarifications
Introduction

This standard has been prepared under the direction of the Security Industry Standards Council (SISC) members with the participation of Central Station Alarm Association (CSAA) members, Security Industry Association (SIA) members, Electronic Security Association (ESA) members, ASIS members and the Canadian Alarm Association (CANASA) members. This standard is to be used by alarm monitoring facilities and by state and local units of government in their development of consistent administration criteria for alarms. New technologies and successful efforts to reduce false alarms have led to this standard. This standard, adopted by the various states and local units of government, recognizes the lifesaving benefits monitored security and fire alarm systems provide. The intent of this standard is to achieve increased efficiencies by reducing costs and eliminating wasteful efforts associated with potential false dispatches.
Alarm Confirmation, Verification and Notification Procedures

1. Scope

This standard defines methods by which false dispatches can be greatly reduced. It has been proven that confirming and verifying an alarm signal by a monitoring central station will drastically reduce false dispatches. This standard takes confirmation to its next level by defining multiple attempt confirmation, biometric, audio and video confirmation.

Additionally, beyond the use of confirmation in standard or basic security systems, this document defines methods by which a probable crime in progress can be identified and false dispatches can be greatly reduced. Monitoring central stations that use video and audio technologies to assess the probability of a crime in progress help law enforcement to prioritize their resources and drastically reduce false dispatches. This standard takes verification to its next level by defining audio and video verification techniques as well as multiple attempt confirmation and multi-trip notifications.

Methods defined herein have been tested and proven to achieve higher apprehension rates and lower levels of false dispatch. Further reduction is possible to achieve using a combination of the methods defined herein.

1.1 General

1.1.1 If differences exist between this document and other Special Instructions with the monitored premises, the Special Instructions shall take precedence.

1.1.2 If a Notification was made and subsequent information indicates no emergency exists, contact shall be made to the emergency agency in an attempt to cancel their response.

1.2 Definitions

1.2.1 Alarm Abort
The process that an alarm company shall consider the receipt of an “Authorized user”, “Automatic cancel”, “Abort” or “Opening” signal from the alarm system as valid authorization and will not be required to make a Notification.

1.2.2 Alarm Cancel
The process that may occur after the Notification is complete and the supervising station learns that the alarm is false. Then the supervising station personnel will contact the responding agency and “cancel” their response.

1.2.3 Alarm Confirmation
Alarm confirmation is a generic name given to many techniques used (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 supervising station.

1.2.4 Alarm Verification
Alarm verification is a generic name given to techniques used to determine probable crimes in progress, and to confirm or deny the validity of alarm signals received at a supervising station.

1.2.5 Audio Device
Hardware that produces or hears sounds
1.2.6 Call Back Mode
The state of readiness, by an audio verification system, where a ring on the telephone line will result in the audio verification system immediately taking the telephone line off hook, in order to permit a two-way voice interval.

1.2.7 Code
Code as applied within this standard is used to identify a person on the other end of a verbal conversation or verified electronic receipt of a personal identifier as being valid. Code can be anything that uniquely assures the person seeking the identity of the individual at the other end, is in fact, the individual they are claiming to be.

1.2.8 Confirmation Methods

1.2.8.1 Electronic
An electronic signal transmitted to the supervising station that indicates to its personnel or to its dispatch computer that no emergency appears to exist or confirms that an emergency does exist.

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

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

1.2.8.4 Multi-Trip (MT)
The application of redundant detection devices such that one motion detector or one photo-electric beam paired with some other device such as another motion detector, photo-electric beam, door contact or door contacts, to cover generally the same area. An alarm is recognized when both detectors in the pair are triggered.

1.2.8.5 Biometrics
The ability to confirm the identity of authorized on premises personnel through the use of detectors that utilize facial or body recognition, voice identification, hand geometry, fingerprint identification or other biometric characteristic identification technology.

1.2.9 Confirmation Types
Two broad forms of confirmation may be employed. These include:

1.2.9.1 Standard Confirmation
Standard confirmation is the attempt by supervising station personnel to confirm that an emergency does not appear to exist at the monitored premises, by means of a telephone call, voice contact or other electronic means.

1.2.9.2 Enhanced Confirmation
Enhanced Confirmation is the attempt by supervising station personnel to confirm that no emergency appears to exist at the monitored premises by means of more thorough procedures such as two (2) or more investigative phone calls, Multiple Trip, Data Message other means or a combination of these procedures.
1.2.10. Data Message
Any form of electronic communication that conveys an appropriate message. (Examples would be, texting, recorded messaging and emailing)

1.2.11. Dispatch
Notification (See 1.2.14. below) of a law enforcement agency, a guard, guards, a runner, runners, other response entities or predetermined combination of the above to respond to the premises.

1.2.12. NRTL Certificated Service
The term NRTL Certificated Service, as used in this document, refers to burglar alarm systems that have a Nationally Recognized Testing Laboratory (NRTL) certificate in force and therefore follows confirmation procedures outlined in UL 827, UL 2050, ULC S301 or ULC S304 Standards.

1.2.13. Line Capture
The event of the audio verification system holding the line off-hook after the digital communicator has received an acknowledgment from the supervising station.

1.2.14 Notification
A call or Data Message to the law enforcement authority, such as 911 or the telephone number used to reach the responding law enforcement agency.

1.2.15. Security Device
Hardware that detects a change in a protective status such as a motion detector or door contact.

1.2.16. Special instructions
Separate directions, from the monitoring contract document, that specifies a specific set of instructions to be followed in the event of an alarm, between the monitored premises and the alarm/monitoring company.

1.2.17. Supervising Station
A facility that receives signals from protected premises alarm systems and at which personnel are in attendance at all times to respond to these signals

1.2.18. Audio Verification Types
An event activated method that provides recorded audio associated with alarm activation and/or live real time audio from the protected premises to the central station that enables the monitoring agency to verify whether activity is occurring that appears to warrant the immediate emergency response of responding agencies.

1.2.18.1 Listen-In
An audio device capable of being activated by the initiation of another security device. A one-way audio feed will be available to the supervising station when a device such as a hold-up button, audio detector or door contact has come into alarm.

1.2.18.2. One-Way Audio
See 1.2.18.1

1.2.18.3 Two-Way Audio
An event driven, two-way, hands free communications session at the premise with the supervising station caused by the activation of an alarm event at the premise for the purpose of verifying the validity of an alarm condition and/or gain additional information regarding the cause of the condition.

1.2.18.4 Impact Activated Audio
An audio device capable of being activated by the sounds of an intrusion or unauthorized entry. The audio device after activation will cause the control panel to contact the central station and provide the premise sound.
1.2.19. Video
Video Information that is available at the time an alarm event was annunciated by the alarm system control unit.

1.2.20. Verified Alarm (VA)
Is the result of alarm verification procedures, which indicate to an operator who, sees, hears or otherwise confirms, with a degree of certainty, there is a crime is in progress.

2. Standard Confirmation Procedures for Burglar Alarm Signals

2.1. Procedures for Alarm Signals Received from Systems without “NRTL Certificated” Service

2.1.1. Initial Attempt
Unless Special Instructions exist, supervising station personnel shall attempt to reach designated contacts for identification and confirmation of persons authorized to be on the customer’s premises.

2.1.2. If No Contact
If there is no response, the supervising station personnel shall make a Notification, unless the supervising station personnel have reason to believe no emergency exists.

2.1.3. If Attempt is Answered
If the attempt is answered, the supervising station personnel shall obtain code confirmation or other electronic identification that the person is authorized to be on the premises. Upon receipt of correct identification, and the authorized person states that no emergency exists, responding entities shall not be notified or shall be recalled, if already notified, and the alarm is considered aborted.

2.1.3.2. No Code
If no code or authorization is provided, the supervising station personnel shall attempt to reach an authorized person off premises to confirm the authenticity of the on premises person, and failing that shall make a Notification. Further explanatory material on this can be found in Annex A.

2.1.3.3. Wrong Code
If the person(s) contacted cannot be identified by a valid identification code within a reasonable time after the contact as defined in 2.1.2, the supervising station personnel shall make a Notification.

2.2. Procedures for Alarm Signals Received from Systems with “NRTL Certificated” Service

2.2.1. Signals received from certificated systems shall be handled in accordance with the procedures defined in UL Standard 827, UL 2050, ULC S301 or ULC S304.
3. Enhanced Confirmation of Burglar Alarm Signals

3.1. Procedures for Alarm Signals Received from Systems without “NRTL Certificated” Service

3.2. Extended Time

The maximum time permitted for enhanced confirmation of a non-certificated system can be extended beyond the time constraints imposed for certificated systems defined in UL 827, UL 2050, ULC S301 or ULC S304.

3.3. Procedure

For burglary alarm signals received from non-certificated commercial burglary alarm systems or any residential alarm system, the following procedures shall be followed.

3.3.1. Initial Attempt

The supervising station shall attempt confirmation to the protected premises after receipt of the alarm signal. The procedure defined in 2.1.2 above shall be followed if the premises attempt is answered. Otherwise proceed to 3.2.2 or 3.2.3, whichever is applicable.

3.3.2. Second Attempt, Other Than Premises

When supervising station personnel get a busy signal or no response on the first attempt to the protected premises, a second attempt shall be made and if the authorized person states that no emergency exists, responding entities shall not be notified or shall be recalled, if already notified, and the alarm considered aborted.

3.3.3. Second Attempt to the Premises

When supervising station personnel get a busy signal or no response on the first attempt to the protected premises, a second attempt(s) shall be made to an alternate at the protected premises when such is available. The procedure defined in 2.1.2 above shall be followed.

3.4. Alarm Abort

The Alarm Company shall consider the receipt of an “Authorized user”, Automatic cancel”, or “Abort” signal from the alarm system as validation that no emergency exists and no Notification shall occur.

3.5. Answering Machines

When any call reaches an answering machine a message shall be left, clearly stating that it is the alarm company calling and leaving necessary information for the alarm user to promptly contact the supervising station.

3.6. Scheduled Events

If an alarm signal is received in connection with a scheduled opening or closing event, additional attempts shall be made to the call list in order to determine whether the alarm signal is caused by an opening or closing error. If there is no response or no determination can be made that a false alarm exists, a Notification shall occur.
3.7.  Verified False

If the alarm is verified as being false during the first, second or succeeding attempts, supervising station personnel shall suspend activities relating to the specific signal being worked.

3.8.  Use of Call List

Following the Notification, attention shall be placed on contacting the emergency call list, until someone is reached to achieve a cancellation of the notification if it is then determined that no emergency exists.

4.  Standard Audio Verification Procedures for Burglar Alarm Signals

4.1.  Procedures for Alarm Signals Received from Systems without “NRTL Certificated” Service

Unless Special Instructions exist to indicate otherwise supervising station personnel shall communicate via the audio verification system with the protected premises for identification and authentication of persons authorized to be on the customer's premises, unless the cause of the alarm can be ascertained, with a degree of certainty by the operator, that a crime is in progress, (verified alarm) through use of the received pre-recorded or live audio.

4.2.  Two-Way Audio Verification

To insure all reasonable efforts are expended in attaining a confirmation of an alarm condition and avoiding the necessity for a dispatch the following best practices shall be carried out:

4.2.1.  Initial Verification Session

Upon receipt of an alarm condition the central station operator will initiate the audio session via capture, call back mode or impact activated audio according to the manufacturers stated command set (most current manufacturers comply with the SIA Audio Verification Standard command set). Upon initiation the central station operator will challenge the user on the premises for a valid code. Upon acknowledgment of valid code, alarm dispatch will be avoided and the central station operator can continue to communicate with the verified, valid user on premises.

4.2.1.1.  If No Contact

If there is no response or non-communication with the premises via the two-way audio session, the supervising station personnel shall make a second attempt, using an alternate method, and if the authorized person states that no emergency exists, responding entities shall not be notified or shall be recalled. The operator will disconnect the two-way audio session via manufacturers stated command set.

4.2.1.2.  Wrong Code

If communication is established with the premise and a valid code is not communicated by the person(s) on premise via the two-way audio session, the supervising station personnel shall make a Notification to the proper responding agency. The operator will disconnect the two-way audio session via manufacturers stated command set. Upon proper termination the operator will dial the responding agencies telephone number.

4.2.2.  If Audio Communication is Established

If contact is made via the audio verification system, the supervising station personnel shall obtain code authentication or other electronic identification that the person is authorized to be on the premises. Upon receipt
of correct identification, and the authorized person states that no emergency exists, responding agencies shall not be notified or shall be recalled, if already notified, and the alarm is considered aborted.

4.2.2.1. *No Code

If no code or authorization is provided, the supervising station personnel shall attempt to reach an authorized person off premises to verify the authenticity of the on premises person, and failing that shall make Notification.

4.3. **Listen-In One-Way Audio Systems**

The general purpose of this technology and service is to allow the supervising station to gain additional information from the protected premise on certain alarm conditions that are not verified such as hold up or ambush alarm conditions.

4.3.1. **Alarm Processing Session**

4.3.1.1. Upon receipt of an alarm condition the central station operator will initiate the audio session according to the manufacturers stated command set (most current manufacturers comply with the SIA Audio Verification Standard command set).

4.3.1.2. Upon initiation the central station operator will be in a “Listen Only” status and will not communicate with the premise and will continue to maintain the “Listen In” session while the next step (4.3.1.3) is implemented.

4.3.1.3 Should the operator, listening to the premises, hear a valid code, an effort to cancel or abort Notification will be attempted.

4.4. **Procedures for Alarm Signals Received from Systems with NRTL Certificated Service**

Signals received from certificated systems shall be handled in accordance with the procedures defined in UL Standard 827, UL 2050, ULC S301 or ULC S304.

4.5. **Enhanced Audio Verification of Burglar Alarm Signals**

4.5.1. **Procedures for Alarm Signals Received from Systems without “NRTL Certificated” Service**

4.5.1.2. Extended Time

The maximum time permitted for enhanced verification of a non-certificated system can be extended beyond the time constraints imposed for certificated systems defined in UL 827, UL 2050, ULC S301 or ULC S304.

4.5.1.3. Procedure

For burglary alarm signals received from non-certificated commercial burglary alarm systems or any residential alarm system, the following procedures shall be followed.

4.5.1.3.1. Audio Verification Session - Attempt #1
The supervising station shall attempt audio confirmation with the protected premises after receipt of the alarm signal. The procedure defined in 4.2.2 above shall be followed if audio contact is made with premises. Otherwise proceed to 4.5.1.3.2.

4.5.1.3.2. Audio Verification Session - Attempt #2

When supervising station personnel cannot attain contact or confirmation during the first attempt to the protected premises, a second attempt via a standard telephone call shall be made to an alternate phone number(s) such as a premise, cellular or work number and if the authorized person states that no emergency exists, responding entities shall not be notified or shall be recalled, if already notified, and the alarm considered aborted.

4.5.1.4. Compliance with Enhanced Confirmation (Formerly known as Enhanced Call Verification (ECV)

4.5.1.4.1. The Audio verification procedure defined in 4.5. shall be in compliance with section 2 Standard Confirmation Procedures for Burglar Alarm Signals

5. *Standard Video Verification Procedures for Burglar Alarm Signals

5.1. Procedures for Alarm Signals Received from Systems without “NRTL Certificated” Service

5.1.1. Procedures shall be in accordance with section 2 Standard Telephony Confirmation Procedures for Burglar Alarm Signals unless Special Instructions exist, the supervising station personnel shall make contact with the protected premises for authorized identification and authentication upon receiving an alarm unless the cause of the alarm can be ascertained with a degree of certainty by the operator, that a crime is in progress, (verified alarm) through use of the received pre-recorded or live video.

5.2. Video Verification

5.2.1. Video information, if available, shall be viewed by supervising station personnel to identify personnel or zone patterns that may confirm that an emergency does or does not exist.

5.2.2. Video information does not need to be considered in the case when an alternative method of confirming that no emergency is present supersedes the viewing of the video, such as if the initial contact with the protected premise finds authorized personnel at the premises and/or the person states that no emergency exists.

5.2.3. Unless Special Instructions exist to indicate otherwise supervising station personnel shall communicate via the audio system with the protected premises for identification and authentication of persons authorized to be on the customer’s premises.

5.2.4 It is required that the Captured Video field of view include the area covered by the sensor that triggered the alarm event. Any one camera may be used to verify alarm events from more than one sensor. If the Field of View includes non-protected areas, Special Instructions should define the Protected Area and provide guidelines for the monitoring facility personnel for handling the alarm event(s). There must be adequate lighting or use of illumination technology to provide a usable image(s).

5.3. Identification of a Video Verification System

Each alarm signal with Video Verification shall be identified by the supervising station personnel that additional video information is associated with the standard alarm signal received.
5.4.* Reviewing Video

Video information will be reviewed by the supervising station prior to initiating a Notification if no other approved alternative method can confirm that an emergency does not exist.

5.4.2. If the video feed is unavailable or not viewable, supervising station personnel shall precede with alternate confirmation methods.

5.5. Extended Time

The maximum time permitted for enhanced verification of a non-certificated system can be extended beyond the time constraints imposed for certificated systems defined in UL 827, UL 2050, ULC S301 or ULC S304.

5.6.*Captured Video Information

See Annex A

5.7. Procedures for Alarm Signals Received from Systems with NRTL Certificated Service

Signals received from certificated systems shall be handled in accordance with the procedures defined in UL Standard 827, UL 2050, ULC S301 or ULC S304.

6. Additional Confirmation and Verification Factors

6.1. Answering Machines

When any call reaches an answering machine a message shall be left, clearly stating that it is the alarm company calling and leaving necessary information for the alarm user to promptly contact the supervising station.

6.2. Scheduled Events

If an alarm signal is received in connection with a scheduled opening or closing event, additional attempts shall be made to the call list in order to determine whether the alarm signal is caused by an opening or closing error. If no answer or no determination can be made that a false alarm exists, a Notification shall occur.

6.3. Verified False

If the alarm is verified as being false during the first, second or succeeding attempts, supervising station personnel shall suspend activities relating to the specific signal being worked.

6.4. Use of Call list

Following the Notification, attention shall be placed on contacting the entire emergency call list, until someone is reached or a message(s) has been left, to achieve a cancellation of the Notification if it is determined that no emergency exists. Once the list is exhausted, and no one has been reached, but a message(s) has been left, calling shall desist.

6.5. Alarm Cancel
After Notification, the alarm company shall continue the effort to contact the remaining designated persons on the emergency call list and upon contact and learning that the alarm is false update the AHJ with a “cancel” Notification unless modified by Special Instructions.

6.6. Unexpected Openings/Closing

Conditions considered as Unauthorized Opening, Late to Open or Late to Close shall not be considered as alarm conditions and no Notification shall occur unless verbally requested to do so at the time of the event by a designated emergency contact or unless modified by special instructions.

7. Multiple Trip Procedure

Multiple Trip (MT) can be accomplished in two ways:

7.1. One alarm signal MT:

7.1.1. Multiple independent sensor trips are analyzed on site by the alarm system and a single MT signal (identified as such on the operator’s terminal) is sent to the supervising station.

7.1.2. When the MT alarm is received, the supervising station operator immediately initiates the Enhanced Confirmation (EC) procedure.

7.1.3. At the conclusion of the EC procedure, if a need for police response is determined, the operator shall tell the dispatcher that multiple trips occurred and that the EC procedure was followed.

7.2. Two alarm signal (MT):

Multiple alarm signals from more than one sensor at the same location (street address) are received at the supervising station.

7.2.1. The supervising station operator initiates the EC procedure immediately after the first of the two signals has been received.

7.2.2. When a second alarm signal from a different sensor is received from the same location during the EC procedure, and if a need for response is determined, the operator shall tell the dispatcher that multiple trips occurred and that the EC procedures were followed.

8. Hold-Up

8.1 Commercial Hold-Up Alarm

Unless otherwise noted by Special Instructions, the supervising station shall not call the protected premises but shall make a Notification.

8.2 Residential Panic/Duress/Emergency Alarm

The supervising station shall follow the Standard Confirmation Procedures as defined in section 2.0.

9. Residential Fire Alarms

9.1* Households
For purposes of this standard, “household” is defined in NFPA 72 August 2002 as the family living unit in single-family detached dwellings, single-family attached dwellings, multifamily buildings and mobile homes. This definition excludes common usage areas in multifamily buildings such as corridors, lobbies, basements, etc. Fire alarm systems covering such excluded areas are not “household” fire alarm systems. The primary purpose of fire alarm systems in households is to provide an audible signal to occupants in order to expedite evacuation of the household. Further explanatory material on this can be found in Annex A.

9.1.1 Household Fire Alarm Signal

The procedures defined in the NFPA 72 code shall be followed for household fire alarm signals.

10. Commercial Fire Alarms

10.1 For the purpose of this standard, a commercial fire alarm is defined as all fire alarm systems in all properties other than households as defined in 9.1 above

10.2 Commercial (Non-Household) Fire Alarm

The procedures defined in the NFPA 72 code shall be followed for commercial (non-household) alarm signals.
Annex A (Informative)

A.2.1.1 & 2.1.3.2 If the supervising station personnel reach the protected premises on the first or second call and the person answering the phone does not have the proper code then, if possible, the personnel may attempt to make a 3-way call with the premises person retained as a party to the call. The supervising station personnel may attempt to reach others on the call list to confirm the authenticity and authorization of the person on the protected premises. If this process fails to resolve the issue then the supervising station personnel should to follow any special instructions if present and/or proceed to make a Notification.

A.4.2.2.1 If the supervising station personnel reaches the protected premises on the first or second call and the person answering the phone does not have the proper code then, if possible, the personnel may attempt to make a 3-way call with the premises person retained as a party to the call. The supervising station personnel may attempt to reach others on the call list to confirm the authenticity of the person on the protected premises. If this process fails to resolve the issue then the supervising station personnel should proceed to make a Notification.

A.5. Monitoring Facilities Video Availability
It is recommended that the Captured Video be transmitted and available to the supervising station when the alarm event is transmitted. The alarm event and captured video do not need to be transmitted over the same medium. For example, it may be transmitted via an Internet feed. The supervising station personnel shall have the Captured Video presented in a manner that is easily accessible.

A.2.1.1 and 3.2 Premises Confirmation Phone Accessibility Guideline
Care should be taken to verify that the phone line(s) used by the digital communicator do not have a call waiting feature, or alternately that *70 is programmed in front of the supervising station receiver phone number(s). The confirmation phones at the protected premises should be accessible after hours in the vicinity of commonly used entrances and not be locked up in an office, or have inbound calls sent to voice mail after hours. This is so the after-hours users and cleaning people can hear and answer the confirmation phone call made by the monitoring facility personnel.

A.5.4 Premises Camera Position
The camera should be placed to provide a clean view of the protected area. Care should be taken to avoid Cameras that can be repositioned for other purposes (ex. Review product displays or check customer traffic).

A.5.4 Video Equipment Configurations
The type of camera, video transmission, placement of equipment and views provided by such video equipment may serve different multiple needs for the consumer. If determined by the consumer that a different configuration is desired, deviation from the placement and functionalities described in this standard should not prohibit the central station from utilizing such video information in its course of performing a Notification to the law enforcement agency if appropriate.

A.5.4 Video Implementation Techniques
The quality of the video received shall be of a nature that a person will at a minimum, be able to decipher between a human and non-human based on the attributes of human form or any other information germane to the alarm scene (broken window, smashed door, or other physical characteristics) at the time of the alarm event.

A.5.6. Captured Video
Captured Video is associated video information aligned with the alarm event and/or identified by the supervising station personnel while viewing video. Examples include the following: the presence of video aligned with the alarm, the identification of a human or humans, or any other information germane to the alarm scene (broken window, smashed door, or other physical characteristics) at the time of the alarm event.
A. 5.6. Examples
As an example if the minimums are implemented, at least 5 frames of captured video spanning five seconds starting no more than 100 milliseconds after the actual alarm event will be captured and transmitted. Alternately, in applications where the time between alarm initiation and recording of the first of the required five frames cannot be assured to be within 100 milliseconds, then 5 (five) frames would be distributed over 5 (five) seconds 1 (one) second between full frames) with two frames containing pre alarm video, the event frame being the third, and two frames of post event video

A. 9.1 NFPA 72 National Fire Alarm and Signalling Code – 2016; States: “29.2* Purpose. Fire-warning equipment for residential occupancies shall provide a reliable means to notify the occupants of the presence of a threatening fire and the need to escape to a place of safety before such escape might be impeded by untenable conditions in the normal path of egress.” Annex A.29.2 “Therefore, in addition to the fire-warning equipment, this Code assumes that the residents have developed and practiced an exit plan.”