FALSE ALARM REDUCTION FEATURES

Application Note

INTRODUCTION

One of the most serious problems facing the security/fire industry today is the unnecessarily high incidence of false alarms. Although caused mostly by insufficient training, the false alarm problem is a threat to us and to all citizens because they severely limit the effectiveness of police, fire, and other emergency response agencies. At the very least, the continuing problem of false alarms leads to greater restrictions placed on security/fire installing companies and end-users by local and regional governments. At worst, they can lead to a tragic loss of property or life.

FALSE ALARM REDUCTION FEATURES DEFINED

False Alarm Reduction features are functions, capabilities, or processes that either require that alarms be verified or potential alarm conditions be corrected before a system or zone can be placed into an armed state.

In our continuing efforts to help reduce false alarms, DMP continues to design False Alarm Reduction features into products that are easy for alarm technicians to install and program and simple for end-users to operate. This simplicity helps to reduce false alarms and makes it quick and easy to correct any mistakes.

ANSI/SIA CP-01-2010 STANDARDS DEFINED

The ANSI/SIA CP-01 standards include key false alarm reduction features developed in association with security product manufacturers including DMP, Underwriters Laboratories (UL), and American and Canadian industry groups:

- AIREF Alarm Industry Research & Education Foundation
- CSAA Central Station Alarm Association
- NBFAA National Burglary & Fire Alarm Association
- SIA Security Industry Association
- CANASA Canadian Alarm Security Association

THE ANSI/SIA CP-01 STANDARD

The standard designates residential and commercial control panel features that reduce false alarms and addresses user-caused and equipment-caused false alarms. Features include event recognition, information handling sequences and system testing as well as installer programming options and test procedures to help determine compliance.

DMP is committed to meeting CP-01 standards in all our panels and in some features DMP panels even exceed the recommendations set forth in the ANSI/SIA CP-01 Standards for False Alarm Reduction features.

BENEFITS OF REDUCING FALSE ALARMS

By providing a system with advanced False Alarm Reduction features, your customers benefit by avoiding the embarrassment and financial penalties of false alarms. They also enjoy a high level of confidence in your company and appreciate the friendships they maintain with their neighbors due to their system operational integrity.

As the system dealer, you benefit by immediately establishing a mutually profitable relationship with your customers in the form of referrals, high quality service, and potential system enhancements.

POWERFUL FALSE ALARM REDUCTION FEATURES

This application note highlights multiple popular False Alarm Reduction features that embody the DMP commitment to reducing false alarms:

- Cancel/Verify
- Exit Error Keypad Alert and Reporting
- Entry and Exit Delay
- Remote Annunciation
- Abort reporting
- System Test by User
- Unique Duress (Ambush) Code
- Two-Button Panic Keys
- Fire Verify Zones
- Cross-Zoning Protection Devices
- Swinger Zone Bypassing
- System Recently Armed Reporting
- Transmit Delay
- Call Waiting Cancel
- 60 Second Power Up Delay

The following sections describe the basic operation of these important DMP product False Alarm Reduction features.

CANCEL/VERIFY

The DMP patented Cancel/Verify feature provides the user an opportunity to silence an alarm bell without disarming the system. When an alarm sounds, the user enters a valid PIN to automatically silence the bell. The keypad displays the Cancel/Verify prompt. If the user is certain a valid alarm has occurred or an additional zone trips, the user presses Verify to send an Alarm Verify to the Central Station. The system remains armed to provide continuous intrusion protection for the user. If a valid alarm has not occurred, the user presses Cancel to disarm the system and send an Alarm Cancelled or Abort message to the Central Station.

False Alarm Prevention

The end-user is able to cancel or verify their alarm from their keypad to allow the Central Station adequate time to dispatch on a valid alarm. This feature also provides the Central station with a record of the user number and name associated with the event. This eliminates the possibility of operator delay and subjective decisions.

EXIT ERROR KEYPAD ALERT AND REPORTING

This is an automatic function of the panel that prevents a false alarm from occurring if an exit door does not properly close after the system is armed.

For example, a user closes all doors and windows, arms the system, and then leaves by the front door. They close the door, but it does not latch and opens slightly causing the front door zone to show as a fault to the system. At the end of the exit delay one of two sequences occurs:

For Exit zones defined by Entry Delay 1:

- The bell sounds for the length of time set in Bell Cutoff programming
- The Entry Delay operation starts requiring code entry to disarm
- If not disarmed, a zone alarm and an exit error are sent to the receiver

For Exit zones defined by Entry Delay 2-4:

- The zone is force armed and a zone force arm message is sent to the receiver
- An Exit Error is sent to the receiver
- The bell sounds for the length of time set in Bell Cutoff programing

False Alarm Prevention

The Exit Error feature allows the Central Station to acknowledge the arming error without dispatching the police on a false alarm.

ENTRY AND EXIT DELAY

A potential time for false alarms to occur is while a user is arming or disarming the burglary alarm system. When arming, it is important that clear indications are given to the user about the need to exit the premises prior to the exit delay time expiring. Equally important when disarming, is notification to the user to disarm the system before the entry delay expires.

Keypad Annunciation

To alert users to the start as well as the status of entry and exit delay periods, DMP keypads clearly indicate both conditions using visual and auditory annunciation methods.

When Exiting the premises and arming the system, the keypad displays the Exit Delay time countdown and annunciates the Exit Delay tone at 8 second intervals until the last 10 seconds when annunciation is at 3 second intervals. During Exit Delay, if an exit zone trips, then restores, and trips again, the Exit Delay timer restarts. This restart can occur only once.

When Entering an armed premises, the keypad prewarn tone begins sounding. All keypads programmed to prewarn for that zone display ENTER CODE:- and the name of the zone. When the first digit of a code is entered, the prewarn tone stops at that keypad. If an invalid code is entered, the prewarn tone begins sounding again. The area must be disarmed before the delay expires or an alarm report is sent to the receiver and an alarm sounds.

Programmable Entry and Exit Delay Times

To allow burglary system customizing to fit the user needs, DMP panels provide individually programmable entry and exit delay times that can be assigned separately to any Exit type zones in the system. The Entry and Exit Delay times can be preprogrammed in one-second increments. Entry Delay times cannot be less than 30 seconds. Exit Delay times cannot be less than 45 seconds.

Area Arming

When two or three areas are assigned to the panel, and area 1 is named PERIMETER, and area 2 is named INTERIOR, and no exit type zone transition occurs during the arming exit delay because the premise continues to be occupied, the INTERIOR area automatically disarms at the end of the exit delay. This operation only occurs when arming from a keypad. Zone or Remote arming is not affected by this operation.

False Alarm Prevention

The flexibility of this False Alarm Reduction feature allows you to set a comfortably short entry and exit time for doors that are located close to where the system keypads are located. Unnecessarily long entry and exit times make the system more vulnerable when unauthorized entry is made through doors located elsewhere in the protected premises. For entry doors located farther away from the keypads, a longer delay can be assigned to provide the user with sufficient time to enter the premises and access the keypad.

REMOTE ANNUNCIATION

If additional visual or auditory annunciation of the entry and exit delay periods is required, DMP panels further meet SIA standards by providing separate entry and exit delay outputs. These outputs can be connected to individual remote annunciators, such as LEDs or lights, to provide indication throughout the premises that system arming has taken place or that the premises has been entered and the user must disarm the burglary system.

Additionally, a two-second bell test can be sounded at system arming to alert other persons in the building that the system has been armed.

False Alarm Prevention

Notification of entry and exit delay periods, whether from DMP keypads, remote annunciators, or bell tests, can greatly reduce the incidence of false alarms due to arming and disarming errors.

ABORT REPORTING

Abort reporting is another false alarm reduction feature designed to prevent user arming errors. Abort reporting is simply the ability of the panel to send an Abort report to the Central Station if the system is disarmed while the alarm is still sounding. The keypad alarm cadence and bell output are silenced when the first digit of the user code is entered at the keypad. The alarm cadence and bell output restart if an invalid code is entered or no keys are pressed for five seconds. The panel sends an Alarm Cancelled message to the receiver if the area where the alarm occurred is disarmed after the alarm message is sent but before the Bell Cutoff time expires. This allows the Central Station to cancel a dispatch when a valid user code is entered at the initiating premises. This feature is especially useful for systems using auto arming where users might not be aware that the system has armed and then accidentally trip an armed zone.

False Alarm Prevention

Abort reporting sends an Abort (Alarm Cancel) report whenever the system is disarmed during an alarm by a user with a valid code. Additionally, a System Recently Armed report is sent when a burglary zone goes into alarm within two minutes of the system being armed.

SYSTEM TEST BY USER

As today's security and fire systems become more complex and capable, the need for regular, thorough detection circuit testing and system performance by the user or alarm service technician becomes even more critical. Only those systems that offer simple, quick, and complete testing features can provide the highest measure of safety by ensuring that alarm conditions are detected and communicated to the proper authorities.

The System Test and Zone Monitor features found in DMP panels are so easy-to-use they become as simple and second nature as checking the door and window locks before leaving. From the plain English text User Menu at the keypad, the user simply scrolls down to the SYSTEM TEST option and presses a key. The system then automatically tests the bells or sirens for two seconds, checks the battery, and (if the system is monitored) sends a test report to the Central Station to verify the panel communication capability and that the phone lines are in good condition. The System Test is set up to not start if any areas are armed and a SYSTEM ARMED message displays.

After the System Test option is completed, the user scrolls through the User Menu to select the Zone Monitor option. Zone Monitor is an integral part of testing the system as it allows users to test one or more individual devices, the entire perimeter, or all devices including any interior motion detectors and hear the keypad beep in response. Should the keypad fail to beep when a zone is tripped, the user simply calls the service department for assistance.

False Alarm Prevention

The System Test and Zone Monitor features prevent false alarms by helping to ensure that all door, window, and interior protection zones function correctly and the system is able to communicate alarm information to the Central Station.

UNIQUE DURESS CODE

A key element in providing protection to the end-user is the ability for the security system to be armed and disarmed with a duress code. Duress codes are for those dangerous encounters where the user is instructed to either arm or disarm the system under threat of harm. The duress code disarms the system and does not give local indication of an alarm that might put the well-being of the user in jeopardy.

While duress codes have been around for many years, what makes the DMP duress code a False Alarm Reduction feature is its implementation as a standard user code with a special programmable capability. If the duress capability is not enabled in the panel programming, the user code works just like any other code in the panel and a duress (Ambush) report is never sent to the Central Station.

The problem with other duress code implementations, particularly where the user code last digit is increased by one, is that there is a high probability the user can either increment the last digit accidentally or forget the procedure at the time it is needed most. Many false alarms are attributed to this type of duress code, so DMP does not support this type of duress code.

False Alarm Prevention

The DMP duress code feature reduces false alarms by providing an optional duress reporting capability to a standard user code. Users do not have to remember to increment the last digit of their code, or add an additional digit, to use this lifesaving feature.

TWO-BUTTON PANIC KEYS

Closely related to duress codes are panic keys that allow users to press keys on their keypads to turn on the local bells or sirens and scare away an intruder while sending a panic alarm to the Central Station, or to just send a silent panic alarm without any local annunciation.

Panic alarm configurations activated by pressing only one button or by pressing keys that are not readily identified are too easy to activate accidentally. In compliance with the recommendations of the Security Industry Association, DMP keypads use only two-button panics that require the user to press and hold two designated keys for approximately two seconds before the system generates a panic alarm.

False Alarm Prevention

DMP keypads help prevent false alarms by requiring the user to press and hold two easily identifiable keys for approximately two seconds before sending a fire, police, or emergency report to the Central Station.

FIRE VERIFY ZONES

Fire Verify zones are used primarily for smoke detector circuits to help the panel verify the existence of an actual fire condition before it sends an alarm report to the Central Station. A Fire Verify zone works by requiring the panel to perform a Sensor Reset whenever a device connected to a Fire Verify zone initiates an alarm. This begins the verification period during which the panel waits for a second alarm initiation. If the original zone or any other Fire Verify zone on the panel initiates an alarm within the next 120 seconds, the panel recognizes this as an actual alarm and sends an alarm report to the Central Station.

If a second alarm does not occur on the original zone or any other Fire Verify zone during the 120 second verification period, the panel sends only a Zone Fault report to the Central Station. If an alarm occurs on a Fire Verify zone after the 120 second period, the cycle repeats. Fire Verify zone programming allows you to provide a higher level of protection against false alarms. Also, a fault from a Fire Verify zone can be an indication that a preventative service call to the subscriber account is required.

False Alarm Prevention

Fire Verify zones help prevent false alarms by allowing the panel to verify an actual fire condition by requiring a second alarm initiation within 120 seconds of the original initiation. Alarm verification reduces the number of false alarms and the possibility of the authorities being dispatched unnecessarily. Cross-Zoning Protection Devices

CROSS-ZONING PROTECTION DEVICES

Cross-zoning, similar to Fire Verify, is a means of requiring two device trips to occur within a short period of time before sounding an alarm and sending an alarm report to the Central Station. Device trips can be from one device that trips two times, or from two devices that each trip once, such as two Passive Infrared detectors (PIRs) in the same area.

If there is only one device trip, the system only sends a zone fault report to the Central Station. The zone fault report allows the system owner to be notified so an authorized person can be sent to the site to investigate the situation. Cross-zoning prevents the police or fire department from being the ones to investigate a possible false alarm.

Cross-Zone Similar Devices

When laying out a system, you generally specify cross-zoning between similar devices only. For example, PIRs cross-zoned with other PIRs or door contacts with other door contacts. And, in almost every case, the cross-zoned devices should be in the same general area so that the cause of the trip, such as an intruder, has time to trip another cross-zoned device within the allowed time.

False Alarm Prevention

The Cross-Zoning feature allows the panel to send alarm reports to the Central Station that have a higher level of confirmation than standard zone alarms and are less likely to be false alarms.

SWINGER ZONE BYPASSING

This intelligent zone programming feature allows the panel to automatically bypass a zone if it goes into an alarm or trouble condition a specified number of times within a one-hour period. This False Alarm Reduction feature is ideal for use with interior detection devices installed in areas with less than stable environmental conditions. Although Swinger Bypassing does not prevent zones from tripping and causing the initial false alarms, the feature allows the panel to bypass a zone that trips repeatedly to prevent further false alarms, excessive phone charges, and the potential of tying up a receiver phone line.

When a zone is programmed for Swinger Bypass, the panel tracks the number of times it trips while armed and compares that against a programmed number. When that number is reached, the panel automatically bypasses the zone. The zone is reset (un-bypassed) when the area to which it is assigned disarms, is manually reset from the keypad or remotely, or remains normal for one hour. In addition, you can program the maximum number of zones that can be bypassed within any single area when that area is being armed at a keypad. If more zones than the limit are in a non-normal state or already bypassed at arming, arming does not occur and ARMING STOPPED displays. This bypass limit does not affect auto arming, keyswitch arming, or remote arming.

False Alarm Prevention

Swinger Bypassing allows the panel to bypass (remove) a zone from the system and avoid repeated false alarms caused by wind, rain, or other environmental factors while still tracking alarm sensor activity.

SYSTEM RECENTLY ARMED REPORTING

This powerful False Alarm Reduction feature causes the panel to send a System Recently Armed report, along with a zone alarm report, to the Central Station any time an alarm occurs within two minutes of the system arming. Alarms of this sort are generally caused by the system being armed while persons are still on-site or doors and windows that are not properly secured. The System Recently Armed report can allow the Central Station operator to follow a “call the subscriber first” procedure instead of immediately dispatching the police to what could be a false alarm.

False Alarm Prevention

System Recently Armed reports reduce false alarms by indicating to the Central Station that an alarm may have been inadvertently caused shortly after the system armed.

TRANSMIT DELAY

Transmit Delay allows you to program the panel to wait up to a programmed number of seconds before sending burglary, night, day, or exit reports to the Central Station. If an alarm is accidental, the user can simply disarm the system within the programmed Transmit Delay time. An Abort report is sent in place of the alarm report after the system disarms. If the area where the alarm occurred is disarmed after the alarm message is sent to the receiver but before the Bell Cutoff Time expires, an Alarm Cancelled message is sent. During the alarm, sirens and panel relay outputs are not delayed and still provide local condition annunciation.

False Alarm Prevention

The Transmit Delay feature allows the panel to delay burglary alarm reports to the Central Station for up to 45 seconds.

CALL WAITING CANCEL

Many telephone company customers use the popular feature call waiting, which alerts the person on the phone of an incoming call. While this feature is a great convenience to phone company customers, it can prevent a Central Station operator from verifying an alarm which may lead to an unnecessary police or fire department dispatches.

If there is an emergency on the premise, the Central Station operators attempt to contact the account and speak with an authorized system user before dispatching the authorities. If the operator calls while the alarm panel is on-line with the receiver, they only hear the phone ringing as call waiting does not provide a busy signal. This may lead them to conclude that no one is at the account and possibly dispatch authorities for a false alarm.

To prevent this possibility, the panel must be able to cancel call waiting any time it dials the receiver phone number to send a report. DMP panels accomplish this by allowing up to 32 digits for each receiver phone number, allowing you to simply program the * (star) 7 0 P (pause), the standard telephone code prefix that cancels call waiting.

Once the * 7 0 P code is programmed, the panel cancels call waiting any time it dials the receiver phone number. If the Central Station operator calls the account while the panel is on-line with the receiver, they hear a busy signal and are able to make a decision to call back after a few seconds and attempt to reach an authorized user on site before dispatching.

False Alarm Prevention

By accepting up to 32 digits for each receiver phone number the panel can dial the call waiting cancel code along with the receiver phone number, allowing a Central Station operator to verify an alarm by hearing a busy signal instead of the standard ringing signal.

60 SECOND POWER UP DELAY

For 60 seconds after a DMP CP-01 listed panel is powered up or after resetting the panel, all zone transitions (open and short) are not recognized. Normal zone processing resumes at the end of the 60 seconds.

False Alarm Prevention

By not recognizing initial zone transitions (open and short), no alarm signals are sent to the Central Station because of sensor devices that are slow to power up.

FALSE ALARM REDUCTION FEATURE LIST

False Alarm Reduction Feature	XT30/XT50, XTLplus, XTLtouch Series	XR150/XR550 Series
Cancel/Verify	Yes	Yes
Exit Error	Yes	Yes
Fire Verify Zones	Yes	Yes
Cross-Zoning	Yes	Yes
Cross-Zoning Times	4-250 seconds	4-250 seconds
Abort Reporting	Yes	Yes
System Test by User	Yes	Yes
System Recently Armed	Yes	Yes
Programmable Entry/Exit Delays	Yes	Yes
Entry Delay Times	30-250 seconds	30-250 seconds
Exit Delay Times	45-250 seconds — sounds at 8 second intervals — last 10 seconds at 3 second intervals	45-250 seconds — sounds at 8 second intervals — last 10 seconds at 3 second intervals
Transmit Delay	Yes	Yes
Transmit Delay Times	15-45 seconds	15-45 seconds
Swinger Zone Bypassing	Yes	Yes
Number of Trips Before Bypass	2	1 or 2
Report Bypass to Central Station	Yes	Yes
Unique Duress (Ambush) Code	Yes	Yes
Two-Button Panic Keys	Yes	Yes
Call Waiting Cancel	Yes	Yes
60 Second Power Up Delay	Yes	Yes

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