



THE COMMUNICATOR

MONTHLY PUBLICATION

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SAFECOM™ RADIO SECURITY PRODUCTS

Use the unique power of Safecom's two way radio data communications to boost your company's sales and profits. Here's some detailed information to help you understand just exactly what Safecom is, how it works, and what's needed to get your system installed and making money for your company.

Safecom is a long range radio telemetry system that has multiple communications paths for the routing and reporting of security and fire alarm events from the customer's premises to a central monitoring station. Safecom radio communications are a viable and cost-effective alternative to conventional methods of sending alarm events via phone lines. Instead of using phone lines as the primary communications reporting route, Safecom uses RADIO. Phone lines can be easily defeated. Fully supervised, dedicated phone lines are not cost-effective as compared to radios.

RADIO PROTOCOL

All Safecom products are configured with 2-way radios. Radionics currently uses UL listed radios in all of the Safecom radio products. The radios are 2 watt, line-of-sight, UHF systems

which operate in the 403-512 MHz frequency range. Safecom products can also be configured with VHF or 900 MHz radios to accommodate various government, Canadian, and other communication markets requirements.



The receipt of every radio message transmission is verified by an acknowledgment transmission sent back to the originating radio unit. Utilizing this communications protocol ensures that every alarm event sent from the customer's premises is received by the central monitoring station for proper operator response.

HOW IT WORKS...

The Safecom technology provides for very "disciplined" radio communications behavior of all the Safecom radios that operate on the network. Prior to transmitting a message, the radio will verify there is no carrier detect (CD) activity, i.e., the transmitting frequency is not being used by another transmitting radio. If the radio sees CD activity, it will wait to transmit until the frequency is clear.

Safecom is a high speed data burst transmission system. A message transmission takes approximately 160 Msec; this equates to 80 Msec for the initiating message, and another 80 Msec for the ACK for 2-way communications to occur, (less than a 1/4 of a second). Consequently, any wait for a non CD condition prior to transmitting is normally insignificant.

WHAT IT USES...

The Safecom System uses a half-duplex method of radio communications. This means the radio requires a standard frequency pair (i.e., two frequencies), one for transmit and one for receive. The radios can perform one function at a time. They transmit a message for 80

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SAFECOM™ RADIO PRODUCTS (CONT'D)

Msec, then they must remain in the receive mode for a minimum of 100 Msec prior to transmitting again. This discipline and methodology ensures that the radio gives the receiving site ample time to respond with an ACK message for verification of receipt prior to another transmission attempt.

SYSTEM SUPERVISION

The entire Safecom network, and each individual radio communicator, is fully supervised. Each Safecom radio communicator is individually programmed for the degree of desired supervision. The SC9000 Safecom Base Station Receiver monitors the duration of time from the last radio communication. If this time is exceeded without any radio communications then the SC9000 Receiver will initiate a polling message out to that individual radio, and command the radio to perform a supervisory BIT check of the circuit board for operational verification. It will then check that the battery voltage potential is at a minimum of 13.5 VDC, and send a status message back to the SC9000 Receiver.

Receipt of the RACK/status message from the radio will provide the SC9000 Receiver with verification that the radio is operational and the radio link from the customer's premises to the central monitoring station is good. The supervision clock for this radio account will be reset to zero, and the supervision interval monitoring will start over.

If no ACK/status message is received from the radio in response to a supervisory poll message transmission, then the SC9000 Receiver will initiate a series of retry attempts in order to reestablish radio communications with the radio. After the programmed re-try procedures have been exhausted, and no response is received, then the SC9000 will send a message to the automation software to alert the operator of a radio communications failure with that given radio account. The SC9000 will continue to attempt to re-establish

radio communications even after the "RF Communications Trouble" notification has been made.

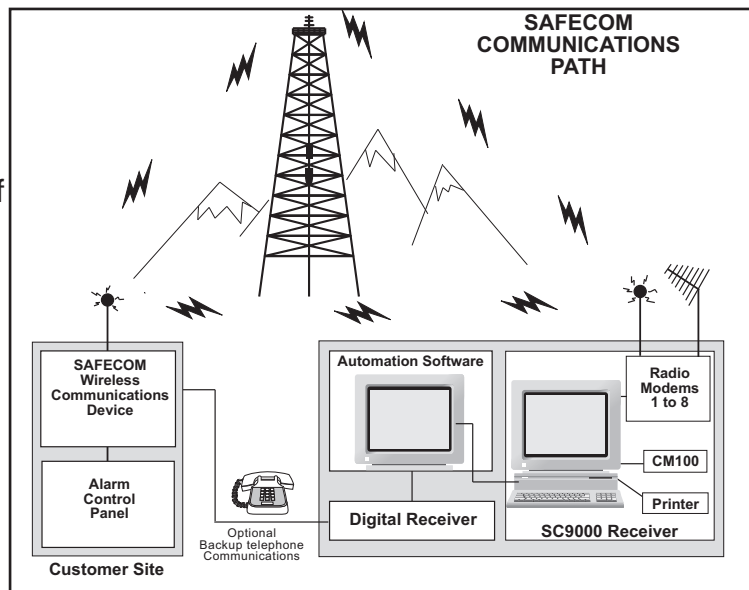
The most stringent polling criteria used by the Safecom system is every 90 seconds for the repeater, which serves as the network watch guard panel, and every 6 minutes for UL "AA" grade of burglary service. NFPA 72 fire standards require polling only once every 24 hours and Non-UL accounts typically are polled at an interval of 1 hour or more. If, at any time within the window of zero (0), to the maximum poll interval, a message is sent to the radio and an ACK is received, or the radio initiates its own message and the SC9000 Receiver ACKs the message,

then the supervision clock for this radio account will be reset to zero, and the supervision interval monitoring will start over.

Radio Programming: Every Safecom product contains a micro-controller to store the parameters associated with the operating behavior and characteristics of the radio. These parameters are programmed via radio communications and take approximately 1/2 second to send.

This process can be used for the initial programming or any subsequent modifications to an existing radio. There is no on-site programming required by the technician. All of the control and programming of the radio is performed by and at the central monitoring station. The ability to remotely program, combined with easy to use installation tools, result in low cost installation of Safecom radio communicators.

If your company's sales efforts and recurring monthly revenue could benefit from a Safecom System, especially if you install UL listed burglary/fire systems, please call your Radionics Regional Sales Manager today for more information about installing a Safecom system.



SELLING AREAS – THE POWER OF CONTROL

Many control panels have a feature called areas (or partitions). There's a big difference between the flexible power of areas in the 9000 series (including the D7212) compared to most of our competitors' panels. Here's some help to understand how to use areas to solve your end user's needs and make more sales.

What is an Area? An area is a group of points that the user can control (and report) separately from other points. Depending on the needs of the user, the 9000 series can have up to 8 areas. In some cases, this can be expanded up to 230 independent zones (each controlled by a D279) with alarm and open/close reports by zone.

Start with the Basics A simple system has one area with individual points for each door, window, or motion sensor. All points are turned on or off together. Even in the most basic system, this one area can be separated into three parts. One part is for those sensors that are never turned on or off, such as smoke alarms. A second part is for interior sensors that are turned off while the user is inside the area (interior). The third part is for those points that make up the outside (perimeter) of the area and can be turned on while a user is inside so that an alarm occurs if someone breaks in. In some competitors' systems, each of these parts is counted as a separate area, but not in the 9000 series. Each of the 8 areas of the Radionics' 9000 series can have any combination of these parts.

Linking Areas to Gain Control There are three basic area features in the 9000 series (including the D7212) which help you sell systems. These are:

- 1) Variable user authority by area.
- 2) Master/Associate area control.
- 3) Shared/Associate area control.

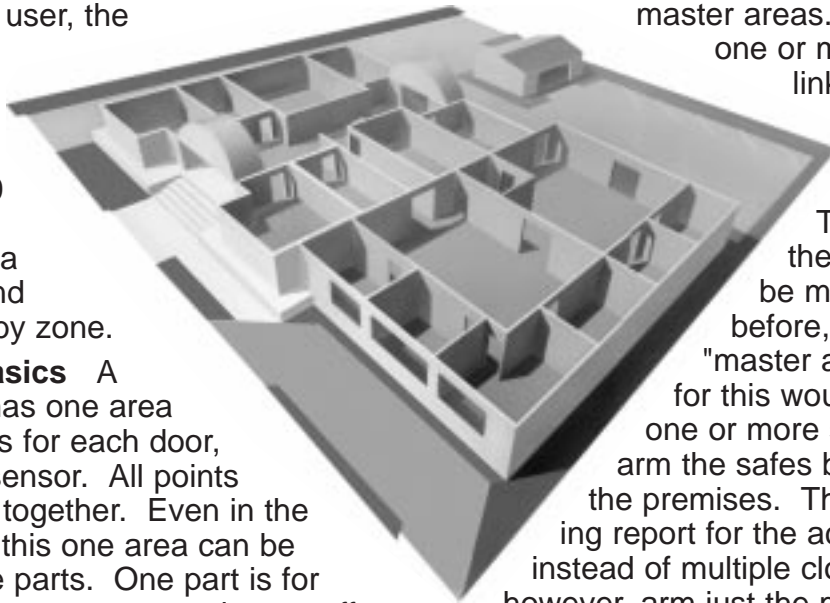
Variable User Authority By assigning different authority to each user in each area, you

can select which areas each user can turn on or off. This is a very important area feature that some competitors do not provide, or they require separate keypads for each area, or separate user passcodes for each separate 'partition' of four or eight 'areas.'

Master/Associate Area Control There are four types of areas: regular, associate, master, and shared. Regular areas operate having nothing to do with associate, shared, or master areas. A master area can have one or more associate areas linked to it by giving the associate areas the same account number as the master area.

This feature means that the associate areas have to be master armed with, or before, the master area can be "master armed." An application for this would be a jewelry store with one or more safes. The user must arm the safes before or with the rest of the premises. This also means one closing report for the account might suffice instead of multiple closing reports. You could, however, arm just the perimeter of the master area while you are working on the premises after hours, and leave the safe(s) off. Other applications are: master bedroom closet or safe, cash room, gun cabinet, etc. The perimeter of a building with multiple interior areas would be another good use of the master area feature. These associate areas would be a computer room, lab, office, warehouse, etc. Someone would not be able to turn on the perimeter area (master) until all interior areas (associate) were armed.

Shared/Associate Area Control A shared area is linked to ALL associate areas in the system, regardless of account number. The shared area arms itself when the last associate area arms. Applications for this could be a common hallway, a group of rooms with restrooms and eating facilities, a lobby in a building, or an outside gated area. Remember that a shared area may not be separately controlled. It arms automatically when the last associate area arms. We recommend that shared areas are included in



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NO CHARGE PROPAGATION STUDY FOR SAFECOM PROSPECTS

Count on Radionics to help you get the best performance from your Safecom radio system.

Safecom is a "line-of-sight" radio transmission system. Each of the radios must be able to transmit and receive directly to and from the central monitoring station or a repeater site. To increase the geographic coverage of the Safecom Radio Network, the use of one or more repeater sites is required. The number of repeater sites required is a factor of the desired coverage area and the topography of the local operating area of the radio network.

Radionics will perform a propagation engineering study for each city where the potential to install a Safecom Security Network exists. Radionics has the topography of the entire US (and portions of Canada) digitized on CD ROM. By knowing the latitude and longitude of the repeater site, and the height of the transmitting and receiving antenna, a very accurate

propagation study can be computer generated. The computer analysis also takes into account an attenua-



tion factor due to signal strength losses associated with through building penetration and foliage (shrubs and trees).

The end product given to a customer is an actual topography

map with clear overlays that are superimposed over the map. It depicts the projected radio coverage that will be realized from the repeater site. The study shows actual dB loss and received radio signal strength between the repeater site and end-user locations.

Radionics provides liaison services on behalf of the customer to contact repeater site managers. Information obtained includes the availability of antenna space, monthly lease fees, engineering hook-up fees, and site specific information (latitude/longitude required cable lengths, power source, antenna types, etc.). Radionics will also coordinate and arrange for the lease agreement to be generated and sent to the customer for review, approval, and signature.

For more information about Safecom products, contact Steve Orrell at (800) 538-5807 ext. 1205.



EMAIL US AT RADIONICSINC.COM

Radionics, Inc. has just installed our new email address! You can now email us from your own internal email system or from our webpage by typing in the following:

Example:

jcolagreco@radionicsinc.com.

There has been some confusion with emailing messages from our webpage in which some of you were experiencing difficulty. To alleviate this problem, please make sure that when accessing our website and sending an email to a specific person within Radionics, make sure you address the email by using the first letter of the person's name, followed by their last name, and then @radionicsinc.com. The message will

then be forwarded directly into that person's mailbox.

This is not to be confused with the email addresses on the website. The website address: info@radionicsinc.com, which appears on the pages is for general information about our products. When we receive a message inquiring about additional information, we forward that message on to the appropriate person. The address: webmaster@radionicsinc.com, is used in case you are having problems with the actual website and need some assistance in fixing the problem.

We look forward to receiving your emails!



NEW MODEM IIIa²™ FIRMWARE FOR THE D6500 AVAILABLE

New firmware for the D6500 Receiver, which accepts all of the new Radionics' MODEM IIIa²™ Communications Format, is now available in Upgrade Kit Model D6590M-0800. This kit contains the EPROM chips required to upgrade one (1) D6510 MPU Card only. You need to order one D6590M-0800 for each D6500 Receiver in your central station, and another one for each D6506 spare kit in your possession.

This new MPU firmware requires the D6550 Printer to have Revision 3.03 PRINTER firmware. Any D6500 Receiver which has already been upgraded to receive messages from D2112 or D2212 panels will already have PRINTER Revision 3.03 firmware. If you do not know which revision of firmware your D6550 Printer is running, turn the AC and DC power switches off for a couple of seconds, and then turn them back on. (This should be done when all of the Line Cards are NOT communicating with panels.) The printer firmware revision number will be printed on the silver printer tape. If you are not running Printer Revision 3.03, you need to order one D6590P0303 for each D6500 Receiver in your central station, and another D6590P-0303 for each D6550 printer card in your possession.

The D6540 Line Card firmware should remain at Revision 7.00. A new revision of Line Card firmware which a) enables the D6500 to work with Two-Way Audio systems, and b) allows you to program the number of telephone call "ring" attempts before the line picks up to enable Caller I.D. devices, will be released shortly. Watch for

news of this important enhancement in future issues of The COMMUNICATOR.

Some of the major enhancements found in SMPU firmware Revision 8.00 include:

1. Full support of the new ACCESS CONTROL messages contained in MODEM IIIa²™ Communications Protocol.
2. Support for New Fire-related Event Codes (i.e., Fire Supervisory and Restoral, Fire Restoral from Alarm versus Restoral from Trouble/Missing/Supervisory, etc.).
3. Support for New UPLINK Test and Network Diagnostic Event Codes.
4. New Automation Link Test Feature. The Security Industry Associations Computer Interface Standard (SIA CIS) Link Test has been added. Also, a D6500 to Automation computer Link Test has been added for the 6500 Mode Automation Output.

Finally, as with MPU Revisions 7.80 and 7.82, the 6000 Mode Automation Output is no longer supported.

These D6590M-0800 MPU and D6590P-0303 PRINTER Upgrade Kits can be ordered by calling Radionics' Order Processing Department at (800) 538-5807. Should you have any questions concerning the Upgrade Kits or how they may affect your central station operations, please call Radionics' Technical Support Department at the same number.



MODEM IIIa²™ is a registered trademark of Radionics, Inc. and a copyrighted communications protocol

MEET US IN ST. LOUIS...

It is that time of year again, where Radionics, Inc. is on the road, going out to display our new and existing product lines, and to meet with all of our dealers and customers. What better way to enjoy each others com-

pany than to meet in St. Louis, MO, at the ASIS Exhibit.

Radionics is excited to meet with all of you again, and invite you to join us at our annual cocktail reception which will be held on Monday, Sept. 8,

6:00 pm, at the Adam's Mark Hotel, St. Louis Ballroom, F & G.

If you wish to attend, please RSVP to Carole Kelly at ext. 1455.



INTELIHOME'S GATEWAY SUPPORTS RADIONICS

InteliHome designs fully-integrated home-control systems that quietly and invisibly blend technology into a home's style and design. At the touch of a button, fully integrated systems give central control to the home's routine functions. This 8-year-old, Dallas-based company's approach to home control is to customize each owner's needs using their field-developed software as the hub. According to the company's Founder and President, Michael Cogbill, the result is "simplicity, elegance, convenience and security."

Traditionally, such systems have required expensive software development and implementation has been highly custom and labor-intensive. Systems have been cost-effective only for the top tier of luxury homes. Recognizing the increasing demand for home integration by more than the wealthy, InteliHome recently introduced a packaged system that retains great flexibility while simplifying configuration. And, with a base price of under \$15,000, home-system integration becomes a reality for a much larger segment of the residential and small business market.

"At the heart of our system is a PC running InteliHome's Home Gateway Manager (HGM) software", explains Cogbill. "The HGM can communicate with Radionics D7212, D7412, D9112, and D9412 security systems. In addition, we offer a variety of other subsystem choices for lighting, heating and air conditioning control, audio/video distribution, and weather station monitoring."

The primary user interface is Panasonic's DBS telephone system which provides a display six lines high by 16 characters wide. From any DBS telephone, the homeowner turns the phone, its display, and its keys into a home control user interface.

From this interface, the homeowner can control system functions throughout the house. For example, light levels can be adjusted or the temperature in a room raised by an exact amount. Security system status can be checked and changed, and so forth.

"Mode settings also are available. For example, at bed time, a single "Good Night" button can set lights, drapes, heating/air conditioning, and security, to night operation," says Cogbill. "In the morning, a "Good Morning" button can reverse the procedure, or this can be automatically done at a pre-set time."

InteliHome plans to market the HGM through existing distribution channels aligning InteliHome with industry leaders in security, lighting, A/V, and communications. In addition to wholesaling the HGM to these professionals, InteliHome backs them up with training, documentation (including guidelines to help the homeowner make appropriate choices) and on-line technical support.

To learn more about InteliHome and the Gateway Manager, call Michael Cogbill at 214-528-6697, or visit their Web site at: www.intelihome.com



SELLING AREAS – THE POWER OF CONTROL (CONT'D)

the scope of all command centers for all associate areas.

Use the Power of Areas to "Win the Sale." The unique features in the 9000 series provide a great opportunity for you to meet your user's needs and win the sale. The D720 LED keypad is an excellent choice for

area control with the capability of multiple user passcodes and opening/closing reports by user. The D279 Independent Zone Control offers localized zone wiring (instant and delayed) with a single programmable passcode and up to 230 controls, or a single D9112 or D9412. For another great opportunity, look into the

power of user authority by area, and programmable keypad 'scope' (which defines which area or group of areas a keypad controls). Make your next sale one that amazes the end user with the Power of Control.



LOCAL PAGER RESPONSE = BIG PROFITS

Lots of dealers are interested in solving specific problems for their commercial and industrial customers. This is especially important in today's competitive market. A new line of products from Inter Page provides an on-site paging solution to your 9000 series installation. Inter Page provides two different systems. Both the ConneXions and Digitlink systems are customer owned. And both cover a radius of one mile.

"The Digitlink transmitter will report the status of up to four different events to multiple pagers with specific messages on each event," says Frank J. Owens, Inter Page president. "The pagers may be numeric or customized alphanumeric using one of our different beep types." "The system has its advantages with limited or mobile personnel, in noisy environments and

where audio alerts may be inappropriate," Owens adds. The one mile range can be increased by additional equipment. Contacts may



be programmed to repeat the page until re-set.

ConneXions instantly transmits numeric or alphanumeric messages from any touch tone phone or desktop PC. It uses pagers from Panasonic, Secaucus, New Jersey and NEC, Irving, Texas. It eliminates the need for overhead paging.

"Custom alphanumeric messages of up to 240 characters can be sent from any IBM compatible PC or a phone can be used to send numeric messages, or one of 50 pre-programmed alphanumeric messages," Owens explains. "It has up to 254 contacts to monitor fire, security and access control."

The system includes five no-voltage inputs expandable to 255 voltage or no-voltage inputs. This allows for monitoring of remote or unmanned sites such as door bells, gates, machinery and security systems. A pager is automatically called with a specific message when there is a change at any input.

For more information, please contact Inter Page at 1-800-992-1000, or visit their website at www.ipp.com.



SAFECOM™ UL & NFPA LISTINGS

The Safecom™ system is Underwriters Laboratories (UL) listed for up to "AA" grade of burglary service and meets National Fire Protection Association (NFPA) Standard 72 for the utilization of radio as the primary reporting communications path for burglary and fire alarm events. The Safecom System is Listed by Underwriters (UL) as follows:

Application & Listing Standard

- Central Station Burglar Alarm Units, UL 1610
- Commercial Burglary - "AA" Rating
- Safe and Vault - Mercantile UL 365
"AA" Rating,
- Police Station Connected UL 365
- Mercantile Premises, "AA" Rating,
- Control Unit for Fire Protective Signaling UL 864
Systems,
- "Commercial Fire" Rating

- Proprietary Burglar Alarm System Units UL 1076
- "Proprietary Burglary - "AA" Rating
- Household Burglar Alarm Units UL 1023
- "Residential Burglar Alarm" Application,
- Household Fire Warning System Units, UL 985
- "Residential Fire" Application

NOTE: The new UL listings for burglary service will be 1) Standard, 2) High End, and 3) Encrypted. When the change to these new listings is made Safecom will be listed as High End, which is the same as the existing "AA" grade of burglary service.



Radionics' 1997 National Training Schedule

DATE	SEMINAR	CONTENT	DAY	LOCATION	TRAINER
AUGUST 1997					
08/04/97	Regional	D9112/D9412, D7212/D7412, D2112/D2212	2½	Cromwell, CT	L. di Scipio
08/11/97	Regional	D9112/D9412, D7212/D7412, D2112/D2212, RAM	3	Des Moines, IA	L. di Scipio
08/12/97	Regional	D9112/D9412, D7212/D7412	2	Portland, OR	K. Lyngen
08/18/97	Regional	D9112/9412, D7212/D7412, D2112/D2212	2½	San Antonio, TX	L. di Scipio
08/18/97	Regional	CANCELED	2½	Saddlebrook, NJ	L. di Scipio
08/18/97	Readykey (A)	Readykey	4	Greensboro, NC	M. Dreksler
08/19/97	Regional	D5200, D9112/D9412, D7212/D7412, D2212, Zonex	2½	Livonia, MI	J. Lamontagne
08/19/97	Regional	D9112/D9412, D7212/D7412, D2112/D2212	2½	Sacramento, CA	K. Lyngen
08/25/97	Regional	D9112/D9412, D7212/D7412, D2112/D2212, RAM	3	Bloomington, MN	L. di Scipio
08/26/97	Regional	D5200, D9112/D9412, D7212/D7412, D2212, Zonex	2½	Indianapolis, IN	J. Lamontagne
SEPTEMBER 1997					
03/03/97	Regional	D5200, D9112/D9412, D7212/D7412, D2212, Zonex	2½	Philadelphia, PA	J. Lamontagne
09/08/97	Regional	D9112/D9412, D7212/D7412, D2112/D2212	2½	Metairie, LA	L. di Scipio
09/15/97	Readykey (A)	Readykey	4	St. Louis, MO (Actual location pending)	M. Dreksler
09/15/97	Regional	D9112/D9412, D7212/D7412, D2112/D2212	2½	South Plainfield, NJ	L. di Scipio
09/16/97	Regional	D5200, D9112/D9412, D7212/D7412, D2212, Zonex	4	Grand Rapids, MI	J. Lamontagne
09/22/97	Regional	D9112/D9412, D7212/D7412, D2112/D2212, RAM	3	Lenexa, KS	L. di Scipio
09/22/97	National (A)	Intrusion (Hands-on)	5	Salinas, CA	K. Lyngen/ J. Lamontagne

Seminar registration forms are published five to six weeks prior to the seminar date and can be obtained by calling the National Training Dept. at (800) 538-5807 ext. 1258. Radionics Inc. reserves the right to cancel any seminar that does not meet the minimum requirement of at least 7 attendees within 14 days of the scheduled seminar date. 1997 Price Code: A = \$250.00 Per Person
Regional seminars are no charge to all Radionics dealers



Tech Tips Frequently Asked Questions

Q: Can a computer be connected to an alarm panel for viewing events much like a printer?

A: For the D2000 series panels you cannot look at the events on a computer. The D7000/9000 panels can be used with a D9131A and an off the shelf parallel to serial converter, routing in the panel (program the panel for printer output), and Windows 95 or 3.1 in Terminal Emulation Mode.

*Jim Fernandez
Technical Support Representative*

Q: I turned off the Duress feature in the 9000MAIN handler under AREA WIDE PARAMETERS, however the panel still allows the system to be armed and disarmed via the Duress Code. How can I completely disable the Duress Passcode and not have it arm/disarm the panel?

A: As well as the AREA WIDE PARAMETERS, the USER INTERFACE/AUTHORITY LEVELS must be disabled at the Duress prompt in order to completely disable any Duress Passcode authority.

*Chris Gregory
Technical Support Representative*

Q: Can I use the D132 Smoke Detector Reversing Relay Module on the D7000/9000 panels to sound the horns of the smoke detectors?

A: No. The D132 modules will work only on the D2000 series panels.

*David Hundert
Technical Support Representative*

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