PART 1 GENERAL

1.1 SECTION INCLUDES

A. Duress devices.
B. Alarm control panel.
C. Signaling devices.

1.2 REFERENCE STANDARDS

A. NFPA 70 - National Electrical Code; National Fire Protection Association; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
C. UL 365 - Police Connect Burglar.
D. UL 609 - Local Burglar.
E. UL 1610 - Central Station Burglar Alarm Units.
F. UL 1635 - Digital Burglar Alarm Communicator System Units.

1.3 RESERVED

1.4 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.
B. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section.
C. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and indicated.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Duress System:
   4. Substitutions: Substitutions: See Part 1.3 - SUBMITTALS

2.2 DURESS ALARM CONTROL PANEL

A. Control Panel: Modular construction with surface wall-mounted enclosure. Where exposed pins, the hinges shall be of the tight pin type or the ends of hinge pins shall be tack welded to prevent ready removal. Doors having a latch edge length of less than 24 inches shall be provided with a single lock. Where the hinged door latch edge is 24 inches or more in length, doors shall be provided with three-point latching device with lock; or alternatively with two locks, one located near each end.

B. Power supply: Adequate to serve control panel modules, remote detectors, and alarm signaling devices. Include battery-operated emergency power supply with capacity for operating system in standby mode for 24 hours.

C. Electronic Components: All system electronic components shall be solid-state type, mounted on printed circuit boards. Light duty relays and similar switching devices shall be solid-state type or electromechanical. The panel shall have an over current
notification LED that lights when devices connected to the Keypad Bus and LX-Bus(es) draw more current than the panel is rated for. When the over current LED lights, the LX-Bus(es) and Keypad bus are shut down.

D. Remote Annunciators: The system shall support a maximum of sixteen (16) supervised remote annunciators with the identical capabilities, functions and display layout. Operation of the remote annunciators shall be limited to authorized users by the use of a code or key. The remote annunciators shall be capable of operating at a maximum wiring distance of 15,000 feet from the control unit on unshielded, non-twisted cable.

E. Serial Interface: The control panel shall be capable of a serial interface to output information to a standard serial printer or serial interface to a communication port on a standard computer. Through control panel programming the system shall include a provision to allow the selection of which reports are to be output.

F. Software:
   1. The system shall interface with computer software with the capability to fully program the panel by connecting to the panel through:
      a. Direct cable connection interface card
      b. Receiver phone line connection
      c. Standard phone line connection
      d. Ethernet network connection
      e. Network connection across the Internet
   2. The system shall interface with computer software capable of monitoring and logging all events.
   3. The system shall interface with computer software capable of exporting reports in the following file formats:
      a. Excel spreadsheet (*.xls)
      b. Rich Text (*.rtf)
      c. Windows Metafile (*.wmf)
      d. QuickReport (*.qrp)
      e. Text (*.txt)
      f. Comma-separated (*.csv)
      g. HTML document (*.htm)
   4. The system shall interface with computer software capable of printing custom, filtered reports including:
      a. All Events
      b. Zone Action
      c. Arming/Disarming
      d. Area Late to Close
      e. User Code Changes
      f. Door Access Granted
      g. Door Access Denied
      h. Opening/Closing Schedule Changes
      i. System Monitors
      j. System Events

G. System Supervision: Provide electrically-supervised system, with supervised alarm initiating and alarm signaling circuits. Component or power supply failure places system in alarm mode.

H. Initiating Circuits: Supervised zone module with alarm and trouble indication.
I. Signal Circuits: Supervised zone coded signal module, sufficient for signal devices connected to system; occurrence of single ground or open condition places circuit in trouble mode and does not disable that circuit from transmitting alarm.

J. Remote Station Signal Transmitter: Electrically supervised, capable of transmitting alarm and trouble signals over telephone lines to central station receiver.

K. Trouble Sequence of Operation: Transmit non-coded signal to Central Station and remote annunciator panel.

L. Alarm Sequence of Operation: Actuation of duress device places system in alarm mode, which causes the following operations:
1. Sound and display local alarm signaling devices with non-coded signal.
2. Transmit non-coded signal to Central Station and remote annunciator panel.
3. Indicate location of actuated device on control panel and on remote annunciator panel.
4. Alarm Reset: Key-accessible reset function resets alarm system out of alarm if alarm initiating circuits have cleared.
5. Lamp Test: Manual lamp test function causes alarm indication at each zone at control panel and at annunciator panel.

M. Test Modes:
1. The system shall include a provision that permits testing from any alphanumeric keypad. The test shall include standby battery, alarm bell or siren, and communication to the central station.
2. The system shall include a provision for an automatic, daily, weekly, thirty (30) day, or up to sixty (60) day communication link test from the control panel installation site to the central station.
3. The system shall include a provision for displaying the internal system power and wiring conditions. Internal monitors shall include the bell circuit, AC power, battery voltage level, charging voltage, panel box tamper, phone trouble line 1, phone trouble line 2, transmit trouble, and network trouble.

N. Communication:
1. The system shall be capable of signaling to as many as 8 remote monitoring station receivers. Seven (7) of the eight (8) paths shall be capable of being assigned as either a “primary” or “backup” path. In such a manor the system shall have multiple primary paths to multiple remote monitoring stations as well as multiple backup paths to multiple monitoring stations.
2. The system shall employ Adaptive Technology that allows a Backup communication path programmed for Network or Cellular to automatically ADAPT to the faster check-in rate of the Primary path should the Primary path become unavailable. This creates a seamless transition for communication.
3. The system shall be capable of dialing up to (2) remote monitoring station receivers, four telephone numbers of 32 digits each using two separate switched telephone network lines such that if two unsuccessful attempts are made on the first line to the first number, the system shall make two attempts on first line to the second number. If these two attempts are unsuccessful, the system shall make two further attempts on the first line of the first number. After the tenth unsuccessful attempt, dialing shall stop and the alphanumeric keypad shall display trouble. Should another event occur that requires a report to be transmitted, the dialing sequence shall be repeated. The system shall have a programmable option to dial a second set of telephone numbers after the first ten attempts using the same sequence.
4. The system shall be capable of communication using the IBM Synchronous Data Link Control format, and at least one other standard industry format.

5. The system shall be capable of supporting Network communication with digital dialer backup, existing Ethernet data networks, satellite communication, fiber optic networks, local area networks, wide area networks, cellular communication, and retail data networks.

O. Network Communication:
1. The control panel shall be capable of asynchronous network communication with a retry time between 3 and 15 seconds for a total of one (1) minute. If communication is unsuccessful the control panel shall be capable of attempting backup communication through any of the available communication methods to the same receiver or a backup receiver.

2. The control panel shall employ adaptive communication technology. Adaptive Technology allows a Backup communication path programmed to use Network or Cellular to automatically ADAPT to the faster check-in rate of the Primary path should the Primary path become unavailable, creating a seamless transition for communication of messages. Select Adapt when programming the Checkin option. This allows a system to be fully supervised even if a path fails, while also keeping wireless charges low when the network is good.

3. Network communication between the control panel and the receiver shall be in a proprietary communication format.

4. The control panel shall be capable of supporting Dynamic Host Communication Protocol (DHCP) Internet Protocol (IP) addressing.

5. Underwriters Laboratories (UL) shall list network communication by the control panel for Grade AA High-Line Security.

6. The control panel shall be capable of two-way network communication using standard Ethernet 10BaseT in a LAN, WAN, or Internet configuration.

7. The control panel shall be capable of communication by means of a 128 Bit AES Rijndael Encryption process certified by NIST (National Institute of Standards and Technology) to an SCS-1R receiver with a built-in Encryption Alarm Router.

8. The control panel shall be capable of meeting DCID 6/9 and UL 2050 standards.

9. The control panel shall be capable of sending E-mail messaging to up to three E-mail accounts over network communications.

10. The control panel shall be capable of sending the following E-mail messages:
   a. Zone Alarms by Zone Name
   b. Zone Troubles by Zone Name
   c. Zone Bypass by User
   d. Arming (Closings) by User
   e. Disarming (Openings) by User
   f. Late to Close
   g. AC Power Trouble and Restoral
   h. System Low Battery
   i. Ambush
   j. Abort, Cancel and AlarmVerified by User
   k. Check-in by user

P. Panic Button Summary Test:
1. The system shall have the ability to test panic buttons without sending a panic alarm to the Central Station Receiver.
2. The system shall also have the ability to send panic zone test verification and failure results to the Central Station Receiver.
3. During the test, each time a panic zone trips, the display number shall increment and the keypad buzzer sound for two seconds.
4. The number of panic zones tripped shall constantly display until the test ends or no panic zone activity has occurred for 20 minutes.
5. When the Panic Zone Test ends and a zone failed (did not trip) during the test, the keypad shall be able to display the zone name and number and have the buzzer sounds for one second. Additional zone failed zones shall display when a button is pressed.

2.3 INITIATING DEVICES
   A. Hard Wired Duress Switches:
      1. Product: Sentrol 3040.
      2. Substitutions: See Part 1.3 - SUBMITTALS
   B. Wireless Duress Switches:
      1. Wireless receiver: Inovonics EN7472DMP.

2.4 SIGNAL DEVICES
   A. Remote Annunciator: Provide supervised remote annunciator including audible and visual indication of intrusion by zone, and audible and visual indication of system trouble, in flush wall-mounted enclosure. Keypad will have a 32-character alphanumeric LCD, color backlit keyboard, self-test diagnostics, alert sounder, armed and AC LED. Keypad turns red in alarm condition. The keypad alphanumeric display shall provide complete prompt messages during all stages of operation and system programming and display all relevant operating and test data. The keypad shall provide an easy-to-read English text display. The text shall exactly match the text seen in all software reports, keypad displays, and central station reports. The keypad user interface shall be a simple-to-use, menu-driven help system that is completely user friendly.
      1. Product: DMP 7060AN.
      2. Substitutions: See Part 1.3 - SUBMITTALS