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Wireless Emergency Mass Notification System Product Guide Specification (09-01-2015)

This product specification is written according to the Construction Specifications Institute (CSI), MasterFormat™, SectionFormat, and PageFormat, contained in the CSI Manual of Practice.

Part 1 - General

Specifier Note: Edit the following list as required for the project.

1.1 Sections Included

- A. Transmission System
 - 1. Primary Control Center PC with Microphone, Optional secondary encoder.
 - 2. Primary Internal or External Transmitter.
- B. Wireless Notification and Mass Alert Devices
 - 1. Wirelessly Controlled Public Address Speaker.
 - 2. Wirelessly Controlled Strobe Light.
 - 3. Wirelessly Controlled Alphanumeric LED Message Board.
 - 4. Wirelessly Controlled Siren.

Specifier Note: Edit the following list as required for the project. List other sections with work directly related to this section.

1.2 Related Sections

- A. Division 16 - Electrical 120V grounded outlet required for encoder.
- B. Division 16 - Electrical 120V 60Hz grounded outlet required for external transmitter.
- C. Division 16 – Electrical 120V 60Hz grounded outlet for each AC powered wirelessly controlled public address speaker, strobe light, alphanumeric LED message board and sirens.

Specifier Note: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards and is merely a list of those used.

1.3 References

- A. This Technical Specification and Associated Drawings.
- B. National Fire Protection Agency (NFPA) 72, National Electric Code 2010.
- C. Visiplex, Inc. AlertWave Wireless Mass Notification System User Manuals.

1.4 System Description

- A. Wireless Emergency Mass Notification system shall activate and wirelessly control remote alerting devices such as PA speakers, strobe lights, LED message boards and siren horns.
- B. The main system shall include a dedicated microphone, full keyboard for data entry, serial connections to in-house alert system, serial connection to optional building automation systems, software and hardware interface for network access, FCC approved transmitter and a UPS power backup.
- C. The main system shall be capable of sending alerts to the following devices:
 - 1. Wirelessly Controlled PA Speakers: Activation of embedded tones and bells, pre-recorded voice alerts, user recorded voice alerts and Text to Speech voice alerts.
 - 2. Wirelessly Controlled Strobe Lights: Activation of devices that have ON and OFF status, including strobe lights and sirens.
 - 3. Wirelessly Controlled Alphanumeric LED Message Board: Activation of alphanumeric LED message boards that can display an alphanumeric message using different formats and effects. Alphanumeric LED message boards shall support alternate time display when LED message board is idle.
 - 4. Wirelessly interface with local Fire Alarm system by providing dry-contact control and PA audio signal.
 - 5. Wireless Pagers: Activation of alphanumeric, numeric, tone-only and voice pocket pagers.
 - 6. Email and SMS Notification: Sending email messages to email subscribers and text messages to cellular phone subscribers (using Email to SMS processing supported by cellular provider).
 - 7. Audio Output: Activation of voice alerts that may be played thorough the PC audio output and activation of voice alerts that may be played thorough the telephone line.
 - 8. Network Notification: Sending alphanumeric alerts to Client software users.
 - 9. Modem Dial Out: Sending alphanumeric alerts to pagers and cell phones that are capable of receiving messages using a 3rd party provider (TAP protocol via modem connection).
- D. The system shall be capable of generating user attended alerts using the following interfaces:
 - 1. Dialing in to the telephone line connected to the main system and following the system's prompts. Alerts shall be alphanumeric, activation commands or voice alerts.
 - 2. Using PC software that allows network users to send audible, visual and alphanumeric messages from their PC.
- E. The system shall be capable of generating automated alerts using the following interfaces:
 - 1. Dry-contact closure of one of the alarms / dry-contacts modules.
 - 2. Incoming serial data, which will be processed according to the active protocol on the specific serial port receiving the data.
 - 3. Triggering a button or dry-contact closure of a wireless emergency call button or station (push buttons, pull cords, door and windows transmitters).
 - 4. Receiving an email message that may be forwarded to a specific device or analyzed according to the Data Stream Analyzer protocol for conditional messaging.
 - 5. Pre-programmed scheduled events that may activate individual or multiple wireless and non-wireless devices.

- F. The main system shall provide a graphic Visual Control Panel for monitoring dry-contact alarm inputs, wireless emergency transmitters and stations and activation of alerts. The Visual Control Panel shall allow placement of visual indicators over a site map or any other image.
- G. The main system shall archive all system activity with date and time for on-demand reports.
- H. The main system shall be capable of accessing wireless devices and non-wireless devices individually and as a group, including groups of devices of different types. The main system shall support activation of wirelessly controlled PA speakers, strobe lights, alphanumeric LED message boards and siren horns individually or as a group. The messages may be initiated automatically or manually by the user.
- I. The main system shall be capable of supporting 10000 devices, 1000 pre-recorded voice messages, 1000 dry-contact alarm inputs, 1000 wireless emergency call button or station transmitters, 1000 "keywords" for conditional messaging and 250 RS232 serial ports.
- J. The system shall be capable of providing a "Secure Mode" design so that no other paging transmitter can activate the local wireless remote devices. The "Secure Mode" code should be programmable from the system main console.
- K. The system shall be capable of providing an "Over-the-Air" programmability design. This feature shall allow programming wireless remote devices (such as wireless remote devices such as speakers, strobe lights, LED message boards and sirens) into groups/zones and setting their operation mode wirelessly from the system main console.
- L. The system shall be capable of providing full supervision capabilities of all system wireless remote devices such as speakers, strobe lights, LED message boards and sirens. This feature shall allow each remote wireless device to report back its operational status, setup information and internal battery status upon wireless request from the main system.
- M. The main system shall provide a voice gateway to access wirelessly controlled PA speakers individually or as a group. Real-time voice messages can be initiated via the system microphone or the telephone line interface. The messages may be initiated automatically or manually by the user.
- N. The main system shall provide an "Alert Tone" voice gateway to access wirelessly controlled PA speakers individually or as a group. The messages may be initiated automatically or manually by the user.
- O. The wirelessly controlled PA speakers shall include storage of at least 8 pre-recorded voice messages or alert tones. The wirelessly controlled PA speakers shall be capable of being a member of at least 8 groups or zones, with a built-in real time clock and full wireless programmability.
- P. The wirelessly controlled PA speakers shall be able to play FM background music when initiated by a wireless command from the main system.
- Q. The wirelessly controlled strobe lights shall be capable of being a member of at least 8 groups or zones, with full wireless programmability.
- R. The wirelessly controlled alphanumeric LED message boards shall be capable of wirelessly receiving alphanumeric text messages from the main system and display them in 1 to 4 lines (model dependent). The wirelessly controlled alphanumeric LED message boards shall be capable of being a member of at least 6 groups or zones.
- S. The wirelessly controlled siren horn shall be capable of being a member of at least 8 groups or zones, with full wireless programmability.
- T. The wirelessly controlled speaker, strobe light or siren shall be capable of supporting built-in battery backup.
- U. The wirelessly controlled speaker, strobe light or siren shall be capable of supporting PoE or Solar power option (utilizing a built-in battery backup).
- V. The system shall incorporate a "fail-safe" design so that a temporary power interruption shall not cause failure of the entire system. Upon restoration of power, the system shall resume normal operation without the need to reset the system or any of its components.
- W. The system shall include a notification pager and email to automatically notify a local supervisor or maintenance personnel of any system malfunction within seconds.

1.5 Regulatory Requirements

- A. Equipment and components furnished shall be of manufacturer's latest model.
- B. The system layout should comply with the NFPA72, 2010 guide for planning and implementation of an Emergency Notification System.
- C. Encoder, transmitter and receivers shall comply with Part 90 of FCC rules, as follows:
 - 1. This device may not cause harmful interference.
 - 2. This device must accept interference received, including interference that may cause undesired operation.
 - 3. Transmitter frequency shall be governed by FCC Part 90.35.
 - 4. Transmitter output power shall be governed by FCC Parts 90 and 74.
- D. System shall be installed in compliance with local and state authorities having jurisdiction.

1.6 Submittals

Specifier Note: In accordance with FCC regulations, an application for license must be filed prior to use of the equipment. Normally, the manufacturer will complete the filing and obtain the license on the behalf of the Owner. Otherwise, the Owner will be required to file the application with the FCC prior to use. Furnishing the license, or a copy of the application, will confirm that FCC approval has been obtained.

- A. Product Data: Submit complete catalog data for each component, describing physical characteristics and method of installation. Submit brochure showing available colors and finishes of PA controllers and speakers, strobe light controllers and strobe light lens, LED message boards and sirens.
- B. Operating License: Submit evidence of application for operating license prior to installing equipment. Furnish the license, or if the license has not been received, a copy of the application for the license, to the Owner prior to operating the equipment. When license is received, deliver original license to Owner.
- C. Manufacturer's Instructions: Submit complete installation, set-up and maintenance instructions.

1.7 Substitutions

- A. Proposed substitutions shall be manufactured of equivalent materials that meet or exceed specified requirements of this Section.
- B. Proposed substitutions shall be identified not less than 10 days prior to bid date.
- C. Systems requiring wiring and/or conduit between the system controller and the remote devices (such as PA controllers and speakers, strobe light controllers and strobe lights, LED message boards or sirens) or the remote devices controller will not be acceptable.

1.8 Quality Assurance

- A. Permits: Obtain operating license for the transmitter from the FCC (service may be provided by Visiplex).
- B. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturing commercial wireless systems with a documented experience of minimum of 10 years.
 - 2. Installer: Company with documented experience in installation of commercial wireless systems.

1.9 Delivery Storage and Handling

- A. Deliver all components to the site in the manufacturer's original packaging. Packaging shall contain manufacturer's name and address, product identification number, and other related information.
- B. Store equipment in a finished building, in unopened containers until ready for installation.

1.10 Project Site Conditions

- A. Wirelessly controlled devices shall not be installed until painting and other finish work in each room is completed.
- B. Coordinate installation of the external antenna (if used) for access to the roof or exterior side-wall so that the bracket and related fasteners are watertight.

Part 2 – Products

Specifier Note: Select from the following product list all the products and options that fit your system design. Consult Visiplex for additional information regarding product features and options.

2.1 Manufacturer

- A. Wireless Emergency Mass Notification and Public Address system and its components shall be manufactured by Visiplex:

Visiplex, Inc.
Buffalo Grove, IL 60089
Tel: 877-918-7243
Website: www.visiplex.com

2.2 System Operations and Startup Sequence

The VNS5100 AlertWave system is a powerful multitasking PC capable of sending both pre-programmed and real-time voice messages to specific PA speakers or designated groups of PA speakers. This message can be generated over the phone using the system's telephone interface, or generated through the system's microphone. The VSN5100 is also capable of wirelessly controlling a number of alert devices, such as strobe lights, siren horns and alphanumeric pagers. Capabilities also include the ability to send a text message to an alphanumeric LED message board as a result of a preprogrammed event or a message that was generated from the PC keyboard or a network client. The VNS5100 can also initiate mass e-mail and phone messaging to predefined personnel and occupant lists.

- A. Control Center Operation:

When power is first applied to the unit, it will start the Windows boot process. Once the software is fully loaded, the main control screen is displayed and the system is ready for operation.

- B. Wireless PA Speaker Operation:

- Connect the DC adaptor (supplied with each wireless controller) to AC power source.
- After few seconds of initial setup, the wireless controller LED will start flashing to indicate that all the internal circuitry is fully functioning.
- Connect a speaker to the wireless controller speaker output port using the supplied cable. The speaker is now ready to receive voice and data information from the main control center.

- C. Wireless Strobe Light or Siren Operation:

- Connect the DC adaptor (supplied with each wireless controller) to AC power source.
- After few seconds of initial setup, the wireless controller LED will start flashing to indicate that all the internal circuitry is fully functioning.
- Connect a strobe light or siren to the wireless controller output port using the supplied cable. The device is now ready to receive wireless activation commands from the main control center.

- D. Wireless Alphanumeric LED Message Board Operation:

- Connect the DC adaptor (supplied with each LED message board) to the AC power source.
- After few seconds, the alphanumeric LED message board will scroll an activity status line on the LED message board to indicate that all internal parts are working properly. After few more seconds the LED message board will be cleared until it receives new information to be displayed transmitted from the main control center. If the LED message board is set to display the time, the internal receiver will search for valid time data transmission and resynchronize to the correct time if needed.

2.3 Equipment - Main System, Wireless Controllers, Audio/Visual Devices

Specifier Note: Select the encoder with features as needed. Select suitable transmitter to provide full coverage facility wide. In general, use an internal transmitter for small sites or single building and an external more powerful transmitter for larger facilities.

A. General:

The basic mass notification system shall include a control center, an external transmitter and any combination of controlled devices like wireless PA speakers, wireless strobe lights, wireless LED message boards and wireless siren horns.

B. Encoder:

The wireless encoder shall be from the following Visiplex models:

VNS5100, Wireless Paging Server ([Datasheet](#)) Quantity:

The wireless encoder (VNS5100) may utilize the following options from the following Visiplex models:

VNS5104, Four Telephone Line Interface Option	Quantity: <input type="text"/>
VS5131, Pre-Recorded Voice Messages to PC Audio Output Option	Quantity: <input type="text"/>
VS5132, Pre-Recorded Voice Messages to PABX or Telephone Subscribers Option	Quantity: <input type="text"/>
VS5133, Email Notification Option	Quantity: <input type="text"/>
VS5134, Device Supervision and Monitoring Option	Quantity: <input type="text"/>
VS5135, Network Notification Alerts Option	Quantity: <input type="text"/>
VS5136, Text to Speech Option	Quantity: <input type="text"/>
VS5142, VNS2000 Network Client/Server Software	Quantity: <input type="text"/>
VS5165, Wireless Call Buttons and Call Stations Interface Option	Quantity: <input type="text"/>
VS5166, Data Stream Analyzer Messaging Software Option	Quantity: <input type="text"/>
VS5170, Additional Serial Port Option	Quantity: <input type="text"/>

The wireless encoder (VNS5100) may utilize an optional secondary encoder from the following Visiplex models:

VS4500, Compact Wireless Paging Encoder (Datasheet)	Quantity: <input type="text"/>
VS4810, Desktop Wireless Paging Encoder (Datasheet)	Quantity: <input type="text"/>

The optional secondary encoder (VS4500 or VS4810) may utilize the following options from the following Visiplex models:

VS3003, Telephone Line Interface Option	Quantity: <input type="text"/>
VS3005, Hand-Held Microphone for Live Voice Messaging Option	Quantity: <input type="text"/>
VS3014, Handset Microphone for Live Voice Messaging Option	Quantity: <input type="text"/>

The VNS5100 shall incorporate a PC, keyboard and a microphone to provide the following features:

1. Send voice messages to any wirelessly controlled remote speaker or groups of speakers (zones), activate embedded alert tones on wirelessly controlled remote speakers, activate and deactivate wirelessly controlled strobe light and siren horns, send alphanumeric text messages to LED message boards, send alphanumeric text messages to email subscribers, send alphanumeric text messages to pagers, send voice message to telephone or cell phone subscribers,
2. Password protected Administrator login to set individual and group addresses and other parameters for remote wireless devices and non-wireless devices, database programming and activity reports generating.
3. Database programming and administration.
4. Remote access via telephone interface for voice and alphanumeric messaging.
5. Ethernet interface for network access.

C. Transmitter:

The wireless transmitter shall be from the following Visiplex models:

VS101-25, External Paging transmitter, 25 Watt (Datasheet)	Quantity:	<input type="text"/>
VS101-40, External Paging transmitter, 40 Watt (Datasheet)	Quantity:	<input type="text"/>
VS101-100, External Paging transmitter, 100 Watt (Datasheet)	Quantity:	<input type="text"/>
VS101-350, External Paging transmitter, 250/300 Watt (VHF/UHF) (Datasheet)	Quantity:	<input type="text"/>
VTX-6, Internal Paging transmitter, 6 Watt	Quantity:	<input type="text"/>

The transmitter parameters shall be:

1. Frequency Range: 148-174 MHz or 401–470 MHz.
2. Transmission Range: Up to 15 miles radius (transmitter and antenna depended).
3. Radio technology: Narrowband FM, 12.5KHz bandwidth.
4. Transmission format: POCSAG, digital one-way communication.
5. Digital Data rate: 512 or 1200 BPS.
6. Operating range: 0-70 degrees Celsius.

D. Antenna:

The antenna shall be from the following Visiplex models:

VS638, Indoor/Outdoor Magnetic Mount Antenna (Datasheet)	Quantity:	<input type="text"/>
VS654, Outdoor Antenna Kit (Datasheet)	Quantity:	<input type="text"/>
VS655, Outdoor Antenna Kit, High Power (Datasheet)	Quantity:	<input type="text"/>

The antenna polarization shall be vertical.

E. Power supply:

The power supply shall be included with encoder.

F. Surge Protector/Battery Backup:

The surge protector / battery backup shall be from the following Visiplex models:

VS56900, 900 Watt Uninterrupted Power Supply	Quantity:	<input type="text"/>
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The surge protector / battery backup parameters shall be:

1. Input: 120-volt AC 60 Hz +/- 1 Hz.
2. Output: 120-volt AC, 1500VA, 950-watts
3. Surge Energy Rating: 1800 joules

G. The wireless encoder may utilize an optional weather alert radio from the following Visiplex models:

VS3042, Programmable Weather and Emergency Alert Radio	Quantity:	<input type="text"/>
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The weather alert radio parameters shall be:

1. S.A.M.E compatible with localized reception.
2. Programmable active alerts selection.
3. Seven preset channels with local county selection.

H. Wirelessly Controlled PA Speakers:

Visiplex model VNS2210 or VNS2200 Wireless Controller.

VNS2210, Indoor Wireless Controller (Datasheet)	Quantity:	<input type="text"/>
VNS2200, Indoor/Outdoor Wireless Controller (Datasheet)	Quantity:	<input type="text"/>

The wireless controller shall be connected to 4-16 Ohm In-Wall, Wall-Mount or Horn speakers from the following Visiplex models:

VNS2081, In-Wall PA Speaker (Datasheet)	Quantity:	<input type="text"/>
VNS2082, PA Speaker (Datasheet)	Quantity:	<input type="text"/>
VNS2083, PA Speaker (Datasheet)	Quantity:	<input type="text"/>
VNS2084, PA Horn Speaker (Datasheet)	Quantity:	<input type="text"/>
VNS2085, PA Horn Speaker (Datasheet)	Quantity:	<input type="text"/>

The wireless controller may utilize the following options from the following Visiplex models:

VNS2252, Backup Battery Option (Datasheet)	Quantity:	<input type="text"/>
VNS2254, Low Power Transmitter Option for Wireless Supervision	Quantity:	<input type="text"/>
VNS2255, External Antenna Option for Wireless Devices (Datasheet)	Quantity:	<input type="text"/>
VNS2256, Solar Panel Charger with Internal Battery Option (Datasheet)	Quantity:	<input type="text"/>
VNS2259, PoE Power Supply / Charger with Internal Battery Option	Quantity:	<input type="text"/>
VNS2264, Ambient Noise Level Control Option	Quantity:	<input type="text"/>
VNS2265, Secondary Receiver for FM Radio Reception Option	Quantity:	<input type="text"/>
VNS2281, Secondary Speaker Output Option	Quantity:	<input type="text"/>
VNS2284, Line Level Audio Output with Dry Contact Closure Option	Quantity:	<input type="text"/>
VNS2285, Dry Contact Closure	Quantity:	<input type="text"/>
VNS2286, Two-Way Radio Interface Option	Quantity:	<input type="text"/>

The wirelessly controlled PA speaker shall support the following features and parameters:

1. Wireless PA controller shall be able to receive voice messages, alert tone activation, programming commands and be controlled from the VNS5100 control center.
2. Power source: 100-240 VAC, 50-60 Hz.
3. The PA controller and speaker shall have four levels of volume control selectable and controlled by the system control center.

I. Wirelessly Controlled Strobe Light:

Visiplex model VNS2210 or VNS2200 Wireless Controller equipped with at least one VNS2282 option.

Visiplex model VNS2210, Indoor Wireless Controller (Datasheet)	Quantity:	<input type="text"/>
Visiplex model VNS2200, Indoor/Outdoor Wireless Controller (Datasheet)	Quantity:	<input type="text"/>
VNS2282, Strobe Light / Siren / DC Voltage Controlled Device Output Option	Quantity:	<input type="text"/>

The wireless controller shall be connected to strobe light from the following Visiplex models:

VNS2095, LED Strobe Light, Clear Lens (Datasheet)	Quantity:	<input type="text"/>
VNS2096, LED Strobe Light, Blue Lens (Datasheet)	Quantity:	<input type="text"/>
VNS2097, LED Strobe Light, Red Lens (Datasheet)	Quantity:	<input type="text"/>
VNS2098, LED Strobe Light, Amber Lens (Datasheet)	Quantity:	<input type="text"/>
VNS2091, Strobe Light, Clear Lens (Datasheet)	Quantity:	<input type="text"/>
VNS2092, Strobe Light, Blue Lens (Datasheet)	Quantity:	<input type="text"/>
VNS2093, Strobe Light, Red Lens (Datasheet)	Quantity:	<input type="text"/>
VNS2094, Strobe Light, Amber Lens (Datasheet)	Quantity:	<input type="text"/>

The wireless controller may utilize the following options from the following Visiplex models:

VNS2252, Backup Battery Option (Datasheet)	Quantity:	<input type="text"/>
VNS2254, Low Power Transmitter Option for Wireless Supervision	Quantity:	<input type="text"/>
VNS2255, External Antenna Option for Wireless Devices (Datasheet)	Quantity:	<input type="text"/>
VNS2256, Solar Panel Charger with Internal Battery Option (Datasheet)	Quantity:	<input type="text"/>
VNS2259, PoE Power Supply / Charger with Internal Battery Option	Quantity:	<input type="text"/>
VNS2285, Dry Contact Closure	Quantity:	<input type="text"/>

The wirelessly controlled strobe light shall support the following features and parameters:

1. Wireless Strobe Light device shall be activated and deactivated wirelessly from the VNS5100 system.
2. Power source: 12VDC, 1A using 100-240 VAC, 50-60 Hz power adapter.

J. Wirelessly Controlled Alphanumeric LED Message Boards:

The wireless alphanumeric LED message board shall be from the following Visiplex models:

VS1501, LED Message Board, One Line, 8 Characters, Red (Datasheet)	Quantity:	<input type="text"/>
VS1502, LED Message Board, One Line, 16 Characters, Red (Datasheet)	Quantity:	<input type="text"/>
VS1503, LED Message Board, Two Lines, 15 Characters, Red (Datasheet)	Quantity:	<input type="text"/>
VS1504, LED Message Board, Two Line, 15 Characters, Tri-Color (Datasheet)	Quantity:	<input type="text"/>

The wirelessly controlled alphanumeric LED message board shall support the following features and parameters:

1. Wireless Alphanumeric LED Message Board shall be able to receive time and data information from the VNS5100 control center.
2. Power source: 100-240 VAC, 50-60 Hz.
3. Alphanumeric LED message board shall be viewable from 100 feet or more.

K. Wirelessly Controlled Siren:

Visiplex model VNS2210 or VNS2200 Wireless Controller equipped with at least one VNS2282 option.

Visiplex model VNS2210, Indoor Wireless Controller (Datasheet)	Quantity:	<input type="text"/>
Visiplex model VNS2200, Indoor/Outdoor Wireless Controller (Datasheet)	Quantity:	<input type="text"/>
VNS2282, Strobe Light / Siren / DC Voltage Controlled Device Output Option	Quantity:	<input type="text"/>

The wireless controller shall be connected to a dual-tone siren from the following Visiplex models:

VNS2096, Dual Tone Siren (Datasheet)	Quantity:	<input type="text"/>
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The wirelessly controlled siren shall support the following features and parameters:

1. Wireless Siren device shall be activated and deactivated wirelessly from the VNS5100 system.
2. Power source: 12VDC, 1A using 100-240 VAC, 50-60 Hz power adapter.

2.4 Equipment - System Activation: Emergency Call Buttons and Station, Dry Contact Closure

Specifier Note: Select the type and quantity of activation devices as needed.

A. Wireless Emergency Call Buttons and Stations:

The wireless emergency call buttons and stations shall be from the following Visiplex models:

CT-101, Wireless Call Button, 1 Button (Datasheet)	Quantity:	<input type="text"/>
CT-102, Wireless Call Button, 2 Buttons (Datasheet)	Quantity:	<input type="text"/>
CT-104, Wireless Call Button, 4 Buttons (Datasheet)	Quantity:	<input type="text"/>
CT-105, Wireless Dry-Contact Switch (Datasheet)	Quantity:	<input type="text"/>
CT-106, Wireless Door/Windows Magnetic Sensor (Datasheet)	Quantity:	<input type="text"/>
CT-107, Wireless Call Button with Horizontal/Fall Detection Sensor (Datasheet)	Quantity:	<input type="text"/>
CT-108, Wireless Call Button with IR Location Sensor, 1 Button (Datasheet)	Quantity:	<input type="text"/>
CT-151, Wireless Push Button Station, 1 Button (Datasheet)	Quantity:	<input type="text"/>
CT-152, Wireless Push Button Station, 2 Buttons (Datasheet)	Quantity:	<input type="text"/>
CT-154, Wireless Push Button Station, 4 Buttons (Datasheet)	Quantity:	<input type="text"/>
CT-155, Wireless Pull Cord Station (Datasheet)	Quantity:	<input type="text"/>
CT-156, Wireless Call Cord Station (Datasheet)	Quantity:	<input type="text"/>
CT-157, Wireless Pull Station (Datasheet)	Quantity:	<input type="text"/>

The CT-10x series emergency call button may utilize the following options from the following Visiplex models:

WPA-1005, Bead Necklace for CT-10x Compact Transmitters	Quantity:	<input type="text"/>
WPA-1011, Belt Clip for CT-10x Compact Transmitters	Quantity:	<input type="text"/>
WPA-1012, Wrist Strap for CT-10x Compact Transmitters	Quantity:	<input type="text"/>
WPA-1013, Wall Bracket for CT-10x Compact Transmitters	Quantity:	<input type="text"/>

B. Dry-Contact Closure

The wireless emergency call buttons and stations shall be from the following Visiplex models:

VS1810, 96 Dry Contacts Inputs Expansion Module (Datasheet)	Quantity:	<input type="text"/>
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Part 3 – Installation

3.1 Site examination:

- A. Verify that construction is complete at installation locations and that rooms are clean and dry.
- B. Verify that 120-volt electrical outlet is located within 6 feet of location of transmitter and the outlet is operational and properly grounded.
- C. Verify that all 120-volt electrical outlets for the wirelessly controlled speakers, strobe lights, alphanumeric LED message boards and siren are located at the exact installation point and that the outlet is operational and properly grounded.

3.2 System Installation: Refer to the manufacturer installation manuals as supplied with the system and other components. Install the main system and each one of the system components.

3.3 Inspection: Prior to final acceptance, inspect each system component for proper function and replace parts that are found to be defective.

3.4 Cleaning: Prior to final acceptance, clean exposed surfaces of all system components, using cleaning methods recommended by the manufacturer. Remove temporary protective film from LED message board lenses.

3.5 Delivery: Provide training to Owner's representative on system setting and operation as demonstrated in the manufacturer system user manual.