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Wireless Two-Way Intercom 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 Includes

    A.   Transmission System

        1.   Central Intercom Console.

        2.   Primary Internal or External Transmitter.

    B.   Wireless Intercom Station

        1.   Wireless Intercom Controller.

        2.   Two-Way Intercom Station.

> **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 60Hz grounded outlet required for central intercom console.

    B.   Division 16 - Electrical 120V 60Hz grounded outlet required for external transmitter.

    C.   Division 16 – Electrical 120V 60Hz grounded outlet for each wireless intercom controller.

> **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. PageLink Wireless Intercom System User Manual.

1.4 System Description

    A.   Wireless intercom system shall be able to provide two-way voice communications between a central location and remotely located intercom stations.

    B.   The central intercom console shall be able to wirelessly initiate a call to any of the remote intercom stations and begin two-way voice communication.

    C.   Each of the remote intercom stations shall be able to initiate a call to the central intercom console to begin two-way voice communication.

    D.   The two-way voice communication between the central intercom console and the remote intercom stations can be carried in 'Hands Free' or 'Push to Talk' modes.

    E.   The central intercom console can initiate a 'Page All' call and activate all remote intercom stations for Public Address voice announcements.

    F.   The system shall incorporate a "fail-proof" power backup option so that a temporary power interruption shall not cause system failure to provide voice communication between the central main controller and the remote intercom stations.

    G.   The system shall provide a PC interface to enable system remote programming and maintenance.

    H.   The system shall be capable of providing a built-in programmable bell/tone weekly schedule to activate bells and other tone signaling through the remote intercom stations.

    I.   The system shall be capable of providing a voice gateway to activate wireless Public Address amplifiers and speakers. Voice messages can be initiated in real time over the phone, using a hand held microphone or automatically according to a preprogrammed event schedule.

    J.   The system shall be capable of providing an internal phone interface to initiate voice and data messaging and control event schedule selection.

1.5 Regulatory Requirements

    A.   Equipment and components furnished shall be of manufacturer's latest model.

    B.   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.

    C.   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 central intercom console and remote controllers/intercom stations 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 at 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.   equipment in a finished building, in unopened containers until ready for installation.

1.10 Project Site Conditions

    A.   Intercom stations, wireless controllers and speakers 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 products and options that fits your system design. Consult Visiplex for additional information regarding product features and options.**

2.1 Manufacturer

A.   The Wireless Two-Way Intercom System components shall be manufactured by:

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

2.2 System Operation and Startup Sequence

The system central intercom console is a powerful multitasking device equipped with the power to wirelessly initiate live or pre-recorded voice messaging to wireless intercom stations and Public Address speakers. Calls can be generated using the controller's hand-held microphone and keyboard or keypad.

A.   Central Intercom Console Operation:

If the system is equipped with an external high-power transmitter, apply power to the transmitter and turn it on. Next, apply power to the central intercom console - it shall display the software version and then the main menu screen. At this point the central intercom console is ready to initiate intercom and PA calls using the hand-held microphone and keyboard or keypad. Programming the encoder built-in database can be performed using the available PC software.

B.   Wireless Intercom/PA Controller Operation:

- Connect the DC adaptor (supplied with each wireless controller) to AC power source.
- Connect the cable between the intercom station and the wireless intercom controller.
- Connect the antenna to the wireless controller.
- If an optional PA speaker is selected, connect the speaker connector to the appropriate speaker output on the wireless controller.
- Connect the power connector into the power input on the wireless intercom controller.
- After a few seconds of initial setup, the wireless controller LED will start flashing to indicate that all the internal circuitry is fully functioning and is ready to receive or initiate calls.
- To initiate or answer a call, push the button on the intercom station.

2.3 Equipment

> **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:

A basic wireless intercom system shall include a central intercom console, a built-in or external transmitter, wireless intercom controllers and intercom stations. An expanded system may also include wireless PA speakers and/or a high power transmitter option for extended voice communication range.

B.   Central Intercom Console:

The central intercom console shall be from the following Visiplex models:

VS4500, Compact Wireless Paging Encoder (Datasheet)	Quantity:	
VS4810, Desktop Wireless Paging Encoder (Datasheet)	Quantity:	

The central intercom console may utilize the following options from the following Visiplex models:

VS3003, Telephone Line Interface Option	Quantity:	
VS3005, Hand-Held Microphone for Live Voice Messaging Option	Quantity:	
VS3014, Handset Microphone for Live Voice Messaging Option.	Quantity:	

The central intercom console shall incorporate display, keyboard or keypad and provide the following features:

1. Include power supply, hand-held microphone and a built-in speaker for voice communication with wireless intercom stations and PA speakers.

2. Database programming and administration using its keypad and LCD display.
3. Password protected Administrator Menu to set the date, local time zone, wireless controllers and other system parameters as needed.

4. Database programming and administration using its keypad and LCD display.

5. PC RS-232 interface for programming and administration.

6. High-precision internal clock that can be synchronized from a GPS or PC.

7. Capable of providing a telephone interface for remote voice access and system control.

8. Capable of providing a programmable weekly or calendar event schedule.

C. Transmitter:

The wireless transmitter shall be from the following Visiplex models:

VS101-25, External Paging transmitter, 25 Watt (Datasheet)   Quantity: _____
VS101-40, External Paging transmitter, 40 Watt (Datasheet)   Quantity: _____
VS101-100, External Paging transmitter, 100 Watt (Datasheet)   Quantity: _____
VS101-350, External Paging transmitter, 250/300 Watt (VHF/UHF) (Datasheet)   Quantity: _____

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 and analog two-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: _____
VS654, Outdoor Antenna Kit (Datasheet)   Quantity: _____
VS655, Outdoor Antenna Kit, High Power (Datasheet)   Quantity: _____

The antenna polarization shall be vertical.

E. Surge Protector/Battery Backup:

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

VS56450, 450 Watt Uninterrupted Power Supply   Quantity: _____

The surge protector / battery backup parameters shall be:

1. Input: 120-volt AC 60 Hz +/- 1 Hz.

2. Output: 120-volt AC, 750VA, 450-watts

3. Surge Energy Rating: 1800 joules

F. Wireless Intercom Controller/Station:

Visiplex model VNS2210 or VNS2200 Wireless Controller equipped with the VNS2255 option.

VNS2210, Indoor Wireless Controller (Datasheet)	Quantity: _____
VNS2200, Indoor/Outdoor Wireless Controller (Datasheet)	Quantity: _____
VNS2255, External Antenna Option for Wireless Devices (Datasheet)	Quantity: _____

The wireless intercom controller shall be connected to wall station from the following Visiplex models:

VNS2267, Two-Way Intercom Station (Datasheet)	Quantity: _____
VNS2268, , Two-Way Intercom Station, "Hands-Free" (Datasheet)	Quantity: _____

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

VNS2252, Backup Battery Option (Datasheet)	Quantity: _____
VNS2259, PoE Power Supply / Charger with Internal Battery Option	Quantity: _____
VNS2265, Secondary Receiver for FM Radio Reception Option	Quantity: _____
VNS2281, Secondary Speaker Output Option	Quantity: _____
VNS2282, Strobe Light / Siren / DC Voltage Controlled Device Output Option	Quantity: _____

The wireless intercom controller may 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: _____
VNS2082, PA Speaker (Datasheet)	Quantity: _____
VNS2083, PA Speaker (Datasheet)	Quantity: _____
VNS2084, PA Horn Speaker (Datasheet)	Quantity: _____
VNS2085, PA Horn Speaker (Datasheet)	Quantity: _____

The wireless intercom controller may be connected to a strobe light from the following Visiplex models (requires VNS2282 option):

VNS2095, LED Strobe Light, Clear Lens (Datasheet)	Quantity: _____
VNS2096, LED Strobe Light, Blue Lens (Datasheet)	Quantity: _____
VNS2097, LED Strobe Light, Red Lens (Datasheet)	Quantity: _____
VNS2098, LED Strobe Light, Amber Lens (Datasheet)	Quantity: _____
VNS2091, Strobe Light, Clear Lens (Datasheet)	Quantity: _____
VNS2092, Strobe Light, Blue Lens (Datasheet)	Quantity: _____
VNS2093, Strobe Light, Red Lens (Datasheet)	Quantity: _____
VNS2094, Strobe Light, Amber Lens (Datasheet)	Quantity: _____

The wirelessly intercom controller shall support the following features and parameters:

1. Wireless intercom controller shall be able to provide two-way voice communication with the VS4500 or VS4810 central intercom console.

2. Power source: 100-240 VAC, 50-60 Hz.

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 wireless intercom controllers 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 install each one of the system components.

2.3 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.

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