# Part 1: Engineer’s Specification

## Overview

It is the intention of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (Facility Name) to install a single, facility-wide RFID Wander Management System designed to be installed in facilities with residents that are suffering from wandering malady or in other circumstances where patient egress must be controlled. The Wander Management System shall be capable of adding advanced features such as reporting, email notification, mobile apps, and remote clients to the monitoring system. This system shall be a single network of up to thirty (30) door controllers capable of monitoring up to 254 tags.

## Section Includes

The Wander Management System is to be installed initially on floor(s) \_\_\_\_\_\_\_\_\_\_ and then expanded in the future to the remaining units.

## References

FCC CFR 47, Part 15

Underwriters Laboratories standard UL® 294

National Electrical Code, ANSI/NFPA 70

Health Care Facilities, ANSI/NFPA 99

U.S. Dept. of Labor / Occupational Safety and Health Administration

## Qualifications

Applicable state licenses.

## System Description

System hardware shall be provided by an ISO 9001 certified company that has been in business for at least 40 years. Equipment provided by companies that are not ISO 9001 or without a minimum of 40 years of manufacturing experience shall not be acceptable.

The system shall be based on the following hardware and consist of;

Up to Thirty (30) Door Controllers

 *NC702* Door Controller

 *PK701 or PK702* Transformer

Up to 254 monitoring tags

 *SF701* Resident Tag and/or,

 *SF702* Asset Tag

Tag Activator and Deactivator per system:

 *NC710* Secure Tag Activator

Keypad per controller:

 *NC703* Indoor keypad and/or

 *NC707* Outdoor keypad

 and/or

Keypad with Display per controller:

 *NC709* keypad with display – surface mount

 *NC707* keypad with display – flush mount

Magnetic Switch:

 *ST019A* Magnetic Door Contact Switch – surface mount

Maglock:

 *NC704* special design low currentMaglock

Elevator Interrupt:

 *NC705* Elevator Deactivation Panel

 *PK505* Transformer

Fire Panel Interface:

 *NC706* Fire Panel Interface

 *PK505* Transformer

Motion Detector:

 *SF703* PIR Motion Detector

Alarm Annunciator with Silence Button:

 *NC712* Alarm Annunciator – surface mount

 *NC713* Alarm Annunciator – flush mount

Tek-BRIDGE Server:

 *NC474* Tek-BRIDGE Server

 *CT701* Serial to IP Converter

All wiring connections shall be made in accordance with the supplied wiring diagrams. All wiring connections must use crimp-style wire connectors. Twist-on wire connectors shall not be acceptable.

All necessary equipment required to meet the intent of these specifications, whether or not enumerated within these specifications, shall be supplied and installed to provide a complete and operating Wander Management System.

System firmware shall be the product of a reputable wander management manufacturer with a proven history of product reliability and sole control over all source code. Manufacturer shall provide, free of charge, product firmware/software upgrades for a period of five years from date of installation for any product feature enhancements.

## Submittals

The system described by this specification is the Tek-CARE®700 Wander Management System provided by TekTone® Sound & Signal Mfg., Inc. The Tek-CARE®700 Wander Management System meets all requirements outlined in this specification. Tek-CARE®700 Wander Management System should be considered the basis for all submitted bids.

Any supplying contractor proposing equipment which is not the base standard for this specification must provide full submittals at the time of bid. This option shall be exercised at the discretion of the owner/specifying authority.

Prior to commencement of work, the supplying contractor shall submit six (6) complete submittal sets. These sets are to be submitted in three-ring binders, continuous spiral binders, or plastic bindings that allow the booklets to lie flat while open. Each booklet shall consist of the following:

**Page 1:** Name of supplying contractor and project name.

**Page 2:** In the following order, a listing of: component quantities, equipment manufacturer, model number, and description of each component being supplied. If equipment being supplied is not the specified equipment manufacturer’s model, alongside the submitted model number and description, list the specification paragraph that corresponds to the equivalent specified model. Failure to provide this information shall result in the rejection of submittals.

**Page 3:** A statement of warranty policy from manufacturer.

**Page 4:** A written statement by contractor of how and when they will complete In-Service Training, including the minimum number of hours being provided per system, procedures they will follow, what training aids are provided (technical and user manuals, data sheets, etc.) and how contractor will conduct training.

**Page 5:** A written statement from contractor of: (a) exactly how the contractor will test installed equipment and wiring, and (b) exactly how all the tests recommended by manufacturer will be performed by the contractor, prior to commissioning of system.

**Page 6:** Provide a written copy of the manufacturer’s list of all of the recommended spare parts to maintain all systems specified after the warranty period. Provide the purchase price and turnaround (i.e., Facility’s) cost associated with each item. List separately the cost of annual maintenance. Show the hourly, purchased labor rates for both regular and emergency service. State any additional charges that may accompany labor charges (such as, but not limited to, travel charges, lodging, etc.).

**Pages 7+:** One catalog sheet per product of equipment listed on page 2, in the exact order as listed on page 2 of the submittal package. Each catalog sheet shall describe mechanical, electrical and functional equipment specifications. Photocopy duplications of the manufacturer’s original equipment catalog sheets will be allowed as long as they provide adequate clarity of all printed words, graphics, pictures, illustrations and other information material to the evaluation of the submittal. Submittals that are not of adequate clarity or content may be rejected and re-submission may not be allowed.

**Last Page(s) or Separate:** Provide all inter-equipment wiring diagrams and drawings necessary to install the equipment being supplied. These drawings will show, in detail, all wiring types by wire gauge, conductors and wire manufacturer. These drawings must be updated prior to completion of any work to reflect changes that may have been made during actual installation.

In the event the specifying authority decides to reject the submittals of a supplying contractor, the specifying authority may ask the contractor to re-submit if the discrepancies are minor. Otherwise, rejection of submittals means the specified product must be supplied.

## Project Site Visit

It is the responsibility of all prospective contractors to make an adequate inspection of the project site or review of project plans. A mandatory site visit or meeting to review project plans is scheduled for the following date(s) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Any contractor not registered as having attended the mandatory site visit tour or the project plans review meeting will be disqualified and any bid proposal will automatically be rejected.

## Demonstrations

It may be necessary to utilize demonstration equipment to test the functional operation of the contractor’s submitted equipment. Contractor will be notified of any demonstration dates and times. If such demonstrations are utilized, it will be the sole judgment of the owner and/or owner’s designated specifying authority to decide whether a contractor/manufacturer meets or exceeds the specification.

All demonstrated equipment must be of a standard single manufacturer and meet the same required testing and conditions that are applicable to the manufactured equipment. Custom or modified equipment that is not of standard, current manufacture cannot be demonstrated.

If necessary, owner and/or specifying authority may visit the manufacturer’s facility to view functioning equipment or demonstrations and witness equipment manufacturing techniques and/or testing procedures.

## Scheduling

It is the responsibility of the general contractor to coordinate all work with the other trades for scheduling, rough-in, and finishing all work specified. The owner will not be liable for any additional costs due to missed dates or poor coordination of the supplying contractor with other trades.

## Warranty

The warranty shall include all necessary labor and equipment to maintain the system(s) in full operation for a period of one year from the date of acceptance. Each piece of equipment supplied by the Wander Management System manufacturer shall be warranted to be free of defects in material and workmanship for a period of twelve (12) months from the date of shipment from the factory.

The contractor shall maintain a service department, necessary spare parts, telephone answering services, and call dispatching required to implement the service standard stated below as part of this contract. After the acceptance of the system(s), service shall be provided on the following basis:

Emergency Service **—** Provided 24 hours a day. When a *total or catastrophic failure*of equipment is reported to contractor, within *2 hours of notification*,a service person will be on site. (An example of a catastrophic failure would be failure of a CE module or wander management server.)

**Routine Service —** Provided within 4 business hours (9 a.m. to 5 p.m., Monday through Friday, excluding holidays) of notification. When a minor failure of equipment is reported to the contractor on a Saturday or Sunday, a service person will be on site within 4 hours of notification. (An example of a minor failure includes a failure of a single point on the Wander Management System or malfunction of optional components such as email output or paging.)

## Maintenance

The contractor shall:

Provide necessary spare parts, noted on Page 7 of submittal (see Section 1.6), after commissioning of system(s) and before final payment.

Provide sponsorship for at least one person designated by the owner to attend a service school held by the equipment manufacturer. Transportation to this school, meals, and lodging will be borne by the owner. The equipment manufacturer shall provide school free of charge.

The owner may choose to have the supplying contractor maintain the system(s). The level of service provided during the maintenance contract period shall be the same as the warranty period for routine and emergency service. All labor and equipment costs shall be covered under this contract. Supplying contractor must state exact billing amounts, billing periods and all costs associated with this maintenance agreement and list any items that shall not be covered under the service/maintenance agreement.

# Part 2: Products

## Manufacturers

The products specified shall be new and provided by a single, reputable, ISO 9001 certified manufacturer and approved partners. As a reference of standard and quality, functionality and operation, it is the request of the owner that bids be based only on equipment provided by TekTone® Sound & Signal Mfg., Inc., Franklin, NC 28734.

## Removal of Existing Product

The contractor shall remove all existing product and deliver to the owner, or at the direction of the owner, properly dispose of same.

## System Wiring

Door controller to associated peripherals wiring:

* Networked NC702 door controllers: (RS485) CAT5E or better
* To PK701/PK702: 18 gauge 2 conductor (power) per controller
* To NC704 Maglock: 18 gauge 4 conductor
* To ST019A magnetic contact: 22 gauge 2 conductor
* SF703 PIR Motion Detector: 22 gauge 4 conductor
* NC703/NC707 Keypad: CAT5E or better
* NC709/NC711 Keypad with Display: CAT5E or better plus 18 gauge 2 conductor (power)
* NC712/713 Display with button: CAT5E or better plus 18 gauge 2 conductor (power)
* NC705/NC706: To PK505: 18 gauge 2 conductor (power) per controller
* To PK505: 18 gauge 2 conductor (power) per controller

Tek-BRIDGE PC / Display wiring:

* Facility Lan to CT701: CAT5E or better
* CT701 to NC702 door controller (arbiter): CAT5E or better

## Door Control Module

The Wander Management System can be configured as standalone controllers at each door, a networked system of controllers or a networked system of controllers with the TekTone® Tek-BRIDGE® Server to provide display, database, reporting and interface with other Tek-CARE® system components.

The Wander Management System shall transmit at a frequency of 418MHz thereby reducing effects of traffic found at other more common frequencies.

A door controller is installed at each door that must be monitored and controlled for resident egress. The door controller emits a wireless transmit field around the door. When a resident tag enters the transmit field, the door controller detects the tag. A magnetic switch on the door shall monitor its position—open or closed. If the door opens while a tag is in the transmit field, an alarm sounds. The alarm can only be reset when a facility staff member enters a code into the keypad mounted near the door. If a tag enters a monitored area, the system shall automatically sound alarms, lock doors, deactivate elevator doors, flash lights, and trigger calls that display on the Tek-BRIDGE® server at the nurses’ station according to system programming. System events are automatically logged by the Tek-CARE® Reporting software.

The door controller shall monitor single and double doors, elevator doors, and automatic doors. A Motion Detector (PIR) may be used to monitor swinging doors, entire hallways, elevator lobbies, or other open spaces for patient ingress and egress. There shall be a fire panel interface installed which deactivates connected Maglocks in the event of a fire alarm. When installed with an NC474 Tek-BRIDGE® server, the wander management system integrates seamlessly with all connected TekTone Tek-CARE systems.

**The door controller shall be TekTone**® **NC702. Wander Management Systems that do not integrate with the nurse call system, reporting, or other notification systems, shall not be acceptable.**

## Resident and Asset Tags

The Resident Tag and the Asset Tag are wristwatch-sized devices worn by a resident or attached to an asset. The Resident Tag is designed to be worn on a wrist or ankle and the Asset Tag is designed to be attached to assets such as IV pumps, wheelchairs, or walkers.

The tags are inactive until they enter the transmit field of a door controller. Once the tag is excited by the door controller, it transmits a 418 MHz signal that the door controller uses to lock doors, sound alarms, or deactivate elevators.

The tags shall be sealed against dirt and moisture. Battery life ranges from 2–5 years in typical applications. A red, pulsating LED shall serve as a continuous visual indication for staff that the tag is active.

If a tag is to be stored for later use, it shall be possible to deactivate the tag in order to extend battery life. Deactivated tags shall have a shelf life of 10 years. Each tag shall include an LED at the lower right hand corner of the tag to indicate whether a tag is deactivated. **Systems that do not allow the deactivation of tags to preserve battery life shall not be acceptable.**

Tags are attached using a vinyl band reinforced with nylon mesh. The band shall be designed to resist tearing by pulling or chewing. Replacement bands shall be available as kits and available to reuse tags.

**The Resident Tag shall be TekTone® SF701; The Asset Tag shall be TekTone® SF702. Replacement tag band kits (5 each) shall be RP702K.**

## Indoor and Outdoor Keypads

There shall be two keypad versions available for use with the Wander Management System. The Indoor Keypad is used to reset alarms and escort residents through monitored doors. Unique access codes are programmable directly on the keypad. It shall include 3 LEDs to indicate door controller and alarm status, as well as a plastic backbox that is used to surface mount the keypad.

The Outdoor Keypad shall have the same functionality as the indoor keypad, but is a weather-resistant keypad suitable for exterior mounting. It shall include a surface-mount steel backbox designed for rough service, as well as silicone gaskets to ensure that the keypad is protected in wet environments.

Both keypads shall have two internal relays that allow two separate codes to be programmed.

**The Indoor Keypad shall be TekTone® NC703; the Outdoor Keypad shall be TekTone® NC707.**

## Keypads with Display

The surface or flush mount Keypads with Display shall be a combination LCD touchscreen and keypad designed to be used as a local annunciator for the Wander Management System. The LCD screen shall display information about alarms and faults generated by the connected door controller. The keypads are also used to reset alarms and escort residents through monitored doors. Unique access codes are programmable directly on the keypad. The keypads include 3 LEDs to indicate door controller and alarm status.

The keypads have two internal relays that allow two separate codes to be programmed; one for resetting alarms and escorting residents through monitored zones, and the other for allowing staff and visitors free movement through normally locked doors while still monitoring the area for residents. The Keypads with Display are powered using the same transformer that powers the door controller.

**The flush mount Keypad with Display shall be TekTone® NC709; the surface mount Keypad with Display shall be TekTone® NC711.**

## Magnetic Switch or Motion Detector

**Magnetic door contact switch:**

The magnetic door contact shall be a highly reliable magnetic reed switch used by the door controller to monitor the door position. The switch is low profile for unobtrusive mounting and is provided with a plastic cover to hide the wiring connections. A plastic spacer is included for mounting the permanent magnet on a steel door. The magnetic door contact has a standard gap of 1 inch between the switch and permanent magnet.

## PIR Motion Detector

**PIR Motion Detector:**

The PIR (Passive Infrared) Motion Detector may be used to monitor entire hallways, elevator lobbies, or other open spaces for patient ingress and egress. It is used in areas where alarm activation is not desired immediately upon tag detection. It can also be used in areas, such as hallways or elevator doors, where a magnetic switch is not feasible.

The PIR Motion Detector shall have extended range Fresnel optics for consistent coverage throughout the protected area. The PIR motion detector includes a switch-selectable look down area to provide better coverage up close. It can be mounted easily on a wall or in a corner.

**The PIR Motion Detector shall be TekTone® SF703.**

## Maglock

The Maglock engages to lock the door when the door controller detects an Resident Tag or an Asset Tag. The Maglock remains engaged as long as the door controller detects a tag in its activation field. When the tag leaves the activation field, the Maglock shall disengage after a selectable period of time (0–120 seconds).

When using Maglocks, a Fire Panel Interface is required. This enables the Maglock to automatically disengage when the facility’s fire alarm is activated, allowing residents and staff to exit. The Maglock will also disengage when power is lost. The Maglock shall incorporate delayed egress circuitry that complies with NFPA 101 Life Safety Codes 5-2.1.6.1. When a maintained force (less than 15 pounds required) is applied to the door for 1–3 seconds, the lock will release after an audible countdown of 15 to 30 seconds. An audible tone annunciates both countdown and release. When the lock releases, the red LED turns solid green, and the alarm sounds continuously. The Maglock is specially designed for low current consumption and easy integration with the door controller. It is powered by the door controller and doesn’t require secondary power.

**The Maglock shall be TekTone® NC704.**

## Elevator Deactivation Panel

The Elevator Deactivation Panel is designed to prevent a tagged resident or asset from using an elevator to leave a monitored floor. The elevator company uses two relays inside the cabinet to interface with the Wander Management System and the elevator.

If a tag enters a monitored elevator zone, the elevator call button is deactivated. Other floors are unaffected, and elevator cars can still arrive at the monitored floor. If a tag is in the transmit field of the door controller while the elevator doors are open, or enters the transmit field while the elevator doors are open, an alarm sounds and the elevator doors will remain open, holding the car at the floor until the alarm is cleared. If the elevator car is in route to the monitored floor when a tag enters the transmit field of a door controller, the elevator will arrive on the floor, the doors will open, and an alarm will sound.

Dry contacts must be supplied by the elevator company to monitor the elevator car door. 12 VDC alarm voltage energizes the K1 Relay to deactivate the elevator car when a tag is detected and the elevator door is open. If a door contact is not available, a PIR Motion Detector may be used to monitor the area in front of the elevator door. 12 VDC Tag Detect Voltage energizes the K2 Relay to deactivate the call button when a tag is detected by the door controller.

**The Elevator Deactivation Panel shall be TekTone® NC705.**

## Fire Panel Interface

The Fire Panel Interface (FPI) is designed to deactivate all Maglocks and Elevator Deactivation Panels in the event of a fire alarm or loss of fire panel functionality. Audio and visual alerts on the Wander Management System remain operational while door restraints are disabled.

Each FPI is capable of interfacing with up to eight door controllers. The Fire Panel Interface requires a normally closed contact from the facility’s Fire Alarm Control Panel that goes open when a fire alarm is sounded. The contact must also open if the fire panel becomes inoperable. The Reset button on the front of the housing is used to re-enable any connected Maglocks and Elevator Deactivation Units once the fire alarm has been cleared. If desired, this reset button may be replaced with a jumper to provide automatic reset once the fire alarm has been cleared.

**The Fire Interface Panel shall be TekTone® NC706.**

## Transformers

**15 Volt Transformers**

Transformer options shall be available; a 2A at 15VDC and a 6A at 15VDC.

Each 2A transformer shall be capable of powering one door controller and its peripherals: two keypads, two Maglocks, and a combination of two Magnetic Switches or PIR Motion Detectors.

Each 6A transformer shall be capable of powering three door controllers and their peripherals: six keypads, six Maglocks, and a combination of six Magnetic Switches or PIR Motion Detectors.

Input voltage shall be 100 – 240VAC at 50 to 60Hz. (Note: De-rate Current 10% if 50Hz.)

**12 Volt Transformer**

Transformer options shall be available as a 1A at 12VDC.

When used with the Tek-CARE®700 Wander Management System, each 12VDC transformer can power any combination of up to 8 Elevator Deactivation Units and Fire Panel Interfaces. Maximum distance is 500’ using 18-gauge wire; 250’ using 22- gauge wire.

**15VDC transformers shall be TekTone® PK701 for the 2A and PK702 for the 6A.**

## Integration Server

The contractor shall furnish an ***NC474* Tek-BRIDGE® Server** with Tek-CARE® software as required. The integration server shall be a proprietary server fully tested and certified by the manufacturer for use with proprietary wander management software. The integration server shall be capable of running all software required by the Wander Management System. The integration server shall accept any required software updates without requiring hardware updates.

The integration server shall be a specially designed device for use with the Wander Management System. Consumer grade PCs shall not be accepted. Backup power for the integration server shall be supplied by an uninterruptable power supply (UPS). The UPS shall be TekTone® PK250B.

**Wander Management Systems that do not have the capability to seamlessly integrate with the nurse call system shall not be acceptable.**

The integration server shall have the following minimum features.

* Solid state hard drive. Servers with mechanical hard disk drives shall not be accepted.
* One (1) VGA monitor port.
* Three (3) Ethernet ports.
* One (1) PS/2 keyboard connection and one (1) PS/2 mouse connection.
* Six (6) DB9 serial connections.
* Four (4) USB ports.
* 3.5mm Speaker jack, 3.5mm Mic jack, and 3.5mm Line In jack.
* Internal speaker for annunciating call tones.
* Pleasant sounding call tones.
* Preloaded with appropriate configuration software for all connected systems.
* Provided as a complete unit, with monitor, keyboard, and mouse included.
* The integration server shall not require an IP connection for backup or software upgrades. Systems which require an IP connection to manufacturer servers shall not be accepted.
* The integration server shall accept software licenses to enable connections to various native and foreign systems.
* The integration server shall accept a license to communicate with both current and legacy TekTone® nurse call systems as required. The license shall be TekTone® *LS301.*

## Event Monitor Software

The integration server shall be provided with proprietary event monitor software for displaying and routing calls received by the Wander Management System. The event monitor software running on the integration server shall display all calls from connected analog Wander Management Systems as well as Wander Management System faults. The event monitor software shall be TekTone® LSMON-series. The system shall support up to ten (10) event monitors if so licensed.

Any event that is annunciated by the system shall be automatically logged in the reporting database. The database shall record all system activity for review at a later time using the optional Reporting software. The database shall record all information about the event, including response time and the time and date of the event. The database shall be operationally transparent to the Wander Management System. No action by the user shall be necessary to record system events. The database shall not require any maintenance or periodic cleanup by the user.

The event monitor software shall also enable users to view information about the system, including patients, staff, staff groups, staff assignments, and scheduled messaging.

The Wander Management System shall support an optional remote event monitor that may be installed on any networked facility personal computer running Windows XP or higher. The remote event monitor requires that the integration server be connected via LAN.

## Configuration Software

The integration server shall be supplied with configuration software for system setup and programming. The configuration software shall enable programming of all licensed system features.

## Reporting System

A reporting system that is operationally transparent to the Wander Management System shall be provided with the system. The reporting database shall automatically log system events and store them for retrieval at a later date.

The reporting system shall be accessible from the event monitor software running on the integration server or remote event monitors running on networked facility PCs. Report creation shall be simple and completely customizable. Reports shall be viewable in a web browser as an HTML file or exported as a CSV file. The reporting system shall have quick links for creating commonly requested report ranges (last day, last week, etc.) as well as offering fully customizable report creation.

Using the optional LS453 Email Output software, the reporting system shall be capable of generating reports and distributing them automatically via email.

**The reporting system shall be available as an optional feature and shall be TekTone® LS610 series.**

## Pocket Paging

The contractor shall provide a pocket paging transmitter and alphanumeric pagers*,* or LED Messaging Sign. The transmitter shall be capable of being connected to the Wander Management System via the Tek-BRIDGE® Server, and shall be operationally transparent to the Wander Management System. The pocket paging interface shall allow COMP 2, TAP and Scope protocols. The pocket paging equipment shall support the following features:

* The Wander Management System shall accommodate up to 256 unique pager cap codes. Each pager cap code may be given a name describing it and/or the staff member who carries it. Each pager may belong to multiple pager groups, of which the system shall allow up to 256.
* The system shall allow four types of paging assignment:
1. From a station to a pager
2. From a station to a pager group
3. From a zone to a pager
4. From a zone to a pager group
* Each assignment shall have the following properties:
1. Level—whether the assignment is primary, secondary, or tertiary
2. Call filter—the call types to which the assignment applies
3. Page resets—whether the assignment applies to resets
4. Page faults—whether the assignment applies to faults
* Paging assignments shall be fully configurable from the nurse call master station or from the Tek-BRIDGE® Server running the Config Tool programming software.

The system shall allow two types of paging: manual and automatic. Automatic paging may be turned off or on; when on, it shall operate concurrently with manual paging.

Manual paging shall be executed either from the integration server or a nurse call master station. At any time, the attendant may page by pager, pager group, station or zone. For convenience, system paging shall also be directly supported. Paging by station or zone shall occur through that station’s or zone’s paging assignments. For a station page, the attendant may select the levels of assignment (primary, secondary and/or tertiary) to be used in the page. For a call-related page, the default page message shall include information about the call, including the call type and room number requiring assistance. The attendant may edit the message or make use of a pre-programmed list of patient needs.

Automatic paging shall be governed by paging assignments. When a call is placed from a patient station, the system shall automatically page pagers or pager groups assigned to that station or its zones. The properties of each assignment shall determine its applicability to the page, ensuring that pages reach exactly the staff members they concern. For example, a call of a particular type shall activate only those assignments whose call filters allow that type. For each call, automatic paging shall begin at the primary level and repeat at regular intervals. If the call is not reset, the page shall escalate to include secondary and eventually tertiary assignments. The pager shall display the location where the call originated (room ID), as well as the call type. Call resets and faults may also be paged automatically.

**Systems that require additional software or licensing to enable paging shall not be acceptable.**

**The transmitter shall be TekTone® NC365B**

**The alphanumeric pager shall be TekTone® NC397A**

**The LED messaging sign shall be TekTone® SI005**

## Email Output

The contractor shall provide an interface to the facility’s mail server, model *LS453* Email Output software that routes calls from the nurse call system to email addresses as required.

The email output software shall enable real-time event notifications to be sent to email addresses and any device with an email gateway.

The *LS453 Email Output* software shall allow users to create scheduled reports that are emailed directly to the specified users.

Email output software shall be available as an optional feature. It is not included with the basic nurse call system.

## Wireless Nurse Call Interface

The contractor shall provide, as required, an interface to the Tek-CARE®500 wireless nurse call system, model *LS500*. The *LS500* interface shall enable the nurse call system server to:

* Display and respond to calls from Tek-CARE®500 wireless transmitters.
* Allow a single event monitor to display system events for both systems.
* Allow a single reporting system to handle reporting for both systems.
* Use one pocket paging interface to handle both systems.

The wireless nurse call interface shall be available as an optional feature. It is not included with the basic nurse call system.

## Apple iOS Integration

The contractor shall provide, as required, an interface to up to ten (10) Apple iPod Touch® and iPhone® and/or up to ten (10) Apple TV® devices. The interface for iPod Touch® and iPhone® shall be TekTone® *LS621.* The Apple TV® interface shall be TekTone® *LS622-*series. The required app server shall be TekTone® *LS620*.

TheiOS® integration shall display calls from the Wander Management System to improve staff efficiency and awareness. Mobile iOS® clients shall include the ability to set up to seven (7) individual statuses for each station present on the system. The iOS® integrations shall only function when connected to the facility’s wireless LAN. iOS® integrations that allow access to system calls when the iOS® device is not on facility premises shall not be accepted.

## Foreign Systems Integration

The contractor shall provide, as required, a Tek-BRIDGE® Server with *LS600* Tek-ALERT® software and appropriate connection hardwareto enable the Wander Management System to monitor and display calls and status of connected foreign systems such as security systems, fire alarm systems, and more.

The monitored foreign system must supply an accessible data stream via one of the following protocols: Serial (event printing, Scope paging, ContactID), COMP2, TAP, HL7, TCP/IP, TCP/IP Listener or UDP. Contact TekTone® if a protocol is not listed, as protocol libraries will grow.

Foreign Systems Integration shall support the following features

* Once properly configured, the Tek-ALERT® Integration Manager shall receive events from monitored foreign systems and annunciate the events on the Wander Management System.
* Events from monitored foreign systems shall appear in the reports created by the Tek-CARE® Reporting System.
* The Tek-ALERT Integration Manager shall not be used as the primary annunciation point for monitored foreign systems, but shall function as a secondary annunciation point. Tek-ALERT programming and use shall not interfere with the primary annunciation settings of the monitored foreign system(s).

# Part 3: Execution

## Supervision

A. Only TekTone® authorized distributors shall install, service, and maintain the specified network system.

B. The manufacturer shall have the equipment manufacturer’s engineer or their designated agent inspect the installation and operation of this network to determine that the network complies with all standards listed in Section 2.3.

## In-Service Training

The contractor shall provide thorough training of all nursing staff assigned to those nursing units receiving a newly installed Wander Management System. This training shall be developed and implemented to address two different types of staff: floor nurses/staff shall receive training that is specific to their tasks and responsibilities, and similarly, unit secretaries (or any person whose specific responsibilities include answering patient calls and dispatching staff) shall receive operational training from their perspective. A separate training room shall be set up that allows this type of individualized training utilizing an in-service training unit, prior to the turning over of the new system.

## Wiring

A. The contractor shall terminate all wiring with manufacturer’s approved connectors. The use of wire nuts is prohibited.

B. All wiring shall be free from shorts and faults. Wire shall be UL® Listed, and installed in accordance with ANSI/NFPA 70, Article 25 and applicable sections of ANSI/NFPA 99, and compliant with the manufacturer’s installation and maintenance manual and specifications.

C. Nurse patient communications network wiring shall not be run in the same conduit with other systems (e.g.: Class 1 AC power distribution, fire alarm, entertainment systems, lighting controls, etc.).

## Electrical Power Connections

It shall be the responsibility of the facility to provide a dedicated 120 VAC, 60 Hz conduit feed for each CE module, any required network switches, and the integration server. This power feed shall not have any other devices connected to it. A 20-amp circuit breaker shall be located in the electrical sub-panel. This circuit breaker shall be labeled “Wander management” along with identification of the Nursing Unit that shall be controlled by this circuit breaker. This electrical circuit shall be connected to the facility’s emergency power system for automatic power switchover during loss of utility power.

## Environmental Protection

The installing contractor shall make certain that all equipment is accessible for service. Contractor shall notify specifying authority if designated equipment closet does not meet manufacturer’s requirements for heat, radiation or static electricity.

## Protection of Network Devices

The contractor shall protect network devices during unpacking and installation by wearing manufacturer-approved ESD wrist straps tied to earth ground. The wrist strap shall meet OSHA requirements for prevention of electrical shock if technician comes in contact with high voltage.

## Cleaning and Patching

A. It shall be the responsibility of the contractor to keep the work area clear of debris and to clean area daily at completion of work.

B. It shall be the responsibility of the contractor to patch and paint any wall or surface that has been disturbed by the execution of this work.

## Drawings

Upon completion, the contractor shall provide as-built drawings of all installed network components and associated wiring on building plans. Final payment for work will not be authorized unless these drawings are supplied.

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**END OF SECTION**