

# **Nurse Call**

## Series AURA Wireless Nurse Call System Architectural Specs

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*This document specifies nurse call equipment using visual display and electronic tone annunciation at a central terminal or pocket pager to register calls from wireless patient and other call-in stations as manufactured by Cornell Communications, Inc., Milwaukee, WI.*

### **PART 1 GENERAL**

#### **1.01 SUMMARY**

- A. Section Includes:** Nurse call equipment visual displays and electronic tone annunciation at a central terminal to register calls from wireless patient and other call-in stations.

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI Master Format and specifier's practice.

- B. Related Sections:** Section(s) related to this section include:

1. Electrical: Division 16 Electrical Sections.

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation, and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section.

#### **1.02 REFERENCES**

- A. General:** Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by issuing authority, authority abbreviation, designation number, title or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.

**B. Underwriters Laboratories, Inc.:**

1. UL 2560 Emergency Call Systems for Assisted and Independent living Facilities.

**C. National Fire Protection Association (NFPA):**

1. NFPA 70 National Electrical Code.

**1.03 SYSTEM DESCRIPTION**

- A. Performance Requirements:** Provide nurse call equipment, which has been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.

Specifier Note: Article below includes submittal of relevant data to be furnished by contractor before, during, or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Section.

**1.04 SUBMITTALS**

- A. General:** Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data:** Submit product data, including manufacturer's product sheet, for specified products.
- C. Shop Drawings:** Submit shop drawings showing layout, profiles and product components, including anchorage and accessories. Include cabling diagrams, wiring diagrams, station installation details, and equipment cabinet details.
- D. Quality Assurance Submittals:** Submit the following:
1. Test Reports: Certified test reports showing compliance with specified performance characteristics.
  2. Manufacturer's Instructions: Manufacturer's installation instructions.

Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article herein. Retain or delete as applicable.

4. Manufacturer's Field Reports: Manufacturer's field reports specified herein.

- E. Closeout Submittals:** Submit the following:

1. **Operation and Maintenance Data:** Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance. Include troubleshooting guide, wiring terminal identification and equipment parts list.
2. **Warranty:** Warranty documents specified herein.

## 1.05 QUALITY ASSURANCE

- A. Installer Qualifications:** Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project.

Specifier Note: Paragraph below should list obligations for compliance with specific code requirements particular to this section. General statements to comply with a particular code are typically addressed in Conditions of the Contract and Division 1 Regulatory Requirements Section. Repetitive statements should be avoided.

- B. Regulatory Requirements:** [Specify applicable requirements of regulatory agencies.]
- C. Pre-installation Meetings:** Conduct pre-installation meeting to verify project requirements, substrate conditions, manufacturer's installation instructions, and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings) Section.

## 1.06 DELIVERY, STORAGE & HANDLING

- A. General:** Comply with Division 1 Product Requirements Sections.
- B. Ordering:** Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- C. Delivery:** Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- D. Storage and Protection:** Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty) Section.

## 1.07 WARRANTY

- A. Project Warranty:** Refer to Conditions of the Contract for project warranty

provisions.

- B. Manufacturer's Warranty:** Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements.

1. Warranty Period: [Specify term.] years commencing on the Date of Substantial Completion.

Specifier Note: Article below is a combination of two CSI Section Format article titles.

## 1.08 OWNER'S INSTRUCTION

- A. Owner's Instruction:** Instruct Owner's personnel in operation and maintenance of installed units. Provide manufacturer's installation, operation, and maintenance instructions for installed units.

Specifier Note: Coordinate article below with Division 1 Closeout Submittals (Maintenance Materials) Section.

## 1.09 MAINTENANCE

- A. Extra Materials:** Deliver to Owner extra materials from same production run as products installed. Package products with protective covering and identify with descriptive labels. Comply with Division 1 Closeout Submittals (Maintenance Materials) Section.

Specifier Note: Revise paragraph below specifying items and percentage as required for projects.

1. Quantity: Furnish quantity of batteries for pendants and other wireless call stations equal to 20% of amount installed.
2. Delivery, Storage, and Protection: Comply with Owner's requirements for delivery, storage, and protection of extra materials.

## PART 2 PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards, and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal", or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining "or equal" products.

## 2.01 NURSE CALL EQUIPMENT

Specifier Note: Cornell believes that consistent reliability is essential to any nurse call product. Our AURA series wireless nurse call system is not only tested at our factory, but time proven in the field. Cornell manufactures and designs all of their equipment, including the circuit board and mounting plates. With any nurse call system, adaptability will ensure it meets the individual needs of the facility. Cornell has designed a wide variety of standard products in configurations that will meet the unique requirements of any organization. All Cornell equipment is made with service in mind. Corridor lamps can be changed without tools and electronic controls adjust easily. Cornell's system installs with a minimum of wires, but not at the expense of reliability.

**A. Manufacturer:** Cornell Communications, Inc.

Specifier Note: Paragraph below is an addition to CSI Section Format and a supplement to MANU-SPEC. Retain or delete paragraph below per project requirements and specifier's practice.

1. Contact: 7915 N 81<sup>st</sup> St., Milwaukee, WI 53223-3830;  
Telephone: 800- 558-8957; (414) 351-4660; Fax: (414) 351-4657.

**B. Proprietary Product(s)/System(s):** Cornell 4000 Series Nurse Call System.

1. Product(s)/System(s) Testing: System electrical components, devices and accessories shall be listed and labeled according to UL 1069 as defined in NFPA 70, Article 100, by testing agency acceptable to authorities having jurisdiction, and marked for intended use.

Specifier Note: Edit article below to suit project requirements. If substitutions are permitted, edit text below. Add text to refer to Division 1 Project Requirements (Product Substitutions Procedures) Section.

## 2.02 PRODUCT SUBSTITUTIONS

**A. Substitutions:** No substitutions permitted.

## 2.03 CORNELL AURA WIRELESS NURSE CALL SYSTEM AND COMPONENTS

**A. Annunciators:** Manufacturer's standard display monitor.

1. Station Model: [AUR-2000]

Specifier Note: The AURA Series monitor/PC indicates incoming calls from any initiation point in the system. Calls are identified by a text description and by a pleasant tone. Emergency calls are easily distinguished with an optional colored text display.. The AURA Series monitors are available in surface mount.

- B. Bedside Stations:** Manufacturer's standard [TR-ST100BE] wireless bedside station design.

Specifier Note: Bedside stations are available in one design. They will activate the normal call and associated display at the monitor. All stations have LED indicator lights, call cancel buttons, silk screened lettering, screw terminal wiring connectors, and plastic enclosures.

- C. Call Cords:** Manufacturer's standard [SW-106] call cords.

Specifier Note: There are 2 standard call cord types, used with bedside stations, to activate the call system. The SW-106 and SW-110 (6 and 10 foot lengths) have momentary contact pushbuttons in molded plastic housings connected to white cables and a right angle phone plug. They are used for common applications whereby a call is placed by depressing the end of the cord. The SW-206 and SW-210 have a vinyl bulb connected to gray, air pressure tubing, and a right angle phone plug. These are used in oxygen-enriched environments or for geriatric use. A call is placed by as little as 1/4 oz. of pressure on the air bulb. All call cords resist contamination and will stand up to thorough cleaning. Both types come in 6 foot or 10 foot lengths and have bedding clips attached.

- C. Emergency Stations:** Manufacturer's standard [TR-ST100E] wireless emergency station.

Specifier Note: Typically emergency stations are used in locations requiring immediate action. They will activate the emergency signal and cause the display text message to flash. A call is also placed by simply pulling the cord. All stations have: silk-screened lettering and plastic enclosures.

- D. Pendants:** Manufacturer's standard (TR-P100E) wireless call pendant.
- E. Receivers:** Manufacturer's standard (RC-100E) operating at 902-928Mhz incorporating spread spectrum frequency hopping.
- F. Repeaters:** Manufacturer's standard (RP-102E) is used when the distance from the transmitters (wireless pendants & call stations) exceed 120 feet.
- G. Power Supply:** Standard 120VAC power is used for both the central monitor and the field receivers.
- H. Pendant and Call station batteries:** Standard 3 volt coin and lithium batteries.

## 2.04 SOURCE QUALITY

- A. Source Quality:** Obtain nurse call equipment and system from a single manufacturer.

## PART 3 EXECUTION

Specifier Note: Article below is an addition to the CSI Section Format and a supplement to MANU-SPEC. Revise article below to suit project requirements and specifier's practice.

### 3.01 MANUFACTURER'S INSTRUCTIONS

- A. **Compliance:** Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product carton instructions for installation.

### 3.02 EXAMINATION

- A. **Site Verification of Conditions:** Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

Specifier Note: Coordinate article below with manufacturer's recommended installation details and wiring requirements.

### 3.03 INSTALLATION

#### A. Nurse Call Equipment Installation:

1. **Wiring Method:** Install wiring in raceway as recommended by manufacturer.
2. **Separation of Wires:** Provide separation as recommended by equipment manufacturer.
3. **Splices, Taps and Terminations:** Make splices, taps and terminations on numbered terminal strips in junction, pull and outlet boxes, terminal cabinets and equipment enclosures.
4. **Identification of Conductors and Cables:** Retain color-coding of conductors, and apply wire and cable marking tape to designate wires and cables so all media are identified in coordination with system wiring diagrams. Label stations, controls, and indications using approved consistent nomenclature.

#### B. Grounding: Ground cable shields and equipment to eliminate shock hazard.

1. **Signal Ground Terminal:** Locate at main equipment cabinet. Isolate from power system and equipment grounding except at connection to main building ground bus.
2. **Grounding Provisions:** Comply with requirements in Division 16 Electrical, Grounding Section.

### 3.04 FIELD QUALITY REQUIREMENTS

- A. Site Tests [Post Installation Testing]:** comply with the following:
1. **Schedule Tests:** Schedule test a minimum of 7 days in advance of performance of tests.
  2. **Report:** Submit a written record of test results.
  3. **Operational Test:** Perform an operational system test to verify compliance of system with these specifications. Perform tests that include originating station-to-station and all-call messages and pages at each nurse call station. Verify proper routing, volume levels, and freedom from noise and distortion. Test each available message path from each station on the system.
  4. **Retesting:** Rectify deficiencies indicated by tests and completely retest work affected by such deficiencies. Verify by the system test that the total system meets these specifications and complies with applicable standards. Report results in writing.
- B. Inspection:** Verify that units and controls are labeled and interconnecting wires and terminals are identified in accordance with NFPA and UL 1069 requirements.

Specifier Note: Edit paragraph below. Establish number and duration of periodic site visits with Owner and manufacturer, and specify below. Consult with manufacturer for services required. Coordinate paragraph below with Division 1 Quality Assurance Section and Part 1 Quality Assurance Submittals herein. Delete if manufacturer's field service not required.

- C. Manufacturer's Field Services:** Upon Owner's request, provide manufacturer's field service consisting of product use recommendations and periodic site visits for inspection of product installation in accordance with manufacturer's instructions.

### 3.05 CLEANING

- A. Cleaning:** Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

### 3.06 PROTECTION

- A. Protection:** Protect installed product and finish surfaces from damage during construction.