

Door Monitor System

Series 1000

Architectural Specs

This document specifies door-monitoring equipment for monitoring unwanted entry or exit from a secured area. This system shall be designed to comply with Design Specifications of the Door Monitor System as manufactured by Cornell Communications, Inc., Milwaukee, WI.

Part 1 General

1.01 SUMMARY

- A. Section Includes:** The electrical contractor shall furnish and install a complete Door Monitoring System as described herein and shown on the drawings.

1.02 SYSTEM DESCRIPTION

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

1.03 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 (Spec-Data) 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.
 - 3. 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.

1.04 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.
 1. **Warranty Period:** [Specify term.] years commencing on the Date of Substantial Completion.

1.05 BASIC SYSTEM OPERATIONS

- A.** Each zone switch contains a red and a green LED. Each time the zone switch is pressed, the zone status toggles between armed and disarmed.
- B.** The green LED indicates the disarmed status. The associated door may be opened without causing an alarm. A short and/or open in the door contact wiring will cause the panel to go into the alarm condition.
- C.** A steady red LED indicates the armed status. If an armed door is opened, the alarm condition occurs. The red LED will flash and an intermittent audio tone will sound. Pressing the cancel tone switch on the master panel will silence the audio tone but will not clear the alarm. If another zone should go into the alarm condition, the tone would again sound until the cancel tone switch is pressed or until all alarms are canceled.
- D.** To cancel an alarm, simply press and release the zone switch. This will return the zone to the disarm status and automatically cancel the alarm.

PART 2 PRODUCTS

2.01 DOOR MONITOR EQUIPMENT

A. Manufacturer: Cornell Communications, Inc.

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

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: No substitutions permitted.

2.03 CORNELL 1000 DOOR MONITOR SYSTEM AND COMPONENTS

A. System Operations

1. Activation of the “door switch” (when in an armed condition) at a remote station shall initiate a call to the master station and activate a flashing LED light and audible signal for that zone.
2. Receipt of a call at the master station shall cause both an audible and visual signal. The location of the remote door switch shall be annunciated at the master station.
3. Operators shall silence the audible alarm at the master station only. Visual annunciation signals shall remain illuminated until manually reset by the operator. The system operator shall individually reset visual annunciation signals.

B. Power Supply

1. The A-1000 Series Door Monitor System is designed to operate on regulated 12VDC power. Connecting an AC power source or a DC power supply with a voltage above 12V will damage the system. Make sure you are using one of the following *Cornell* power supplies: P-512243A or B-5243A.
2. Use minimum 18 gauge 2 conductor wiring from power supply to the master panel.

C. System Features

1. **Adjustable alarm volume** - Volume of intermittent tone is adjustable with a screwdriver from the front of the master panel.
2. **Door contacts** - The system can use either normally open (N.O.) or normally closed (N.C.) contacts. Two 22 gauge wires required between door switch and zone card.
3. **Auxiliary output per zone** - Each A1211/A-1511 zone card has a switched negative (open collector) transistor output at terminal 9, which turns on whenever that zone is in the alarm condition.
Rating: 500mA, 40VDC.
4. **Auxiliary output, system** - The "RM" terminal on the tone board is a switched negative (open collector) transistor output, which turns on whenever any zone is in the alarm condition.
Automatically turns off when all alarms are canceled. Rating: 500mA, 40VDC
5. **Door status output** - Each A-1211/A1511 zone card has a door status output at terminal 11 switched negative, (open collector) transistor that turns on whenever the door is open, regardless of armed/disarmed status. Rating: 500mA, 40VDC.
6. **Zone switch disable** - Cutting the factory installed Zone Switch Enable jumper between terminals 1 and 3 of an A-1211/A-1511 zone card will disable the zone switch from making changes in the armed/disarmed status of the door. Status changes will then only be possible using a remote zone control product. (See Remote Zone Monitor/Control Products).
7. **Zone switch disable during Alarm Automation** - Cutting jumper J1 on an A-1211/A-1511 will disable the zone switch from making changes in the armed/disarmed status of the door only when the zone is in the alarm condition. The zone switch will still function while the zone is either disarmed or armed. Once in the alarm condition, clearing the alarm will only be possible from a remote zone control product.
 - a. Note: if the zone switch enable jumper is cut, the zone switch will be disabled under all conditions.

D. Remote Zone Monitor/Control Products

1. **A-1600 - The Remote Control Panel** duplicates the functions of the Master Panel except it has a high/low switch instead of a “Cancel Tone” switch for control of the alarm tone. When the Master Panel tone is silenced the tone for the Remote Control Panel is also silenced. Individual zones (A-1601) have one green LED, one red LED, and a momentary three position, center neutral toggle switch. Activating the toggle switch to the left or right will disarm or arm the zone, respectively. More than one A-1600 panel may be used.
 - a. Wiring - Two 18 gauge conductors, one 22 gauge conductor plus four 22 gauge conductors per zone, all to master panel.
2. **A-1700 - The Remote Monitor Panel** provides a visual and audible indication of any or all zones. Each zone (A1701) contains one green LED and one red LED. The panel contains a tone hi/low switch to control the audible alarm tone volume. When the Master Panel tone is silenced, the tone at the A-1700 panel is also silenced. More than one A-1700 panel may be used.
 - a. Wiring - Two 22 gauge conductors, one 22 conductor plus two 22 gauge conductors per zone, all to master panel.
3. **A-1800 - Remote Control Station** - for a single zone comprised of one green LED, one red LED, a key switch, and a toggle switch on a single gang stainless steel plate. The key switch will enable/disable the use of the toggle switch. When enabled, the toggle switch will change the status of that zone.
 - a. Wiring - Requires 5 conductor 22 gauge cable to Master panel.
4. **A-1801 - A key operated switch with built in timer** designed to permit authorized personnel to pass through the door when the zone is armed. The A-1801 has a key witch and red LED mounted on a single gang stainless steel plate. The red LED will glow when the zone is armed. The red LED will flash when the zone is in the alarm condition. Operating the key switch will disarm the zone and start the timer allowing the user to pass through the door. After the user adjustable time period (1 second to one minute, approximately) that zone will automatically re-arm itself.
 - a. Wiring - Requires 5 conductor 22 gauge cable from switch to Master Panel.
5. **A-1802 - A key Switch** and a red LED on a single gang stainless steel plate. It is designed to be used in conjunction with the

A-1801. A typical application would consist of an A-1802 installed on the outside of a secured door allowing entry into the building when the zone is armed. Operating the key switch starts the timer in the A-1801 disarming the door. After the delay period of the A-1801 timer, the zone will automatically re-arm itself. The red LED will glow when the zone is armed and will flash when the zone is in the alarm condition.

a. Wiring - Requires four 22 gauge conductors to A-1801.

6. **A-1806 - A keypad station with arm/disarm exit-delay feature.**

The exit delay feature will disarm the zone for a user programmable period of 10-60 seconds allowing passage through an armed door. At the end of the delay period, the zone will automatically re-arm itself. The A-1806 contains a 12-key pad, a red LED, a green LED, and a yellow LED on a two-gang stainless steel plate. The green LED glows when the zone is disarmed. The red LED glows when the zone is armed and flashes when the zone is in the alarm condition. The yellow LED glows during the exit-delay period.

a. Wiring - Requires six 22 gauge conductors to Master Panel.

7. **A-1808 - A keypad station with the exit delay feature.** The Zone cannot be armed or disarmed using the A-1808.

a. Wiring - Requires six 22 gauge conductors to Master Panel.

8. **A-1900 and A-1901 - Disable switch - Master Panel.** Option to disable individual zone switches at the Master Panel. Switch may be mounted on the Master Panel (A-1901) or at a remote location on single gang stainless steel plate (A-1900).

a. Wiring - Use 2 conductor cable from switch location to pins 1 and 3 on terminal (edge connector) as shown. Jumper from ping 1 to 3 must be removed. The disable feature can be wired to selected zones.

2.04 SOURCE QUALITY

- A. **Source Quality:** Obtain door monitor equipment and system from a single manufacturer.

PART 3 EXECUTION

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.

3.03 INSTALLATION

- A. **Door Monitor Equipment Installation:**

- 1. Complete system shall be installed in strict accordance with manufacturer's recommendations.

- B. **Wiring**

- 1. All wiring to be minimum 22 gauge unless otherwise specified.

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.

- 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.

- 1. **Site Visits:** [Specify number and duration of periodic site visits.]

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.