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V-2924A PERFORMANCE SPECIFICATION

Revision 1.00

V-2924A Specification

Intercom, Paging, Emergency Paging, Emergency Tone and Time Tone
Communication System for Schools (K-12)

PART 1 - GENERAL

1.0 DESCRIPTION

- A. The Contractor shall furnish and install all equipment including, but not limited to, outlet boxes, wiring, speakers, and all other necessary equipment to provide a complete operating system as indicated with the contract documents. Provide all necessary wall plates, specialty boxes, etc., not provided by others.
- B. Equipment supplied by Valcom, Inc., V-2924A shall be considered as meeting all specifications and as the base bid. The specifying authority must approve alternative systems. Alternate bidders supplying another system shall make aware their intentions and provide all information, including catalog cuts, shop and working drawings, data sheets and a demonstration of the proposed system features. This information must be presented to the relative parties as to allow sufficient time to review all material. This should be accomplished at least 10 (ten) days prior to the bid date.
- C. The intent of this specification is to maximize communications between the classroom and administrative areas while enhancing school safety and reducing maintenance and operational cost.
- D. Under this specification, system shall provide a complete Communication System for the Administrative, Classroom, Cafeteria, Library, and Recreational areas.
- E. The Communication System shall provide distribution of intercom, overhead paging, emergency paging, class change time tones, and emergency tones and program material.

1.1 Communication System

The Communication System shall provide at least the following functions and features:

- A. Direct dialing, handsfree, and two-way communication from administrative telephones to any location equipped with a talkback speaker.
- B. Automatic gain control on intercom speech to assure constant talkback speech level.
- C. Microprocessor based system capable of handling up to 192 (one hundred ninety two) points. A point shall be defined as a call-in switch input, or speaker output.
- D. System shall interface with any telephone system, thus allowing the school(s) to upgrade or replace their telephone system without suffering a requirement to replace, or lose any feature of, their internal communications (intercom) system. Any system that limits system features based upon any selected telephone system, and/or is proprietary to one or only a few telephone systems shall not be acceptable.
- E. Automatically sound an alert tone over any loudspeaker connected for two-way communication to alert the classroom teacher that this two-way call has been established. This tone is intended to prevent unauthorized monitoring and must repeat every 15 (fifteen) seconds.
- F. Distribute an emergency announcement from a telephone to all areas furnished with a loudspeaker. This emergency announcement shall have the highest priority over all system functions.
- G. Distribution of general announcements from administrative telephone. This announcement shall be capable of all-call, group call or multiple group calls.
- H. Classroom speakers shall be hardware assigned to one of the 16 (sixteen) paging groups.
- I. Provide 6 (six) time tone schedules with a minimum of 256 (two hundred fifty six) daily schedule events. Each scheduled event shall utilize the integral tone or external tone generator if provided.
- J. Provide 1, 2, 3 or 4 digit numbering plan, thus allowing the classroom speaker and the classroom telephone to be the same architectural number.
- K. Facilities for 3 (three) call-in priority levels. Each group of classrooms (6 classrooms per group) shall be capable of being assigned to any one of these priorities. The priority levels are as follows:
 - 1) Normal Only
 - 2) Emergency Only

3) Normal/Emergency

- L. All levels shall be on a priority basis. Incoming intercom calls will be displayed in the order of these levels with Emergency as top priority.
- M. Programmable features shall be stored in an E²PROM memory and not be lost due to power failures.
- N. Facilities to annunciate incoming intercom calls at multiple administrative phones simultaneously. Calls may be answered from any of the administrative telephones by simply lifting handset or pressing a button on telephone. Once answered the call will automatically be cancelled from other administrative phones.
- O. Manually distribute an emergency alert tone via pushbutton or interfaced contact closure.
- P. Provide 1 (one) port to be connected to the telephone system from the intercom system. This intercom line shall provide built-in Enhanced Caller Line Identification that will visually announce the name of the teacher or location, the architectural classroom number, and the status of the call-in level; thus allowing interfacing to any telephone system. Systems that require priority hardware and software to a specific telephone system to offer this feature shall not be acceptable.

PART 2 – PRODUCTS

2.0 INTERCOM CONTROL UNIT

- A. Shall be capable of expanding to 192 (one hundred ninety two) points. A point shall be defined as a speaker output or a call-in switch input.
- B. Pre-alert tone to classroom for intercom calls.
- C. Ability to program and control the built-in master clock with 256 (two hundred fifty six) events, 6 (six) time schedules, and multiple time zones.
- D. Ability to produce integral tone signals for time tones or emergency tones.
- E. Provide an RS-232 port, which will give ability to monitor operations and functions of the systems.
- F. Provide off-site programming via external modem.
- G. System shall be capable of utilizing 45 (forty-five) ohm speakers for classroom type speakers.
- H. System speakers shall be capable of utilizing standard CAT 3 (three) or 5 (five) telephone/data wiring for installation, thus allowing for only one type of wiring infrastructure within the school. The speakers and call buttons shall be capable of utilizing spare pairs in the telephone wire connected to the classroom, allowing for lower installation cost. Systems that require separate intercom infrastructure wire shall not be acceptable.

- I. Provide 3 (three) unrestricted audio paths for communication of hands-free/normal paging, emergency paging and program material.
- J. Provide 2 (two) pushbutton inputs that can be used to activate class change tones or emergency tones.
- K. Provide 4 (four) output contact closures which can be activated manually to turn on cameras, unlock doors, etc.,
- L. Provide call confirmation tone at speaker when an intercom call is placed. This verifies that the call has been placed in queue.

2.1 WIRING

- A. All wiring shall be listed for the intended purpose. Use CAT 3 (three) or 5 (five) 22-24AWG, U.L. listed cable. All classrooms shall be homerun.
- B. All interior wiring shall be in accordance with new construction guidelines suggested by the Manufacturer; including the speaker and the call-in switch.

2.2 INSTALLATION

- A. Complete system shall be installed in accordance with Manufacturer's recommendations.
- B. All wiring shall be installed in raceways or plenum rated cable where routed in plenum ceiling areas.