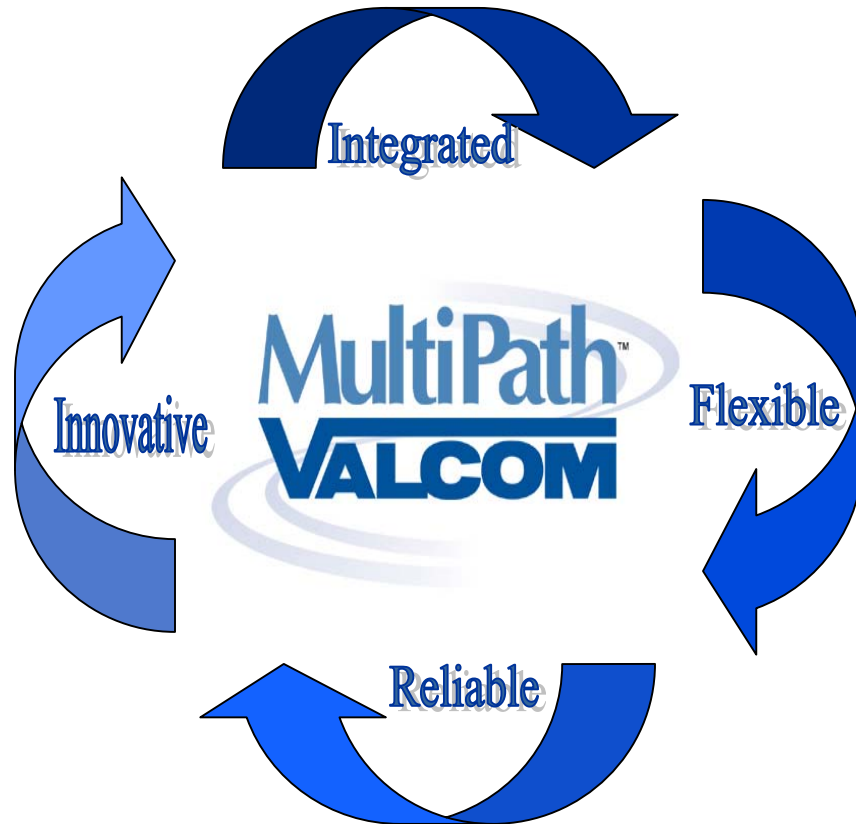


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**Rev 1.04**

## **MultiPath™ Talkback Intercom System**

Schools  
Industrial Facilities  
Confinement Facilities  
Assisted Living Facilities

The most reliable and flexible integrated MultiPath™ Talkback Intercom system EVER!

# Performance Specification

## 1.0 COMMUNICATION SYSTEM

**The MultiPath Intercom™ and MultiPath Paging™ System shall provide at least the following functions and features:**

- A. Direct dialed intercom or one-way communication from all telephone ports to any location equipped with a talkback speaker and/or one-way self amplified speakers.
- B. Automatic gain control on intercom speech to assure constant one-way page and talkback speech level.
- C. Microprocessor based system capable of handling up to 360 zones. A zone is defined as a speaker output and call in switch input combination. A zone output shall support Valcom self amplified one-way speakers, talkback speakers and a call in switch input.
- D. System shall be modular in design and capable of expanding in increments of 24 one-way or talkback page zones at a time allowing for budget flexibility and expandability.
- E. System shall interface with any telephone system, thus allowing the end user(s) to upgrade or replace their telephone system without suffering a requirement to replace, or lose any feature of, their internal communications (intercom & paging) system.
- F. Automatically sound an alert tone over any loudspeaker connected for two-way communication to alert the personnel that this two-way call has been established. This is intended to prevent unauthorized monitoring. This tone must repeat every 15 (fifteen) seconds.
- G. Distribution of emergency announcement(s) from any authorized telephone to all areas furnished with a loudspeaker. Emergency announcements shall have the highest system priority.
- H. Shall provide one-way priority override voice paging to all zones from a microphone.



- I. System shall provide a contact closure associated with each one-way page zone for activation of strobes and other ancillary devices.
- J. Distribution of general announcements from any administrative telephone, staff telephone, or room/office telephone. The system shall be capable of providing all-call, group call, multiple group call, or dial-on-the-fly page groups.
- K. Speakers shall be software assignable to any or all of 72 (seventy-two) paging groups. These groups shall be independent of the time groups.
- L. Provide unlimited time tone schedules/unlimited events with the ability to automatically administer 8 (eight) or more schedules at any given time. Each scheduled event shall be capable of utilizing any one of 9 (nine) user defined internal tones/auxiliary sources. Automatically administered schedules shall be capable of simultaneous operation. Schedule administration, modification and creation functions must be available through administration PC software. Systems that do not allow the school to manage their own schedules with PC software shall not be acceptable.
- M. Provide 1, 2, 3 or 4 digits numbering plan, thus allowing the speaker zone and the location telephone to be the same architectural number.
- N. Provide facilities for up to 7 (seven) call-in priority levels. Each zone call in switch shall be assignable to any one or two of these priority levels. The call button priority levels shall have the capacity to change state on a time of day basis. The priority levels shall be as follows:
  - 1) Normal
  - 2) Security
  - 3) Normal/Emergency
  - 4) Urgent/Emergency
  - 5) Overhead Ring
  - 6) Emergency Only
  - 7) Ignore
- O. Call in switch priority levels shall determine call queue placement. Emergency calls will be answered first; urgent calls second and normal calls last.
- P. System shall be capable of placing intercoms call on hold in order to perform other administrative functions.
- Q. Any zone/area loudspeaker must have the flexibility to be programmed as a testing room. A testing room shall be excluded from receiving general announcements, class change tones, group announcements and program material. The testing room must receive emergency tones and announcements. A dial code must be



provided that will access these testing rooms at the same time, allowing for an announcement to the testing rooms for applications such as standardized testing and administrative/employee testing. The testing rooms may be reactivated to normal operation at any time by the administration staff as needed. Testing rooms shall automatically be reset to normal operation before start of business the next day.

- R. Programmable features shall be stored in non-volatile memory and shall not be lost due to power failures.
- S. Zone initiated two-way intercom calls must be able to be assigned to ring at specific telephone ports. These telephone ports shall have the flexibility to be forwarded to other administrative ports should a call go unanswered or should the assigned administrative port be busy.
- T. Facilities to annunciate incoming intercom calls at multiple phones simultaneously. Calls may be answered from any of the administrative telephones by simply lifting handset, dialing the zone number or pressing a button on the telephone. Once answered, the call will automatically be cancelled for other phones.
- U. System functionality must include the capability to manually distribute up to 5 (five) emergency alert tones via pushbuttons, contact closure, or dial up tones from any administrative telephone. These tones shall be customizable with respect to cadence, type and duration. Dial up tones must only be accessible by authorized users.
- V. The system must provide a minimum of 4 (four) ports to be connected to the telephone system from the intercom/paging system. These 4 (four) ports shall provide built-in Enhanced Caller Line Identification that will visually announce the name of the call in location, the architectural zone number, and the status of the call-in level; thus allowing interfacing to any telephone system.
- W. The system shall have the ability to control all system relays. Relays shall be DTMF controlled, automatically cycle at a programmed time of day, follow time schedule events, follow time group events, follow security calls, and follow emergency and ADA calls. All relays must be software programmable with the flexibility to change as required.
- X. The system shall provide at least three simultaneously operating, non-restrictive program distribution channels. The audio program material shall be controlled and distributed with administration PC software allowing simple and easy changes.
- Y. The system shall provide a built in Ethernet port on the CPU for network connectivity over the LAN/WAN for system setup, programming, and system changes. This port



shall also be utilized for the administration software as to allow easy and simple access to the system for daily, weekly, monthly, and yearly changes.

## **2.0 INTERCOM/PAGING CONTROL UNIT**

- A. Shall be capable of expanding to 360 zones. A zone is defined as a call-in switch and/or speaker output.
- B. Provide pre-alert tone to zones for intercom calls and general announcements.
- C. Ability to program and control the built-in master clock with 1024 events and unlimited time schedules with multiple time groups.
- D. Ability to produce user defined tone signals for time tones or emergency tones.
- E. Ability to select the tone on an all-call basis from any, or selected, administrative telephones.
- F. Provide an RS-232 port, which will give ability to monitor operations and functions of the systems.
- G. Provide off-site programming of the system. It shall also be capable of determining basic circuit faults.
- H. The system shall be capable of simultaneous conversations between telephone interface ports.
- I. The system shall have a Windows® based PC administration programming tool which allows the administrative personnel to easily manage Audio Sources, Class Change schedules, paging groups, zone changes, time updates, holiday schedules and day/night mode operation from their desktop PC.
- J. System shall use 45 (forty-five) ohm or 25-volt speakers for intercom talkback zones. System shall also be connected to Valcom self-amplified one-way speakers and horns with built-in volume controls. An unlimited quantity of Valcom one-way speakers and horns may be connected to each zone.
- K. System speakers shall be capable of utilizing UTP 3/5/5e/6-telecom/data wiring for installation, thus allowing for only one type of wiring infrastructure within the facility. The speakers and call in switches shall be capable of utilizing spare pairs in the telephone wire allowing for lower installation cost.
- L. Provide 8 (eight) unrestricted audio paths for communication between administrative phones, program material, time tone distribution, and paging.

- M. Provide 6 (six) software programmable pushbutton inputs that can be used to activate tones, emergency tones, time tones, schedules, set system time, force a holiday schedule, door entry, etc.
- N. Provide 8 (eight) software programmable output contact closures which can be activated manually to turn on cameras, unlock doors, emergency lockdown, etc., or automatically via Master Time Control Center.
- O. Provide voice-synthesized call-in, which allows the administrative telephones to hear the incoming intercom call's room number over the handset.
- P. Provide call confirmation tone at speaker when an intercom call is placed. This verifies that the call has been placed in queue. If the call is upgraded to an emergency, a second confirmation tone shall be activated.
- Q. Provide Emergency Voice Announce. Automatically announce the architectural zone number over any one, group, or all speakers if an emergency call-in goes unanswered.

## 2.1 WIRING

- A. All wiring shall be listed for the intended purpose. The intercom/paging system shall use UTP 3/5/5e/6 U.L. listed cable for 45-ohm talkback and one-way self amplified speakers.
- B. All interior wiring shall be in accordance with new construction guidelines suggested by the Manufacturer; including the speakers and the call-in switches.

