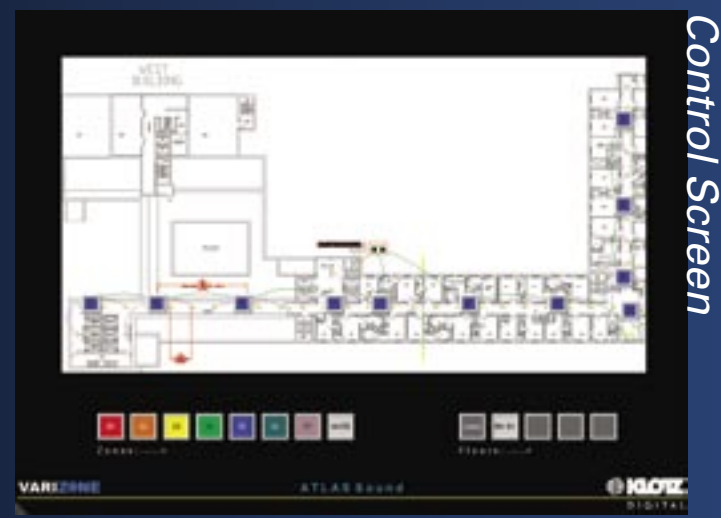
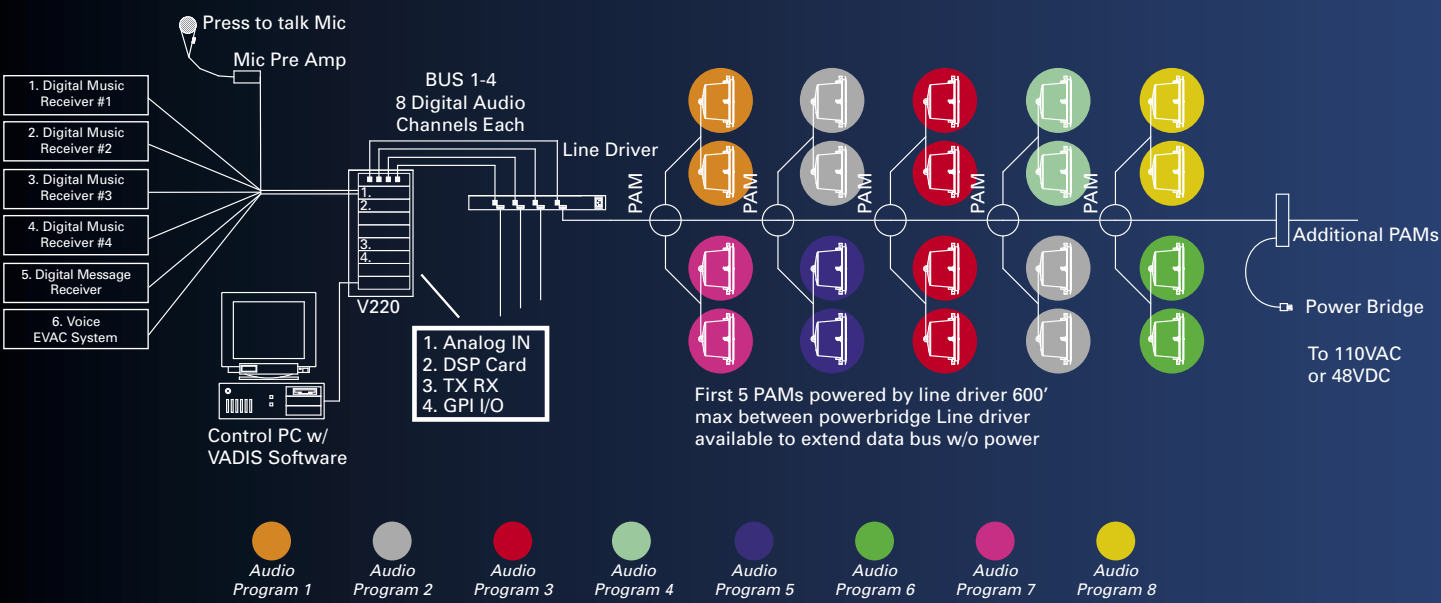


# VARIZONE Features

- CREATE OR REVISE LOUDSPEAKER ZONES (GROUP SPEAKERS INTO ZONES)
- SCHEDULE DAILY SYSTEM EVENTS SUCH AS VOLUME PRE-SETS OR SOURCE SELECTION
- SET INDIVIDUAL ZONE VOLUME LEVELS
- CHECK FOR SYSTEM FAULTS
- RECEIVE NOTIFICATION OF LOUDSPEAKER FAILURES
- ADJUST EQUALIZATION AND DELAY SETTINGS
- ALL OF THESE ADJUSTMENTS MAY BE MADE LOCALLY VIA THE CONTROL PC OR REMOTELY VIA IP



Control Screen



# System



1. Control PC - PC running Windows™ OS and VADIS control software. Provides control information to VADIS frame (V220).
2. V220 Frame - VADIS frame configured with various input, output and/or DSP cards depending on application.
3. Line Interface - Interfaces with frame mounted bus output cards to condition data for line transmission.
4. Power bridge - Resides on the line powered externally via 110VAC or 48VDC to provide DC power for up to five PAMs.
5. VBM - (Volume Button Module) may be used as a source selector, volume control or zone assignment control.
6. PAM - 25 watt, two-channel class D digital amplifier module capable of powering (4) 8-ohm loudspeakers. Each amp channel receives any of 8 digital audio channels present on the bus line based on conditions established by the control PC. Provides line and voice coil supervision to drivers with failure notification.
7. Paging station - Powerful page interface for large scale applications such as airports. Built in logic control buttons may be configured as priority page assignment, zone selection or source monitoring control.
8. Paging station interface - AES/EBU interface for paging stations.

### Bus Cards:

- DSP Card (separate plug-ins available for gain control, mix, mix-minus, mix matrix, dynamics and EQ)
- DSS Bus Card/AMS Bus Card
- 8-channel analog input card
- 8-channel analog output card
- 8-channel stereo digital input card
- 8-channel stereo digital output card

### Bus Modules:

- 4-channel analog input
- 4-channel analog output
- Ambient Level Sensing
- 8-channel analog output card
- 8-channel stereo digital input card
- 8-channel stereo digital output card
- VBM - Volume Button Module
- 70V Amp and Line Monitoring
- 32x32 GPI Module

# Atlas Sound VARIZONE

DIGITAL PUBLIC ADDRESS SYSTEM



NEED	LIMITS OF CURRENT TECHNOLOGY	ATLAS SOUND VARIZONE ADVANTAGE
Direct pages to specific parts of a public address system.	Matrix systems that allow routing of multiple inputs to various outputs are limited to a single output for each amplifier, restricting the speakers on that amp to identical program material.	Each pair of speakers powered by a PAM becomes a virtual zone. Signal routing to loudspeakers on a bus is now expanded from one potential output to eight.
Eliminate repetitive site visits often required to control, change, or troubleshoot systems.	Systems designed around mixers/routers, rack mount amplifiers and 70v systems require physical presence of tech staff to troubleshoot.	With remote control via IP of the VADIS PC, troubleshooting is quick and easy.
Clear and understandable announcements	Traditional systems suffer from speaker cable line loss and inefficient amplification options.	With the increased efficiency provided by Class D amplifier technology, elimination of transformers at the loudspeaker location and significant reduction of loudspeaker cable line loss Varizone system announcements are crystal clear.



Learn more about Varizone. Log onto AtlasSound.com

technology by **KLOTZ** DIGITAL



AtlasSound.com



# Conceive

# VARIZONE Control

# Configure

## VARIZONE

DIGITAL PUBLIC ADDRESS SYSTEM

**Commercial Sound System For Public Address, Paging and Evacuation**

Varizone—a revolutionary new audio technology with amazing configuration and control capabilities. The power of Varizone far exceeds that of traditional systems designed around mixer/routers, rack mount amplifiers and 70/100V systems.

At the heart of the system is the VADIS frame. This frame is loaded with proprietary analog or digital input, bus output, DSP and other specialty cards based on the system requirements. Control for the VADIS frame and the respective cards contained within the frame is provided by a networked, Windows based PC running the Varizone VADIS control software.

A fully digital bus structure distributes uncompressed digital audio data from one or many VADIS frames to an unlimited number of remote amplifier modules (PAMs) using either CAT 5 or traditional four conductor stranded twisted pair cable. Each PAM is a 2-channel device capable of powering (4) 8Ω loudspeakers.

The bus interconnect also supplies all active components on the line with DC power. To refresh DC voltage and the digital bus signal, power bridges are strategically placed at points throughout the bus interconnect and connected to 110VAC.

### Bus Types: DSS & AMS Bus

There are (2) bus types available for use with the VARIZONE system.

1) The **DSS** bus format transmits 8 separate channels of unidirectional audio data, bi-directional surveillance/control data and DC power over the same interconnect.

2) For applications where remote audio **inputs** (line or microphone level) need to be routed to the system controller from remote locations, the **AMS** Bus system should be used. The AMS bus transmits **bi-directional** audio data, bi-directional surveillance/control data and DC power over the same interconnect. The AMS bus can be configured to support either 8 audio channels per direction with 16 bit resolution per channel @ 48kHz sampling rate or 4 audio channels per direction with 24 bit resolution per channel @ 48kHz sampling rate. When complex routing of page sources to multiple locations is required (airports, train stations) Varizone paging stations may be used with the AMS bus. Sources (pages) are transmitted **from** the paging stations **to** the VADIS frame via the AMS bus and are then routed to any loudspeaker location with assigned priorities determined by the system controller and/or logic controls on the paging station. All of this bi-directional audio and data transmission is accomplished the AMS bus interconnect.

Wiring Interconnect distances for either bus type can extend up to 660ft (200m) without the need for signal refreshing.

### Zone #1 - Terminal



### Zone #2 - Gate



**F**or example, personnel at an airport ticket counter, gate, or airport lounge could each select their choice of background music or announcements (assuming each of these areas had been defined as a separate zone). When one of these zones selects the audio source, the local zone controller tells the Varizone system which audio source to send to that zone, without affecting other operations of the Varizone system.

### Powered Amplifier Modules

On the digital bus line, Powered Amplifier Modules (PAM's) are distributed to provide amplification for loudspeakers (two 8Ω speakers typical per PAM channel x 2 channels = four loudspeakers per PAM total). PAM's are digital, Class D amplifiers with extremely low heat dissipation. Their rugged design allows above-ceiling mounting in close proximity to loudspeaker locations. With Varizone, system designers do not have to compensate for transformer insertion loss at the loudspeaker or line losses attributed to long speaker cable runs. Each PAM includes two discrete digital power amp channels that are individually addressed by the system controller to determine what audio source from the 8-channel digital audio bus is assigned to the PAM's amplifier channels based on predetermined conditions. These conditions can also be configured to change the individual signal level and equalization per PAM. Zones are no longer hard wired speaker runs. Rather are dynamically set-up by selecting any number of PAMs and allocating these to the virtual zones. As zones and loudspeakers are configured by software, "virtual zones" can be changed at any time after installation.

### System Surveillance and Redundancy

Both the DSS and AMS bus include a digital data return channel that allows the system controller to monitor each loudspeaker voice coil in the system as well as the operational status of every device on the line (PAMs, VBMs, Power Bridges). This supervision capability for the Varizone system far exceeds international safety standards (EN 60849).



Should one PAM in the system fail, a failure notification is generated, yet the signal to the other PAMs is not affected. In this example only 4 loudspeakers in the system would be disabled.

All central system control components can be duplicated and networked via traditional routers when redundancy is required. As with any controller system, AC mains may be buffered by an external UPS.

The system boots in less than 10 seconds and complies with international standards for evacuation systems.

### Local control via Varizone VBMs

In many situations VBMs (Volume/Button Modules) will be used as local room controllers. These VBMs are installed locally and reside on the same bus line as the PAMs. These VBMs are normally configured to provide source selection and level control to individual zones (or a physical room). However, it is also possible to configure a VBM to control almost any aspect of the system including events in other locations. For instance, a central security patrol location on a large corporate campus may be provided with a "local" VBM controller allowing security personnel to announce that a particular building is about to be closed for the evening. This local controller could also have a setting allowing the security personnel to page all buildings at once for emergency evacuation.

### GPI

General Purpose Interface (GPI) modules may be interfaced to the bus line or directly to the VADIS frame. (Model V220 Frame includes built in 8 in x 8 out GPI) GPI modules provide input contact closure information **to** the VADIS frame as well as contact closure information **from** the VADIS frame to control external devices.

Typical GPI inputs:

- Contact closure from air walls in room combining systems
- Triggers from press-to-talk microphones
- Other momentary or latching switches

Typical GPI outputs:

- Lighting controls
- Projection screen motors
- Notification LEDs
- Magnetic Locks
- HVAC Controls



Zone Control Display

The Varizone system controller operates in conjunction with a Windows™ based PC running proprietary Varizone VADIS software. Multiple levels of accessibility can be assigned to the VADIS software and to the PC itself with password protection. This central control PC unit may be accessed locally with a traditional CRT, keyboard/mouse or TFT.

### IP Control

The system PC may be interfaced to any TCP/IP based building control network or remotely controlled via modem with software products such as PC Anywhere™ via the internet, (WAN, or LAN). Using a remote computer, the administrator can do everything that could be done on site including:

- Creating or revising zones (grouping speakers into zones electronically).
- Scheduling daily events
- Setting individual zone volume levels
- Setting each zone's time delay
- Checking for system faults or even individual speaker failures
- Adjusting equalization and delay settings

### Third Party Control

Third party controller companies such as Crestron, AMX, and Arcatron are easily interfaced to the Varizone system via IP or RS432.



11:00 AM  
Men's & Pet dept. zoned as two zones. 2:00 PM same depts. zoned into one for announcement.

10:00 AM  
Pet dept. one zone. 12:00 PM Pet dept. divided into three zones for "noon sales announcements"

10:00 PM  
Front of store speakers over managers and cashiers combined into one zone.

10:00 AM - 3:00 PM  
Announcement throughout the store of 20% off regular priced items.

### Audio Sources (Music, Announcement, etc.)



## VARIZONE



**A mega-department store recently replaced their P.A. system with the new Atlas Sound Varizone digital public address system.**

**See what a typical day is like now...**

8:50 AM  
Customers wait outside the store. A micro-broadcast directed to the speakers over the entrance tells customers of the day's specials, return policies, and the time until the stores opens.

9:20 AM  
Now in the store, customers hear occasional store wide pages or store wide announcements of department specials. With the Atlas Sound Varizone system, the announcement of department specials are also directed to the specific department involved.

10:30 AM  
A micro-broadcast in the gardening department, along with an occasional store wide announcement has brought many customers to the department for the lawn mower sale. Seeing the opportunity to sell a mower that has not sold well, the department manager quickly adds a (10 second, repeating) department wide announcement that the brand is now 30% off.

THROUGHOUT THE DAY  
Customers notice the Atlas Sound Varizone System. They can understand all the pages and announcements. This is because the system is digital (eliminating outside interference and providing CD quality sound, system wide). Also, the system has noise level sensors and can automatically adjust the speaker volume, so the volume is always loud enough, even when the store is packed.

11:30 AM  
A customer informs a manager that she has lost her child. The manager first makes a store wide announcement concerning the lost child. She then makes a directed broadcast to the "entrance zone"—four separate zones around the store entrance.

11:45 AM  
The child is found and returned to her mother.

12:30 PM  
A store-wide announcement is made that pizza is now being served at the cafeteria.

1:30 PM  
The auto dept. manager notices heavy traffic passing by his department on their way to the garden department's sale on lawn mowers. He quickly creates an announcement telling of some sales in his department and then directs the announcement to the aisle speakers that the crowds have been passing under.

4:00 PM  
An assistant manager "re-zones" the auto, garden, and the tool departments into one zone and runs all the "do-it-yourself" announcements in all three departments.

4:30 PM  
The "store walker (QA)" reports that the Pets and Electronics depts look pretty messy. The store manager directs an announcement to the two departments to "clean and zone" rather than make a store-wide announcement.

6:00 PM  
The store manager is offering "do-it-yourself" classes in two long rooms which run almost the length of each side of the building. The old P.A. system had poor sound with lots of echo/reverb effects. However, the Atlas Sound Varizone public address system provides adjustable time delay (for any set of speakers). As such, the two rooms have been made usable once more.

9:30 PM  
The store is closed and employees hurry to get items left throughout the store back to their correct departments. With the Atlas Sound Varizone public address system, departments and employees can direct pages and answers directly, from department to department to be sure that products get returned to their proper department

12:30 AM  
The store manager remembers that the corporate office had told her to start announcing 40% off on all pets tomorrow morning. However, the manager will be leaving at 7:00 AM for a trip. With Atlas Sound Varizone she can access the store system from home over the internet and add the announcement.

