VARIZONE

DIGITAL PUBLIC ADDRESS SYSTEM

Performance-Line

Voice Evacuation

Paging

Audio Information
BGM

KLOTZ
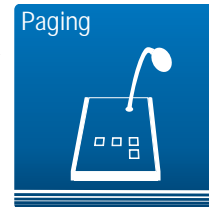DIGITAL
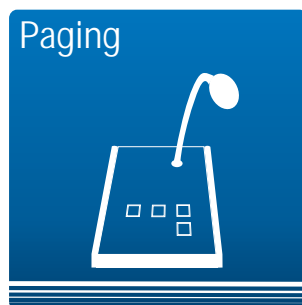
VARIZONE
DIGITAL PUBLIC ADDRESS SYSTEM

Paging System
Announcements via a digital audio network

Voice Evacuation System
Provides better security

Information System
Targeted content for customer information

Paging

Voice Evacuation

Audio Information BGM

...to control each loudspeaker individually and supply individual audio signals to any speaker within one zone a long-standing desire in the public address system technology...

VISIONS ... TODAY

VARIZONE combines a multi-channel fully digital bus structure with a robust, industry proven powered speaker system for manifold public address applications. VARIZONE carries audio content to individual play-out locations, allowing highly-focused paging, voice evacuation and microcasting of individual audio programs.

VARIZONE automatically checks for technical and signal faults throughout the entire system and down to the component level so that personnel can be alerted thus minimizing downtime and loss of building communications and security.
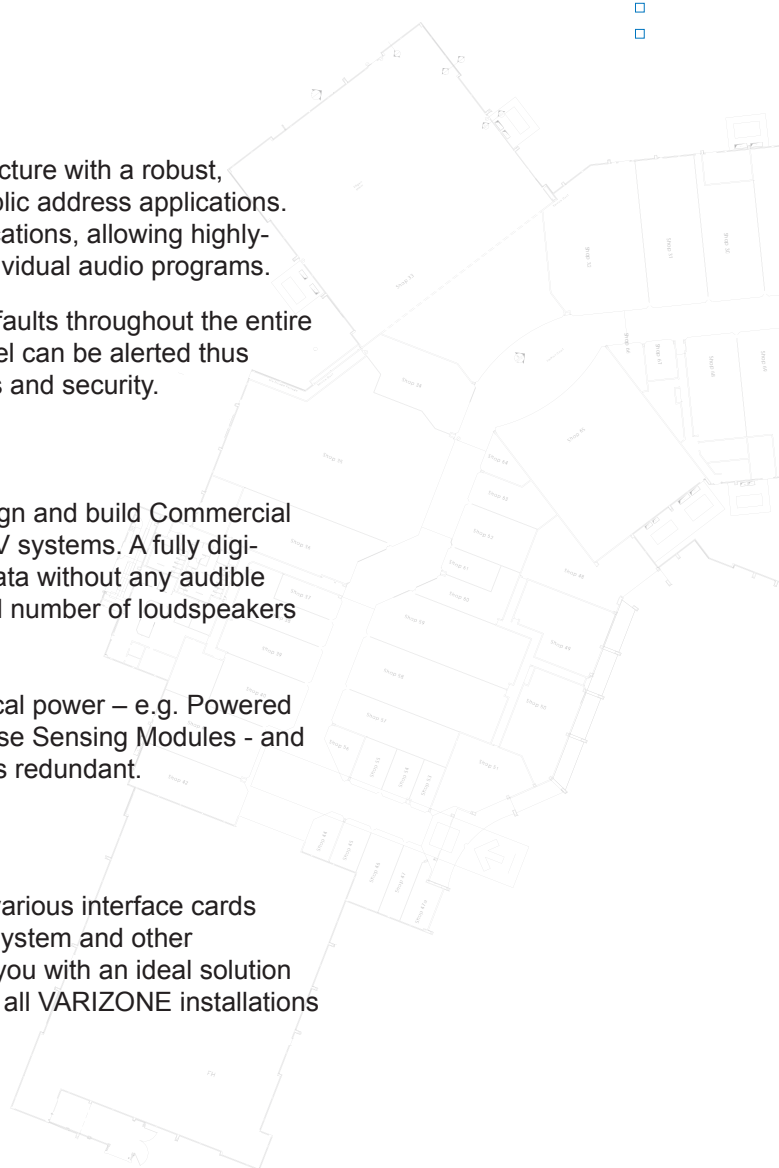
TECHNOLOGY

VARIZONEs technology allows system integrators to design and build Commercial Sound Systems much easier than with traditional 70/100 V systems. A fully digital bus structure distributes uncompressed digital audio data without any audible latency from one or many play-out stations to an unlimited number of loudspeakers using either CAT5 wires.

The same bus supplies all active components with electrical power – e.g. Powered Amplifier Modules (I-PAM), Push Button Modules and Noise Sensing Modules - and makes the need for any additional external power supplies redundant.

DIGITAL AUDIO NETWORK

A KLOTZ DIGITAL audio router/matrix is the platform for various interface cards acting as a network and digital router for the VARIZONE system and other applications. The modular and flexible structure provides you with an ideal solution for the unique requirements of your PA system. Of course all VARIZONE installations can be designed with full back-up redundancy.

BUS TECHNOLOGY

The VARIZONE network uses a **D**igital **S**peaker **S**ystem (DSS) bus format to transmit data and power at 48 Volts over the same wires from a central play-out station to the loudspeakers. The DSS bus combines central network structures with a bus architecture, saving on cabling and wiring time and eliminating the need for additional hubs and routers even for the largest networks. Power Bridges are available to refresh the digital bus signal after long distances and to load additional power to the bus whenever needed.

A DSS bus can effectively run unlimited distances. The bus format is guaranteed to transmit 8 channels of audio with 16 bit resolution at 48 kHz up to 200 m (660 ft) without the need to refresh data in addition to bi-directional control and surveillance data.

The **OCTO-BUS** architecture transmits audio as well as bi-directional control data between a central control station and remotely located converter modules and control modules.

The OCTO-BUS can be configured with either 8 channels per direction with 16 bit resolution per audio channel at 48 kHz of sampling rate or for 4 channels with 24 bit resolution per audio channel at 48 kHz. In applications where studio quality is required 24 bit resolution is recommended, whereas in all other PA applications the 16 bit resolution still offers CD quality audio.

INTEGRATED POWERED AMPLIFIER MODULE (I-PAM)

On the digital bus line, **I**ntegrated **P**rogrammable **A**mplifier **M**odules (I-PAM's) are distributed to provide amplification for a pair of loudspeakers. I-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.

I-PAMs receive the necessary power to drive loud-speakers from the same cable that transmits the audio data and do not require any additional local power supply.

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.

BREAKTHROUGH TECHNOLOGY FEATURES

- Completely digital powered loudspeaker
- Dynamic speaker assignment to zones
- Delay and volume control per speaker
- All components individually monitored
- Excellent multi-channel audio quality
- Intelligent control management

FREE DESIGN OF ZONES

Each I-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 I-PAM's amplifier channels based on predetermined conditions. These conditions can also be configured to change the individual signal level per I-PAM.

Zones are no longer hard wired speaker runs. Rather are dynamically setup by selecting any number of I-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.

A digital return channel allows the control station to receive all kinds of surveillance information far exceeding international standards (EN 60849).

Design, implementation and expansion of PA projects has never been so easy.

DSS BUS
GPO GPO GPI GPI
I-PAM
Volume Control & Channel Selection
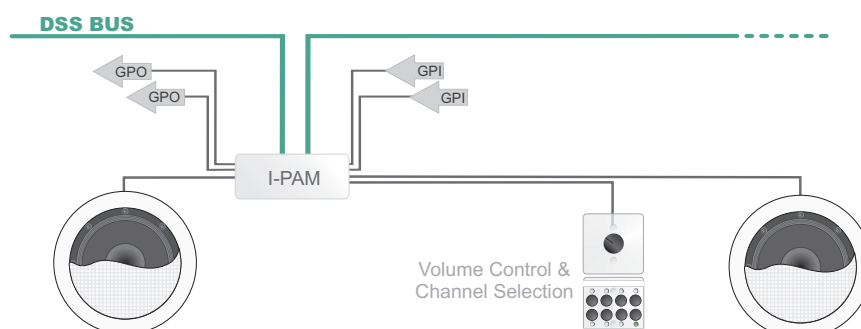
SYSTEM SURVEILLANCE

VARIZONE's system monitoring far exceeds all international security and safety standards. Each loudspeaker as well as each I-PAM is monitored and controlled. In case of failure of one I-PAM the other I-PAMs in the system are never affected so that in this case only a maximum of 2 loudspeakers are out of operation. All central components can be duplicated and the mains input of the central power supplies can be buffered by an external UPS.

A computerized system management delivers all necessary information and can be connected to any TCP/IP based building control network.
The system complies with international standards for Evacuation Systems.

BENEFITS

- Individual paging to any speaker and zone

- Easy planning - paging zones can be defined any time

- Structure "soundscapes" - greater flexibility for clients

- One system for EVAC, BGM and Paging

- Flexibility allows fast and easy reconfiguration and expansion

- Much higher system efficiency and lower cost of ownership

- Ready for marketing applications such as "microcasting"

APPLICATIONS

- **Industry & Transportation**
  - Airports
  - Train stations
  - Convention centres
  - Factories

- **Shopping Malls**

- **Public Buildings:**
  - Theatres
  - Stadiums
  - Casinos
  - City Halls
  - Hotels
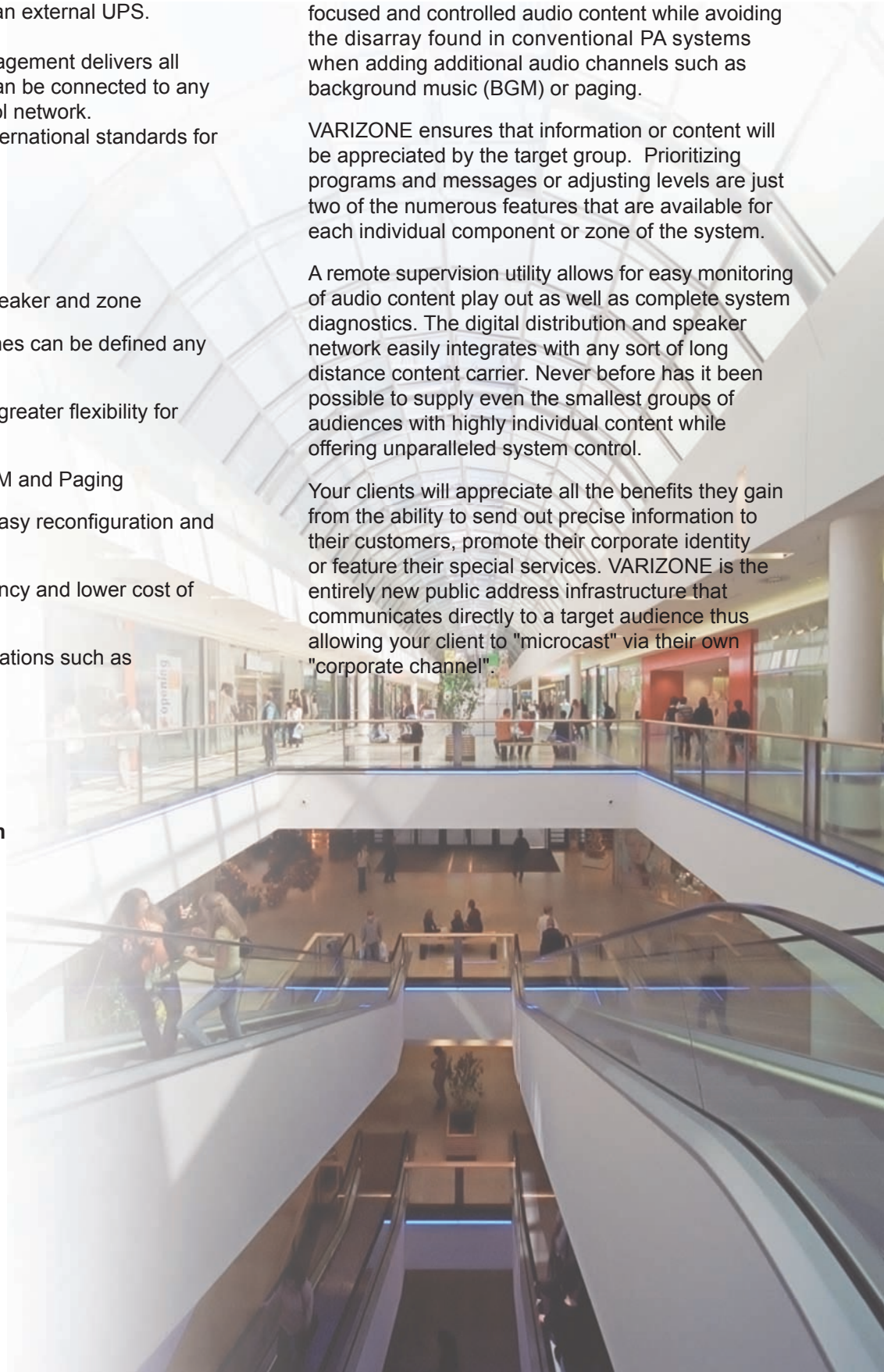 - Hospitals

INDIVIDUAL CONTENT FOR MICROCASTING

As new audio marketing methods are developed and made available to marketers, the ability to organize various sound sources and to structure "soundscapes" effectively has become mandatory.

VARIZONE delivers this amazing flexibility and much more by providing the ability to deliver specifically focused and controlled audio content while avoiding the disarray found in conventional PA systems when adding additional audio channels such as background music (BGM) or paging.

VARIZONE ensures that information or content will be appreciated by the target group. Prioritizing programs and messages or adjusting levels are just two of the numerous features that are available for each individual component or zone of the system.
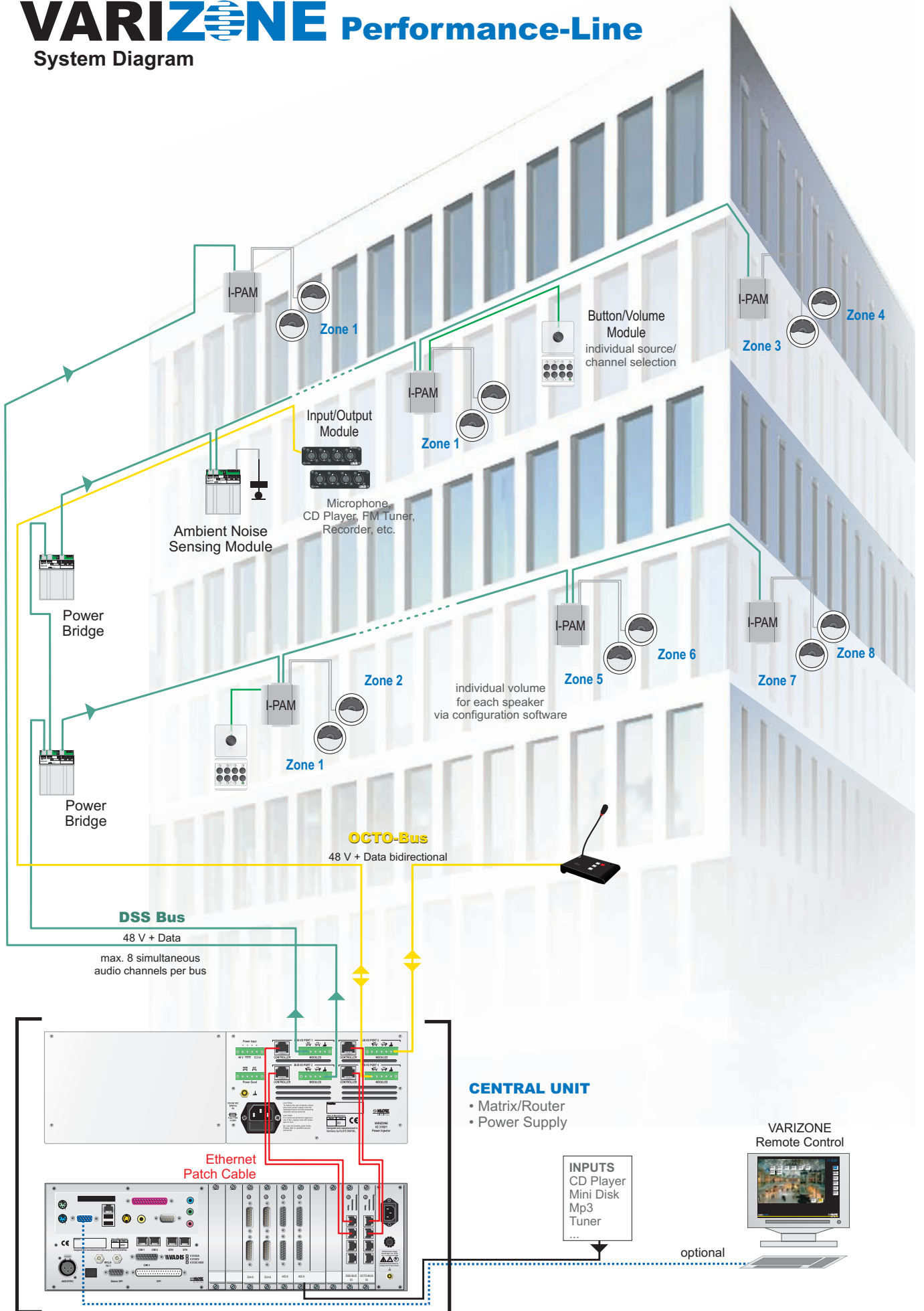
A remote supervision utility allows for easy monitoring of audio content play out as well as complete system diagnostics. The digital distribution and speaker network easily integrates with any sort of long distance content carrier. Never before has it been possible to supply even the smallest groups of audiences with highly individual content while offering unparalleled system control.

Your clients will appreciate all the benefits they gain from the ability to send out precise information to their customers, promote their corporate identity or feature their special services. VARIZONE is the entirely new public address infrastructure that communicates directly to a target audience thus allowing your client to "microcast" via their own "corporate channel".

VARIZ⊕NE Performance-Line

System Diagram

I-PAM

Zone 1

Button/Volume Module
individual source/
channel selection

I-PAM

Zone 3

Zone 4

I-PAM

Zone 1

Input/Output Module

Microphone,
CD Player, FM Tuner,
Recorder, etc.

Ambient Noise
Sensing Module

Power Bridge

I-PAM

Zone 5

Zone 6

I-PAM

Zone 7

Zone 8

individual volume
for each speaker
via configuration software

I-PAM

Zone 2

Power Bridge

Zone 1

OCTO-Bus
48 V + Data bidirectional

DSS Bus
48 V + Data

max. 8 simultaneous
audio channels per bus

CENTRAL UNIT
• Matrix/Router
• Power Supply

Ethernet
Patch Cable

INPUTS
CD Player
Mini Disk
Mp3
Tuner
...

VARIZONE
Remote Control

optional

VARIZONE
DIGITAL PUBLIC ADDRESS SYSTEM

The digital audio system for public address that meets all your requirements.

VARIZONE is easy to ...

□ **design**: flexibility allows fast and easy planning, re-configuration and expansion

□ **install**: standard CAT5 cable, standard RJ45 and/or Phoenix connectors

□ **configure**: dynamic speaker assignment to zones via Graphical User Interface

□ **control**: individual volume control per powered speaker (optional Delay)

□ **operate**: remote control via Internet

□ **monitor**: integrated monitoring/surveillance of all components

□ **integrate**: serial interface for 3rd Party:
- Fire detection systems
- Building management
- Error management system

Protect your investment ...

... the system can grow with your requirements.

Return on investment ...

...play-out of customized audio content (spots/advertisements) will enable you to generate additional revenue in retail and public areas and meet the customers needs.

Reduce significantly your cost ...

...reduced installation cost (inexpensive CAT5 wiring), reduced equipment cost (less rack space, less system components).

Worldwide KLOTZ DIGITAL is one of the leading suppliers of hardware and software for digital audio signal processing and distribution including digital mixing consoles and routers for the broadcast market. For many years KLOTZ DIGITAL has been developing and manufacturing leading edge public address systems, which are used in many prominent installations. Best known are the PA systems at Munich Airport's Terminal 2, Sydney Central Station, White House in Washington and Bertelsmann's premises "Unter den Linden" in Berlin.

Voice Evacuation

Paging

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Specifications are subject to change without notice

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