

Spector Lumenex Systems

Public Address and Voice Alarms (PA/VA)

A clear voice in an emergency



The power behind **your mission**



Image: PA/VA System installed at One Albert Quay, Cork, Ireland.

The benefits of a PA/VA system

Efficient Evacuation Strategy in Public Places

A traditional fire alarm system uses a bell or sounder to provide evacuation; this can lead to confusion, panic and a delay in the evacuation.

Public Address systems are effective methods of communicating information to a large area or building used by the general public as well as employees.

Combining the Fire Detection and Voice Alarm systems speeds up response time and provides the ability to advise occupants of the safest emergency route.

During an incident a pre-recorded message will be broadcast providing a clear instruction of what action to take during a fire incident.

Given today's current risks a PA/VA system can also provide emergency messages in incidents other than fire.

It is a recommendation of BS 5839-8:2013 that PA/VA systems are fitted in public buildings.

Messages

Pre-recorded messages will be specifically produced as per the requirements of each site, to aid safe evacuation.

Where required voice alarm messages can be in multiple languages.

Multiple Occupancy

For large buildings with a complex fire strategy the system can provide phased evacuation.

Emergency System Operation

Unlike a fire sounder the PA/VA systems can provide much more than primary evacuation of a building.

The PA/VA system can be used for:

- Live emergency paging
- Timed security messages
- Coded staff alert messages

System Integration

In addition to the above the PA/VA system can provide non-emergency benefits, and integrate to 3rd party systems.

The PA/VA system can be used for:

- General paging
- Advertising announcements
- Background music
- Passenger announcement systems (mass transportation hubs)

For life safety and efficient evacuation it is appropriate to install a PA/VA system.



What constitutes a solution to comply with EN54 standards?

EN54-16 control system design

– relates to the actual type and placement of loudspeakers together with power input, zoning, and time delays.

Designs can be similar, however no two areas are identical. EN54 compliant designs need to be produced by a 3rd party independent acoustic consultant.

The consultant will ratify his design and certify it as meeting the performance aspects of EN54. The consultant will also witness final testing and certify the completed physical installation.

Physical assembly and wiring

The physical layout of the equipment comes from the approved installation methods laid down by the equipment manufacturers. On larger projects

there is generally a factory acceptance test with the clients' consultant in attendance.

Control equipment components

Items such as amplifiers or batteries must each be manufactured and certified as EN54 compliant, in addition be of the same manufacture.



Reduce public
panic with
clear messages

Can we design a EN54-16 compliant system without an independent 3rd party consultant?

Johnson Controls can design, build and supply an EN54-16 compliant system but we cannot verify the acoustic layout design and coverage. This must be performed by an independent acoustic consultant.

How can we help with EN54-16 certification?

Ensuring that a design meets the requirements of EN54-16 is the responsibility of an independent acoustic consultant. We can advise on the engagement of a suitable consultant.

Why use Johnson Controls?

For Johnson Controls the protection of life and property is our priority and all our systems are certified as EN54 compliant. This means you can be sure that you are providing the best protection for your staff and clients.

Note: There is no BAFE type approval for VA Speaker Design.

Key solution components

PA/VA – IP Audio Voice Alarm Router

Benefits:

Compact, scalable and versatile – up to 48 zones which can be networked over fibre or LAN.



PA/VA – EN54-16 Compliant PA/VA Amplifier Frame and Modules

Benefits:

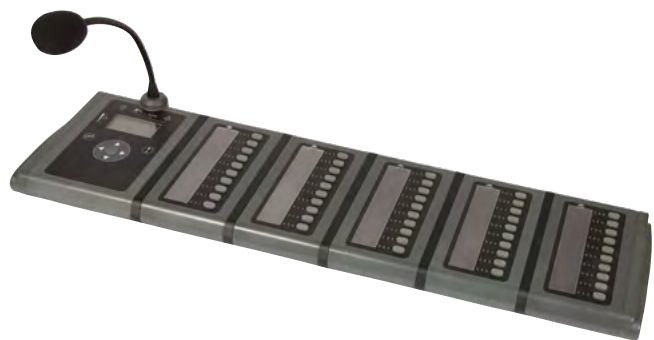
Flexible and powerful – small systems from 100W upwards to 2000W possible in 1 amp frame to reduce footprint of larger systems.



MPS10 – MPS50 Modular Paging and Emergency Microphone

Benefits:

Versatile and scalable – single zone or additional keypads to increase zones, easy to install with cat5 cable and fully EN54 compliant display.



EMS10 – EMS50 Zoneable Emergency Microphones

Benefits:

Robust, versatile and scalable – single zone or additional keypads to increase zones, easy to install with cat5 cable and fully EN54 compliant display.



Quality, environmental, health and safety

Risk assessments have been undertaken for all our workshop operations, which incorporate quality, environmental and health and safety controls.

We ensure compliance to appropriate legislative standards, optimisation and retention of the integrity of all systems.

Our Nottingham Centre of Excellence for PA/VA is a ISO9001 accredited facility and as such is allowed to build systems to the following standards.

- **BS EN54-4:1998:** Fire detection and fire alarm systems. Power supply equipment.
- **BS EN 54-16:2008:** Fire detection and fire alarm systems. Components for fire alarm voice alarm systems. Voice alarm control and indicating equipment.
- **BS EN 54 Part 24:2008:** Fire detection and fire alarm systems. Requirements for the design and construction of loudspeakers.
- **BS 5839 Part 8:2013:** is the code of practice covering the requirements for the design, installation, commissioning and maintenance of voice alarm systems.
- **BS:EN 60849:1998:** Sound systems for emergency purposes.
- **BS 6259:2015:** Code of practice for the design, installation, commissioning and maintenance of sound systems (Public Address).
- **BBS 7827:** Code of practice for designing, specifying, maintaining and operating emergency sound systems at sports venues.

Service business

Small Works

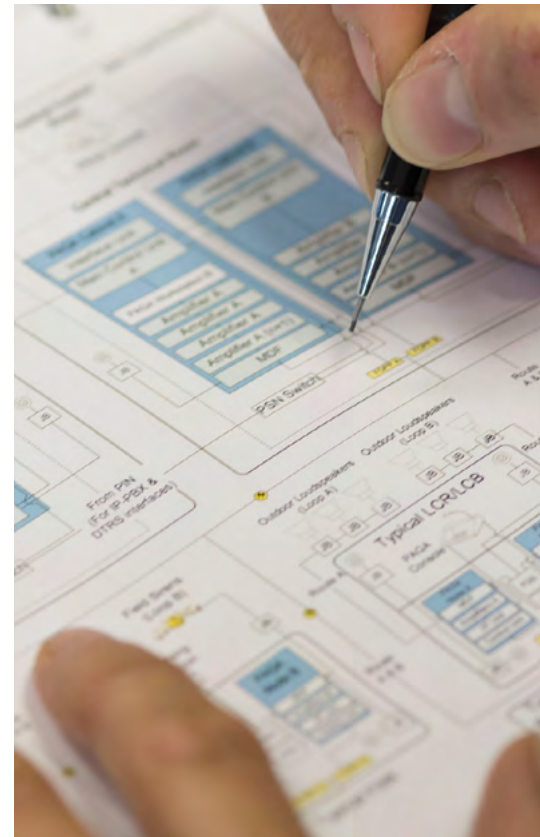
- Speaker and cable fault diagnosis and replacement
- Additional speakers
- Sound pressure level checks
- Integration with 3rd party message systems
- Equipment surveys for RFQ
- Message changes
- Battery replacement following BS 5839 Part 8 checks
- Microphone access panel repair/replacement
- Intelligibility checks (STI)

Routine Maintenance

- Routine maintenance – 6 monthly
- System health checks and fault listing/report
- Assistance to client/ facilities managers in isolating faults and identifying solutions

Spares

- Commissioning spares
- 2 Year operating spares/ critical spares
- Repair and return critical items (where possible)



Case studies

Case study 1

Tyco Headquarters Cork Albert Quay

Challenge:

Design, build, supply, install and commission a de-centralised 3 cabinet networked system for a new build office block.

Expertise:

- Working with professional independent acoustic designs advise on correct type and model of equipment required.
- Calculate bill of materials required.
- Advise on correct model to be used.

Value added service:

- Turnkey solution
- Integration with fire system and other building management systems.
- Ongoing maintenance and support.

Case study 2

Airport Extension Audix Equipment

Challenge:

Working with end client and a 3rd party message system supplier to design, supply and commission an extension to an existing airport PA system.

Expertise:

- Working with 3rd party supplier to specify interface required.
- Advice on equipment relocation for building re configurations.

Value added service:

- Direct liaison with 3rd party supplier to reduce integration time.
- Legacy support and expansion of Audix equipment (TM owned by Johnson Controls). Johnson Controls hold the remaining stock and ability to repair many items.

Case study 3

Shopping Centre

Challenge:

Design a replacement for an existing system to bring it up to present regulatory standards and to improve reliability.

Expertise:

- Site survey and review of present installation.
- Advice on cable routes and zoning.
- Advice on control equipment and husbandry.

Value added service:

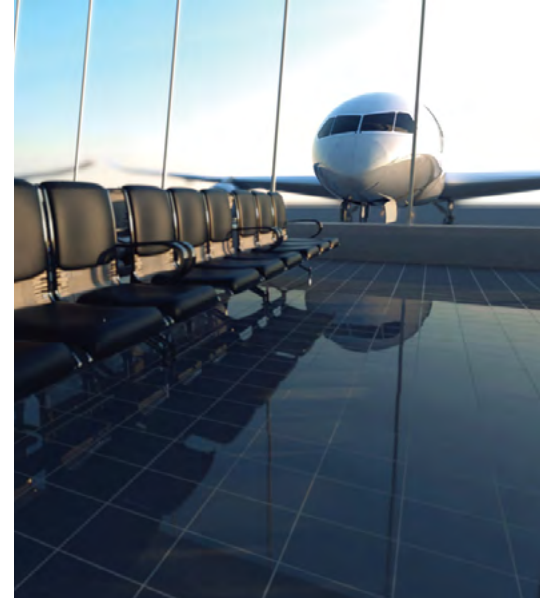
- Industry best practice employed.
- Cost effective solution devised.



Why Johnson Controls?

Johnson Controls' PA/VA specialist team design, manufacture, supply, commission and integrate a range of audio equipment solutions for any emergency situation.

- Our PA/VA team have in excess of 30 years experience in the emergency evacuation field.
- We design, manufacture, supply commission, integrate and service a range of audio intercom and PA/VA systems, worldwide.
- We provide on-going legacy support for the Audix™ branded equipment.
- We can offer a new PA/VA EN54-16 compliant system.
- We have the flexibility to provide a solution based on a multi-vendor approach.
- Integration into the victor™ multifunction operator suite for Tyco derived equipment.
- The ability to supply other vendor equipment is possible/if specified.



We work with...

- Airports & Transportation
- Commercial
- Custodial
- Data Centres
- Defence & High Security Sites
- Education
- Finance & Banking
- Government
- Healthcare
- Industrial
- Leisure & Entertainment
- Logistics & Distribution
- Marine
- Oil & Gas
- Pharmaceuticals
- Power Generation
- Residential
- Retail
- Small Business
- Traffic
- Utilities



Services we provide:

- Site survey
- Quotations for turn key solutions for new systems
- System design
- System supply
- System installation
- System commissioning
- System upgrades/extensions to existing installations
- System service, fault diagnosis and repair
- Routine maintenance
- Provision of spares

Professional teams of qualified engineers can provide you with all the necessary services to fulfil your project from concept through to final onsite handover

Global Strength

Local Expertise. At your service.

Our full spectrum of life safety and asset integrity solutions

- Fire & Gas Detection/Alarm
- Detection & Control
- Portable Gas Detection
- Interface Engineering
- Safety Products
- Fire Protection Systems
- Fire Safety Maintenance
- Deluge Verification
- Environmental/HVAC
- Descaling
- Audio Communications
- Fiscal Metering
- Wellhead and Hydraulic Process Control
- Security and Surveillance

United Kingdom locations

Aberdeen, Altens

Tel: +44 (0)1224 295191

Great Yarmouth

Tel: +44 (0)1493 440 500

Manchester

Tel: +44 (0)161 455 4400

Norwich

Tel: +44 (0)1603 201 201

Nottingham

Tel: +44 (0)1159 040 404

International locations

- Europe
 - United Kingdom
 - Norway
- North America
 - Mexico
- Asia
 - Seoul, Korea
 - Busan, Korea
 - Singapore
 - China
 - Malaysia
- Middle East
 - UAE
 - Kuwait
 - Oman
- South America
 - Brazil
 - Argentina
 - Chile
- Africa

For further information or advice
email: tfs.voice.uk@tycoint.com or call: **0800 804 6225**

www.johnsoncontrols.co.uk

The power behind **your mission**

