Plena Voice Alarm System
Schools

- IEC60849 Certified
- For small- to medium-sized applications with up to 60 zones
- Built-in intelligent message manager
- Plug-and-play installation with PC configurability
- Interconnects via CAT5 cable

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EVAC-compliant voice alarm

The Plena Voice Alarm System is designed for emergency evacuation in applications where compliance to internationally recognized standards like IEC60849 is required. All the essential EVAC functionality – such as system supervision, loudspeaker line surveillance, spare amplifier switching, digital message management and a fireman's panel – is built in.

Based on the 6-zone LBB 1990/00 system controller with separate call- and background music (BGM) channels, a Plena Voice Alarm System can be easily expanded to up to 60 zones using additional 6-zone routers. It is completely compatible with Plena Public Address equipment, and Bosch EVAC-compliant loudspeakers and accessories.

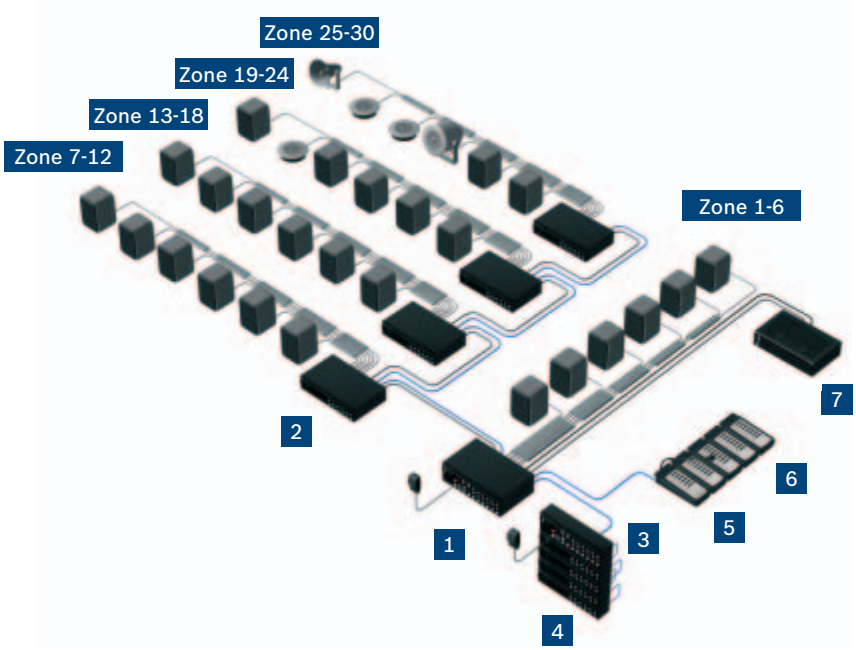
Schools
Schools are typical example of applications with a large number of zones each with a relatively low output power requirement per zone.
The main priorities are speech intelligibility and compliance with IEC60849 standard (or equivalent).

Introduction
In addition to mandatory voice alarm functionality for evacuating staff and students, EVAC systems for schools should also include chime tones for notifying the start/finish of lessons, plus public address functionality for individually calling classrooms or public area. BGM is not essential. Since a classroom has a low ambient noise level, 1 loudspeaker is usually sufficient, keeping the total power requirement relatively low. Outside areas such as playgrounds and sports fields will require weatherproof horn loudspeakers.

Requirements
- Typically 20 to 60 zones (in high schools)
- Speech intelligibility is the main priority
- Low power requirement (1 loudspeaker) per classroom
- Fireman's panel by main entrance
- Call station in main office
- Additional public address functions such as chime tones desirable
- BGM in recreation areas is optional

Solution for a 30-zone system
The Plena Voice Alarm System Controller handles message routing to 6 zones, the remaining 24 zones require four additional 6-zone routers. The office is equipped with a call station plus keypads for individually addressing zones, while a fireman's panel (with overall priority) is built in by the main entrance.

Power requirements
The system controller features a built-in 240 W power amplifier, making it possible to drive up to 40 loudspeakers with a power handling capacity of 6 W each. This is sufficient for a medium-sized high school with 24 classrooms, 4 toilets/changing rooms, a staff meeting room and 2 offices, each requiring a single loudspeaker. The canteen, assembly hall, playing fields and corridors typically require more loudspeakers per zone. An additional Plena Power Amplifier is used as a spare amplifier.



Configuration			
1	LBB 1990/00	Controller	1 x
2	LBB 1992/00	Router	4 x
3	LBB 1996/00	Remote control panel	1 x
4	LBB 1997/00	Remote control panel extension	4 x
5	LBB 1956/00	Call station	1 x
6	LBB 1957/00	Call station keypad	4 x
7	LBB 1935/20	240 W power amplifier	1 x

Zones		
Zones 1-22	Classrooms	22 x 6 W cabinet loudspeakers
Zone 23	Toilets/changing rooms	4 x 6 W ceiling loudspeakers
Zone 24	Staff meeting room	1 x 6 W cabinet loudspeaker
Zones 25-26	Offices	2 x 6 W cabinet loudspeakers
Zone 27	Corridors	4 x 6 W sound projectors
Zone 28	Assembly hall	2 x 6 W ceiling loudspeakers
Zone 29	Lunch canteen	2 x 6 W ceiling loudspeakers
Zone 30	Playing fields	1 x 10 W horn loudspeaker
		Total 232 W

Future expansion
More zones and extra power per zone can be added by incorporating additional routers (up to 60 zones) and Plena Power Amplifiers (up to 1000 W per 6 zones).

Installation
The Plena Voice Alarm System is designed for plug-and-play installation, and is easily configured using DIP-switches or software for more advanced configuration. Once configured, the PC is disconnected. System interconnections are made using standard RJ45 connectors and CAT5 cable. Up to 255 spoken evacuation messages can be stored. Messages can be merged to allow more flexible use of pre-recorded messages.

EVAC compliancy
For the installation to be fully EVAC-compliant, loudspeakers and cabling must also conform to the relevant standards. Bosch can provide training and certification for partner installers – details available on request.

Bosch Security Systems
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