Plena

Public Address and Voice Alarm Systems

Security Systems

Communication you can rely on

BOSCH

Content

The ease of amplification

- Integrated public address and voice alarm functionality

- Complete range of compatible system elements

- Perfect solution for small- to medium-sized applications

- Modern audio and message management technology

- Reliable, cost-effective and easy to install

Communication in an ever-changing world
Whether you need a simple announcement installation, an emergency evacuation system or an integrated public address and voice alarm configuration, look to the cost-effective Plena Public Address and Voice Alarm System from Bosch.
It is a family of system elements that can be combined to create perfect solutions for a wide range of applications. Bosch also supplies a complete range of loudspeakers, microphones and other professional audio accessories for a total solution.

Designed for you…
The flexible Plena family adds value in public address and voice alarm system installation by making it easier for you to meet specific application requirements. It is easy to install and configure, highly reliable and covered by a 3-year warranty. Incorporating state-of-the-art audio technology, including options for PC-managed digital messaging and background music (BGM), Plena is a total solution designed with your requirements in mind.

for your customers…
People are entitled to a secure and enjoyable environment, with the peace of mind a public address or voice alarm system brings. We help you meet this fundamental need in the most cost-effective and user-friendly way. Plena satisfies the safety and security needs in all kinds of applications, ranging from commercial businesses, factories, places of worship, government institutions to hotels.

and for complete satisfaction.
We can provide you with reliable products that are easy to understand and install and a pleasure to operate – without compromising functionality or limiting the potential for expansion. The combination of proven technology, reliable engineering and quality materials ensures best-in-class equipment and complete satisfaction for you and your customers.

The reliable route to EVAC-compliant voice alarms

Voice Alarm System

Plena Voice Alarm System

The Plena Voice Alarm System is designed for public address and emergency evacuation in small-to medium-sized applications such as factories, offices, hotels, shopping malls, supermarkets, sports facilities, schools and universities. All the essential EVAC functionality – such as system supervision, spare amplifier switching, loudspeaker line surveillance, digital message management and a fireman's panel interface – is combined with proven audio technology to guarantee excellent speech intelligibility and message delivery.

The Bosch EVAC seal of certification

Developed for easy operation under stressful conditions, the Plena Voice Alarm System complies with the tough IEC60849 standard (and its national equivalents). Only products that conform to this tough standard and pass our own rigorous testing routine are allowed to bear the Bosch 'EVAC' seal of certification.

Integrated voice alarm and public address

With emergency call (EMG) and background music (BGM) audio channels, up to 60 zones, 8 call stations and 2 remote control panels, the Plena Voice Alarm System offers extensive possibilities. It is compatible with the Plena BGM Source and Booster Amplifiers. Bosch can deliver EVAC-compliant loudspeakers and accessories for an integrated public address and voice alarm solution. We also offer installer training programs, provide a 3-year warranty on all Plena products and provide extensive service and customer support.

Plena Voice Alarm System Controller

As the basis of the Plena Voice Alarm System, the controller has all the essential functionality for compliance with the IEC60849 standard, including full system supervision, loudspeaker line impedance supervision, a supervised emergency microphone on the front panel and a supervised message manager for up to 255 pre-recorded messages and chimes. The messages can be merged to allow even more flexible use of pre-recorded announcements and evacuation messages. The controller can be used for a stand-alone system with up to 6 zones, or expanded for up to 60 zones using additional 6-zone routers. Up to 8 call stations can be connected. Intercon-nections are made using standard RJ45 connec-tors and CAT5 cable.

A built-in 240 W booster amplifier provides the power for the emergency call channel and BGM. Additional Plena Booster Amplifiers can be added to provide two-channel operation or if the total power requirement exceeds 240 W (maxi-mum 480 W per 6 zones). All booster amplifiers are supervised for EVAC compliance. The audio output uses standard analog audio 100 V line switching for full compatibility with the Plena family of public address equipment and Bosch EVAC-compliant loudspeakers.

The system is configured using DIP-switches for basic functionality and a PC for more advanced functions. Up to 16 priority levels can be specified for optimum system flexibility.

• Heart of the Plena Voice Alarm System

• Basic 6-zone system controller

• Expandable up to 60 zones

• Built-in 240 W booster amplifier

• Digital pre-recorded messages can be merged

• Emergency microphone on the front panel

• 16 priority levels including emergency

• Individual BGM volume control for each zone

• Standard and emergency control in- and outputs

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Plena Voice Alarm Router

Up to 9 routers can be incorporated into a Plena Voice Alarm System to expand it to up to 60 zones to cover a very wide range of applications. Each router handles an additional 6 zones and features the same output functionality as the controller (except for the BGM volume controls). Additional Plena Booster Amplifiers can be incorporated if two-channel operation or extra power is required (up to 480 W per 6 zones max.).

- Extends the Plena Voice Alarm System

- Provides an additional 6 zones

- Same output functionality as the controller

- Uses the controller's built-in booster amplifier or additional Plena Booster Amplifiers

Plena Voice Alarm Call Station

Additional call stations with a flexible stem can be incorporated into the Plena Voice Alarm System for making business calls. Each call station has 6 programmable keys and an all-call button. The call station can be extended using additional keypads each containing 7 programmable keys.

- Standard call station with 6 programmable keys and all call buttons

- Emergency, call, power and fault indicators

- Uni-directional condenser microphone on a flexible stem

- Selectable gain, speech filter and limiter

- Extension 7 key programmable keypads

Plena Voice Alarm Remote Control Panel

To allow the Plena Voice Alarm System to be located in a fire-resistant cabinet or in another secure location, one or two remote control panels, including remote control panel extensions, can be incorporated to the system. Each panel duplicates the controls and indicators on the controller and routers front panels (limited BGM control), including the built-in emergency microphone. Interconnection to the Plena Voice Alarm Controller is made using standard RJ45 connectors and CAT5 cable. Both the remote control panel as well as the interconnection with the controller are fully supervised.

- Duplicates the functionality of the system's front panel

- Can be used as a fireman's panel

- Also available as a kit to create custom-made panels

Fireman's panels

In many situations, the Plena Voice Alarm Remote Control Panel can be used as a fireman's panel. However, the regulations for fireman's panels vary from country to country, so the Plena Voice Alarm System is designed to allow custom EVAC-compliant panels to be incorporated.

Plena Mixer Amplifiers

Plena Mixer Amplifiers have 4 microphone inputs, and separate emergency and music inputs. Additional functionality like priority assignment, VOX switching, speech filters and two-tone chimes are also provided. You can add Plena Booster Amplifiers to increase the loudspeaker driving capability. The dual-zone model directs sound (announcements or BGM) to 2 separate areas – very useful if announcements or BGM need not be heard everywhere. 2 front panel switches direct the output to the separate zones.

The mixer amplifiers are available with a choice of 30 W, 60 W or 120 W rated output power. They can drive 70 V and 100 V constant voltage outputs and low-impedance loudspeakers. All models have interconnection facilities for connecting external sound processing equipment as an equalizer or the Plena Message Manager or Feedback Suppressor between the pre-amplifier and power-amplifier stages.

• Unrivalled intelligibility of speech and music

• A choice of output power up to 120 W

• Single and dual-zone mixer amplifiers

• Four balanced inputs

• Includes priority input with chime

• Separate emergency input

Plena All-in-One BGM/Paging System

Offering professional quality at an affordable price, the Plena All-in-One is an ideal public address solution for small-to medium-sized businesses like retail shops, supermarkets, restaurants, schools and leisure facilities. With a high-performance 120 W mixer amplifier, a multi-format CD player and a digital FM/AM tuner in one box, it can be used for announce- ments, paging and BGM. The mixer amplifier has 3 balanced microphone inputs and 2 individually selectable loudspeaker zones, each with its own volume control. A third loudspeaker zone can be connected that only receives priority announcements. The main microphone input features priority contacts and a VOX switching function for overriding the remaining 2 inputs and the music. Announcements can also be pre- ceded by a two-tone chime.

The CD player plays both normal audio CDs and CD-Rs with MP3-encoded music. With MP3 recorded CDs, up to 999 tracks can be pro- grammed to play. The music can also be arranged in folders and played per folder. This allows the music choice to be adjusted for a specific occasion or time of day, e.g. easy listening in the morning and pop at lunch. The digital FM/AM tuner has 15 presets to store favorite radio stations.

• 'One-box' with BGM, announcement and paging

• Dual-zone 120 W mixer amplifier

• Priority and VOX microphone

• CD player (audio and MP3)

• Digital FM/AM tuner with 15 presets

Plena Universal Pre-Amplifier

The universal pre-amplifier extends the configuration possibilities of the Plena family. It offers a choice of mixing, blocking or serial input priority modes. Each input channel has its own volume and tone controls, a selectable filter to optimize speech intelligibility, and direct outputs. On the output, it's also possible to override local loudspeaker volume controls to ensure an important message gets through.

3 input priority modes provide a choice of: mixing mode; blocking mode (first activated channel gets priority over all others); and serial mode (channel 1 has priority over 2, 3 and 4, channel 2 has priority over 3 and 4, and channel 3 has priority over 4). In mixing mode, each input channel can be mixed to the master output, irrespective of priority. There is an interconnection point available to cascade pre-amplifiers or to connect an equalizer or the Plena Message Manager or Feedback Suppressor.

• Fully-featured, 4-input mixer

• 3 different input priority modes

• Individual audio settings for each input

• Interconnection for external equipment

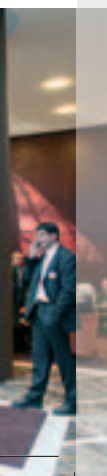• Ideal in combination with booster amplifiers

Plena System Pre-Amplifier

The Plena Multi-Zone Call System provides dual-channel operation (calls and BGM) for 6 zones. The unit is used with Plena Booster Amplifiers. It has 2 call station inputs, each to connect multiple cascaded call stations, a selectable filter for optimizing speech intelligibility, and separate volume control and tone controls for the speech and BGM channels. 6 levels of priority are available for music, microphone, call stations, trigger inputs and the emergency input.

6 buttons on the front panel route the BGM to the selected zones. Zone selection for the call channel is made via the Plena Call Station. The unit has an emergency/telephone input with VOX. When an emergency audio signal is detected, it automatically overrules all other inputs. Each zone has an additional output to override local loudspeaker volume controls for priority announcements. Message distribution to the 6 zones can be activated from the Plena Digital Message Manager (via an RS232 link). In addition, the Plena Replay Software adds PC-based call station functionality plus message and BGM playback.

- The heart of a 6-zone call system

- 2 inputs for multiple loop-through call stations

- Separate music and call channels with dedicated tone controls

- Emergency input with VOX switching

- Selectable alarm tone, time signal and chimes

Plena Booster Amplifiers

The compact yet powerful mono booster ampli-
fiers are added to drive as many loudspeakers as
required. They are used with the universal and
system pre-amplifiers, and to supplement the
built-in power stage in the Plena Mixer Ampli-
fiers. Available with 120, 240 and 480 W output
power, they drive 70 V/100 V constant voltage
and low-impedance loudspeaker loads.
A temperature-controlled fan ensures high
reliability and low acoustic noise. The booster
amplifiers are protected against overload, short
circuits and over-heating.

A balanced loopthrough connector simplifies
connecting multiple booster amplifiers together
for increased output power. A 100 V line input is
provided to connect the booster amplifier to a
100 V loudspeaker line – useful for systems in
remote locations. The 480 W model also has dual
inputs with priority control and loopthrough, and
2 separate priority-controlled outputs that are for
example useful for overriding volume controls.

• Increase the power potential of Plena
  installations

• Up to 480 W in a single unit

• A choice of 70 V/100 V and low-impedance
  outputs

• Temperature-controlled fan for extra reliability

Plena BGM Source

The CD player/tuner is the perfect BGM source for any public address system.
Its professional quality CD player plays both normal audio CDs and CD-Rs with MP3-encoded music. With MP3 recorded CDs, up to 999 tracks can be programmed to play. The music can also be arranged in folders and played per folder. This allows the music choice to be adjusted for a specific occasion or time of day.

The digitally controlled FM/AM tuner uses a frequency synthesizer for accurate tuning and features 15 presets for storing favorite radio stations. Simultaneous operation of CD-player and tuner is possible via separate outputs. A mixed output provides the CD-signal and switches to the tuner signal if the CD stops to prevent an interruption in BGM if the CD is not changed immediately.

• Mono BGM source

• Professional CD-player with random and repeat functions (audio and MP3)

• Up to 1 day uninterrupted music from CD

• Digitally controlled FM/AM tuner with 15 presets

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Plena Message Manager

The Plena Digital Message Manager stores up to 12 separate messages recorded using the standard Windows® WAV file format. Via any of its 12 trigger inputs, it can replay announcements of up to 4 messages routed to user-determined zones (in combination with the Plena System Pre-Amplifier). Trigger inputs have sequential priority, and are remotely activated, although inputs 7 to 12 also feature front panel activation.

Messages are downloaded from a PC into the unit's built-in flash memory via RS232. Audio quality is set by adjusting the sampling rate from 24 kHz (near-CD quality) to 8 kHz (maximum message time of 500 seconds). The message manager functions as a stand-alone unit as the PC is disconnected once messages have been downloaded. The Windows® software (supplied) takes care of downloading messages and configuring and routing of announcements. The unit features built-in system checks and other safety features for providing emergency and evacuation messages in IEC60849-compliant systems.

- Up to 12 messages totaling up to 500 seconds

- 12 trigger inputs with front-panel and remote control

- Plays an announcement of up to 4 messages in sequence per trigger

- Zone control for the Plena System Pre-Amplifier

- Complies with IEC60849 for emergency sound systems

Plena Feedback Suppressor

The Plena Feedback Suppressor is an easy to use and ideal solution for applications like houses of worship and congress centres where microphone and loudspeakers are often in the same room and the annoying effect of feedback can occur.
A high-power floating point DSP is used with a revolutionary patented algorithm to suppress acoustic feedback already before it occurs, even within difficult acoustical environments. A smart combination of adaptive filtering, signal decorre-lation and dynamic echo suppression filters out the sound from the loudspeakers that reach the microphone again, while passing the sound from the original source. This process is continuous and completely automatic, so no difficult notch filters have to be set. Just switch on the unit and experience how much louder the volume can be set compared to the original (bypass) situation. Sounds like magic.

The unit also has 2 microphone inputs with built-in auto-mixer, that adjusts both inputs in such a way that the microphone that is spoken in loudest gets the highest gain, while keeping the summed gain constant for maximum feedback margin. This is ideal for a dual microphone set-up on a rostrum, pulpit or conference table.

- Acoustic feedback suppression based on unique and patented algorithm

- Pro-active operation: suppresses feedback before it occurs with up to 12 dB additional gain before feedback

- Very easy to install and operate

- Includes dual input automatic microphone mixer for voice tracking

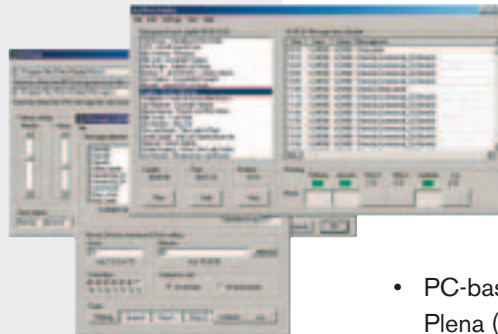- Ultimate solution for difficult acoustical environments

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Plena Call Station

Plena Call Stations feature a flexible stem condenser microphone with a stable metal base that also allows desk-top flush-mounting. There are all-call and 6-zone versions for use with the Plena System Pre-Amplifier. Selected zones and the active state of the microphone and system are indicated by LEDs on the call station. The call stations have selectable gain, a speech filter and limiter to improve intelligibility. Switches in the call station allow chimes to be selected. A matching table-top microphone is available for Plena Mixer Amplifiers and Pre-Amplifiers.

• All-call and 6-zone call stations for system pre-amplifier

• With a uni-directional condenser microphone on a flexible stem

• Selectable gain, speech filter and limiter

• Matching table-top condenser microphone
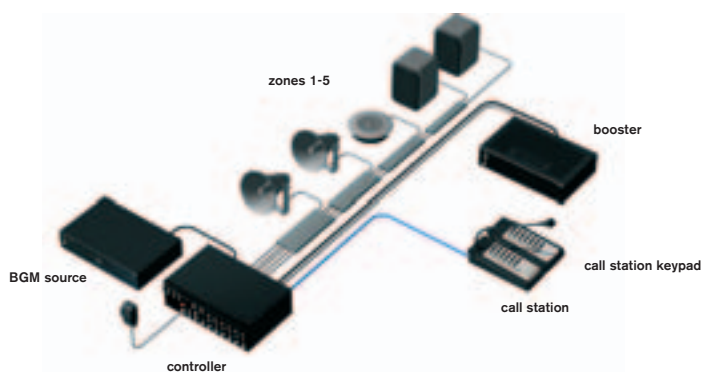
BGM

Plena Replay Software

The Plena Replay Software runs on a PC and manages and replays playlists of BGM (stored in compact MP3 format). It also manages and re-plays digitally recorded messages at pre-pro-grammed times. The software can be used with all Plena equipment. Connected to the system pre-amplifier via the RS232 port, Plena Replay System can be used also as a call station with full zone selection function-ality.

• PC-based call station functionality for all Plena (Mixer-) Amplifiers

• Windows® software for BGM source and time scheduled messenger

• Uses ultra-compact MP3 file format for music and WAV format for messages

• Broadcasts messages at user-programmed times

• Features zone selection with Plena System Pre-Amplifier
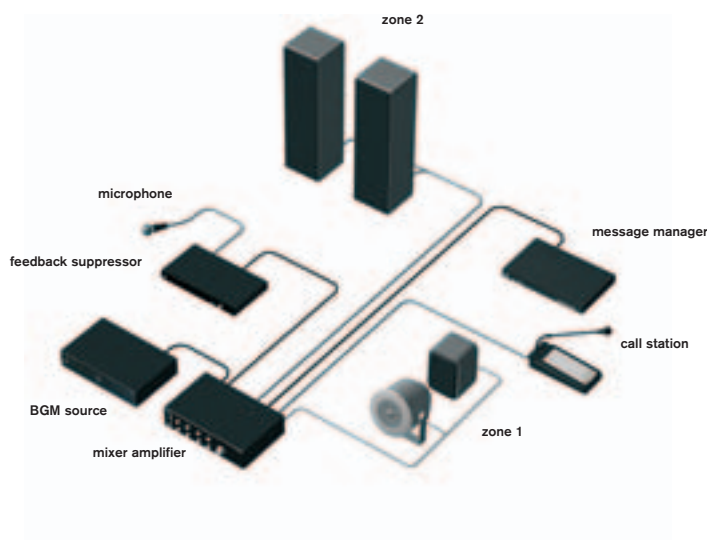
Basic voice alarm requirements

Dual zone public address with BGM

zones 1-5
booster
call station keypad
call station
BGM source
controller

zone 2
microphone
feedback suppressor
message manager
BGM source
call station
mixer amplifier
zone 1

- Restaurants
- Sport facilities
- Shops and small stores
- Small hotels

- Restaurants and hotels
- Offices and schools
- Civic centers and colleges
- Supermarkets and larger shops
- Warehouses
- Factories and work places
- Places of worship

In a stand-alone voice alarm system with up to 6 zones, the Plena Voice Alarm Controller with its built-in 240 W booster amplifier is an ideal plug-and-play solution. The front panel with integral supervised microphone functions as a fireman's panel, and an additional call station with a programmable keypad can be added to allow public address calls to be made using the same basic configuration.
If required, BGM can be implemented in selected zones. Up to 255 messages and chime tones are recorded as WAV files in the controller's supervised message manager.
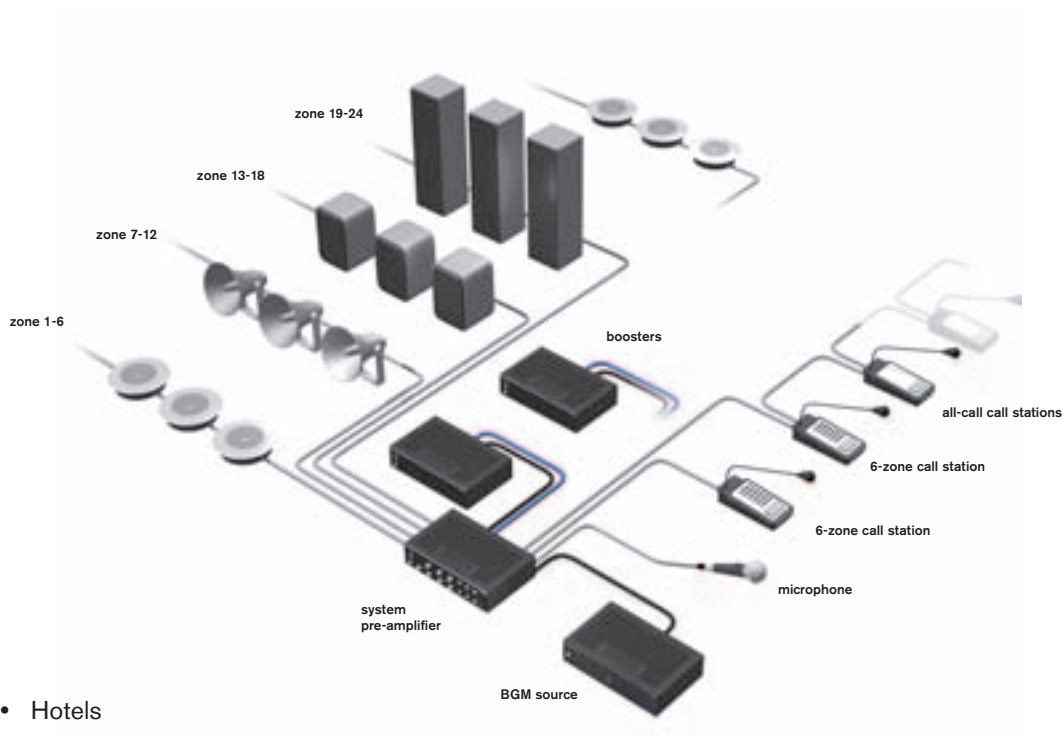
Medium-scale applications benefit from more functionality. So when you're confronted with a need for additional mixed inputs, chime attention tones or alarm tone generation, Plena is still the ideal choice. Even two-zone systems, with call and BGM functionality, are possible with 1 mixer amplifier. Plena's configurable functionality is enabled without software or special tools, but for even greater flexibility, a PC call station can be added using Plena Replay Software. Furthermore, the digital message manager brings near-CD audio quality to business and emergency messages. Feedback problems can easily be solved with the Plena Feedback Suppressor assuring you that amplified speech is clearly heard by the audience.
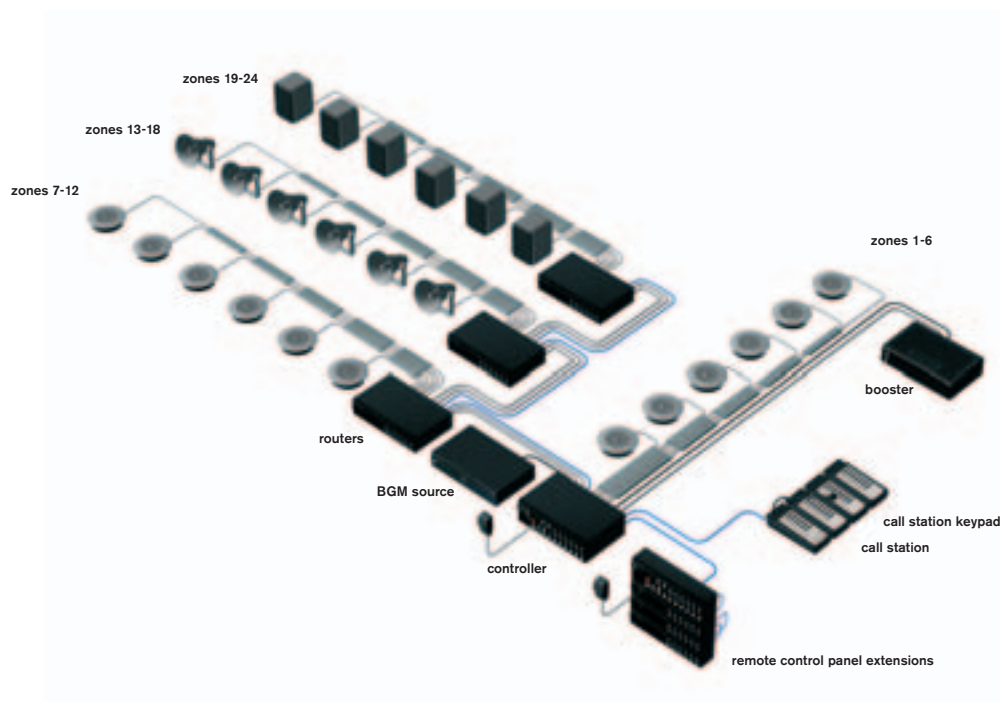
Six-zone dual-channel public address

zone 19-24

zone 13-18

zone 7-12

zone 1-6

boosters

all-call call stations

6-zone call station

6-zone call station

microphone

system
pre-amplifier

BGM source

- • Hotels
- • Leisure centers and swimming pools
- • Town halls
- • Shopping centers and department stores
- • Industrial buildings
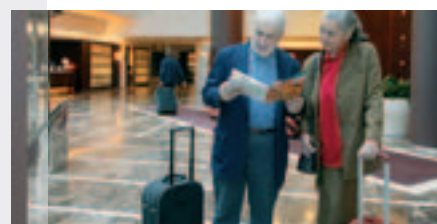- • Central railway stations and bus terminals

Unleash the full potential of the Plena System
Pre-Amplifier, and you have dual-channel, 6-zone
call systems with a choice of input priority modes.
The 'larger scale' applications, once only feasible
with expensive sound management systems, are
well within the reach of Plena Public Address. With
just a few type numbers, a wide variety of configu-
rations can be built. Even with limited sound man-
agement experience, you can create an ultimate
solution.

Voice alarm routing to additional zones

- Hotels
- Schools and universities
- Recreation facilities
- Shopping centers
- Factories and work places

A medium-sized two-channel voice alarm system with 24 zones is easily realized with a Plena Voice Alarm Controller and three routers (each providing routing for 6 zones). A Plena BGM Source provides music while additional Plena Booster Amplifiers are incorporated to provide power for the emergency call channel and as spare amplifier. The Plena Remote Control Panels allow the main equipment to be situated in a fire-retardant room or cabinet, and can also act as fireman's panels close to an emergency exit or the main entrance. The system can be easily extended using additional routers.

BOSCH

Tradition of quality and innovation
For over 100 years, the Bosch name has stood for
quality and reliability. Bosch Security Systems
proudly offers a wide range of fire, intrusion,
social alarm, CCTV, management and commu-
nication systems and components to help you
find the solution for any application. We are the
global supplier of choice for innovative techno-
logy backed by the highest level of service and
support. When you need solutions you can rely
on, choose Bosch.

Communication you can rely on

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