



MONACOR

**COMMERCIAL
AUDIO
SOLUTIONS**
EDITION 6



PROFESSIONAL AUDIO OVER IP SOLUTIONS

MADE IN GERMANY
by MONACOR 

MONACOR-DT, shaping up for the future ...

Thanks to the DT series, Audio over IP solutions with Dante® interfaces can now conveniently be implemented at a very attractive price. Taking centre stage is the speaker **WALL-05DTM**.

 **Dante®**



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70

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1

Know-how on 100 V PA Technology

Pleasant background music in restaurants, unobtrusive advertising in supermarkets or a clearly understandable presentation at conferences and conventions; comprehensive professional PA technology can be used for various applications in the public and commercial sector. The great variety of PA systems also requires a wide range of products. As specific as requirements may be, our extensive product range will certainly provide you with the right solution for your project.

This solutions brochure will show you various PA applications and gives useful information and advice in order to facilitate your decision, depending on the range of application. With numerous illustrative examples of application, the MONACOR product portfolio offers practicable solutions for versatile applications. The scenarios in this brochure can certainly provide you with further ideas and practice-oriented information for your own application. In any case, you will find out how complex this topic is which is influenced by numerous factors and requires comprehensive planning.

No matter whether buildings, sports facilities or wide open spaces, quite specific requirements are made on PA systems used for the reproduction of speech and music. This is exactly the right range of application for 100 V PA technology.

With professional 100 V technology, the audio signal is stepped up and then stepped down again at the speaker. Thus, it is possible to achieve a consistent and continuous sound radiation without the risk of performance loss when transmitting signals over greater distances, for example. Other advantages: the small cable cross section reduces cabling effort, facilitates installation and thus goes easy on your budget.

PA audio installations normally supply a mono signal (mono = sum L+R). Unlike a hi-fi stereo system as we know from applications at home, PA technology is mainly directed towards an audience which moves freely in a room and ought to hear the complete information at any position. However, stereo reception would be first choice for an audience which is always at an equal distance to the speakers, e.g. when sitting on the sofa at home.

A permanently installed PA system for consistent radiation of background music, announcements or for emergency announcements is suitable for most versatile applications:

- Supermarkets, department stores and shops
- Hotels and restaurants
- Sports fields and gyms
- Schools, universities and other educational institutions
- Office buildings, industrial buildings and warehouses
- Churches, chapels and mosques
- Cultural facilities, including museums or art galleries

In case, you are planning a more complex PA system with speaker distribution in several rooms, this can quickly result in long cable paths. Lengths of 100 m and more are quite common between audio source and speakers. Additionally, you may also want to adjust the volume individually for each room and have the facility to switch off the background music or disable announcements in certain rooms. For the specific application in a doctor's practice, this would mean that ...

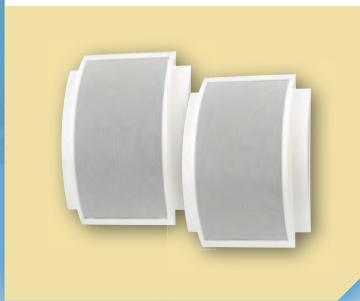
... pleasant and unobtrusive background music should be played in the hallway and waiting area,
 ... a CD or MP3 file should be played in the treatment rooms and
 ... announcements from the reception should be heard in the hallway, waiting area and treatment rooms. The volume of the currently playing music will be lowered and priority is given to the announcement.

This example shows: each area of a 4-zone solution can individually be supplied with high-quality music. An absolutely user-friendly operation, a top-quality sound and excellent speech intelligibility turn this audio solution into a high-performance PA system. This is only one of many examples. We have prepared a few more on the following pages.

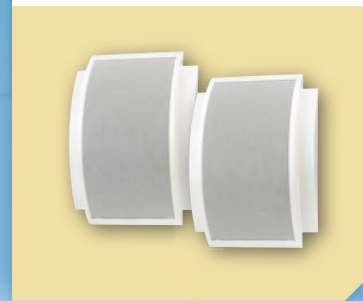
HALL WAITING ROOM



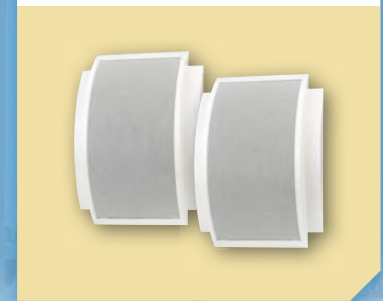
ROOM 1



ROOM 2



ROOM 3



MIXING
AMPLIFIER

SOURCE



Know-how on Audio over IP

100 V PA technology has been used as standard in the field of fixed PA installations for a long time now. In the digital age, however, requirements made on PA applications are constantly changing. Buildings should be smarter, cables almost invisible and speakers preferably be controlled from one central control panel. In fact, most digital mixers already feature a network interface. This means that Audio over IP solutions become more and more important, even on stage where analogue systems have dominated the scene so far. They also become increasingly easier to operate and are available at a more and more attractive price.

What does AoIP mean? And what are the benefits?

AoIP stands for Audio over Internet Protocol and is a solution for transmitting digital audio signals via IP network (usually a Local Area Network = LAN). The sound is divided into little digital packets and then transmitted to its destination using the network infrastructure. The IP address ensures that each audio packet is sent to the correct destination (usually a speaker), even when several different destinations are used (multiple speakers). The receiving station must be able to unzip the audio packets and assign them accordingly.

The audio signal uses the same connection as all other data in the network: mails, backups, merchandise management system, all Internet traffic. Separate leads for announcements and background music are not required. This technology also ensures a high level of flexibility during planning and implementation. Thus, cost-effective Ethernet cabling can be applied instead of heavy and often very expensive analogue cables or multicore cables. Above all, AoIP provides the user with more freedom:

- With an AoIP solution, you are able to distribute audio signals as required. You can address and configure each speaker individually. Depending on the transmission system, it is possible to display all speakers used in one room on the PC using a routing matrix. For a mutual communication, you only require a connection to the IP network.
- Audio components are connected via the network, signals distributed via virtual link.
- If audio data only consists of small data packets, the cable quality is no longer important. In this case, the only thing that matters is the data quality. Depending on the adjusted sampling rate, the data will be transmitted as produced without any further compression.

However, live concerts, recording studios, broadcasting, live debates or large sound installations mean that high demands are made on transmission speed, real-time capability and operating reliability of the network. For these applications, a network protocol is used which is specialised for audio transmissions: Dante®.

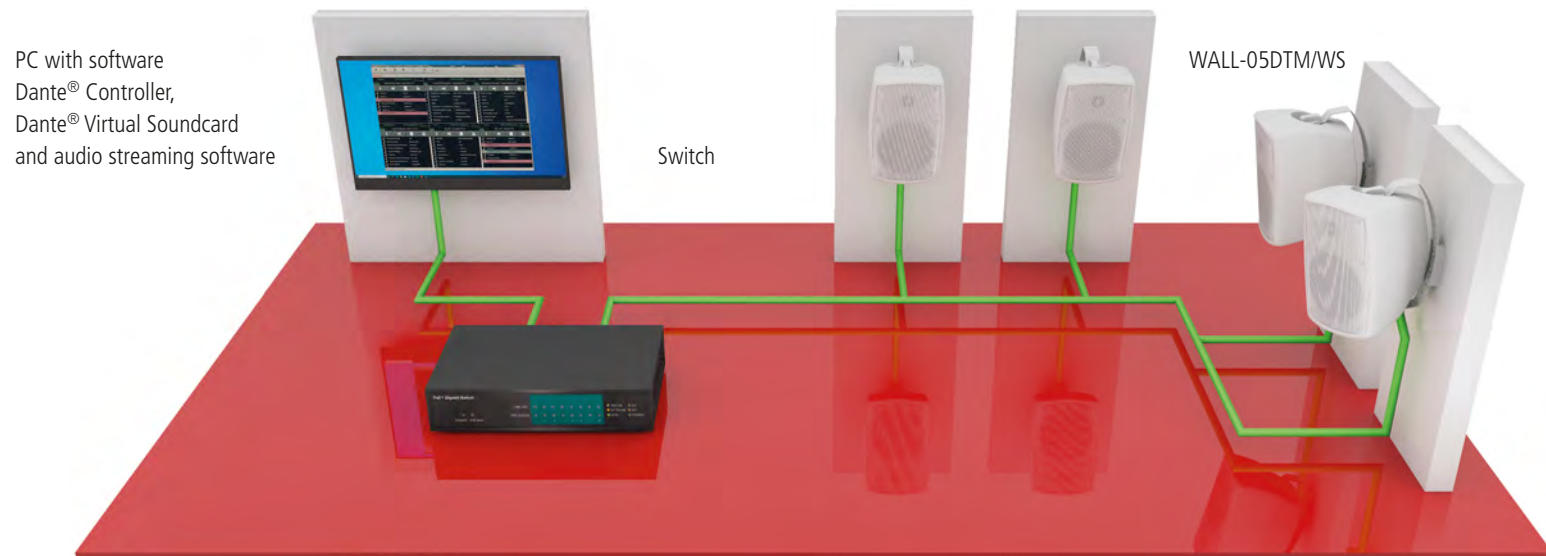
Real-time Audio Networks

Dante® is the next step in digital audio networks and stands for Digital Audio Network Through Ethernet. You can particularly benefit from Dante® solutions if signals have to be transmitted over a great distance, e.g. for fixed installations in shops, hotels, restaurants, schools or indoor sports facilities. It is possible to transmit uncompressed and synchronised audio signals with virtually no latency. Dante® can be used in parallel to an existing network which makes it a particularly attractive option. With digital transmissions, there is no interference from other electrical devices and greater cable distances are possible without degrading the quality of the signal.

The three most important components for Audio over IP transmission with Dante® interface are:

- Hardware modules: speakers, amplifiers, switches, speaker management systems
- The network protocol itself: the network protocol is the digital method to define rules, syntax and encryption according to which data packages are transmitted between hardware and software.
- The Dante® controller as control software: with the free software 'Dante® Controller', it is possible to determine from which specified Dante®-enabled device to which other specified Dante®-enabled receiver the audio signal is to be routed through the network. Sampling rates can be adjusted as required: the user can replay speech in a lower quality and music in a higher quality. Source and audio device have to feature the same sampling rate.

With network-enabled speakers and IP amplifiers from MONACOR, you will certainly find the perfect solution for any requirement. Reliable, easy and convenient operation: thanks to Dante® standards and the DT portfolio, the sky is the limit when it comes to possibilities.





Solutions for Retail Trade and Services



Supermarket

Flush-mount speakers
1,500–1,900 m²

Customer requirements:

- PA application with soft and pleasant background music
- Microphone announcements with excellent speech intelligibility
- Four separate PA zones for individual voice transmissions and music reproductions
- Reproduction of (Internet) radio or MP3 files

Solution

PA ceiling speakers EDL-15 provide a high-quality sound with consistent radiation and are therefore perfectly suitable for reproduction of music and speech in supermarkets. The 4-zone mono mixing amplifier PA-40120 allows you to set up a multi-zone system for an independent PA application in the sales area, storage area and sanitary facilities. For music reproductions, the audio player WAP-204RS features an integrated FM and DAB+ tuner as well as an integrated Internet radio. Microphone stations in the back office and in the checkout area allow for staff to quickly and easily make announcements to individual zones or all zones.

Products for this scenario:

38 x

EDL-15

Order No. 0163810

PA ceiling speaker



1 x

PA-40120

Order No. 0173220

4-zone mono mixing amplifier with 4 active
120 W outputs



1 x

WAP-204RS

Order No. 1000989

Internet radio, FM RDS and DAB+ tuner,
MP3 player



6 x

PA-4000RC

Order No. 0236010

PA 4-zone paging desktop microphone



Supermarket

Flush-mount speakers
1,500–1,900 m²



- Zone 1
- Zone 2
- Zone 3
- Zone 4

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

DIY Store

Flush-mount speakers and surface-mount speakers 1,600–1,900 m²

Customer requirements:

- Comprehensive PA application of highest speech intelligibility for the sales area including outdoor area and staff rooms
- Timed reproduction of announcements or advertising messages
- Microphone stations for the customer service desk, the back office or the checkout area
- Announcement facility via telephone system with A/B interface (PBX)
- PA application to be selected for 6 zones (indoors, outdoors, staff rooms, etc.)
- Robust and weatherproof speakers for open areas outdoors

Solution

Modern ball speakers EDL-420/WS also master most challenging acoustic conditions and are the first choice when it comes to speech reproductions in large rooms with high ceilings. The full range speaker of high power capability provides highest speech intelligibility and a consistent radiation across the entire sales area. Extra robust and weatherproof sound projectors EDL-110/WS are used for the outdoor area. Flush-mount speakers EDL-70/WS are applied in sanitary facilities and changing rooms, thus ensuring a comprehensive PA application across the entire area. Wall-mount speakers ESP-70/WS which are installed in the warehouse allow for an optimum intelligibility of announcements. The mono mixing amplifier PA-6600 of high efficiency is a real multi-talent. It can be used for most versatile applications and provides a power rating of 600 W. The insertion module PA-1120DMT which is integrated into the amplifier allows for time-controlled announcements, e.g. special offers or advertising messages. The microphone station PA-6000RC can be used for additional announcements to be made by staff at the customer service desk or the back office to reach individual zones or the entire DIY store. An additional 3 desktop microphones PA-4300PTT are located in the checkout area. The MAESTRO-1 allows for further announcements to be made by every telephone connected to the telephone system and also allows you to broadcast voice messages in MP3 format or WAV format.

Products for this scenario:

23 x

EDL-420/WS

Order No. 0161880

PA ball speaker (IP44)



7 x

EDL-110/WS

Order No. 0161930

Weatherproof PA wall and ceiling speaker



5 x

EDL-70/WS

Order No. 0163310

PA ceiling speaker with special 2-step mounting



4 x

ESP-70/WS

Order No. 0162120

PA wall speaker



1 x

PA-6600

Order No. 0172390

6-zone mono PA mixing amplifier



2 x

PA-6000RC

Order No. 0235370

PA zone paging desktop microphone



1 x

PA-1120DMT

Order No. 0174580

Digital message and timer insertion



3 x

PA-4300PTT

Order No. 0230980

PA desktop microphone (push-to-talk)



1 x

MAESTRO-1

Order No. 0176250

PA telephone announcement adapter



DIY Store

Flush-mount speakers and surface-mount speakers
1,600–1,900 m²



- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Small Shop

Flush-mount speakers
90–150 m²

Customer requirements:

- Pleasant and well-balanced background music in the sales area
- Audio streaming from a Bluetooth-enabled smartphone or tablet PC
- User-friendly operation of the entire system
- Versatile connecting facilities for additional audio sources
- Flush-mount speakers of an appealing design, matching the shop interior

Solution

Flush-mount speakers SPE-264/WS provide excellent background music and a powerful sound. The stereo mixing amplifier SA-250/SW features a particularly user-friendly operating concept, is clearly arranged and provides extensive adjustment options for each input channel. The Bluetooth audio receiver WSA-10BT is applied for wireless audio streaming from a tablet PC or smartphone.

Products for this scenario:

2 x

SPE-264/WS

Order No. 0104900

Pair of PA ceiling speakers



1 x

SA-250/SW

Order No. 0253390

Universal stereo mixing amplifier, 100 W



1 x

WSA-10BT

Order No. 0255800

Bluetooth audio receiver



Small Shop

Flush-mount speakers
90–150 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Small Shop

Surface-mount speakers
90–150 m²

Customer requirements:

- Background music for a pleasant surrounding to promote sales, without being obtrusive
- Music reproduction of MP3 files via connected USB flash drive
- User-friendly operation, even for non-technical users

Solution

The 2-way speaker systems WALL-06T/SW are perfectly integrated into the concept of the shop and provide a well-balanced sound for reproduction of pleasant and unobtrusive background music. For music reproductions, the class D mixing amplifier PA-812DAP features an integrated MP3 player with USB port for connecting a flash drive. In addition, it is equipped with a remote-controllable music module with Bluetooth receiver and an FM/DAB+ tuner. With two components only, the system remains uncluttered and impresses with an easy yet highly reliable operation.

Products for this scenario:

2 x

WALL-06T/SW

Order No. 0163600

Pair of 2-way PA speaker systems



1 x

PA-812DAP

Order No. 1000235

Mono class D PA mixing amplifier with integrated MP3 player, FM/DAB+ tuner and Bluetooth, 1 x 120 W



Small Shop

Surface-mount speakers
90–150 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Medium-sized Shop

Flush-mount speakers
150–210 m²

Customer requirements:

- Speakers with a high-quality sound yet unobtrusive appearance
- Excellent reproduction of background music, even at higher volume levels
- FM radio reception and reproduction of interference-free digital radio DAB+
- User-friendly and intuitive operation

Solution

Flush-mount ceiling speakers EDL-62HQ feature a flush fit protective metal grille which is magnetically attached to the speaker front. Thus, they can perfectly be integrated into the surrounding area and are ideally suited for unobtrusive indoor PA applications without having to compromise when it comes to the sound quality. The 2-way version provides a wide frequency range and high-quality music. The digital stereo tuner FM-102DAB is used to receive FM radio stations and the digital radio DAB+. There are presets for 20 radio stations available each for the reception of FM and DAB. The mono mixing amplifier PA-924 with a power rating of 240 W is used as a power amplifier.

Products for this scenario:

6 x

EDL-62HQ

Order No. 0163430

PA hi-fi wall and ceiling speaker, 30 W



1 x

PA-924

Order No. 0175060

Mono PA mixing amplifier

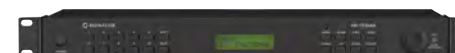


1 x

FM-102DAB

Order No. 0174490

Digital stereo tuner for reception of FM and DAB+



Medium-sized Shop

Flush-mount speakers
150–210 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Medium-sized Shop

Surface-mount speakers
130–210 m²

Customer requirements:

- Excellent sound characteristics for reproduction of background music
- Speakers which can perfectly be integrated into the shop interior
- Versatile audio sources for music reproduction: Internet radio, MP3 files or via Bluetooth connection
- Straightforward operation and highest reliability with perfect functionality

Solution

2-way speaker systems ESP-232/WS feature a 3 cm polypropylene bass-midrange speaker as well as a dome tweeter and provide a crystal-clear sound at any volume level. The metal speaker brackets allow for quick and easy mounting to the wall. Mono mixing amplifier PA-324 with a power rating of 1 x 240 W ensures a sufficient power supply of the 4 installed wall speakers. A connected audio player WAP-204RS allows you to access thousands of radio stations and podcasts worldwide. It can be connected to the Internet router either wireless (WLAN) or by using a cable (LAN). The Internet radio also features DAB+ reception and playback of audio files from USB storage medium or Bluetooth source. Each component delivers exceptional fidelity and combines a comprehensive PA application with an extremely easy and intuitive operation.

Products for this scenario:

4 x

ESP-232/WS

Order No. 0162610

Weatherproof 2-way PA wall-mount speaker system



1 x

PA-324

Order No. 0174420

Mono PA mixing amplifier



1 x

WAP-204RS

Order No. 1000989

Internet radio, FM RDS and DAB+ tuner, MP3 player



Medium-sized Shop

Surface-mount speakers
130–210 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Petrol Station

Surface-mount speakers
80–130 m²

Customer requirements:

- PA application with unobtrusive and high-quality background music throughout the sales area
- Compact and easy-to-use system, even for untrained staff
- Music reproduction via FM/DAB+ radio or of MP3 files via USB/SD interface
- Wireless connection facility of Bluetooth-enabled devices, e.g. smartphone or tablet PC

Solution

For a comprehensive PA application throughout the petrol station shop, we are using PA speaker systems ESP-215/WS. The 2-way system with 5 power taps ensures an optimum sound distribution throughout the entire sales area and ensures a reliable reproduction of both low and high frequencies. The speakers are driven by mono class D mixing amplifier PA-806DAP with a power rating of 60 W. Despite compact dimensions, the device combines wireless and cable-connected connection facilities with an impressive power capability and an easy operation. Extra high efficiency of the class D technology ensures minimum power consumption, improved heat generation and highest efficiency. Thanks to an integrated Bluetooth interface, wireless audio streaming from your music libraries onto a smartphone, tablet or laptop can easily be realised. Standard features also include an FM/DAB+ tuner and media player for memory cards or USB flash drives.

Products for this scenario:

3 x

ESP-215/WS

Order No. 0199990

Weatherproof PA speaker system



1 x

PA-806DAP

Order No. 1000234

Mono class D PA mixing amplifier, with integrated MP3 player, FM/DAB+ tuner and Bluetooth.



Petrol Station

Surface-mount speakers
80–130 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Hairdresser's

Surface-mount speakers 80–120 m²

Customer requirements:

- High-quality background music throughout the entire hairdresser's shop
- Intuitive operation of the PA system
- Versatile audio sources for music reproduction
- To use a smartphone, tablet or PC as an audio player
- Bluetooth support for music reproduction via mobile devices

Solution

Pleasant background music at a hairdresser's is to create a positive mood among customers. In addition to expert advice, this is an important part of the services offered. Thus, the applied PA system is very important. A total of 4 x PA speaker system WALL-06T/WS provide perfectly balanced background music. Each of the 2-way wall-mount speakers features a 16 cm (6") bass-midrange speaker and 25 mm dome tweeter. The pivoting and tilting wall bracket facilitates easy installation and allows for flexible alignment. A hi-fi multi-room amplifier IWA-50WIFI/WS provides music to all 4 speaker systems. The elegant flush-mount wall amplifier requires little space only, yet offers versatile features for a convenient operation. It supports audio sources via Wi-Fi, Bluetooth and AUX connection. Thus, audio players like smartphones, tablets or PCs with DLNA-compatible software are suitable for music reproductions. The integrated 3.5 mm input allows the class D amplifier with 2 x 25 W to turn into a music system for MP3 players or wired audio signals (e.g. CD player).

Products for this scenario:

2 x

WALL-06T/WS

Order No. 0163610

Pair of 2-way PA speaker systems



1 x

IWA-50WIFI/WS

Order No. 0179020

Hi-fi multi-room amplifier with Wi-Fi and Bluetooth



Hairdresser's

Surface-mount speakers
80–120 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Car Dealership

Flush-mount speakers and surface-mount speakers
900–1,300 m²

Customer requirements:

- Flexible multi-zone system for various areas of application
- Comprehensive music and speech reproduction for 8 zones
- High-quality column speakers with a powerful sound for the showroom
- Excellent speech intelligibility in each area of the building, including the very high entrance hall
- Weatherproof speakers for the outside display area
- Announcement facility at the reception, either to one zone or multiple zones
- Music reproduction via (Internet) radio, CD, MP3 player or via Bluetooth

Solution

High-quality 2-way column speakers are used for the PA application in the indoor and outdoor display areas. In the showroom, column speakers ETS-530TW/WS are unobtrusively integrated into the building complex. The additional integrated tweeter ensures a clearly improved sound. Weatherproof column speakers ETS-432TW/WS with IP66 certification are used for the outdoor installation. Mono power amplifiers PA-924S (1 x 240 W) and PA-948S (1 x 480 W) provide the necessary power. The other areas also feature a reliable PA application. Ceiling speakers EDL-118TW are installed into adjoining rooms and offices. The workshop features speakers WALL-06T/SW for a perfect audio reproduction. Sufficient power for both speaker series is ensured via 8-channel class D amplifier PA-1850D (8 x 50 W) and mono power amplifier PA-924S. Audio matrix DRM-884 is the centrepiece of the whole PA system and is able to easily meet the requirements of a multi-room installation with 8 zones. Users can combine signal sources, play one source in several zones or several sources in one zone and adjust the volume in each zone. Zone paging microphone DRM-884RC allows you to make announcements to any zone required. Audio players WAP-204RS and CD-112/BT are used for music reproductions.

Products for this scenario:

8 x

ETS-432TW/WS

Order No. 0163130

Weatherproof PA column speaker with a top-quality sound, IP66



4 x

ETS-530TW/WS

Order No. 0162660

PA column speaker



6 x

EDL-118TW

Order No. 0163850

PA ceiling speaker with integrated tweeter



3 x

WALL-06T/SW

Order No. 0163600

Pair of 2-way PA speaker systems



1 x

WALL-05T/WS

Order No. 0163590

Pair of 2-way PA speaker systems



1 x

PA-948S

Order No. 0177020

Mono PA power amplifier



2 x

PA-924S

Order No. 0177010

Mono PA power amplifier



1 x

PA-1850D

Order No. 0172960

8-channel class D PA amplifier



1 x

WAP-204RS

Order No. 1000989

Internet radio, FM RDS and DAB+ tuner, MP3 player



1 x

CD-112/BT

Order No. 0212940

CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot



1 x

DRM-884

Order No. 0176940

Audio matrix router



1 x

DRM-884RC

Order No. 0176990

PA zone paging microphone for DRM-884



4 x

DRM-884VP

Order No. 0176980

Wall module for volume control of DRM-884



Car Dealership

Flush-mount speakers and surface-mount speakers
900–1,300 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Shopping Mall

Flush-mount speakers and surface-mount speakers
1,200–1,600 m²

Customer requirements:

- A clear and natural music reproduction in all areas of the shopping mall, e.g. shops, hallways and sanitary facilities
- PA applications to provide announcements of highest speech intelligibility for advertising purposes and for giving information on upcoming events
- Quick and easy operation of the system in order to fully concentrate on customer service
- Compact and unobtrusive flush-mount ceiling speakers which can easily be integrated into the shop interior
- Reliable technology which has extensively been developed for full-time operation

Solution

An excellent sound quality and speech intelligibility, a high operating range and a comprehensive PA application are crucial factors for rooms of high acoustic requirements.

Digital audio signals are directed from the centre management's back office to a total of four zones. It is possible to provide each zone with an independent PA application, selecting a different playlist and volume level via PC with music software and installed Dante® Virtual Soundcard. Furthermore, it is possible to add tailor-made programs to the playlists to broadcast information or advertising and, if required, to allow for time-controlled playback. Dante®-enabled amplifiers PA-900DT and AKB-160DT have been applied in the shops.

As Dante® instreamers, they receive a digital audio signal via an existing local network and feed it into the on-site analogue audio system. The installed ceiling speakers EDL-62HQ provide a pleasant ambience at the point of sale. In the remaining areas, the installed active wall and ceiling speakers also guarantee a continuous PA application and feature an integrated 30 W amplifier as well as support Power over Ethernet to ensure a power supply via a connected PoE switch. Ceiling speakers EDL-80DT and column speakers ETS-630DT can both be addressed selectively (IP) and can stream high-quality multicast audio data. Each speaker can subsequently be assigned to groups and zones without changing hardware or cabling.

Products for this scenario:

32 x

EDL-62HQ

Order No. 0163430

PA hi-fi wall and ceiling speaker, 30 W



6 x

EDL-80DT

Order No. 0163480

Active 2-way flush-mount ceiling speaker with integrated Dante® module



2 x

AKB-160DT

Order No. 0176070

PA amplifier module with integrated Dante® module



8 x

ETS-630DT

Order No. 0163490

Active PA column speaker with integrated Dante® module



4 x

PA-900DT

Order No. 0176080

Mono PA mixing amplifier with integrated Dante® module



Shopping Mall

Flush-mount speakers and surface-mount speakers
1,200–1,600 m²



- Zone 1
- Zone 2
- Zone 3
- Zone 4

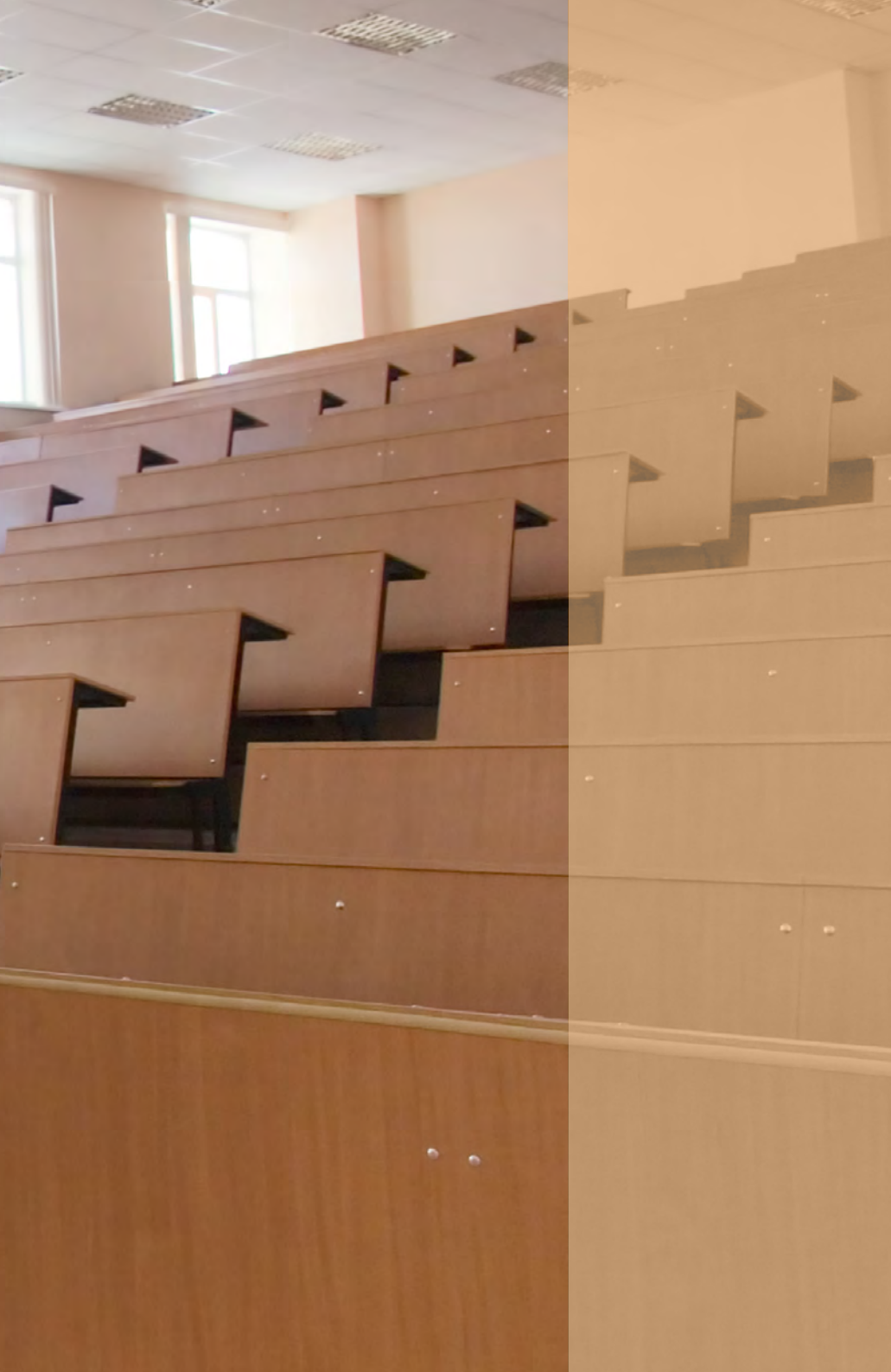


Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

 Dante®

 MONACOR





Solutions for Education and Houses of Worship

School

Surface-mount speakers 1,600–1,900 m²

Customer requirements:

- High speech intelligibility and clear announcements throughout the school premises
- Setting up of versatile call groups for specific information or intended elimination of certain areas which should not be disturbed
- Recess bell is to be transmitted in every building complex
- Powerful PA application in the assembly hall for different kinds of events, e.g. school parties
- Highest operating reliability due to 24 V emergency power supply in order to operate the system independently from the mains for a short period of time

Solution

For wide-ranging school premises, good speech intelligibility is top priority. We have applied 2-way speakers WALL-05T/SW and WALL-04T/WS for the different rooms. The combination of bass-midrange speakers and dome tweeters ensures clear announcements. To ensure a continuous PA application, we have additionally applied sound projectors RL-1EN and ball-proof speakers PAB-52WP/WS in the school's own gym. A total of 3 microphone stations PA-6000RC can be used for making announcements into each zone individually or a selected number of zones. With the MAESTRO-1, it is also possible to make announcements via the telephone system. The power amplifier PA-2240 and a 6-zone mono mixing amplifier PA-6240 reliably supply each of the PA zones. Digital message and timer insertion PA-1120DMT which is integrated into the amplifier allows you to create individual bell signals and break times. In order to ensure announcements to be made in case of an emergency, the system is connected to 24 V emergency power supply PA-24ESP. The PA system is complemented with a professional PA system for the assembly hall. Two high-performance speaker systems PAB-12WP/SW (200 W) ensure an excellent sound reproduction on smaller stages. The high-performance stereo class D PA amplifier STA-1000D, preamplifier PA-1414MX and versatile CD and MP3 player CD-112/BT have also been added to the system.

Products for this scenario:

10 x



RL-1EN
Order No. 0163680
PA sound projector for wall mounting with EN 54-24 certification

6 x



WALL-05T/SW
Order No. 0163580
Pair of 2-way PA speaker systems

5 x



WALL-04T/WS
Order No. 0163570
Pair of 2-way PA speaker systems

4 x



PAB-52WP/WS
Order No. 0253580
Weatherproof high-performance PA speaker system, 50 W

2 x



PAB-12WP/SW
Order No. 0253740
Weatherproof high-performance PA speaker system, 200 W, 8 Ω

1 x



PA-6240
Order No. 0172180
6-zone mono PA mixing amplifier

1 x



PA-1414MX
Order No. 0174770
10-channel PA preamplifier

1 x



PA-2240
Order No. 0170800
PA power amplifier

1 x



STA-1000D
Order No. 0255210
Stereo class D PA amplifier, 1,200 W

1 x



PA-1120DMT
Order No. 0174580
Digital message and timer insertion

1 x



CD-112/BT
Order No. 0212940
CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot

3 x



MAESTRO-1
Order No. 0176250
PA telephone announcement adapter

3 x



PA-6000RC
Order No. 0235370
PA zone paging desktop microphone

1 x



PA-24ESP
Order No. 0243120
24 V emergency power supply

1 x



PATL-105
Order No. 1000266
5-way 100 V transformer for connecting a 100 V audio signal source to devices with line inputs

2 x



NPA-12/24I
Order No. 1000922
Rechargeable lead-acid battery, 12 V, 24 Ah, VRLA

School

Surface-mount speakers
1,600–1,900 m²



- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Classroom

Surface-mount speakers 70–120 m²

Customer requirements:

- Well-balanced and consistent sound radiation with high speech intelligibility at any seating position in the room
- Laptop or computer to be used as an audio source
- Wireless audio transmission via Bluetooth
- Easy and straightforward operation, even for inexperienced users
- Compact and space-saving system

Solution

With PA speaker systems ESP-232/WS, it is possible to have a comprehensive PA application in the entire classroom. The 2-way speakers provide a high-quality sound which ensures highest speech intelligibility at any seating position in the room. The compact and highly space-saving mini amplifier SA-160BT features an output power of 60 W which is distributed onto 2 channels and allows for wireless streaming via Bluetooth. It is also possible for different users to operate the system thanks to an easy and intuitive operation of each component.

Products for this scenario:

2 x

ESP-232/WS

Order No. 0162610

Weatherproof 2-way PA wall-mount speaker system



1 x

SA-160BT

Order No. 0256010

Mini stereo amplifier, 2 x 30 W, with Bluetooth interface, NFC and remote control



Classroom

Surface-mount speakers
70–120 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Lecture Hall

Surface-mount speakers
220–400 m²

Customer requirements:

- PA application to cover the entire lecture hall as well as providing high speech intelligibility
- Excellent sound quality, even at higher volume levels
- Flexible and multifunctional use of the entire PA system
- Wireless media playback via laptop or other portable audio players
- Connection of a headband microphone for the speaker
- Barrier-free studying: induction loop to transmit the sound of the microphone directly to the hearing aid

Solution

High-end column speakers ETS-360TW/WS impress with an incredibly dynamic and complete sound, ensure highest speech intelligibility at any listening position and thus allow for attentive listening, even for several hours. Due to a precise sound radiation and a frequency range optimised for music, column speaker ETS-360TW/WS is a speaker system which is suitable for versatile applications: for lectures, panel discussions as well as for official celebrations with musical programme. It is also possible to establish a wireless connection between laptop and audio system via Bluetooth audio receiver WSA-10BT, if required. As the last step of signal amplification, preamplifier PA-1414MX and power amplifier PA-2240 ensure a perfect sound. Large rooms, crowds, distracting background noise: these circumstances make attentive listening very difficult, particularly for the hearing impaired. In the lecture hall, hearing aids receive wireless audio signals via an installed induction loop which is driven by active loop amplifier LA-402.

Products for this scenario:

6 x

ETS-360TW/WS

Order No. 0162270

High-end column speaker in a wooden cabinet of compact size



1 x

PA-1414MX

Order No. 0174770

10-channel PA preamplifier



1 x

PA-2240

Order No. 0170800

PA power amplifier



1 x

LA-402

Order No. 0179160

Active loop amplifier for rooms up to 750 m²



1 x

WSA-10BT

Order No. 0255800

Bluetooth audio receiver



1 x

TXA-802SR

Order No. 0172990

2-channel multifrequency receiver



1 x

TXA-800HT

Order No. 0172260

Hand-held microphone with integrated multifrequency transmitter



1 x

TXA-800HSE

Order No. 0172250

Multifrequency pocket transmitter



1 x

TXA-800PS

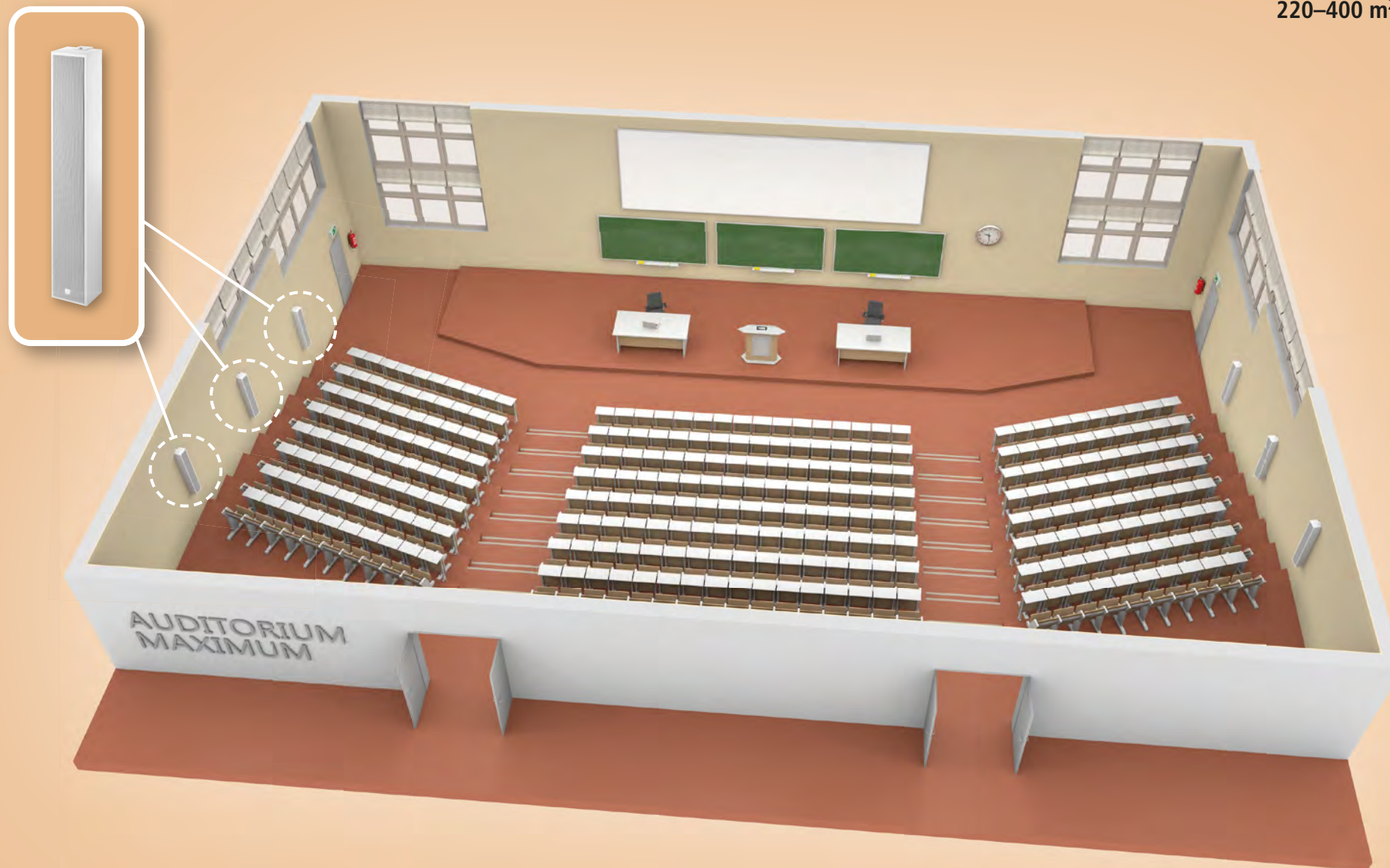
Order No. 0252140

Intelligent PWM quick-charge station



Lecture Hall

Surface-mount speakers
220–400 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Church

Surface-mount speakers 950–1,300 m²

Customer requirements:

- High-quality sound and music reproduction
- Consistent sound radiation, even in difficult acoustic conditions
- Frequency-stable radiation of each speaker
- Hearing assistance directly to hearing aids or inductive receivers through magnetic induction
- Versatile use, e.g. for church service, concert or theatrical performance

Solution

PA column speakers ETS-340TW/WS and ETS-120SL/WS provide the perfect sound in a challenging acoustic environment. The slimline design allows for an architecturally unobtrusive installation. No matter whether you are sitting in the first row or last row, the speakers deliver a clear and precise reproduction of speech and music without any acoustic feedback. The splitter PA-24AD is used to transmit the signals to the 120 W mono mixing amplifier PA-900S as well as the class D amplifier PA-1850D. For inductive transmission of speech and music, we have applied loop amplifier LA-202. The inductive receiver LR-202 then receives the electromagnetic field which is created by an induction loop and converts it into an audio signal for the audience. The CD-112/BT is used as an audio player which can play both CDs and MP3 files and features an integrated Bluetooth receiver.

Products for this scenario:

4 x

ETS-120SL/WS

Order No. 0163450

Pair of line array design speakers in slimline extruded aluminium cabinets



2 x

ETS-340TW/WS

Order No. 0162250

High-end column speaker



1 x

PA-1414MX

Order No. 0174770

10-channel PA preamplifier



1 x

PA-900S

Order No. 0172080

Mono PA power amplifier



1 x

PA-1850D

Order No. 0172960

8-channel class D PA amplifier



1 x

PA-24AD

Order No. 0171890

10-way PA line splitter

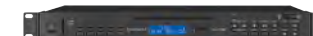


1 x

CD-112/BT

Order No. 0212940

CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot



1 x

LA-202

Order No. 0176360

Active loop amplifier



1 x

LR-202

Order No. 0176370

Induction loop receiver



1 x

ECM-310P

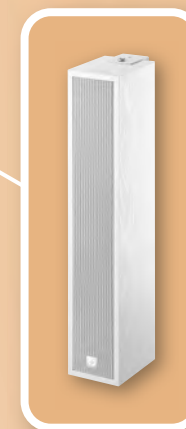
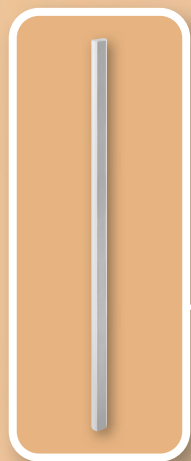
Order No. 0232430

PA desktop microphone with gooseneck



Church

Surface-mount speakers
950–1,300 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Mosque

Surface-mount speakers 270–420 m²

Customer requirements:

- Speech reproduction for acoustic amplification, e.g. of prayers or sermons
- Natural sound and high speech intelligibility throughout the entire mosque, despite challenging and difficult room acoustics
- Elegant speakers for an unobtrusive integration into the existing architecture
- Versatile audio player for playback of the Qur'an and for other media
- Hearing assistance directly to hearing aids or inductive receivers through electromagnetic induction

Solution

Column speakers ETS-120SL/WS and ETS-340TW/WS are of an elegant and unobtrusive design and thus can perfectly be integrated into the architecture of a mosque. Despite their unobtrusive appearance, you do not have to make any compromises when it comes to sound quality. There are no unwanted reflections from walls or ceilings because the sound energy is emitted directly towards the audience. The PA-24AD distributes the signal to the connected mono class D power amplifier PA-1250D and the class D amplifier PA-1450D. The signal is transmitted to the inductive receiver LR-202 via loop amplifier LA-202 using electromagnetic induction. The CD and MP3 player CD-112/BT is used for audio reproductions and features a USB port, an SD/MMC card slot and a Bluetooth receiver.

Products for this scenario:

2 x

ETS-120SL/WS

Order No. 0163450

Pair of line array design speakers in slimline extruded aluminium cabinets

4 x

ETS-340TW/WS

Order No. 0162250

High-end column speaker

1 x

PA-1414MX

Order No. 0174770

10-channel PA preamplifier

1 x

PA-1250D

Order No. 0173860

Mono class D PA power amplifier

1 x

PA-1450D

Order No. 0172950

4-channel class D PA amplifier

1 x

PA-24AD

Order No. 0171890

10-way PA line splitter

1 x

CD-112/BT

Order No. 0212940

CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot

1 x

LA-202

Order No. 0176360

Active loop amplifier

1 x

LR-202

Order No. 0176370

Induction loop receiver

1 x

TXA-802SR

Order No. 0172990

2-channel multifrequency receiver

1 x

TXA-800HT

Order No. 0172260

Hand-held microphone with integrated multifrequency transmitter

Mosque

Surface-mount speakers
270–420 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.





Solutions for Leisure, Health Care and Residential Care



Football Pitch

Surface-mount speakers
7,200–10,500 m²

Customer requirements:

- Reliable and efficient all-round solution with a high sound pressure and top-quality audio reproduction, even for music with high volume levels
- Excellent speech intelligibility across the entire ground
- CD player for various audio players (incl. MP3 reproduction, FM/AM tuner and USB port)
- Robust and weatherproof speakers for fixed installations at poles or the stands
- Microphone for announcements

Solution

The volume level of the audience at sporting events is particularly challenging for the applied PA technology. Weatherproof music horns IT-400TW with IP66 certification provide a powerful, yet precise sound, which ensures announcements to remain understandable. For a detailed music reproduction, the IT-400TW feature a dynamic cone bass-midrange speaker and horn tweeter which ensure a distinct bass volume. The audio player is connected to the high-performance mono mixing amplifier PA-948 with 480 W. The highly versatile CD and MP3 player CD-112RDS/BT features an integrated FM RDS tuner, USB port as well as SD/MMC card slot and thus perfectly meets every requirement. A wireless connection to a laptop, smartphone or tablet can be established via the Bluetooth receiver. The PDM-302 is available for informing visitors or commenting sporting events, etc.

Products for this scenario:

8 x

IT-400TW

Order No. 0162580

Weatherproof horn speaker (music horn),
2-way technology



1 x

PA-948

Order No. 0175070

Mono PA mixing amplifier



1 x

CD-112RDS/BT

Order No. 0212950

CD and MP3 player with FM RDS tuner
and Bluetooth receiver



1 x

PDM-302

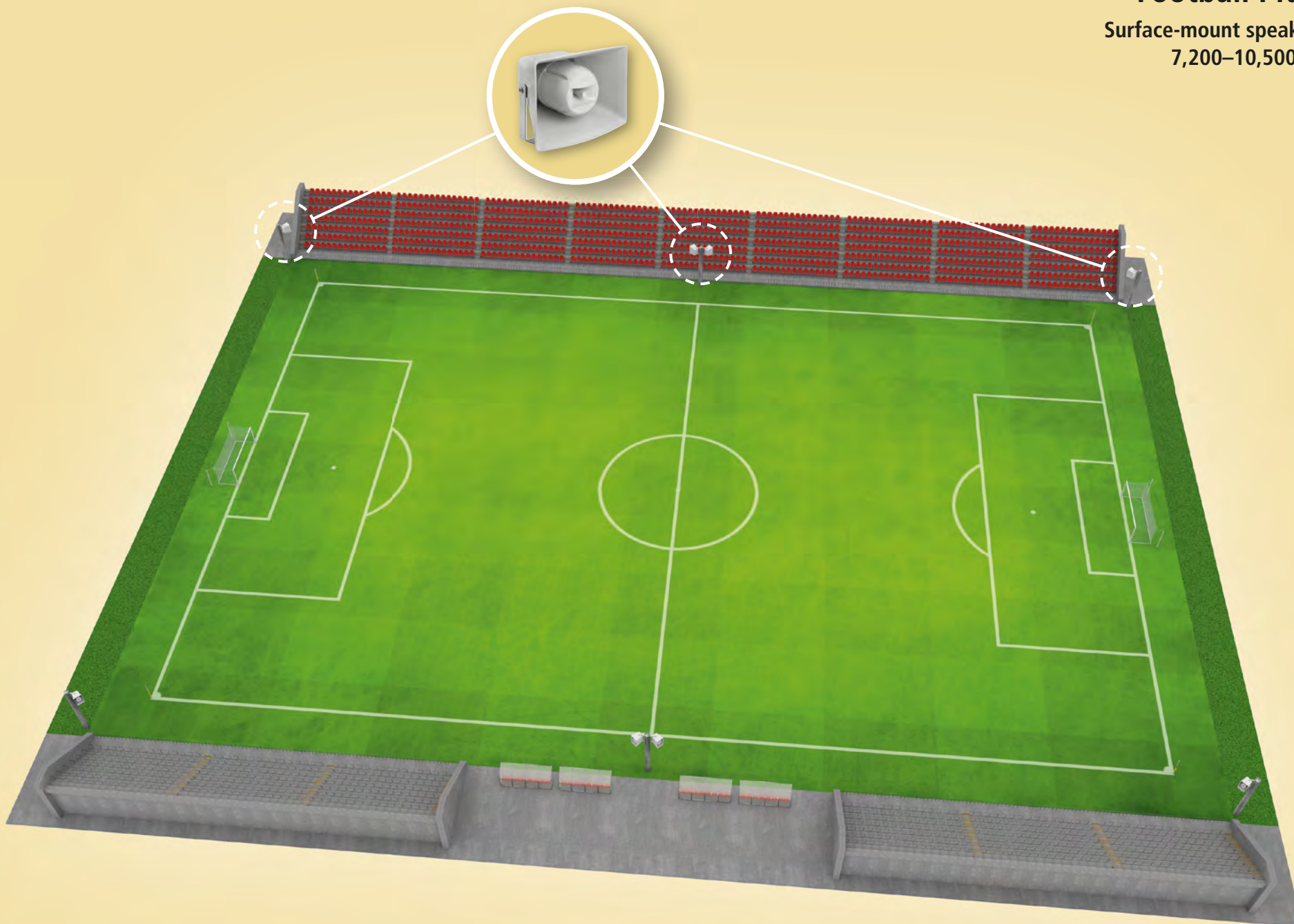
Order No. 0235560

PA desktop microphone with gooseneck



Football Pitch

Surface-mount speakers
7,200–10,500 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Campsite

Flush-mount speakers and surface-mount speakers 2,800–5,500 m²

Customer requirements:

- Robust and reliable PA system for announcements and instructions from staff with a high speech intelligibility
- 6 separate PA sound zones, to be controlled individually
- Unobtrusive background music indoors, including restaurant and reception area
- Music reproduction via FM radio or DAB+
- High-quality weatherproof speaker systems in the outdoor area of the restaurant
- Zone paging microphone in the back office or at the reception
- Highest operating reliability due to 24 V emergency power supply

Solution

The PA system on a campsite is mainly required for voice reproductions. For the wide open area, we have applied weatherproof horn speakers IT-40 with IP66 certification. Unobtrusive background music is additionally required for both the entrance area with an adjoining little restaurant and sanitary facilities of the main building. In the restaurant, we have applied hi-fi ceiling speakers ESP-22/WS. The 2-way version (full range speaker with pivoting dome tweeter) ensures an excellent sound quality. In addition, we have also applied 2-way speaker systems ESP-232/SW with IP55 certification to provide well-balanced and unobtrusive background music on the terrace of the restaurant. In the sanitary facilities, we have applied compact flush-mount speakers EDL-22/WS. All 4 speaker series are driven by mono mixing amplifier PA-6480 with a power rating of 480 W for up to 6 zones. A connected desktop microphone PA-4000PTT in the office or at the reception is used as a microphone station for making important announcements. It is also possible to play stored messages via digital message insertion module PA-1120DMT (time-controlled) which is integrated into the amplifier. If the operation is to be maintained during a power failure, connection to a 24 V emergency unit PA-24ESP is recommended. The music for the background is inserted via digital stereo tuner FM-102AB.

Products for this scenario:

6 x

IT-40

Order No. 0161360

Weatherproof horn speaker



2 x

ESP-22/WS

Order No. 0161670

PA hi-fi wall and ceiling speaker



2 x

ESP-232/SW

Order No. 0162600

Weatherproof 2-way PA wall-mount speaker system



2 x

EDL-22/WS

Order No. 0162770

PA ceiling speaker



1 x

PA-6480

Order No. 0172190

6-zone mono PA mixing amplifier



1 x

PA-1120DMT

Order No. 0174580

Digital message and timer insertion

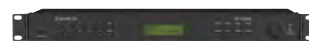


1 x

FM-102DAB

Order No. 0174490

Digital stereo tuner for reception of FM and DAB+



1 x

PA-4000PTT

Order No. 0236000

PA desktop microphone (push-to-talk)



1 x

PA-24ESP

Order No. 0243120

24 V emergency power supply



2 x

NPA-12/24I

Order No. 1000922

Rechargeable lead-acid battery, 12 V, 24 Ah, VRLA



Campsite

Flush-mount speakers and surface-mount speakers
2,800–5,500 m²



- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Escape Room

Flush-mount speakers and surface-mount speakers 220–310 m²

Customer requirements:

- Excellent sound quality of applied speaker systems, for both music and voice reproductions
- Continuous PA application for each room, including theme rooms, foyer and sanitary facilities
- Different areas of operation require a flexible multi-zone control in order to route multiple audio signals to any output
- A microphone station has to be available in the control room for hints and clues from the game master

Solution

For hobby detectives or anyone who loves to solve riddles, escape room games are an excellent leisure activity. A small group of people have got an hour to find their way out of a locked room. Hidden clues and mysterious riddles must be solved using logical thinking, team spirit and creativity. A flexible multi-zone system is required to provide each room with different audio sources (miking as well as music). For the foyer as well as for the sanitary facilities, we have applied ceiling speakers EDL-70/WS or EDL-22/WS. The theme rooms have been fitted with speaker systems WALL-05T/SW. The 2-way system with 13 cm (5") bass-midrange speaker and 12 mm dome tweeter ensures a very high sound quality. The team can use boundary microphone ECM-302B to ask the team leader for help who communicates via zone paging microphone ARM-880RC. The team leader can also listen to each of the 3 theme rooms via additionally applied PA speaker EUL-75/WS in the control room. Furthermore, 4 x CD and MP3 player CD-112/BT is available for an independent PA application in each of the music zones. This is made possible via audio matrix router ARM-880 which allows you to route up to 8 audio sources to an equal number of zones. A wall module ARM-880WP2 is used for remote control. The class D amplifier PA-1850D (8 x 50 W) provides the voltage for the connected speaker series.

Products for this scenario:

3 x



WALL-05T/SW

Order No. 0163580

Pair of 2-way PA speaker systems

3 x



EDL-70/WS

Order No. 0163310

PA ceiling speaker with special 2-step mounting

2 x



EDL-22/WS

Order No. 0162770

PA ceiling speaker

1 x



EUL-75/WS

Order No. 0162500

PA speaker system

1 x



PA-1850D

Order No. 0172960

8-channel class D PA amplifier

4 x



CD-112/BT

Order No. 0212940

CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot

1 x



ARM-880

Order No. 0173800

Audio matrix router

1 x



ARM-880RC

Order No. 0173810

PA zone paging microphone

1 x



ARM-880WP2

Order No. 0173840

Wall module for remote control of audio matrix router ARM-880

3 x



ECM-302B

Order No. 0232370

Boundary microphone

Escape Room

Flush-mount speakers and surface-mount speakers
220–310 m²



- Zone 1
- Zone 2
- Zone 3
- Zone 4
- Zone 5
- Zone 6

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Museum

Flush-mount speakers and surface-mount speakers 1,700–2,000 m²

Customer requirements:

- Unobtrusive music radiation which is to be controlled individually for foyer, restaurant and museum shop
- Announcement facility with paging function and priority circuit
- To reduce volume level of the background music automatically for announcements which are to be routed to a selected zone or all zones
- For the exhibits, compact external media players are available for reproduction of individual audio files
- Setting up an inductive sound system for wireless reception of audio signals
- Portable tour guide system which ensures unrestricted movement during guided tours of a museum

Solution

For the foyer, we have applied 2-way pendant speakers EDL-435/WS. They provide background music with a homogeneous sound distribution. In addition, we have applied hi-fi speakers EDL-62HQ in the shop and restaurant, ceiling speakers EDL-82/WS in the sanitary facilities and flush-mount speakers EDL-25 in the exhibition area. Mono mixing amplifier PA-6480 with a power rating of 480 W is used for operating all of the passive speaker systems. It features 100 V outputs for a maximum of 6 PA zones with individual volume control. The insertion module PA-1200RDSU and zone paging microphone PA-6000RC complement the wide variety of applications possible with the amplifier. Any visitor wishing to have a spontaneous audio tour without prior notice can receive further information on the exhibits via insertion modules DMP-102. The loop amplifier LA-202 and inductive receiver LR-202 ensure wireless reception of the signal inserted into the inductive loop. Within the loop, any number of receivers can be operated which are available at the ticket counter, if required. At the same time, the electromagnetic audio signal sent via the ring loop can also be used via the T-coil of a hearing aid. In case of an announcement, it will be transmitted to the induction loop with highest priority and the running programme will be interrupted for the duration. Voice transmission system ATS-80T or ATS-80R is available for guided museum tours.

Products for this scenario:



6 x

EDL-25
Order No. 0161440
PA ceiling speaker



5 x

EDL-62HQ
Order No. 0163430
PA hi-fi wall and ceiling speaker, 30 W



3 x

EDL-435/WS
Order No. 0163460
High-quality 2-way PA pendant speaker



2 x

EDL-82/WS
Order No. 0161490
PA ceiling speaker



1 x

PA-6480
Order No. 0172190
6-zone mono PA mixing amplifier



5 x

LA-202
Order No. 0176360
Active loop amplifier



10 x

LR-202
Order No. 0176370
Induction loop receiver



5 x

DMP-102
Order No. 0177090
Compact MP3 player insertion module with USB port and SD/MMC card slot



1 x

PA-1200RDSU
Order No. 0175030
FM/AM RDS tuner insertion with USB port



1 x

PA-6000RC
Order No. 0235370
PA zone paging desktop microphone



24 x

ATS-80R
Order No. 0250001
42-channel PLL receiver



1 x

ATS-80T
Order No. 0250002
42-channel PLL transmitter for microphone operation and audio line signals



1 x

ATS-825C
Order No. 0179450
Transport case with integrated charging function for transmitters and receivers of the ATS-80 series

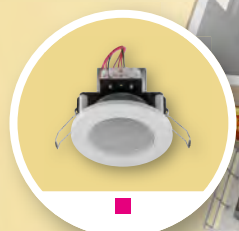
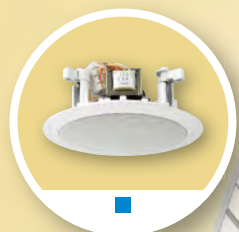
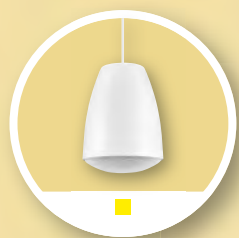


1 x

PATL-105
Order No. 1000266
5-way 100 V transformer for connecting a 100 V audio signal source to devices with line inputs

Museum

Flush-mount speakers and surface-mount speakers
1,700–2,000 m²



Zone 1

Zone 2

Zone 3

Zone 4

Zone 5

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Indoor Riding Arena

Surface-mount speakers

800–1,200 m²

Customer requirements:

- Music reproduction with an excellent sound quality, e.g. for background music during dressage training
- Versatile audio player for the reproduction of various audio sources
- Compact microphone with two-way communication for riding lessons
- Applied speakers to provide an excellent sound
- Robust speakers, insusceptible to dust, heat and moisture

Solution

Music horns IT-350/EN have been applied for a homogeneous sound distribution in an indoor riding arena. No matter whether they are used for basic riding lessons or at competitions, the 2-way technology allows for a high-quality music reproduction as well as meets high musical standards. The speaker with IP66 certification is resistant to dust, heat and moisture and perfectly meets the challenging requirements of an indoor riding arena. The mono mixing amplifier PA-924 provides an output power of 1 x 240 W and features versatile connection facilities. The multi-purpose audio player CD-112RDS/BT is used for music reproduction and plays CDs as well as MP3 files and also features additional reproduction options via radio and Bluetooth.

With the digital voice transmission system ATS-22, riding lessons are going to be even easier: riders are provided with an extra lightweight receiver ATS-22R and an unobtrusive earphone. Instructions of the riding instructor are communicated via transmitter ATS-22T. The highlight: thanks to the two-way communication function, it is possible for the riding pupil to ask questions, too. Another advantage: hands-free operation allows for the instructor and rider to move freely within the operating range of up to 70 metres. A desktop microphone PDM-302 can be connected to the PA system for commentating riding competitions, for example.

Products for this scenario:

4 x



IT-350/EN

Order No. 0163950

Weatherproof 2-way horn speaker
(music horn)

1 x



PA-924

Order No. 0175060

Mono PA mixing amplifier

1 x



CD-112RDS/BT

Order No. 0212950

CD and MP3 player with FM RDS tuner and
Bluetooth receiver

1 x



ATS-22R

Order No. 0257110

16-channel miniature receiver

1 x



ATS-22T

Order No. 0257120

16-channel miniature transmitter

1 x



ATS-12CB

Order No. 0255660

Transport bag with integrated charging
function

1 x



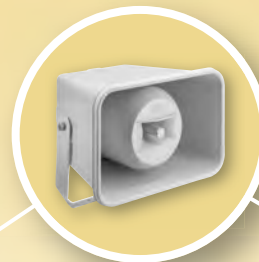
PDM-302

Order No. 0235560

PA desktop microphone with gooseneck

Indoor Riding Arena

Surface-mount speakers
800–1,200 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Swimming Pool

Flush-mount speakers and surface-mount speakers
1,500–1,900 m²

Customer requirements:

- Excellent speech intelligibility for announcements made via the connected microphone
- High-quality music reproduction for training courses, e.g. aqua jogging
- Versatile playback options for background music, e.g. from CD or MP3 files
- Moisture-proof speakers, protected against high humidity

Solution

Speaker systems ESP-250/WS with 2-way system provide a consistent and high-quality sound radiation in the swimming pool area. Ceiling speakers EDL-158 ensure that announcements made are also clear and understandable in the changing rooms and in the entrance area. Matrix router ARM-880 is used for signal transmission and allows you to route up to eight different audio sources to an equal amount of speaker zones. With the connected zone-paging microphone ARM-880RC, you can make sure that announcements made are clear and understandable, either in certain zones or in every zone and, if required, with priority circuit. In order to allow for a reproduction of unobtrusive background music, audio player CD-112RDS/BT features a Bluetooth receiver for a wireless connection of laptops, smartphones or tablets. It is, of course, also possible to playback CDs or MP3 files from USB storage media and SD/MMC cards. Power amplifier PA-4240 allows you to implement up to 4 speaker lines and is controlled via the audio output of the ARM-880.

Products for this scenario:

6 x



ESP-250/WS

Order No. 0162780

PA speaker system in a weatherproof, white plastic cabinet with protective aluminium grille

24 x



EDL-158

Order No. 0162930

Weatherproof PA ceiling speaker, heat-resistant up to 100 °C



1 x

PA-4240

Order No. 0170820

PA power amplifier



1 x

CD-112RDS/BT

Order No. 0212950

CD and MP3 player with FM RDS tuner and Bluetooth receiver



1 x

ARM-880

Order No. 0173800

Audio matrix router

1 x



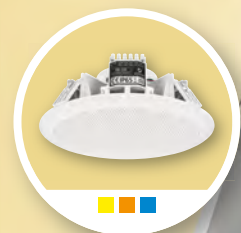
ARM-880RC

Order No. 0173810

PA zone paging microphone

Swimming Pool

Flush-mount speakers and surface-mount speakers
1,500–1,900 m²



Zone 1

Zone 2

Zone 3

Zone 4

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Fitness Centre

Flush-mount speakers and surface-mount speakers 520–840 m²

Customer requirements:

- Flexible and high-quality multi-zone solution for reproductions of music and speech
- Unobtrusive background music in the bar area as well as in the changing rooms
- Excellent sound quality in the training room with a rich and powerful bass for a motivating environment during training sessions
- Versatile playback options for music reproductions in the entire fitness centre
- Optional: connection of a wireless microphone for sessions in the training room

Solution

Flush-mount ceiling speakers EDL-118TW provide pleasant background music in the entire fitness centre, including the training area, changing rooms and the lounge area. The 100 V speakers feature an excellent sound quality with a consistent radiation pattern. Power amplifier PA-4240 with 4 x 240 W drives the connected speakers and ensures a reliable operation. With mixer MPX-4PA, it is possible to implement 2 independent zones with versatile routing options for each input channel. The workout area is provided with a powerful music reproduction for a motivating training ambience, whereas the bar area and changing rooms feature a pleasant and unobtrusive sound. Audio player WAP-204RS offers versatile playback options, e.g. Internet radio, FM RDS and DAB+ tuner or MP3 player.

The PA application in the course room has to meet special requirements: various playback options, powerful sound with a powerful bass, simple operation and highest reliability. Speakers EUL-2/SW with a high efficiency and 2 x 20 cm (8") bass speaker and a dynamic 25 mm horn tweeter combined with a subwoofer EUL-2SUB/SW provide a precise and clear sound for a deep and dynamic bass reproduction. The system also includes 4-channel microphone line mixer VMX-440/SW, power amplifier PA-2240 as well as CD-112/BT with CD and MP3 player.

Products for this scenario:



20 x

EDL-118TW

Order No. 0163850

PA ceiling speaker with integrated tweeter



2 x

EUL-2/SW

Order No. 0174450

PA speaker system



1 x

EUL-2SUB/SW

Order No. 0174460

Subwoofer



1 x

PA-4240

Order No. 0170820

PA power amplifier



1 x

PA-2240

Order No. 0170800

PA power amplifier



1 x

MPX-4PA

Order No. 0202070

3-zone mixer



1 x

VMX-440/SW

Order No. 0202530

4-channel microphone line mixer

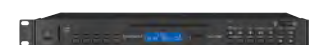


1 x

WAP-204RS

Order No. 1000989

Internet radio, FM RDS and DAB+ tuner, MP3 player



1 x

CD-112/BT

Order No. 0212940

CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot

Fitness Centre

Flush-mount speakers and surface-mount speakers
520–840 m²



Zone 1

Zone 2

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Wellness Centre

Flush-mount speakers and surface-mount speakers
1,100–1,400 m²

Customer requirements:

- Flexible matrix system for multi-room PA application in the different areas of operation
- User-defined routing of the audio sources to the output channels
- High-quality music reproduction in all of the 7 zones
- Individual room control via wall-mounted radio remote control panels
- Music reproduction of Bluetooth sources, CDs, MP3 files as well as DAB+ reception

Solution

Music in a wellness centre creates a special ambience at the location. No matter whether you are having a soothing massage, exclusive facial treatments or spa treatments lasting several hours, unobtrusive music enhances your well-being and has a relaxing effect. A multi-zone matrix router is well-suited for individual PA applications in the different areas of operation: the digital 8x8 matrix router DRM-882LAN is used as a link between different signal sources and the connected power amplifiers. A variety of DSP functions such as equalizer, noise gates, delays, feedback suppression, compressors and limiters can be used. The DRM-882LAN can conveniently be set up and remote-controlled via software using a computer (connection via USB interface, Ethernet or an RS-485 data bus). With the wall modules DRM-882WPX, it is possible to select up to 6 presets of the DRM-882LAN at the push of a button. In addition, they allow adjustment of the zone volume and source selection per zone. A total of 15 x speaker system ESP-230/WS and ESP-215/WS have been applied and feature a 2-way system. They provide a reliable sound for pool areas and treatment rooms. In addition, 2 x speaker EDL-116TW have been applied. The speaker series is driven by 2 x class D power amplifier PA-4120D (4 x 120 W) and PA-1450D (4 x 50 W). Both of the applied audio players WAP-204RS and CD-112/BT are able to reproduce FM RDS signals and DAB+ signals as well as playback Bluetooth sources and CDs.

Products for this scenario:

8 x

ESP-215/WS

Order No. 0199990

Weatherproof PA speaker system



7 x

ESP-230/WS

Order No. 0190010

Weatherproof PA speaker system



2 x

EDL-116TW

Order No. 0163840

PA ceiling speaker



1 x

PA-4120D

Order No. 1000015

4-channel class D PA power amplifier



1 x

PA-1450D

Order No. 0172950

4-channel class D PA amplifier



1 x

DRM-882LAN

Order No. 0179250

Digital 8x8 matrix router



5 x

DRM-882WPX

Order No. 0170015

Wall-mounted remote control panel for digital matrix router DRM-882LAN



1 x

WAP-204RS

Order No. 1000989

Internet radio, FM RDS and DAB+ tuner, MP3 player



1 x

CD-112/BT

Order No. 0212940

CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot



Wellness Centre

Flush-mount speakers and surface-mount speakers
1,100–1,400 m²



Zone 1

Zone 2

Zone 3

Zone 4

Zone 5

Zone 6

Zone 7

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

 **MONACOR**

Trampoline Park

Flush-mount speakers and surface-mount speakers
1,600–1,900 m²

Customer requirements:

- Continuous PA application throughout the entire hall, suitable for reproduction of music and speech
- Speakers applied in the trampoline areas to provide a high-quality sound and feature a high volume capability
- Background music in the restaurant area, changing rooms and sanitary facilities
- Reception of digital radio stations (DAB/DAB+) as well as access to more than 20,000 radio stations worldwide
- Microphone station for announcements to either all or selected areas of operation

Solution

For the PA application in the large hall, we have applied the tried and tested speakers PAB-6WP/WS. A total of 8 high-performance PA speaker systems with a 2-way bass-reflex system provide the required sound quality and volume levels. They are driven by a high-power mono amplifier PA-1960 which features a power rating of 960 W. In the restaurant area, speaker systems WALL-05T/SW deliver pleasant background music for the PA application. The power is supplied via mono power amplifier PA-912S (1 x 120 W). Flush-mount ceiling speakers EDL-16 and 2-way speaker systems WALL-06T/SW deliver unobtrusive and pleasant background music to changing rooms and hallways. A mono power amplifier PA-924S (1 x 240 W) provides sufficient power. The sound system is controlled via easy-to-use 4-zone mixer PA-6040MPX which is connected ahead of the PA power amplifiers and allows for connection of one or multiple microphone stations. The sound level is automatically lowered when announcements are made. The Internet radio WAP-204RS is able to receive interference-free digital radio (DAB+) and features a Bluetooth interface as well as an MP3 player.

Products for this scenario:

8 x

PAB-6WP/WS

Order No. 0253560

Weatherproof high-performance PA speaker system, 100 W



4 x

EDL-16

Order No. 0163820

PA ceiling speaker



3 x

WALL-06T/SW

Order No. 0163600

Pair of 2-way PA speaker systems



2 x

WALL-05T/SW

Order No. 0163580

Pair of 2-way PA speaker systems



2 x

PA-912S

Order No. 0177000

Mono PA power amplifier



1 x

PA-924S

Order No. 0177010

Mono PA power amplifier



1 x

PA-1960

Order No. 0172550

High-power mono PA amplifier



1 x

PA-6040MPX

Order No. 0174760

4-zone mixer



1 x

PA-4000RC

Order No. 0236010

PA 4-zone paging desktop microphone



1 x

WAP-204RS

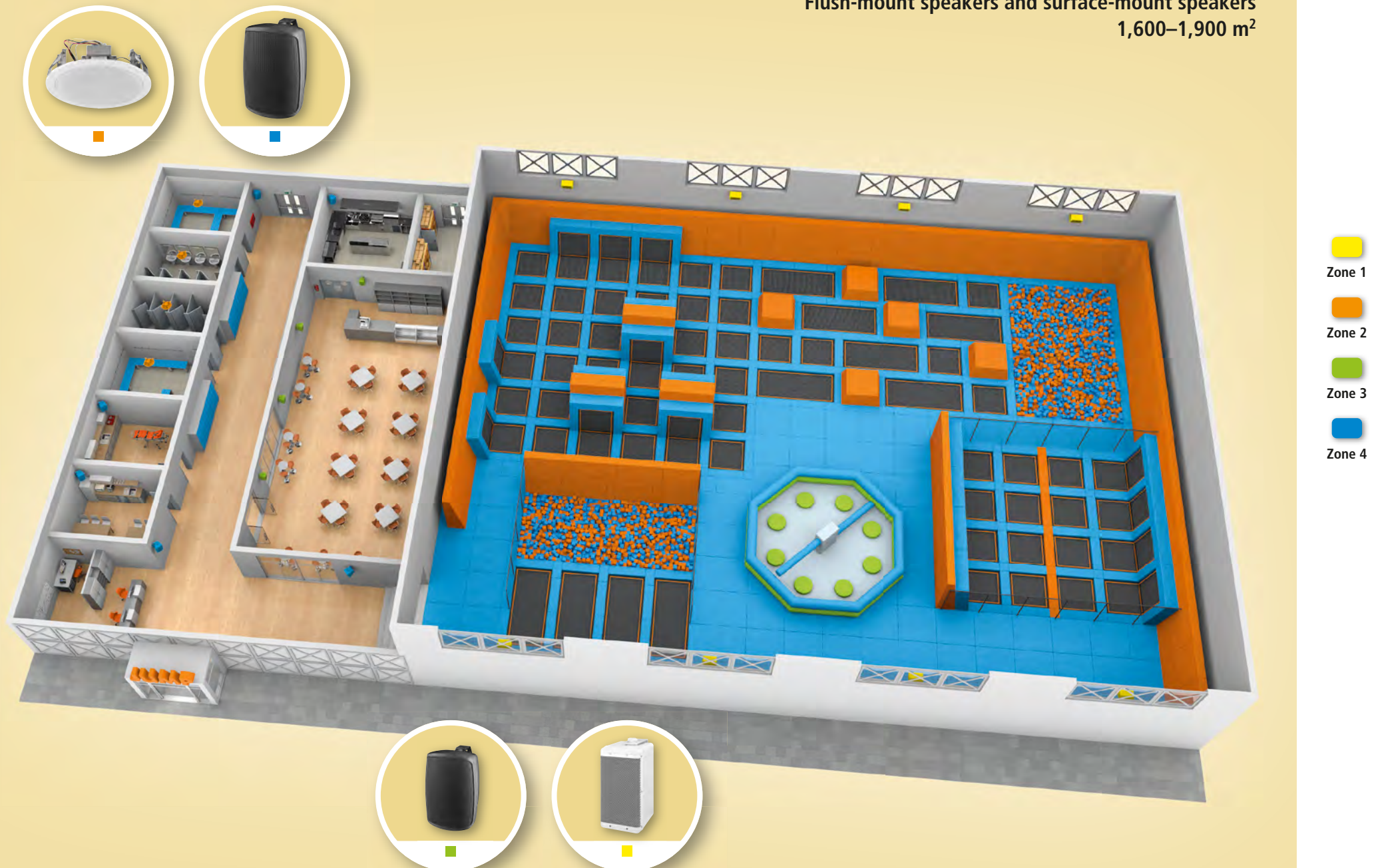
Order No. 1000989

Internet radio, FM RDS and DAB+ tuner, MP3 player



Trampoline Park

Flush-mount speakers and surface-mount speakers
1,600–1,900 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Dental Practice

Flush-mount speakers and surface-mount speakers
150–280 m²

Customer requirements:

- Excellent sound characteristics for reproduction of music and speech
- Unobtrusive music reproduction for a pleasant ambience in the treatment rooms
- Volume control per channel for individual adjustment in each room
- Microphone station at the reception desk for calling in patients and for general announcements in the waiting area and treatment rooms

Solution

Unobtrusive wall speakers ESP-134/WS have been applied to ensure a pleasant sound in the treatment rooms. The 2-way system with neodymium bass-midrange speaker and dome tweeter provides a great sound for the reproduction of both speech and music. Flush-mount speakers EDL-116TW which have been installed in the hallway and waiting area allow for a continuous PA application in the entire practice. The class D amplifier PA-1450D provides 4 x 50 W. With the mixer PA-6040MPX, it is possible to implement a multi-room application with an individual control of up to 4 zones. Thus, it is possible for practice staff to direct announcements to one specific room or to a group of zones. The Bluetooth receiver WSA-10BT provides a wireless connection between a Bluetooth signal source and the PA system. Thus, it is possible to replay files from the Bluetooth signal source on the audio system connected to the WSA-10BT.

Products for this scenario:

6 x

ESP-134/WS
Order No. 1000264
PA wall speaker



4 x

EDL-116TW
Order No. 0163840
PA ceiling speaker



1 x

PA-1450D
Order No. 0172950
4-channel class D PA amplifier



1 x

PA-6040MPX
Order No. 0174760
4-zone mixer



1 x

WSA-10BT
Order No. 0255800
Bluetooth audio receiver



1 x

PA-4000RC
Order No. 0236010
PA 4-zone paging desktop microphone



3 x

ATT-336PEU
Order No. 0171400
Wall-mounted PA volume control



Dental Practice

Flush-mount speakers and surface-mount speakers
150–280 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Retirement Home

Flush-mount speakers
500-700 m²

Customer requirements:

- Reliable audio system for a PA application with 2 speaker zones in the recreational rooms
- Amplifier system with tone control, connection facility for a wireless microphone system including inductive transmission via loop
- Music reproduction of CD, MP3, external storage media as well as radio reception and Bluetooth reception
- User-defined routing of all input channels to both of the speaker zones

Solution

Furnishing and equipment in a retirement home have to be perfectly matched to the needs of residents and staff. Reliability, convenience and barrier-free access are essential for the elderly and people in need of care. A universal PA system has been applied for regular in-house or public events such as exhibitions, concerts and lectures. Ceiling speakers EDL-116TW with 2-way coaxial speakers (6") have been installed in the living room and recreational rooms which constantly provide an excellent reproduction of speech and music for most varying types of events. Two mono power amplifiers PA-900S with 1 x 120 W each provide sufficient power for the connected speaker lines. The loop system which is driven by 2 active loop amplifiers LA-202 ensures barrier-free access to each event. Zone mixer PA-4040MPX is the central interface of the system where all the signals are routed and then distributed. It provides user-defined routing of all input channels to both of the zones. The input signals include a 16-channel mono PLL audio transmission system TXA-802SR or TXA-800HT. The connected audio player CD-112RDS/BT has been applied for music reproductions. USB storage media, SDHC cards and audio sources such as CD, MP3, FM RDS tuner or Bluetooth media are also part of the remarkable variety of playback options.

Products for this scenario:



8 x

EDL-116TW
Order No. 0163840
PA ceiling speaker



2 x

PA-900S
Order No. 0172080
Mono PA power amplifier



1 x

PA-4040MPX
Order No. 0173450
4-zone mixer



2 x

LA-202
Order No. 0176360
Active loop amplifier



1 x

CD-112RDS/BT
Order No. 0212950
CD and MP3 player with FM RDS tuner and Bluetooth receiver



1 x

TXA-802SR
Order No. 0172990
2-channel multifrequency receiver



1 x

TXA-800HT
Order No. 0172260
Hand-held microphone with integrated multifrequency transmitter

Retirement Home

Flush-mount speakers
500–700 m²



Zone 1

Zone 2

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Sports and Leisure Centre

Flush-mount speakers and surface-mount speakers
1,600–1,900 m²

Customer requirements:

- PA system with flexible configuration for different functional areas, including lobby, bistro, sports facilities and spa area
- High-quality multi-zone solution, each zone to be provided with different playlists and with an individual volume level
- Unobtrusive and pleasant background music in the lobby, swimming pool area, adjoining changing rooms and sanitary facilities
- PA speaker systems with a high sound pressure and a powerful sound for multifunctional sports fields
- Robust flush-mount ceiling speakers for the sauna and pool area
- Microphone station at the reception desk for making announcements

Solution

Depending on the area of application, highest speech intelligibility, unobtrusive background music or a powerful sound are required.

At the reception, an installed PC with Dante® Virtual Soundcard and music software has been applied as an audio source to direct specific recordings to the speaker lines. In addition, important announcements can be made via the connected gooseneck microphone ECM-300DT.

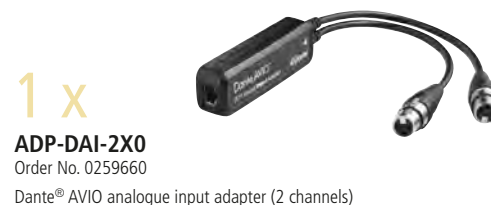
In the lobby and adjoining bistro area, active 2-way flush-mount ceiling speakers EDL-80DT and active wall speakers WALL-05DTM/WS provide pleasant background music.

In the spa area, ceiling speakers EDL-156 provide unobtrusive background music. Dante® instreamers PA-900DT and AKB-160DT convert digital audio signals into an analogue signal which is amplified and then streamed.

On the multifunctional sports field, PA speaker systems EUL-2/SW which are integrated via Dante® transceiver DADC-144DT provide a powerful sound. On the other sports fields, a well-balanced sound is ensured by combining ball-proof wall speakers ESP-72/WS and amplifier module AKB-160DT.

Additional flush-mount speakers and surface-mount speakers have been applied in the changing rooms, sanitary facilities as well as in the shower area for a comprehensive and homogeneous sound distribution throughout the whole leisure centre.

Products for this scenario:



Sports and Leisure Centre

Flush-mount speakers and surface-mount speakers
1,600–1,900 m²



- Zone 1
- Zone 2
- Zone 3
- Zone 4



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Dante®

MONACOR





Solutions for Restaurants + Bars and the Hotel Sector

Bar

Flush-mount speakers and surface-mount speakers 150–270 m²

Customer requirements:

- Flexible mutli-zone control for individual music reproductions in the four zones
- Unobtrusive background music for the lounge area which should not disrupt ongoing conversations and also allows you to order drinks at the bar without any problems
- Bass-heavy music of higher volume levels on the dance floor
- Unobtrusive and pleasant background music for the bar and sanitary facilities
- Music reproduction from CDs, MP3 files or DAB+ radio
- Connection facility for various external audio sources such as tablet, smart-phone and laptop

Solution

In addition to unobtrusive and decentral background music for the bar and lounge area as well as for the sanitary facilities, the system must also ensure a powerful sound with a high level stability on the dance floor. In order to ensure a suitable PA application for each individual zone, we have implemented a multi-room solution with a total of 4 zones. Speaker systems WALL-05T/SW provide unobtrusive background music to the bar and lounge area which still allows you to hold a conversation. For the sanitary facilities, we have applied ceiling speakers EDL-82HQ to provide pleasant background music without appearing dominant or obtrusive. Speakers PAB-308/SW and a subwoofer PSUB-12AKA ensure a lively ambience on the dance floor. Each of the speaker series is driven by the matrix mixing amplifier PA-12040 with 4 x 120 W. The connected audio players CD-122/BT and WAP-204RS are able to replay CDs, MP3 files, Bluetooth sources or DAB+ signals.

Products for this scenario:

3 x

WALL-05T/SW

Order No. 0163580

Pair of 2-way PA speaker systems



2 x

EDL-82HQ

Order No. 0163440

PA hi-fi wall and ceiling speaker



2 x

PAB-308/SW

Order No. 0254290

Universal PA speaker system, 125 W



1 x

PSUB-12AKA

Order No. 0254310

Active 2.1 PA subwoofer, 1,200 W



1 x

PA-12040

Order No. 0173390

4-zone matrix mixing amplifier



1 x

CD-112/BT

Order No. 0212940

CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot



1 x

WAP-204RS

Order No. 1000989

Internet radio, FM RDS and DAB+ tuner, MP3 player



1 x

ATT-235H/WS

Order No. 0176130

Wall-mounted PA volume control



Bar

Flush-mount speakers and surface-mount speakers
150–270 m²



- Zone 1
- Zone 2
- Zone 3
- Zone 4

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Ice Cream Parlour

Flush-mount speakers
100–140 m²

Customer requirements:

- Unobtrusive background music which still allows you to hold a conversation without any problems
- Unobtrusive ceiling speakers to provide a powerful sound
- Music reproduction of mobile audio players via Bluetooth connection

Solution

The 2-way hi-fi ceiling speakers EDL-42HQ feature excellent sound characteristics and ensure a high-quality music reproduction in the rooms. The speakers are driven by a mono class D mixing amplifier PA-914D with a power rating of 140 W. The amplifier is fanless and thus ensures an absolutely noiseless operation. The integrated class D concept with PASCAL amplifier module impresses with a particularly high efficiency. Bluetooth audio receiver WSA-20BT has been applied for playing music from portable audio players on the audio system. As soon as a connection is established via Bluetooth, media contents can be streamed directly to the speaker system.

Products for this scenario:

5 x

EDL-42HQ

Order No. 0163890

Hi-fi wall and ceiling speaker, 15 W



1 x

PA-914D

Order No. 1000143

Mono class D PA mixing amplifier



1 x

WSA-20BT

Order No. 0257130

Bluetooth audio receiver



Ice Cream Parlour

Flush-mount speakers
100–140 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Restaurant

Flush-mount speakers and surface-mount speakers 140–250 m²

Customer requirements:

- Flexible multi-zone PA application with individual volume control in the guest area, outdoor area and in the sanitary facilities
- Well-balanced sound for unobtrusive background music in the different sound zones
- Unobtrusive integration of the speakers into the guest area
- Weatherproof outdoor speakers with excellent sound characteristics
- Versatile playback options from CD, MP3 file and Internet radio
- Wireless audio transmission via Bluetooth, e.g. from tablets or smartphones

Solution

A flexible multi-zone PA application provides pleasant and unobtrusive music in the entire restaurant. Flush-mount ceiling speakers EDL-116TW can unobtrusively be integrated into the restaurant's environment. The 15 cm (6") 2-way coaxial speakers ensure an excellent sound quality with a consistent radiation pattern. The remaining areas are also provided with pleasant background music. For the outdoor area, we have applied weatherproof speaker systems ESP-232/WS with IP55 certification and for the sanitary facilities, we have installed ceiling speakers EDL-155. The mixer MPX-4PA distributes signals to all three zones with user-defined routing of all input channels. A 4-channel class D PA amplifier PA-1450D provides the connected speakers with 200 W (power rating). Various audio sources can be fed into the system via 2 audio players. Audio player WAP-204RS is suitable for reception of the digital radio DAB+ and allows access to more than 20,000 Internet radio stations worldwide. For wireless audio reproduction, the CD player CD-112/BT features an integrated Bluetooth receiver for quick and easy connection of a laptop, smartphone or tablet.

Products for this scenario:

4 x

EDL-116TW
Order No. 0163840
PA ceiling speaker



2 x

EDL-155
Order No. 0162920
PA ceiling speaker



2 x

ESP-232/WS
Order No. 0162610
Weatherproof 2-way PA wall-mount speaker system



1 x

PA-1450D
Order No. 0172950
4-channel class D PA amplifier



1 x

MPX-4PA
Order No. 0202070
3-zone mixer



1 x

CD-112/BT
Order No. 0212940
CD and MP3 player with Bluetooth receiver, USB port and SD/MMC card slot



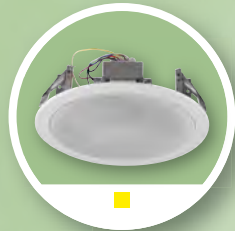
1 x

WAP-204RS
Order No. 1000989
Internet radio, FM RDS and DAB+ tuner, MP3 player



Restaurant

Flush-mount speakers and surface-mount speakers
140–250 m²



Zone 1

Zone 2

Zone 3

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Function Room

Surface-mount speakers 150–340 m²

Customer requirements:

- Flexible solution for versatile PA applications
- Efficient speakers to provide a powerful sound with an excellent sound quality
- Music reproduction from CD, MP3 or wireless via laptop with integrated Bluetooth module
- Connection facility for one or several (wireless) microphones

Solution

PA speaker systems EUL-2/SW provide a well-balanced and dynamic sound and thus, allow for versatile reproductions of music and speech. Two subwoofers EUL-2SUB/SW provide a low and dynamic bass reproduction. Speaker systems and subwoofer are driven by power amplifier PA-2240 with 2 x 240 W. Preamplifier PA-1414MX is connected in front of the power amplifier which provides versatile connection facilities and feeds the input channel to either one channel or two channels. A CD and MP3 player is used as an audio source and provides most versatile reproduction options: the CD-112RDS/BT with integrated FM RDS tuner allows for reproduction from USB storage media and SD/MMC cards as well as wireless music reproduction via Bluetooth. In addition, it is also possible to connect a microphone signal to the preamplifier, if required.

Products for this scenario:

4 x

EUL-2/SW

Order No. 0174450
PA speaker system



2 x

EUL-2SUB/SW

Order No. 0174460
Subwoofer



1 x

PA-1414MX

Order No. 0174770
10-channel PA preamplifier



1 x

PA-2240

Order No. 0170800
PA power amplifier



1 x

CD-112RDS/BT

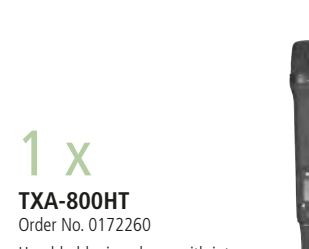
Order No. 0212950
CD and MP3 player with FM RDS tuner and Bluetooth receiver



1 x

TXA-802SR

Order No. 0172990
2-channel multifrequency receiver



1 x

TXA-800HT

Order No. 0172260
Hand-held microphone with integrated multifrequency transmitter

Function Room

Surface-mount speakers
150–340 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Café

Flush-mount speakers 90–150 m²

Customer requirements:

- High-quality music reproduction with a homogeneous sound distribution in the room
- Simple and intuitive operation of the applied PA technology, even for untrained or inexperienced users
- Various audio sources for music reproduction, including MP3 player with USB/SD interface, FM radio or via Bluetooth-enabled devices
- Reception of interference-free digital radio (DAB+)
- Flexible connection facilities for additional music sources

Solution

Pivoting PA ceiling speakers EDL-65TW feature a well-balanced sound and can unobtrusively be integrated into the guest area of the café. The high-quality 2-way coaxial system with 2-way crossover network provides unobtrusive background music with excellent sound characteristics. In the sanitary facilities, we have applied 2 x EDL-22/WS which can separately be controlled via volume control ATT-524PEU. The PA ceiling speakers are of a compact design, but still provide a very wide-band music reproduction. A class D mixing amplifier PA-812DAP with a power rating of 120 W provides sufficient power for the connected speaker series and ensures a high-quality audio reproduction with low heat generation. The range of features also includes various sound adjustments, versatile connection facilities and numerous integrated media functions. In addition to the integrated MP3 player and FM/DAB+ tuner, music sources can be played via Bluetooth connection, too. It is also possible to connect microphones or additional audio devices to the PA-812DAP, if required.

Products for this scenario:

2 x

EDL-65TW

Order No. 0162220

Pivoting PA ceiling speaker



2 x

EDL-22/WS

Order No. 0162770

PA ceiling speaker



1 x

PA-812DAP

Order No. 1000235

Mono class D PA mixing amplifier with integrated MP3 player, FM/DAB+ tuner and Bluetooth, 1 x 120 W



1 x

ATT-524PEU

Order No. 0173910

Wall-mounted PA volume control with 24 V emergency priority relay



Café

Flush-mount speakers
90–150 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Food Truck

Surface-mount speakers
10–15 m²

Customer requirements:

- Weatherproof and robust outdoor speaker systems for high-quality music reproduction
- Flexible installation of the applied speaker technology
- Simple operation and easy installation of the complete audio system
- Music reproduction of MP3 files or from Bluetooth-compatible devices
- Reception of interference-free digital radio (DAB+)
- Optional: to make announcements via microphone and distribute them to both of the speakers

Solution

A new food culture conquers the world: food trucks are becoming increasingly popular and provide us with juicy burgers, spicy burritos or crispy tacos at festivals, events or street parties. Listening to music or a radio programme is not only a pleasant distraction for customers waiting in line. Nowadays, suitable music becomes more and more an essential tool for the comprehensive catering concept of food truckers. The PA system for 4-wheeled street food catering has got to meet the very complex requirements of mobile applications. Robust, weatherproof speaker systems ESP-215/WS which are suitable for outdoor applications provide the required high-quality music for guests. Each of the 2-way system is equipped with a stainless steel mounting bracket and can flexibly be aligned to the required area. The class D mixing amplifier PA-803DAP with a power rating of 1 x 30 W is used as power amplifier. Thanks to its fanless cooling concept, compact dimensions and a simple operation, it is particularly suitable for mobile applications. An integrated MP3 player can be used for music reproduction via USB interface or SDHC card slot. The features also include an FM/DAB+ tuner and Bluetooth interface. Additional connections for microphones or external audio players are also available, if required.

Products for this scenario:

2 x

ESP-215/WS

Order No. 0199990

Weatherproof PA speaker system



1 x

PA-803DAP

Order No. 1000168

Mono class D PA mixing amplifier with integrated MP3 player, FM/DAB+ tuner and Bluetooth



1 x

PDM-300

Order No. 0231200

PA desktop microphone



Food Truck

Surface-mount speakers
10–15 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Hotel Room

Flush-mount speakers
15–25 m²

Customer requirements:

- Excellent sound characteristics
- Unobtrusive integration of flush-mount ceiling speakers into the hotel room
- Music reproduction via streaming apps of the hotel guests
- Simple and intuitive operation, even for inexperienced users
- Bluetooth connection with smartphone or tablet

Solution

It becomes more and more important for hotels to keep the standards of the services offered or even improve them. Nowadays, access to WLAN is a standard service offered to the guests. However, Bluetooth-compatible audio systems for audio streaming via mobile devices are rarely available. Bluetooth-enabled amplifier module IWA-05BT/WS is a particularly convenient and easy-to-use solution for hotel rooms. The audio receiver features a user-friendly control unit and is integrated directly into the wall. Thanks to its compact design, it can be mounted into standard installation boxes from Ø 45 mm on. The gain level and thus the maximum volume level possible can be preset, if required. For music reproduction from Bluetooth-enabled devices, the flush-mounted amplifier is connected to 2 x passive ceiling speaker EDL-42HQ. The 2-way version with coaxial dome tweeter, 10 cm (4") bass speaker with waveguide and 20 mm (3/4") silk tweeter provides a well-balanced sound to every corner of the hotel room. Thus, hotel guests can enjoy their favourite songs or streaming apps.

Products for this scenario:

2 x

EDL-42HQ

Order No. 0163890

Hi-fi wall and ceiling speaker, 15 W



1 x

IWA-05BT/WS

Order No. 0179000

Flush-mounted module with Bluetooth audio receiver/amplifier



Hotel Room

Flush-mount speakers
15–25 m²



FIRST FLOOR



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.





Solutions for Office Buildings and Conference Rooms

Coworking Space

Flush-mount speakers and surface-mount speakers
780–1,300m²

Customer requirements:

- 4-zone PA application with user-defined routing of the inputs to the outputs
- Individual tone control and volume control for each zone
- High-performance stereo speaker systems in the private offices for connection to laptops or computers
- Announcement facility at the reception desk for every zone or individual ones
- Reception of FM radio as well as interference-free digital radio DAB+

Solution

A total of 15 x ceiling speaker EDL-118TW has been applied in the rooms of the coworking space, including meeting rooms and recreation rooms. The 2-way coaxial speakers ensure a reliable and high-quality PA application of music and/or speech. In the private offices, we have installed 2 x stereo speaker system WALL-06SET/WS each which can easily be connected to laptops or stationary desktop PCs via optional audio adapter cables. The versatile matrix mixing amplifier PA-M412 (4 x 120 W) ensures a sufficient power supply to all connected speaker lines. The integrated matrix function allows an individual PA application in all 4 zones for up to 8 input sources: volume and sound can individually be set for each zone according to your requirements. The zone paging microphone PA-M4RC is available as an accessory and allows you to make announcements to every zone or just selected areas. For direct operation with a PC or laptop, USB boundary microphones ECM-306BU/SW can be used. In both of the meeting rooms, wall modules PA-M1WP allow volume control for each room. In addition, the modules feature an input for external line audio sources (priority circuit). A digital stereo tuner FM-102DAB is used to provide different areas with music, either with an FM signal or interference-free DAB+ signal.

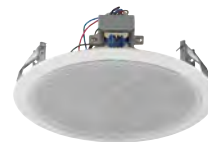
Products for this scenario:

15 x

EDL-118TW

Order No. 0163850

PA ceiling speaker with integrated tweeter



2 x

WALL-06SET/WS

Order No. 0130131

Active 2-way stereo speaker system,
2 x 30 W



1 x

PA-M412

Order No. 0179290

4-zone PA matrix mixing amplifier



2 x

PA-M1WP

Order No. 0179300

Wall module for local insertion of audio signals to PA matrix mixing amplifier PA-M412



1 x

FM-102DAB

Order No. 0174490

Digital stereo tuner for reception of
FM and DAB+



2 x

PA-M4RC

Order No. 0179310

PA zone paging microphone for PA matrix
mixing amplifier PA-M412



4 x

ECM-306BU/SW

Order No. 0237270

USB boundary microphone



Coworking Space

Flush-mount speakers and surface-mount speakers
780–1,300m²



Zone 1



Zone 2



Zone 3



Zone 4

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Office Buildings

Flush-mount speakers
250–500 m²

Customer requirements:

- Unobtrusive flush-mount ceiling speakers for reproduction of music and speech
- Unobtrusive and pleasant background music with individual volume control for each office
- Announcements made via microphone station at the reception to have priority and briefly interrupt the background music
- Music reproduction of radio, CD and USB storage media
- Speakers in the conference room with excellent sound characteristics for multifunctional use, e.g. for lectures and presentations

Solution

The unobtrusive 2-way flush-mount speakers EDL-42HQ combine an excellent sound quality with highest speech intelligibility. Wall-mounted PA volume controls allow for an individual volume control of the background music in the offices. In addition, we have installed 4 x speaker EDL-620 in the treatment rooms. Both speaker series are driven by the high-performance power amplifier PA-6240. A CD module PA-1140RCD for the front insertion compartment of the amplifier has been applied as an audio source which allows for a music reproduction of radio, CD or a USB storage medium. Thanks to the adjustable priority function, all other audio channels are muted automatically during announcements made with the microphone station PA-6000RC.

Products for this scenario:



10 x

EDL-42HQ

Order No. 0163890

Hi-fi wall and ceiling speaker, 15 W



4 x

EDL-620

Order No. 0162590

PA ceiling speaker

1 x

PA-6240

Order No. 0172180

6-zone mono PA mixing amplifier



1 x

PA-1140RCD

Order No. 0173530

RDS tuner/CD player insertion
with USB port



1 x

PA-6000RC

Order No. 0235370

PA zone paging desktop microphone



5 x

ATT-512PEU

Order No. 0173900

Wall-mounted PA volume control



Office Buildings

Flush-mount speakers
250–500 m²



Zone 1

Zone 2

Zone 3

Zone 4

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Office Buildings

Surface-mount speakers
250–500 m²

Customer requirements:

- Compact, yet top-quality wall speakers for high-quality background music
- Reception of FM stations and the digital radio DAB+
- Excellent sound quality of the speakers in the conference room
- Individual volume control in the offices
- User-friendly and intuitive operation for the user

Solution

PA speaker systems WALL-05T/WS have been applied for the PA application in the offices which feature volume controls ATT-524PEU. In the conference room, we have applied the more powerful WALL speaker systems WALL-08T/WS. Both models feature a mounting bracket and thus can easily be mounted to either the wall or ceiling. The compact wall-mount speakers ESP-134/WS provide an excellent sound in the corridors. Each speaker series is connected to the matrix amplifier PA-12040 which features a total power rating of 4 x 120 W. Thus, it is possible to distribute the connected speakers to up to 4 speaker zones and allow for an individual volume control. We have applied digital stereo tuner FM-102DAB as an audio player which receives FM radio and interference-free digital radio.

Products for this scenario:

4 x

ESP-134/WS

Order No. 1000264

PA wall speaker



3 x

WALL-05T/WS

Order No. 0163590

Pair of 2-way PA speaker systems



1 x

WALL-08T/WS

Order No. 1000608

Pair of 2-way PA speaker systems



1 x

PA-12040

Order No. 0173390

4-zone matrix mixing amplifier

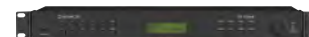


1 x

FM-102DAB

Order No. 0174490

Digital stereo tuner for reception of FM and DAB+



6 x

ATT-524PEU

Order No. 0173910

Wall-mounted PA volume control with 24 V emergency priority relay



Office Buildings

Surface-mount speakers
250–500 m²



Zone 1

Zone 2

Zone 3

Zone 4

Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Seminar Room

Flush-mount speakers
80–150 m²

Customer requirements:

- Unobtrusive flush-mount ceiling speakers with excellent sound characteristics
- Excellent sound quality and speech intelligibility at every seating position in the room
- Bluetooth support for laptops, smartphones or tablets
- Optional: connection of one or several wireless microphones for presenters and lecture halls

Solution

Flush-mount ceiling speakers EDL-82HQ feature a stylish flush fit housing and thus are perfectly suitable for an unobtrusive integration into the existing environment. Combined with the 240 W mixing amplifier, the connected speakers with excellent sound characteristics provide an impressive performance. The audio player CD-112/BT has been applied as a signal source and is able to playback MP3 files from USB storage media and SD/MMC memory cards as well as allow for wireless transmission via Bluetooth.

Products for this scenario:

6 x

EDL-82HQ

Order No. 0163440

PA hi-fi wall and ceiling speaker



1 x

PA-324

Order No. 0174420

Mono PA mixing amplifier



1 x

CD-112/BT

Order No. 0212940

CD and MP3 player with Bluetooth receiver,
USB port and SD/MMC card slot



Seminar Room

Flush-mount speakers
80–150 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Seminar Room

Surface-mount speakers 80–150 m²

Customer requirements:

- 2-zone control for front speakers and decentral wall speakers
- Audio reproduction from external devices via Bluetooth connection, e.g. laptop and smartphone
- Excellent speech intelligibility in the entire room
- Connection facility of one or several wireless microphones

Solution

Line array speakers ETS-120SL/WS in super slimline cabinets have been applied as front speakers. The high-performance design speakers impress by an unobtrusive and elegant design, yet feature an excellent sound quality. Two PA speaker systems ESP-230/WS provide a reliable PA application, even in the back rows. The applied mono mixing amplifier PA-4040 provides extensive connection facilities and easily meets the requirements of any multi-zone application. The Bluetooth receiver WSA-10BT receives audio signals from any Bluetooth device (e.g. laptop or smartphone) and then transmits them to the PA system of the seminar room.

Products for this scenario:

1 x

ETS-120SL/WS

Order No. 0163450

Pair of line array design speakers in super slimline extruded aluminium cabinets

2 x

ESP-230/WS

Order No. 0190010

Weatherproof PA speaker system

1 x

TXA-802SR

Order No. 0172990

2-channel multifrequency receiver

1 x

TXA-800HT

Order No. 0172260

Hand-held microphone with integrated multifrequency transmitter

1 x

PA-4040

Order No. 0172520

4-zone matrix mixing amplifier

1 x

WSA-10BT

Order No. 0255800

Bluetooth audio receiver

Seminar Room

Surface-mount speakers
80–150 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.



Conference Room

Surface-mount speakers
60–80 m²

Customer requirements:

- 2-way active speaker systems for wall mounting and ceiling suspension with PoE (Power over Ethernet) which provide a powerful sound, e.g. for sound reproduction from a PC
- Connected speakers to provide a homogeneous sound distribution for an excellent speech intelligibility at every seating position in the room
- Connection facility for a tie clip microphone for versatile PA applications, e.g. for meetings, workshops, conventions or conferences
- Simple operation and maximum flexibility, e.g. for PC presentations or reproduction of media via a stationary PC or laptop

Solution

Conference rooms ought to be suitable for most versatile applications and remain user-friendly. Key requirements for this are an excellent speech intelligibility and a top-quality media reproduction. Four Dante®-enabled wall speakers WALL-05DTM/WS have been installed to allow for an excellent audio quality. The active sound system is suitable for intuitive operation and achieves a homogeneous sound radiation. Thus, you can ensure a well-balanced sound radiation at every listening position in the room. In addition, pocket transmitter TXA-800HSE with headband microphone or tie clip microphone has been applied to ensure the speaker's mobility, e.g. at lectures or presentations. The presentation of multimedia stereo signal sources or stereo contents via a connected laptop is as easy as child's play. Converter SMC-1 has been applied to convert the stereo audio signal of the laptop into 2 x mono signal. The mono signal is then fed into Dante® transceiver DADC-144DT and distributed to the 4 active speakers WALL-05DTM/WS via Dante® network.

Products for this scenario:

4 x

WALL-05DTM/WS

Order No. 1000788

Active speaker with integrated Dante® module



1 x

TXA-800HSE

Order No. 0172250

Multifrequency pocket transmitter



1 x

SMC-1

Order No. 0211930

Stereo/mono converter



1 x

TXA-802SR

Order No. 0172990

2-channel multifrequency receiver



1 x

DADC-144DT

Order No. 0257910

4-channel Dante® transceiver



Conference Room

Surface-mount speakers
60–80 m²



Are you planning a similar PA application? We accept the challenge and will find the perfect solution for your project. Just contact us.

Your Project is Our Project!

Profound planning results in an excellent sound and highest speech intelligibility

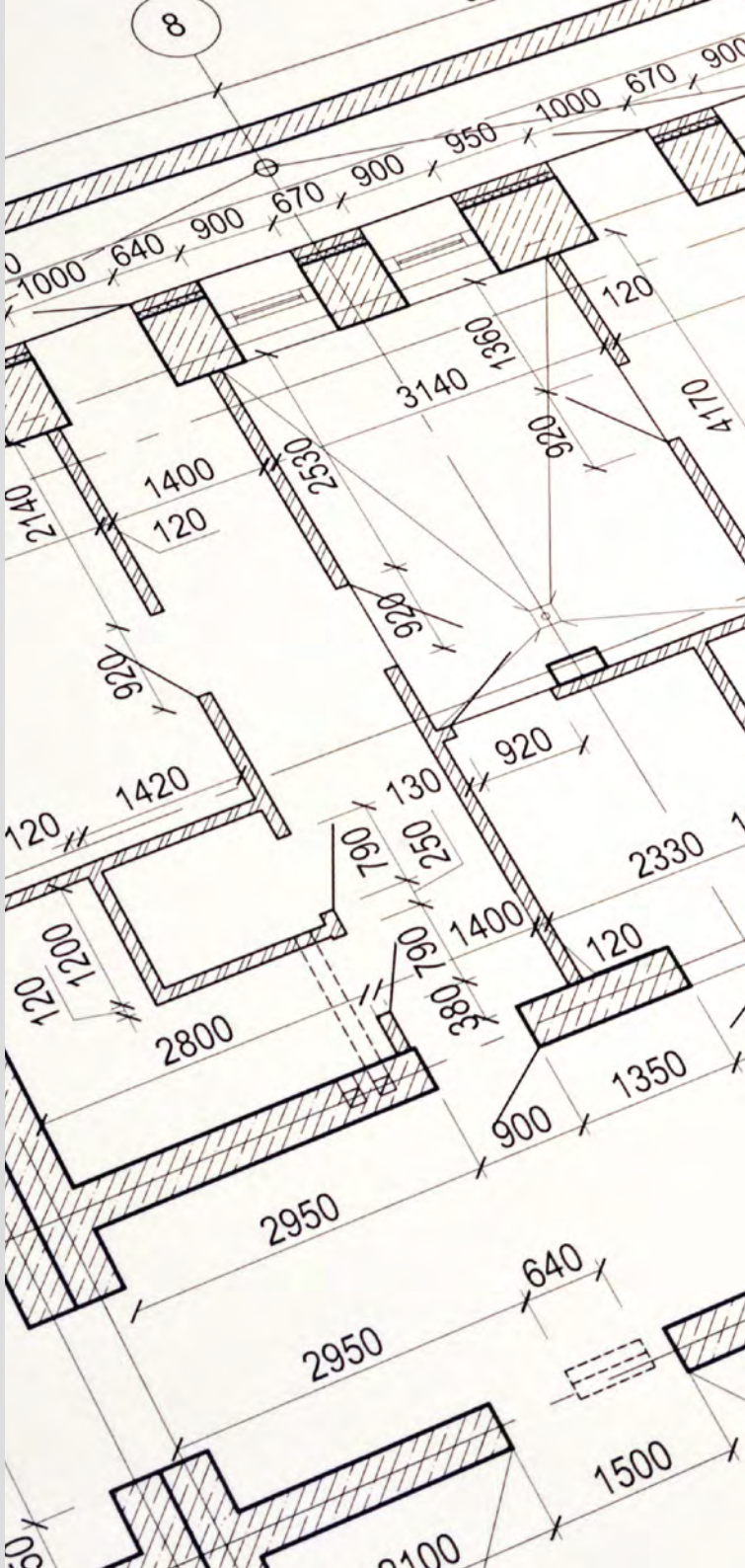
A genuine reproduction, perfect speech intelligibility and an optimum sound are crucial for a successful PA project. The requirements made on acoustics and sound have, however, increased considerably in recent years. Therefore, thorough planning for your individual project is indispensable, i.e. each project has got its own emphasis and specific specific requirements which have to be met. The challenge is to precisely match the large number of technical details and components:

When selecting suitable speakers, a natural and genuine sound quality for the reproduction of speech and music is top of the list. In classrooms, conference rooms, lecture rooms, seminar rooms or in houses of worship, an excellent speech intelligibility is required both in the first and last row. However, requirements for restaurants, shops or cafés are totally different. This is where we want pleasant and unobtrusive background music to ensure an appealing environment. This triggers positive emotions and invites you to linger. The alignment of the speakers should achieve a consistent radiation pattern. Radiation angle, frequency range and sound pressure are just a few speaker parameters which influence the reproduction of speech and music.

For each PA project, we have to consider specific acoustic surroundings when creating the perfect PA solution. Interfering reflections, acoustic feedback or echoes must be prevented and announcements should be heard and understood at every position, even with high background noise.

Planning a professional PA system requires comprehensive know-how and careful project development. Speakers, amplifiers, audio players, microphone systems, mixers, hundreds of metres of cable, distributors and plugs, everything has to be matched down to the smallest detail. Right from the start, planning experts from MONACOR will be at your side to support you so you can keep track of your PA project. Because: Your Project is Our Project.





Your Project is Our Project!

Each project starts with a series of questions. Together, we will certainly find the right answers to your questions and in close cooperation are able to create an individual PA concept. Each concept results from the requirements you make and respective local conditions. Together with planning experts from MONACOR, you will be able to create the perfect solution for your intended location.

- Where do you want to install the PA system? – Indoor or outdoor solution
- What is the intended use of the PA system? – Focus to be placed on speech intelligibility or background music
- What is the location like? – e.g. surface materials (glass, concrete or carpet) and ceiling structure. The possibility of mounting flush-mount speakers into a (suspended) ceiling has to be checked individually
- How big is the area to be covered by the PA application? – e.g. floor area and ceiling height
- How many people does the PA system have to reach?
- What kind of audio sources are to be used for the reproduction?
- Do you need connections for microphones (wireless or wired)?
- And do not forget: what kind of a budget is available?

A dimensioned drawing or room measurements completes the profile of requirements. Considering all of the objectives, we can make sure that the PA system will meet your requirements and is going to be suitable for the intended use.

Success can be Planned

MONACOR and its staff continuously implement an extensive service and thus stand out from the rest. We always consider the latest trends and proceed with efficiency and reliability. We love to see quality in both our products and our business relationships. With every project, we therefore rely on a close and trusting working relationship with our partners: right from the planning stage through to the final inspection, including the implementation.

This is what you can expect from us:

- Comprehensive support during the planning stage for various types of use and fields of applications
- Full analysis of expectations as well as spatial conditions and acoustic conditions
- Tailor-made PA concepts which are perfectly adapted to the environment and your requirements
- Comprehensive know-how and years of experience from numerous successfully implemented PA projects
- Careful selection of suitable system components according to special room requirements for ensuring a top-quality sound and/or speech intelligibility
- Close cooperation and coordination with planners, architects and expert installers
- Maximum planning reliability: 3-year warranty on products from MONACOR

Use our experience, our expertise and our competence to ensure your project to be a success.





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Bijsterhuizen 3013

NL-6604 LP Wijchen

+49 421 4865-0

info@monacor.com

www.monacor-international.com

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