

Configuration for application 1

LBC 3201/00	XLA 3200 Line Array Speaker 60 W	: 4x	1
LBB 1912/10	Plena Mixing Amplifier 120 W	: 1x	2
PLN-1LA10	Plena Loop Amplifier 10 A	: 1x	3
LBB 1949/00	Condenser Gooseneck Microphone	: 1x	4
LBC 2900/xx	Dynamic Handheld Microphone	: 1x	5

Configuration for application 2

LBC 3201/00	XLA 3200 Line Array Speaker 60 W	: 4x	1
LBB 1912/10	Plena Mixer Amplifier 120 W	: 1x	2
LBB 2900/xx	Dynamic Handheld Microphone	: 1x	3
LBB 3310/00	CCS 800 CCU	: 1x	4
LBB 3331/00	CCS 800 Chairman Unit	: 1x	5
LBB 3330/00	CCS 800 Delegate Unit	: 1x	6
LBB 4502/04	Integrus 4-Channel Transmitter	: 1x	7
LBB 4512/00	Integrus High Power Radiator	: 2x	8
LBB 4540/04	Integrus 4-Channel Receiver	: 10x	9
HDP-ILN	Inductive Loop Neckband	: 10x	10

Hearing aid assistance in public buildings



Security Systems



A choice of two solutions

Hearing aid users must be able to hear announcements in public buildings and take part in conferences, places of worship and other gatherings. In public spaces, high background sound levels and long reverb make it difficult to understand speech. Just turning up the hearing aid sensitivity causes various kinds of discomfort.

To ensure equal opportunities for people with disabilities, more and more countries are introducing legislation (such as the Disability Discrimination Act in the UK).

Bosch offers two solutions for hearing aid users, and both make use of the standard T-mode (telecoil) setting on hearing aids.

The first solution is a cost-effective single-channel system based on the Plena Loop Amplifier. This solution enables hearing aid users in the area enclosed by the wire loop to hear all announcements and music.

The second solution is a multi-channel system based on the Integrus infrared (IR) wireless language distribution system. This approach can also be used for applications where it is not possible (or viable) to install a wire loop.

Bosch Security Systems
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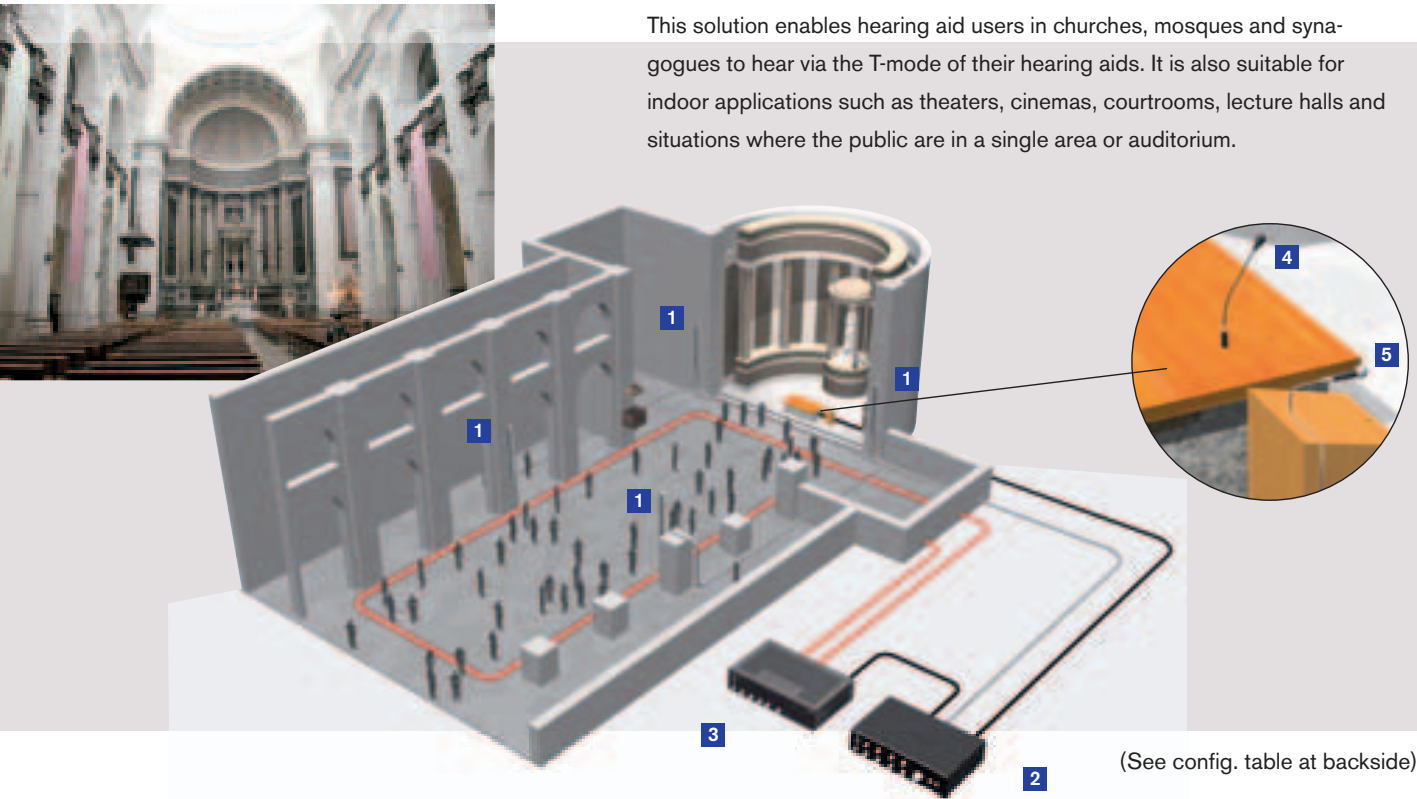
Communication you can rely on



Solution with Induction Loop System

Places of worship

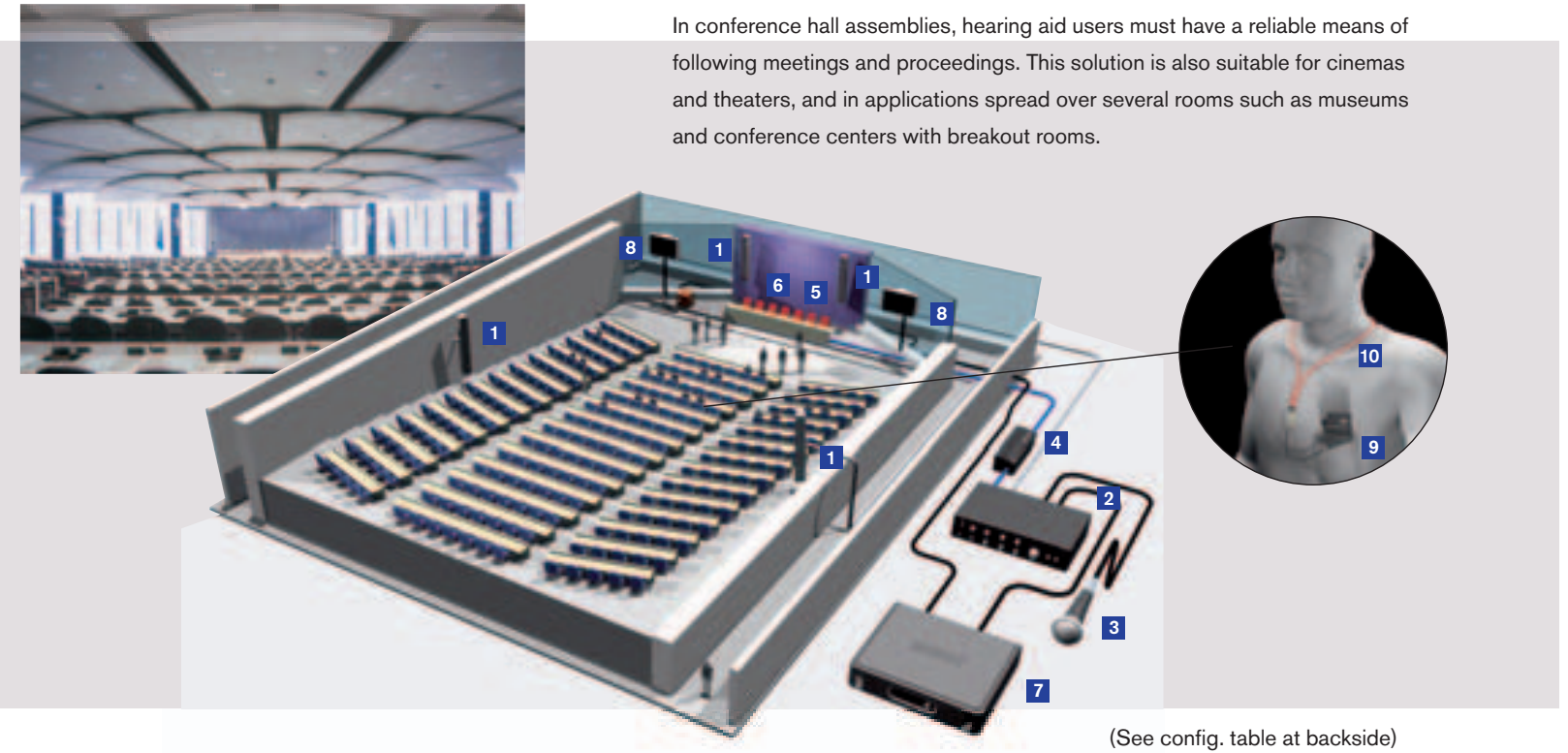
This solution enables hearing aid users in churches, mosques and synagogues to hear via the T-mode of their hearing aids. It is also suitable for indoor applications such as theaters, cinemas, courtrooms, lecture halls and situations where the public are in a single area or auditorium.



Solution with Infrared System

Conference hall assemblies

In conference hall assemblies, hearing aid users must have a reliable means of following meetings and proceedings. This solution is also suitable for cinemas and theaters, and in applications spread over several rooms such as museums and conference centers with breakout rooms.



Introduction

The hearing enjoy speech and song reproduction via an amplifier/loudspeaker configuration optimized for specific acoustic conditions (the Plena Mixing Amplifier with XLA Line Array Loudspeakers is a typical configuration for reverberant buildings with hard surfaces). Such a system is easily expanded to cater for hearing aid users by installing a loop amplifier and a wire loop around the listening area.

Summary of requirements

- Sermon/proceedings in one language only
- Congregation/audience in one area up to 600 m²

Solution

The Plena Loop Amplifier drives a loop installed into the floor or ceiling in an area up to 600 m². In this example, the loop amplifier is connected to a mixing amplifier's line-level output. In the T-mode, hearing aid users benefit from enhanced speech intelligibility and good music reproduction.

Compliance

Reliable T-mode compatibility for hearing aid users is also essential for emergency evacuation. The Plena Loop Amplifier has full supervision, a fault output and a priority input making it suitable for IEC60849 compliant voice alarm systems. Also it is EN60118-4 compliant, the recognized standard for induction loop installations.

Easy to install and expand

Installation requires a single induction loop to be built into the floor or ceiling around the listening area and a connection to the Plena Loop Amplifier output. Since the Plena Loop Amplifier is stackable (master/slave configuration), low spill schemes are also supported. It provides uniform field strengths over very large areas without the need for additional equipment. This is useful for applications like multi-screen cinemas.

Introduction

The solution for multi-room or large area applications uses a wireless language distribution system, and hearing aid users with receivers with an inductive loop neckband. This system provides extra freedom of movement and gives the hearing aid wearer a choice of channels, allowing different languages (where interpretations are provided) or special confidential information to be listened to.

Summary of requirements

- multiple adjacent rooms, with each their own meeting
- confidential meetings
- a choice of languages may be provided

Solution

The Bosch Integrus is a digital IR language distribution system with up to 32 channels. It connects to a congress or discussion system (like the Bosch DCN) or a public address system, and

transmits the proceedings via Integrus radiators to carriers of Integrus receivers. For the hearing aid users, an inductive loop neckband is connected to the receiver and hung around the neck to make an inductive coupling to the hearing aid.

Integrus radiators provide large coverage, ensuring excellent reception over a large area. The system is immune to interference from lighting and bright sunlight. Its digital technology preserves audio quality, so users of the Integrus clearly hear the speech and music via an inductive loop neckband and their hearing aids. IR transmission also increases privacy, as signals do not pass through walls or ceilings. This example uses four CCS 800 discussion units connected via a control unit to the Integrus transmitter. Bosch XLA Line Array Loudspeakers for the hearing and a microphone on a long lead for public input are also included.