Commercial Audio Solutions: a new shopping and hospitality experience

Today’s successful retail and hospitality businesses are transforming themselves from places where consumers only buy things, to also spiritual and emotional consumption spaces. These businesses create distinctive business environments that encourage consumers to stay longer, buy more and ultimately become regular customers who recommend the store to their friends.

According to research, good background music systems create a pleasant shopping environment, encouraging people to stay longer and buy more. Music systems help create an enjoyable atmosphere and can lead to more sales.

For over a century, Bosch has been known worldwide for the quality and reliability of its products and services. It is also the only supplier that ranks among the top three firms in both the professional music and public address (PA) system industries. Bosch Commercial Audio Solutions provide different control methods and speaker types geared to the needs of different business environments. Bosch Commercial Audio Solutions not only create an elegant and comfortable business environment, but also enhance the retail and hospitality customer experience and enhance brand value, creating more opportunities for business owners.

Music has a direct effect on emotions
- Sound is one of the most influential stimulants
- Music can recall wonderful memories and emotions
- At a suitable volume it can eliminate unpleasant noises
- It helps create a unique customer experience

The value of Commercial Audio
- Enhances the customer experience and brand image
- Prolongs customer stay
- Subtle influence and marketing
- Creates recognizable music associated with a particular company or brand

Commercial Audio system features
- Easy to install and use
- Balanced frequency response at low volumes
- Reliable and easy to maintain
- Low profile, easily integrated into the décor

Outstanding business environment
- Enhances the customer experience
- Attracts high-end customers
- Creates new revenue opportunities
- Meets the growing expectations of customers
PLENA matrix Digital Sound System

The advanced features of the PLENA matrix Digital Sound System provides superb audio performance with wireless control across up to eight output zones. With audio quality tailored for a wide range of applications — including live music, background music, high-demand speech environments and zone announcements — the PLENA matrix system delivers full featured digital audio control, with maximum flexibility and reliability.

- Wireless control using iOS mobile devices
- Revolutionary user experience
- Smart power management in amplifier to reduce energy cost
- Powerful digital signal processing capabilities

Flexible, scalable background music (BGM) solutions

Compact Sound Speaker System

The Compact Sound Speaker System is designed to offer a premium quality acoustic performance-to-size ratio in the small-format installed sound category. The family includes five sonically and aesthetically matched models which allow complete systems to be customized more effectively and more economically:

- Surface-mount subwoofer and satellite speakers
- Ceiling subwoofer and satellite speakers
- Pendant-mount satellite speakers

- All-in-one background music speaker system, combining subwoofer and satellite speakers
- High-quality audio with acoustically balanced crossover point eliminates localized sub effect so system sonically “disappears”
- Subwoofers have a large 8-inch woofer for increased low frequency output and more natural and smooth sound at low volumes
Cafe and small restaurant solution

Small cafes and restaurants generally require compact sound solutions to cater to their background music needs, as they have smaller distances and fewer zones to cover. Loudspeaker systems such as the premium-sound system provide superior acoustics in a small budget solution for these kind of venues. The perfect addition to these loudspeakers are the PLE-1ME and PLE-1MA Mixer Amplifiers of the PLENA Easy Line – ensuring excellent sound thanks to a smart equalizing approach and built-in limiters. Additional features such as zone labeling and setting indicators make it easy to use. Low operating costs and expandability additionally ensure that the system can be used for years to come.

Sample application:
- Restaurant area: approx. 500 m²
- 2 zones
- High-quality audio with acoustically balanced crossover point
- Suitable for occasional PA announcements
- Priority for emergency broadcast announcement
- Zone volume can be independently adjusted

Medium-sized restaurant solution

Suitable for medium-sized restaurants, PLE-2MA PLENA Mixer Amplifier with the Compact Sound Speaker System is a quality step-up solution with more functionality than ordinary consumer audio products. It is possible to cover several areas including the restaurant itself as well as the adjoining kitchen or service area. With the integrated wall panels and separate wall panel volume controls, the restaurant managers can choose the music source and control the volume of the zones remotely. Multiple call stations can be integrated if required.

Sample application:
- Restaurant area: approx. 300 m²
- 1 zone
- For background music and occasional PA announcements
- Speakers for indoor and outdoor installation
- Easy to use with zone labeling and setting indicators
Powered by PLENA matrix Digital Sound System

Retail store and restaurant solution

The right type of background or live music can make or break a shopping or dining experience. A quality music and voice announcement system that can be heard loud and clear in different sections of a retail store or restaurant is essential to set the right mood for shopping or dining. In a busy retail store or restaurant with different sections, this can be challenging, but not for the PLENA matrix. This stylish system packs enough powerful audio quality to hit exactly the right note for the perfect shopping or dining experience.

Small hotel solution

Small hotels are expected to provide the same service level as larger chains – just on a different scale. In this case, the highly flexible PLENA matrix is an ideal audio solution. With music, live speech, voice announcements and mixing in up to 8 zones, you can manage all your audio requirements in one easy-to-use package. Besides superb background and foreground music throughout the hotel, you can make announcements, use the system for small conferences, meetings or parties, and customize the sound in the restaurant, bar and lounge.

Sample application:

- Area: more than 3,000 m²
- Complete DSP zone matrix mixer and loudspeaker processor
- Real-time adjustments and live metering input
- 4 microphone/source, 3 music source, call station and emergency input
- Flexible control via wall panel, PC or mobile device
### PLENA Easy Line

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Channels</th>
<th>Power</th>
<th>Frequency Response</th>
<th>THD</th>
<th>Dynamic Range</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLE-1ME</td>
<td>Single zone</td>
<td>1</td>
<td>240 W</td>
<td>50 Hz - 20 kHz (+1/-3 dB) @ -10 dB</td>
<td>&lt;1 %</td>
<td>100 Hz - 18 kHz (+1/-3 dB) @ -10 dB</td>
<td>100 x 430 x 270 mm</td>
<td>6.5 kg</td>
</tr>
<tr>
<td>PLE-1MA</td>
<td>Single zone</td>
<td>1</td>
<td>240 W</td>
<td>50 Hz - 20 kHz (+1/-3 dB) @ -10 dB</td>
<td>&lt;1 %</td>
<td>100 Hz - 18 kHz (+1/-3 dB) @ -10 dB</td>
<td>100 x 430 x 270 mm</td>
<td>8.5 kg</td>
</tr>
<tr>
<td>PLE-2MA</td>
<td>Two zone</td>
<td>2</td>
<td>240 W</td>
<td>50 Hz - 20 kHz (+1/-3 dB) @ -10 dB</td>
<td>&lt;1 %</td>
<td>100 Hz - 18 kHz (+1/-3 dB) @ -10 dB</td>
<td>100 x 430 x 270 mm</td>
<td>10.5 kg</td>
</tr>
<tr>
<td>PLN-8AI0240</td>
<td>PLENA</td>
<td>8</td>
<td>120 W</td>
<td>50 Hz - 20 kHz (+1/-3 dB) @ -10 dB</td>
<td>&lt;1 %</td>
<td>100 Hz - 18 kHz (+1/-3 dB) @ -10 dB</td>
<td>100 x 430 x 270 mm</td>
<td>10.5 kg</td>
</tr>
</tbody>
</table>

### PLENA matrix Digital Sound System

<table>
<thead>
<tr>
<th>Model</th>
<th>Type</th>
<th>Channels</th>
<th>Power</th>
<th>Frequency Response</th>
<th>THD</th>
<th>Dynamic Range</th>
<th>Dimensions</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>PLM-8M8</td>
<td>Audio Matrix Controller</td>
<td>8</td>
<td>120 W</td>
<td>50 Hz - 20 kHz (+1/-3 dB) @ -10 dB</td>
<td>&lt;1 %</td>
<td>100 Hz - 18 kHz (+1/-3 dB) @ -10 dB</td>
<td>100 x 430 x 270 mm</td>
<td>10.5 kg</td>
</tr>
<tr>
<td>Power Amplifier</td>
<td>PLM-4P125 / PLM-4P220</td>
<td>4</td>
<td>240 W</td>
<td>50 Hz - 20 kHz (+1/-3 dB) @ -10 dB</td>
<td>&lt;1 %</td>
<td>100 Hz - 18 kHz (+1/-3 dB) @ -10 dB</td>
<td>100 x 430 x 270 mm</td>
<td>12.5 kg</td>
</tr>
</tbody>
</table>

### Additional Models

- PLM-8M8: Audio Matrix Controller
- PLE-1ME: Single zone Mixer Amplifier
- PLE-1MA: Single zone Mixer Amplifier
- PLE-2MA: Two zone Mixer Amplifier
- PLN-8AI0240: PLENA All-in-One
- PLM-8M8: Audio Matrix Controller
- Power Amplifier: PLM-4P125 / PLM-4P220
- PLE-SDT: SD Player/Tuner BGM source
<table>
<thead>
<tr>
<th>Loudspeakers</th>
<th>Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>LBC3090/31 Ceiling Speaker</td>
<td>Background music, Foreground music, PA announcements</td>
</tr>
<tr>
<td>LC2-PC30G6-4 Premium-sound Ceiling Speaker</td>
<td>Background music, Foreground music, PA announcements</td>
</tr>
<tr>
<td>LC2-PC30G6-8 Premium-sound Ceiling Speaker</td>
<td>Background music, Foreground music, PA announcements</td>
</tr>
<tr>
<td>LC2-PC60G6-10 Premium-sound Ceiling Subwoofer</td>
<td>Low frequency enhancement</td>
</tr>
<tr>
<td>LB2-UC15 / 30 Premium-sound Cabinet Speakers</td>
<td>Background/Foreground music, PA announcements</td>
</tr>
<tr>
<td>LBI-UM20 / 50 Premium-sound Cabinet Speakers</td>
<td>Background/Foreground music, PA announcements</td>
</tr>
<tr>
<td>LC8 Compact Sound Speaker System LC8-S-L &amp; LC8 SW100-L</td>
<td>Background/Foreground music, Low frequency enhancement</td>
</tr>
<tr>
<td>LB6 Compact Sound Speaker System LB6-S-D &amp; LB6-SW100-D*</td>
<td>Background/Foreground music, Low frequency enhancement</td>
</tr>
<tr>
<td>LP6 Compact Sound Pendant-mount Speaker</td>
<td>Background/Foreground music, Low frequency enhancement</td>
</tr>
</tbody>
</table>

**Background music**
- Frequency: 80 Hz - 16 kHz
- Response: 70 Hz - 16 kHz

**Foreground music**
- Frequency: 65 Hz - 20 kHz
- Response: 50 Hz - 20 kHz

**PA announcements**
- Frequency: 50 Hz - 20 kHz
- Response: 45 Hz - 150 kHz

**Premium-sound Ceiling Speaker**
- LC2-PC30G6-4
- LC2-PC30G6-8
- LC2-PC60G6-10
- LC8 Compact Sound Speaker System LC8-S-L & LC8 SW100-L
- LB6 Compact Sound Speaker System LB6-S-D & LB6-SW100-D*
- LP6 Compact Sound Pendant-mount Speaker

**Background music**
- Frequency: 99 Hz - 16 kHz
- Response: 70 Hz - 16 kHz

**Foreground music**
- Frequency: 75 Hz - 100 Hz
- Response: 60 Hz - 100 Hz

**PA announcements**
- Frequency: 65 Hz - 20 kHz
- Response: 50 Hz - 20 kHz

**Premium-sound Ceiling Speaker**
- LBC3090/31
- LC2-PC30G6-4
- LC2-PC30G6-8
- LC2-PC60G6-10
- LC8 Compact Sound Speaker System LC8-S-L & LC8 SW100-L
- LB6 Compact Sound Speaker System LB6-S-D & LB6-SW100-D*
- LP6 Compact Sound Pendant-mount Speaker

**Background/Foreground music, PA announcements**
- Frequency: 50 Hz - 20 kHz
- Response: 45 Hz - 150 kHz

**Low frequency enhancement**
- Frequency: 45 Hz - 150 kHz
- Response: 45 Hz - 150 kHz

**Max SPL**
- Frequency: 99 dB / 105 dB
- Response: 50 Hz - 20 kHz

**Rated power**
- Frequency: 99 dB / 105 dB
- Response: 50 Hz - 20 kHz

**Rated voltage**
- Frequency: 99 dB / 105 dB
- Response: 50 Hz - 20 kHz

**Dimensions**
- Frequency: 99 dB / 105 dB
- Response: 50 Hz - 20 kHz

**Color**
- Frequency: 99 dB / 105 dB
- Response: 50 Hz - 20 kHz

**Weight**
- Frequency: 99 dB / 105 dB
- Response: 50 Hz - 20 kHz
Success story

PLENA matrix
The perfect fit for Hard Rock Café, Sydney, Australia

Offering a spectacular view across Darling Harbour, the Hard Rock Café Sydney has quickly established itself as a favorite waterfront destination for entertainment and dining. Having reopened at this new location, the 500+ capacity venue includes a lounge bar, outdoor balcony dining area and a live performance area. Famed for its memorabilia, burgers, merchandise and cocktails, the Hard Rock Café chain continues to inspire their guests with superb background and foreground music. The venue required eight zones with independent control which was easily supplied by the PLENA matrix 8x8 DSP mixer in one easy-to-use package.