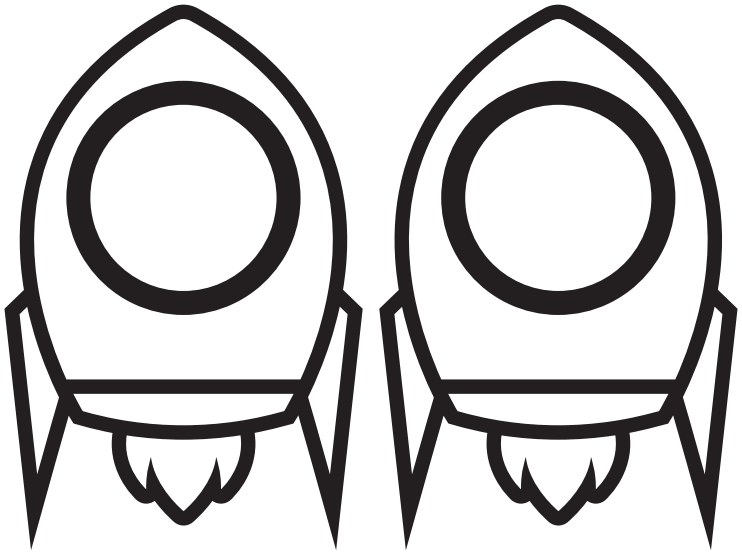
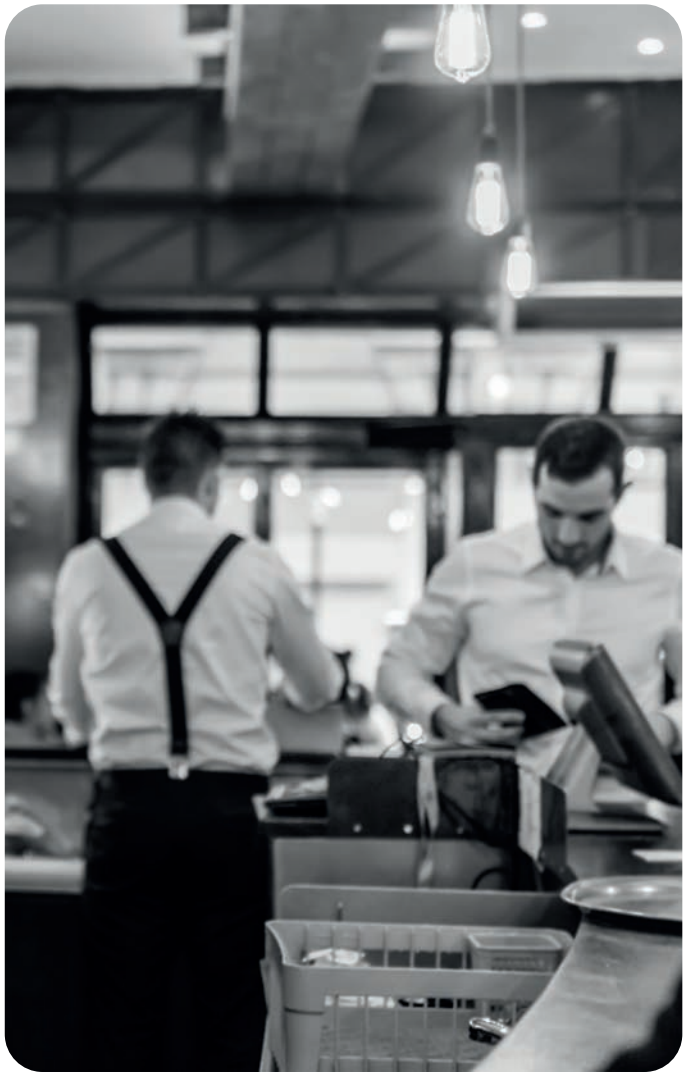
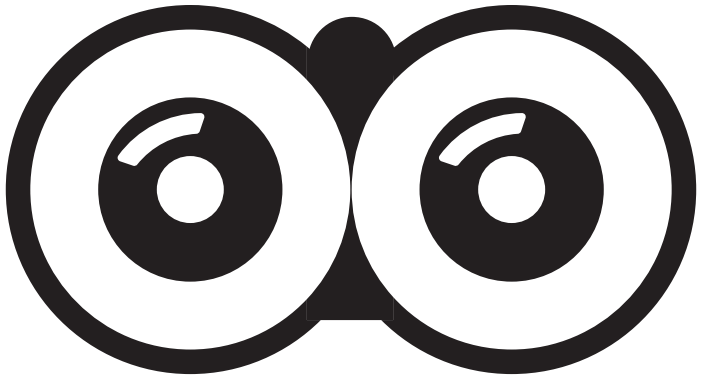
Optimal Audio



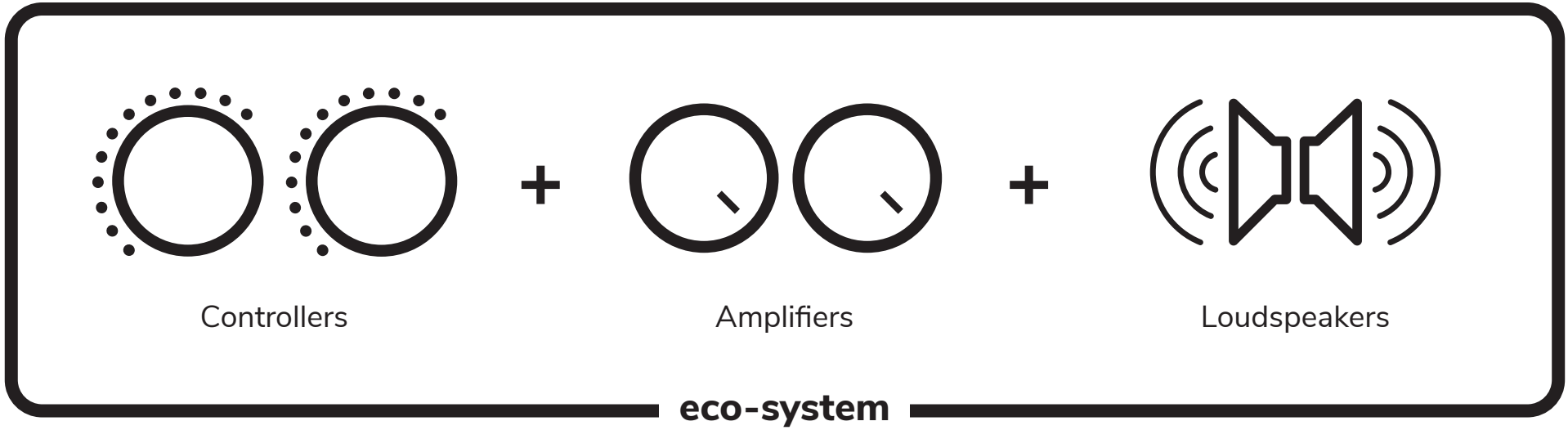
Commercial audio. Done differently.



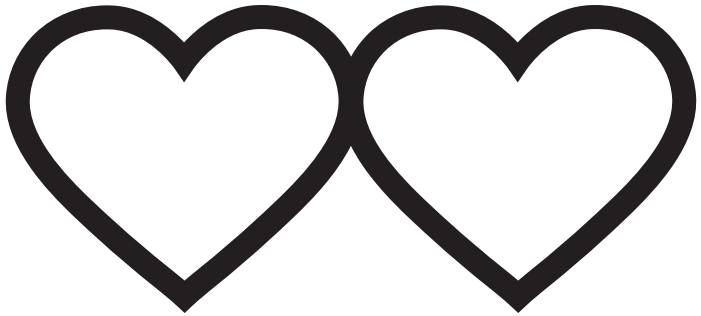
TITLE



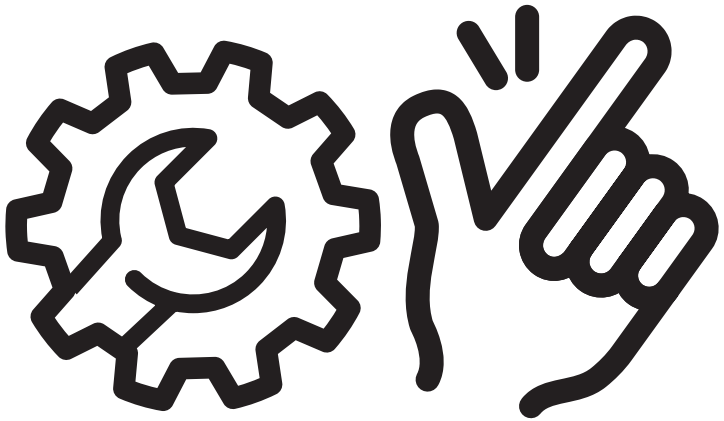
We’re here with a fresh outlook.



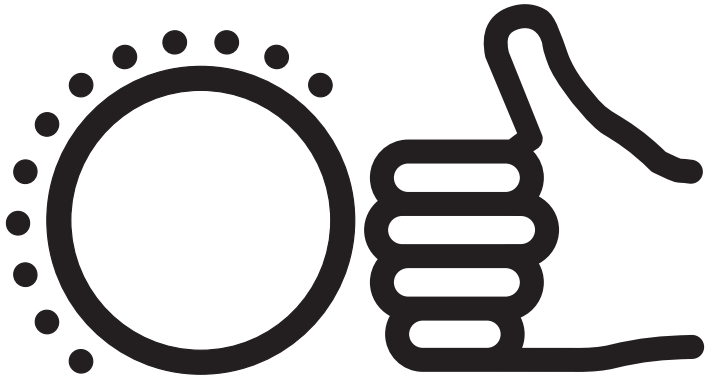

A streamlined product offering.
Working seamlessly together.



Where sound quality is assured.



Installation is easy.



Operation is by anyone,
not just engineers.

# Be ready to inspire.

That’s the pathway to create memorable nights of entertainment, engaging retail spaces, inspiring lessons for the next generation and uplifting houses of worship.

# Relax, it’s Optimal Audio.

A British brand and as part of Focusrite plc, one of the largest pro audio manufacturers in Europe with £130m+ turnover, Optimal Audio benefits from years of engineering experience, global reach and support.

Bars/Restaurants & Cafes

Retail

Ktv

Hotels

Education Facilities

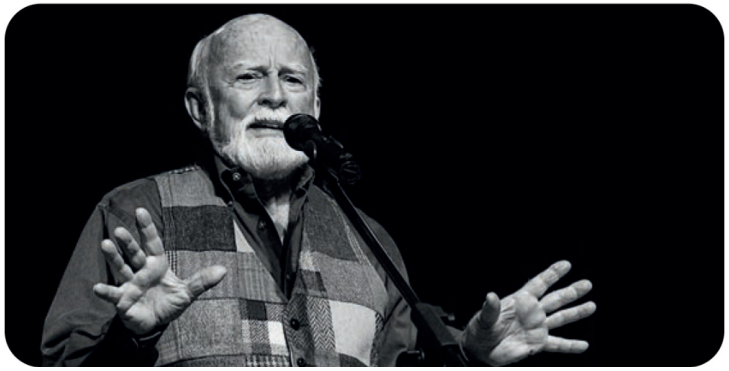
Houses of Worship

Corporate Offices

Museums

Fitness Studios

Residential



# Portfolio

A one-stop solution of control, amplification and loudspeakers for small to medium sized commercial installations with a focus on supporting multi-zone venues.

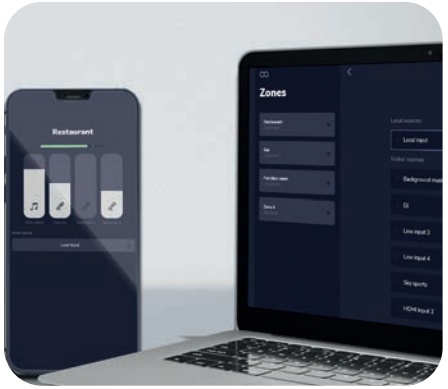
Products are designed to meet the needs of venues and when combined with the intuitive WebApp, enable the installer to easily tailor the system from full EQ and signal processing to setting up of routines and presets.

1
2
3
4
5
6
7
8
Zone

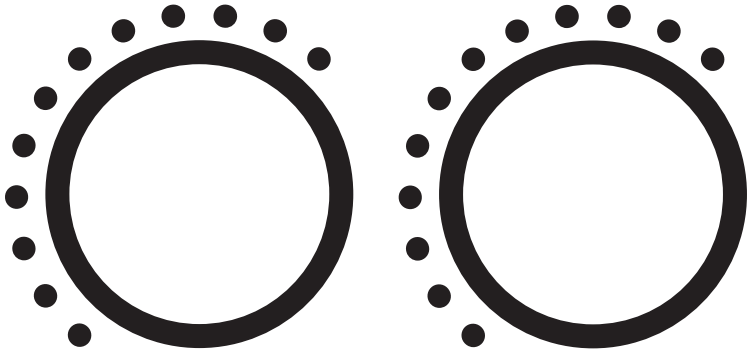
Optimal Audio
Music
Source
All zones
All zones
Mic 1
Mic 2
Paging
Protect
Temp
Clip
4 Zone Processor
Power

Optimal Audio
Local source
Zone
MUSIC
MIC

4 Zone Processor
Power
Protect
Temp
Clip
All zones
All zones
Source


Zones
Restaurant

# Controllers



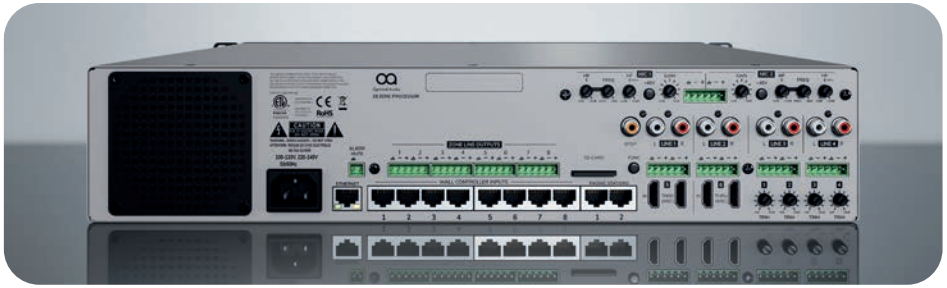
Optimal Audio offers a range of controllers designed to integrate with our WebApp and to partner our loudspeaker and amplifier offering.

Controllers

# Zone

## Zone audio controllers with DSP and WebApp

- 4 or 8 zone powered and non-powered versions
- Desktop or rack-mounted
- Convenient front panel controls for sources and levels
- Advanced configuration via hosted WebApp
- Settings stored to SD card, for easy replication
- Emergency alarm override

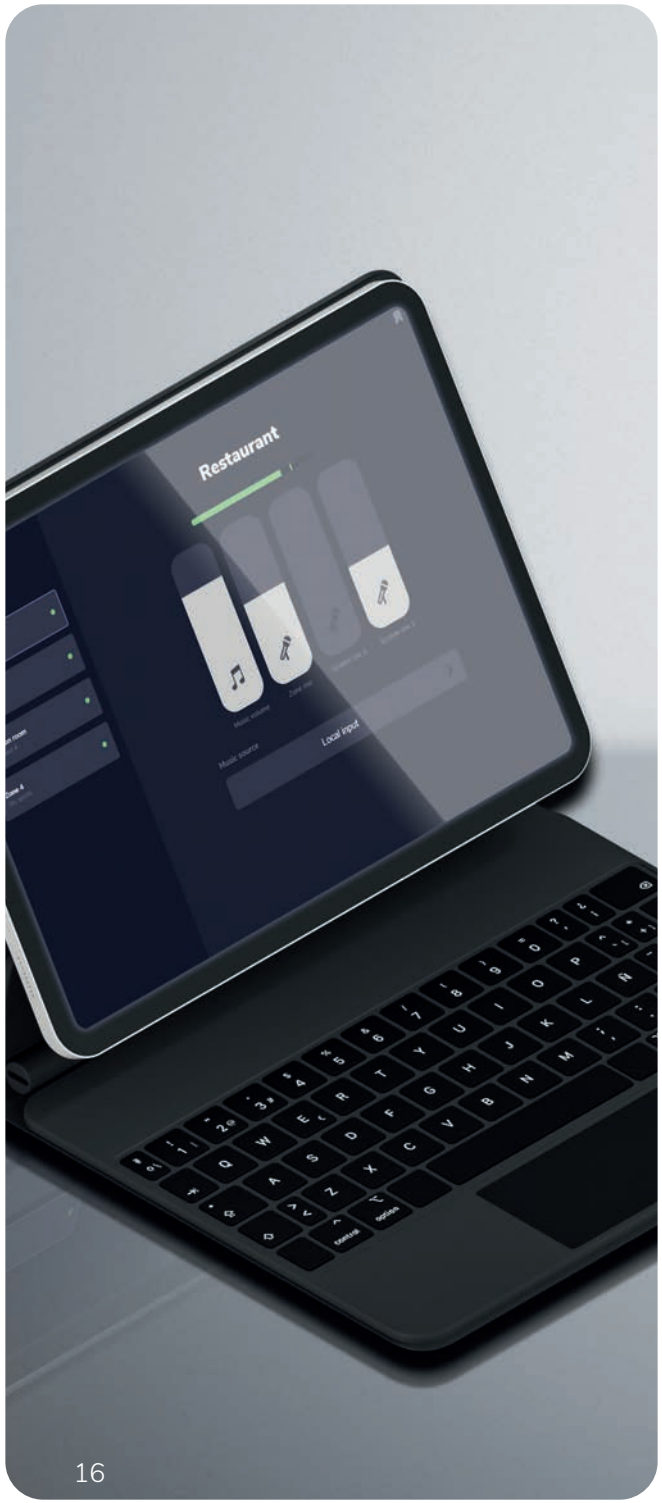


Controllers

# ZonePad

## Zone wall controllers

- Wall-mounted
- Single or 4 zone selection of music source
- Level control of selected music and mic inputs
- Single proprietary RJ45/CAT5 connection to system for power, audio and control


Restaurant
Local input

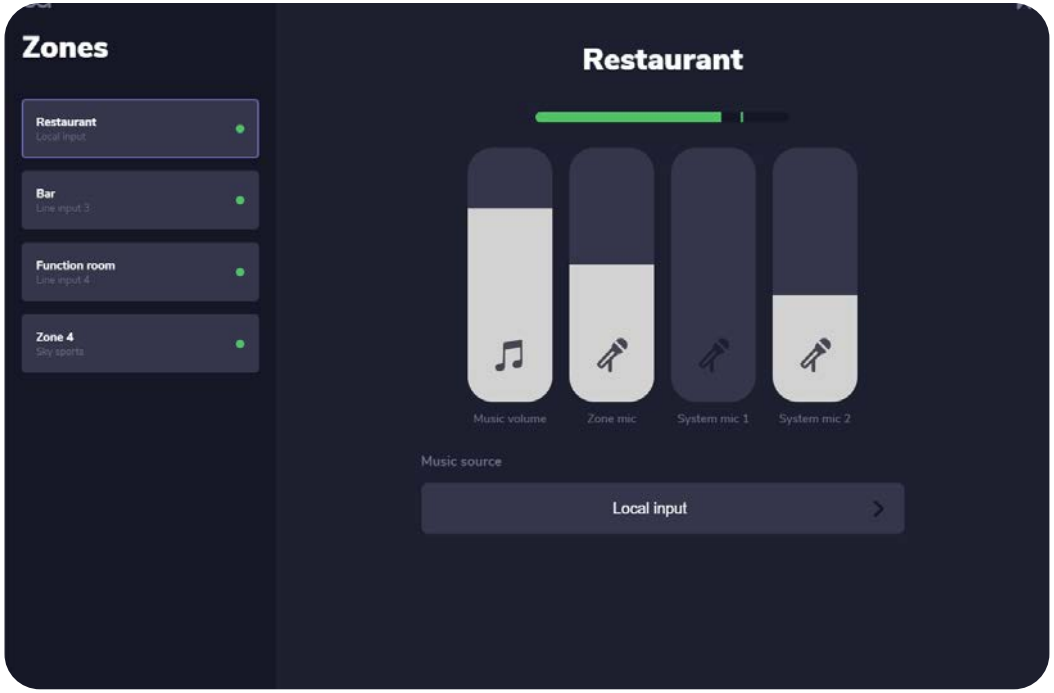
Restaurant
Local input
Zones
Restaurant
Music source
Local sources
Local input
Global sources
Background music
DJ
Line input 3
Line input 4
Sky sports
HDMI input 2
Bar
Function room
Zone 4

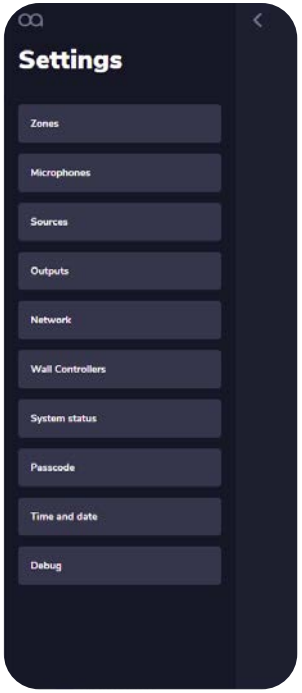
Controllers

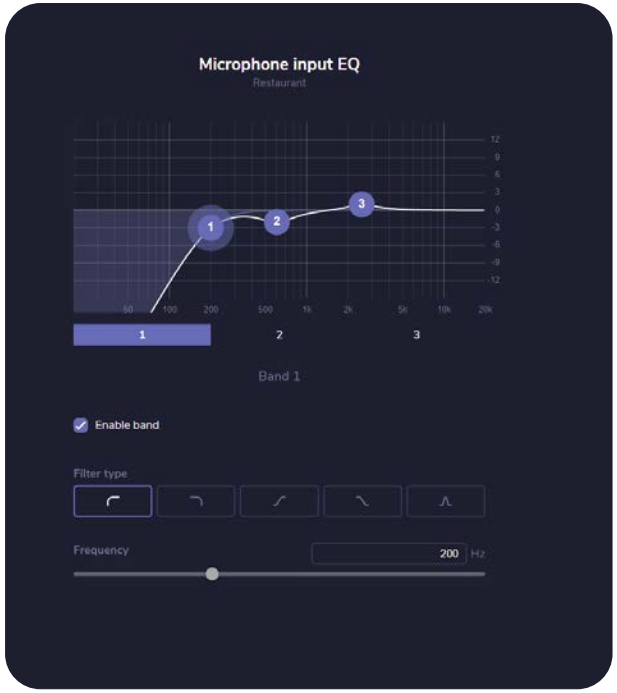
# WebApp

**Intuitive system set-up and control**

- Simple and intuitive user interface
- Accessed via the browser on any device on any platform
- Control for all connected sources in all zones
- Presets and time of day routines
- Access all functions for complete system set-up including EQ, routing, ducking, limiting and more
- Customisable zone and input naming



Optimal Audio

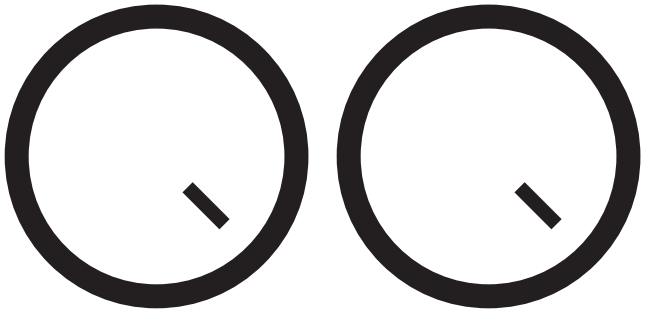
1
2
3
4

SmartAmp 10
SmartAmp 20
SmartAmp 30

1
2

Optimal Audio

# Amplifiers



Optimal Audio offers a range of amplifiers, to partner our loudspeaker and control offering.

Optimal Audio
1
2
SmartAmp 10
Optimal Audio
1
2
3
4
SmartAmp 20
Optimal Audio
1
2
3
4

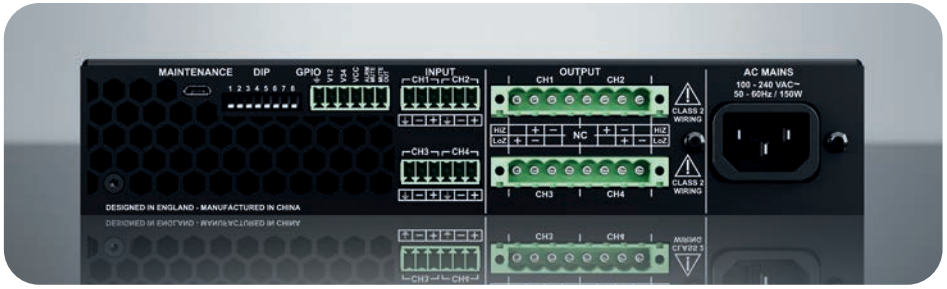
SmartAmp 30

Amplifiers

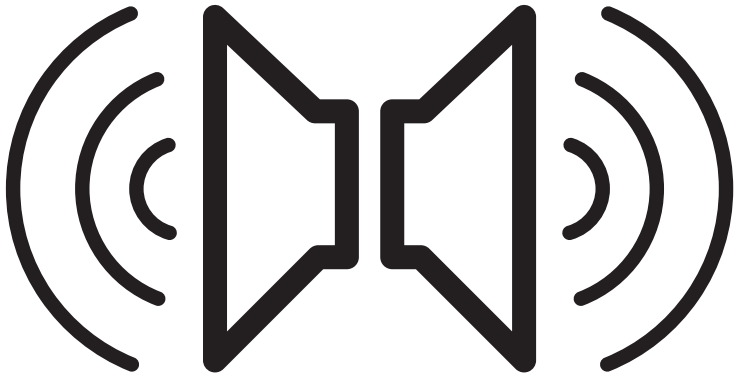
# SmartAmp

## Amplifiers with DSP

- Three multi-channel direct drive constant voltage amplifiers with DSP
- Up to 30 internal DSP presets for Optimal Audio loudspeakers
- Flexible configuration for a wide range of applications
- Capable of either 4Ω-16Ω or 70V-100V operation



# Loudspeakers



Optimal Audio offers a range of ceiling, on-wall and subwoofer loudspeakers for a full complement of commercial applications. Designed by world-class engineers, they offer a premium sound quality at a cost-conscious price point.

Loudspeakers

# Up

## Ceiling speakers

- Range of 3”, 4” and 6” ceiling speakers
- High quality construction with neutral white finish
- Crisp, clear and evenly distributed sound
- 70V – 100V line amplification with easy access power taps

Loudspeakers

# Cuboid

## On-wall loudspeakers

- 8”, 10”, 12” and 15” full range, two-way, passive loudspeakers
- Wooden cabinet and quality driver components
- Presets in the SmartAmps and Zone products ensure sonic quality
- User-rotatable high-frequency horn
- Symmetrical multi-angle enclosure for mounting speaker in landscape or portrait
- Wall-mount bracket and other mounting accessories available

Loudspeakers

# Sub

## Subwoofers

- 10” and 15” reflex loaded subwoofers for punchy bass
- Compact dimensions for greater placement options
- Plywood cabinets and impact resistant steel grille
- Supports mounting/flying

Bat Cave
Concourse A
Terminal
Luggage Claim
Hotel

Controllers

# Technical Specifications

| | Zone 4 | Zone 4P | Zone 8 | Zone 8P |
|---|---|---|---|---|
| **TYPE** | 4 zone audio processor with DSP and loudspeaker presets | 4 zone audio processor with DSP, amplification and loudspeaker presets | 8 zone audio processor with DSP and loudspeaker presets | 8 zone audio processor with DSP, amplification and loudspeaker presets |
| **MIC INPUTS** | 2 with 48V phantom power, +12dB to +55dB gain | 2 with 48V phantom power, +12dB to +55dB gain | 2 with 48V phantom power, +12dB to +55dB gain | 2 with 48V phantom power, +12dB to +55dB gain |
| **MIC INPUT PROCESSING** | Fixed hi-pass filter @160Hz; sweepable mid-band 200Hz-5kHz, +/-12dB; HF shelf @12kHz | Fixed hi-pass filter @160Hz; sweepable mid-band 200Hz-5kHz, +/-12dB; HF shelf @12kHz | Fixed hi-pass filter @160Hz; sweepable mid-band 200Hz-5kHz, +/-12dB; HF shelf @12kHz | Fixed hi-pass filter @160Hz; sweepable mid-band 200Hz-5kHz, +/-12dB; HF shelf @12kHz |
| **LINE INPUTS** | 4 stereo with +26dB gain trim. SPDIF option on input 1 | 4 stereo with +26dB gain trim. SPDIF option on input 1 | 4 stereo with +26dB gain trim. SPDIF option on input 1 | 4 stereo with +26dB gain trim. SPDIF option on input 1 |
| **HDMI INPUTS** | 2 with ARC | 2 with ARC | 2 with ARC | 2 with ARC |
| **LINE OUTPUTS** | 4 | 4 | 8 | 8 |
| **ZONEPAD SOCKETS** | 4 | 4 | 8 | 8 |
| **AMPLIFIER CHANNELS** | n/a | 4 | n/a | 8 |
| **AMPLIFIER POWER** | n/a | 100W at 4Ω or 8Ω | n/a | 100W at 4Ω or 8Ω |
| **PAGING INPUTS (CAT 5)** | 2 | 2 | 2 | 2 |
| **LAN ETHERNET 100MBPS** | Yes | Yes | Yes | Yes |
| **ALARM OVERRIDE** | Yes | Yes | Yes | Yes |
| **DIMENSIONS** | (W) 480mm x (H) 88mm x (D) 400mm<br>(W) 18.90" x (H) 3.46" x (D) 15.75" | (W) 480mm x (H) 88mm x (D) 400mm<br>(W) 18.90" x (H) 3.46" x (D) 15.7" | (W) 480mm x (H) 88mm x (D) 400mm<br>(W) 18.90" x (H) 3.461" x (D) 15.7" | (W) 480mm x (H) 88mm x (D) 400mm<br>(W) 18.90" x (H) 3.46" x (D) 15.75" |
| **WEIGHT** | 9.2kg (20.2lb) | 9.75kg (21.5lb) | 9.2kg (20.2lb) | 10.3kg (22.7lb) |

| | ZonePad 1 | ZonePad 4 |
|---|---|---|
| **TYPE** | Single zone wall controller with local mic and line inputs | 4 zone wall controller |
| **LOCAL MIC INPUT** | 1 with 48V phantom power, +12dB to +55dB gain, fixed hi-pass filter @160Hz | n/a |
| **LOCAL MUSIC INPUT** | 1 x mono | n/a |
| **MAXIMUM DISTANCE (CAT5)** | 500m | 500m |
| **CONNECTION** | RJ45 | RJ45 |
| **DATA PROTOCOL** | Optimal Audio proprietary over CAT 5 | Optimal Audio proprietary over CAT 5 |
| **CASE MATERIAL** | Zinc plated steel, ABS | Zinc plated steel, ABS |
| **LENS MATERIAL** | Clear acrylic | Clear acrylic |
| **BACK BOX** | 2-gang 25mm deep back box | 2-gang 25mm deep back box |
| **DIMENSIONS** | (W) 146mm x (H) 86.2mm x (D) 39.3mm<br>(W) 5.75" x (H) 3.39" x (D) 1.55" | (W) 146mm x (H) 86.2mm x (D) 39.3mm<br>(W) 5.75" x (H) 3.39" x (D) 1.55" |
| **WEIGHT** | 0.35kg (0.8lb) | 0.35kg (0.8lb) |

Amplifiers

# Technical Specifications

| | SmartAmp 10 | SmartAmp 20 | SmartAmp 30 |
|---|---|---|---|
| **TYPE** | CLASS D power amplifier with DSP | CLASS D power amplifier with DSP | CLASS D power amplifier with DSP |
| **POWER OUTPUT (4Ω-16Ω)** | 2 x 125W | 4 x 125W | 4 x 250W |
| **70V – 100V OUTPUT** | 2 x 125W | 4 x 125W | 4 x 250W |
| **DIGITAL SIGNAL PROCESSING** | EQ & limiter presets for Optimal Audio loudspeakers | EQ & limiter presets for Optimal Audio loudspeakers | EQ & limiter presets for Optimal Audio loudspeakers |
| **COOLING** | Forced air cooling with fan | Forced air cooling with fan | Forced air cooling with fan |
| **ANALOGUE IN/LINK** | 2 balanced line inputs on Euroblock connectors | 4 balanced line inputs on Euroblock connectors | 4 balanced line inputs on Euroblock connectors |
| **ANALOGUE INPUT IMPEDANCE** | 10kΩ unbalanced, 20kΩ balanced | 10kΩ unbalanced, 20kΩ balanced | 10kΩ unbalanced, 20kΩ balanced |
| **MAXIMUM ANALOGUE INPUT LEVEL** | +24dBu | +24dBu | +24dBu |
| **AMPLIFIER OUTPUTS** | Euroblock | Euroblock | Euroblock |
| **SIGNAL TO NOISE RATIO** | > 100dB (A-weighted, 20Hz - 20kHz, 8Ω load) | > 100dB (A-weighted, 20Hz - 20kHz, 8Ω load) | > 100dB (A-weighted, 20Hz - 20kHz, 8Ω load) |
| **FREQUENCY RESPONSE** | 20Hz - 20kHz, +0/-0.25dB (8Ω load, 3 dB below rated power) | 20Hz - 20kHz (+0/-0.25dB (8Ω load, 3dB below rated power) | 20Hz - 20kHz, +0/-0.25dB (8Ω load, 3dB below rated power) |
| **TOTAL HARMONIC DISTORTION** | < 0.05 % (20Hz - 20kHz, 8Ω load, 3dB below rated power) | < 0.05 % (20Hz - 20kHz, 8Ω load, 3dB below rated power) | < 0.05 % (20Hz - 20kHz, 8Ω load, 3dB below rated power) |
| **SLEW RATE** | 8.796V/µS at 70V peak, low impedence,<br>17.77V/µS at 100V peak, high impedence | 8.796V/µS at 70V peak, low impedence,<br>17.77V/µS at 100V peak, high impedence | 8.796V/µS at 70V peak, low impedence,<br>17.77V/µS at 100V peak, high impedence |
| **DAMPING FACTOR** | 370 with 8Ω load | 370 with 8Ω load | 370 with 8Ω load |
| **CONTROL AND MONITORING** | GPIO | GPIO | GPIO |
| **DSP SAMPLE RATE** | 48kHz | 48kHz | 48kHz |
| **MAINS POWER INPUT** | Universal mains, 100-240V, 50-60Hz | Universal mains, 100-240V, 50-60Hz | Universal mains, 100-240V, 50-60Hz |
| **MAINS CONNECTOR** | IEC | IEC | IEC |
| **POWER CONSUMPTION** | 75W | 150W | 300W |
| **HEAT GENERATED** | 270kJ per hour | 540kJ per hour | 1080kJ per hour |
| **DIMENSIONS** | (W) 220mm x (H) 43.9mm x (D) 277mm<br>(W) 8.67" x (H) 1.73" x (D) 10.91" | (W) 220mm x (H) 44mm x (D) 353mm<br>(W) 8.67" x (H) 1.73" x (D) 13.90" | (W) 440mm x (H) 44mm x (D) 308mm<br>(W) 17.32" x (H) 1.73" x (D) 12.13" |
| **WEIGHT** | 1.9kg (4.2lb) | 2.4kg (5.3lb) | 3.6kg (7.9lb) |
| **ACCESSORIES (available separately)** | Rack ears and connection plate, rear rack support kit, wall/desktop mount kit | Rack ears and connection plate, rear rack support kit, wall/desktop mount kit | Rear rack support kit |
| **ACCESSORIES (included)** | n/a | n/a | 2 x rack ears |

Loudspeakers

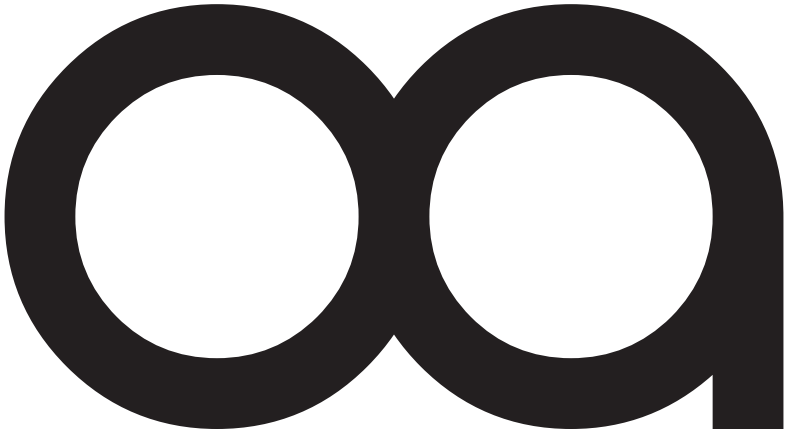
# Technical Specifications

| | Up 3 | Up 40 | Up 4S | Up 4 | Up 6 |
|---|---|---|---|---|---|
| **TYPE** | Full range, passive, ceiling speaker | Full range, passive, ceiling speaker | Two-way, full range, passive, ceiling speaker | Two-way, full range, passive, ceiling speaker | Two-way, full range, passive, ceiling speaker |
| **FREQUENCY RESPONSE (with preset)** | 95Hz - 15kHz ± 3dB<br>-10dB @68Hz | 87Hz - 15kHz ± 3dB<br>-10dB @60Hz | 110Hz - 18kHz ± 3dB<br>-10dB @85Hz | 100Hz - 18kHz ± 3dB<br>-10dB @74Hz | 115Hz - 18kHz ± 3dB<br>-10dB @80Hz |
| **DRIVERS** | 3" (78mm), coated paper | 4" (105mm), coated paper | LF: 4" (105mm), polypropylene injection moulded<br>HF: 1 (25mm) exit/0.7 (20mm) voice coil,<br>silk dome | LF: 4" (105mm), coated paper<br>HF: 1 (25mm) exit/0.7" (20mm) voice coil,<br>silk dome | LF: 6.5" (162mm), coated paper<br>HF: 1" (25mm) exit/ 0.7" (20mm) metal dome |
| **RATED POWER** | 20W (AES) 40W (peak) | 10W (AES) | 15W (AES) 30W (peak) | 30W (AES) 60W (peak) | 30W (AES) 60W (peak) |
| **NOMINAL IMPEDANCE** | 8Ω | Tap dependent | 8Ω | 8Ω | 16Ω |
| **SENSITIVITY (1W/1m)** | 84dB | 93dB | 86dB | 87dB | 90dB |
| **MAXIMUM SPL** | 97dB (cont), 100dB (peak) | 100dB (cont) | 98dB (cont), 101dB (peak) | 102dB (cont), 105dB (peak) | 108dB (cont), 111dB (peak) |
| **CROSSOVER** | n/a | n/a | 3.5kHz passive | 3.5kHz passive | 2.7kHz passive |
| **RECOMMENDED HIGH-PASS FILTER** | 24dB/octave @90Hz | 24dB/Octave @80Hz | 24dB/octave @85Hz | 24dB/octave @90Hz | 24dB/octave @80Hz |
| **TRANSFORMER TAPS @ 70V** | 15, 7.5, 3.8, 1.9W | 6, 3, 1.5, 0.75W | 8, 4, 2, 1, 0.5W | 25, 12.5, 6.3, 3.2W | 60, 30, 15, 7.5W |
| **TRANSFORMER TAPS @ 100V** | 15, 7.5, 3.8W | 6, 3, 1.5W | 8, 4, 2, 1W | 25, 12.5, 6.3W | 60, 30, 15W |
| **DISPERSION (-6dB)** | 130˚ conical | 130˚ conical | 150˚ conical | 120˚ conical | 110˚ conical |
| **BACK CAN** | Zinc-plated steel | n/a | Zinc-plated steel | Zinc-plated steel | Zinc-plated steel |
| **BAFFLE** | ABS | ABS | ABS | ABS | ABS |
| **PROTECTIVE GRILLE** | Perforated steel with cloth backing | Perforated steel with cloth backing | Perforated steel with cloth backing | Perforated steel with cloth backing | Perforated steel with cloth backing |
| **FIRE RATING** | UL94-V0 | UL94-V0 | UL94-V0 | UL94-V0 | UL94-V0 |
| **CONNECTORS** | 4 pin Euroblock with link out | Bare wires | 4 pin Euroblock with link out | 4 pin Euroblock with link out | 4 pin Euroblock with link out |
| **FITTINGS** | C-ring support backing plate | C-ring support backing plate | C-ring support backing plate | C-ring support backing plate | C-ring support backing plate |
| **DIMENSIONS (inc. Grille)** | (Ø) 202mm x (D) 165mm<br>(Ø) 7.95" x (D) 5.7" | (Ø) 202mm x (D) 117mm<br>(Ø) 7.95" x (D) 4.62" | (Ø) 202mm x (D) 144mm<br>(Ø) 7.95" x (D) 5.67" | (Ø) 202mm x (D) 227.5mm<br>(Ø) 7.95" x (D) 8.96" | (Ø) 251mm x (D) 205.1mm<br>{Ø) 9.88" x (D) 8.08" |
| **CUT-OUT DIAMETER** | 178mm (7.01") | 178mm (7.01") | 178mm (7.01") | 178mm (7.01") | 222mm (8.74") |
| **WEIGHT** | 1.6kg (3.5lb) | 1.3kg (2.9lb) | 2.2kg (4.9lb) | 2.2kg (4.9lb) | 3.0kg (6.6lb) |
| **INCLUDED ACCESSORIES** | 2 tile support rails (for 2ft or 600mm tile spans), cutout template, paint shield, removable locking, multi-pin connector | 2 tile support rails (for 2ft or 600mm tile spans), cutout template, paint shield, removable locking multi-pin connector | 2 tile support rails (for 2ft or 600mm tile spans), cutout template, paint shield, removable locking multi-pin connector | 2 tile support rails (for 2ft or 600mm tile spans), cutout template, paint shield, removable locking multi-pin connector | 2 tile support rails (for 2ft or 600mm tile spans), cutout template, paint shield, removable locking multi-pin connector |

Loudspeakers

# Technical Specifications

| | Cuboid 8 | Cuboid 10 | Cuboid 12 | Cuboid 15 | Sub 10 | Sub 15 |
|---|---|---|---|---|---|---|
| **TYPE** | Two-way, full range, passive loudspeaker | Two-way, full range, passive loudspeaker | Two-way, full range, passive loudspeaker | Two-way, full range, passive loudspeaker | Sub-bass loudspeaker | Sub-bass loudspeaker |
| **FREQUENCY RESPONSE (with preset)** | 90Hz - 18kHz ± 3dB<br>-10dB @62Hz | 65Hz - 20kHz ± 3dB<br>-10dB @49Hz | 62Hz - 20kHz ± 3dB<br>-10dB @47Hz | 58Hz - 18kHz ± 3dB<br>-10dB @40Hz | 50Hz - 150Hz ± 3dB<br>-10dB @42Hz | 45Hz - 150Hz ± 3dB<br>-10dB @40Hz |
| **DRIVERS** | LF: 8" (200mm), ferrite motor system<br>HF: 1" (25mm) exit/1" (25mm) voice coil, HT polymer dome compression driver | LF: 10" (254mm), ferrite motor system<br>HF: 1" (25mm) exit/1.4" (36mm) voice coil, polyimide dome compression driver | LF: 12" (300mm), ferrite motor system<br>HF: 1" (25mm) exit/1.4" (36mm) voice coil, polyimide dome compression driver | LF: 15" (380mm), ferrite motor system<br>HF: 1" (25mm) exit/1.7" (44mm) voice coil, polyimide dome compression driver | LF: 10" (250mm) | LF: 15" (380mm) |
| **RATED POWER** | 200W (AES) 800W (peak) | 250W (AES) 1000W (peak) | 300W (AES) 1200W (peak) | 500W (AES) 2000W (peak) | 250W (AES) 1000W (peak) | 500W (AES) 2000W (peak) |
| **NOMINAL IMPEDANCE** | 8Ω | 8Ω | 8Ω | 8Ω | 8Ω | 8Ω |
| **SENSITIVITY (1W/1m)** | 92dB | 96dB | 98dB | 99dB | 97dB (half space) | 102dB (half space) |
| **MAXIMUM SPL** | 115dB (cont), 121dB (peak) | 120dB (cont), 126dB (peak) | 123dB (cont), 129dB (peak) | 126dB (cont), 132dB (peak) | 121dB (cont), 127dB (peak) (half space) | 129dB (cont), 135dB (peak) (half space) |
| **CROSSOVER** | 2.9kHz passive | 2.8kHz passive | 2.5kHz passive | 2.3kHz passive | n/a | n/a |
| **DISPERSION (-6dB)** | 90° H x 50° V (user-rotatable) | 90° H x 50° V (user-rotatable) | 80° H x 50° V (user-rotatable) | 80° H x 50° V (user-rotatable) | n/a | n/a |
| **ENCLOSURE** | Trapezoid wooden cabinet | Trapezoid wooden cabinet | Trapezoid wooden cabinet | Trapezoid wooden cabinet | Plywood | Plywood |
| **FINISH** | Black textured paint | Black textured paint | Black textured paint | Black textured paint | Black textured paint | Black textured paint |
| **PROTECTIVE GRILLE** | Black perforated steel with scrim cloth backing | Black perforated steel with scrim cloth backing | Black perforated steel with scrim cloth backing | Black perforated steel with scrim cloth backing | Perforated steel | Perforated steel |
| **CONNECTORS** | 2x NL4 type | 2x NL4 type | 2x NL4 type | 2x NL4 type | Euroblock type | Euroblock type |
| **PIN CONNECTIONS (INPUT)** | 1+/1- | 1+/1- | 1+/1- | 1+/1- | 1+ 1- | 1+ 1- |
| **FITTINGS** | 16 x M8, inset bolts | 21 x M8, inset bolts | 21 x M8, inset bolts | 19 x M8, inset bolts | 12 x M8, inset bolts | 12 x M8, inset bolts |
| **DIMENSIONS** | (W) 256mm x (H) 422.5mm x (D) 261mm<br>(W) 10.08" x (H) 16.63" x (D) 10.28" | (W) 322mm x (H) 524mm x (D) 326mm<br>(W) 12.68" x (H) 20.63" x (D) 12.83" | (W) 360mm x (H) 575mm x (D) 392mm<br>(W) 14.17" x (H) 22.64" x (D) 15.43" | (W) 426.5mm x (H) 691.5mm x (D) 416mm<br>(W) 16.79" x (H) 27.22" x (D) 16.38" | (W) 470mm x (H) 297mm x (D) 353mm<br>(W) 18.50" x (H) 11.7" x (D) 13.9" | (W) 716mm x (H) 443mm x (D) 480mm<br>(W) 28.19" x (H) 17.4" x (D) 18.9" |
| **WEIGHT** | 10kg (22.05lb) | 16kg (35.27lb) | 20kg (44.09lb) | 28kg (61.73lb) | 12.9kg (28.4lb) | 34.3kg (75.6lb) |
| **ACCESSORIES (available separately)** | Wall bracket A, U bracket A, M8 eye bolt | Wall bracket B, U bracket B, M8 eye bolt | Wall bracket B, U bracket C, M8 eye bolt | Wall bracket C, U bracket D, M8 eye bolt | Sub bracket (pair), M8 eye bolt | M8 eye bolt |



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