



ACTIVE ACOUSTICS
THAT TRANSFORM THE ROOM

ONE SPACE. MULTIPLE ACOUSTIC NEEDS

Performance spaces are used for many different types of events, each with its own acoustic requirements. Speech needs clarity, control and shorter reverberation times, while opera, choir and symphonic music benefit from warmth, blend and rich envelopment. Smaller formats such as solo performances, jazz combos and chamber ensembles often require a different acoustic balance again.



Acoustic field visualisation

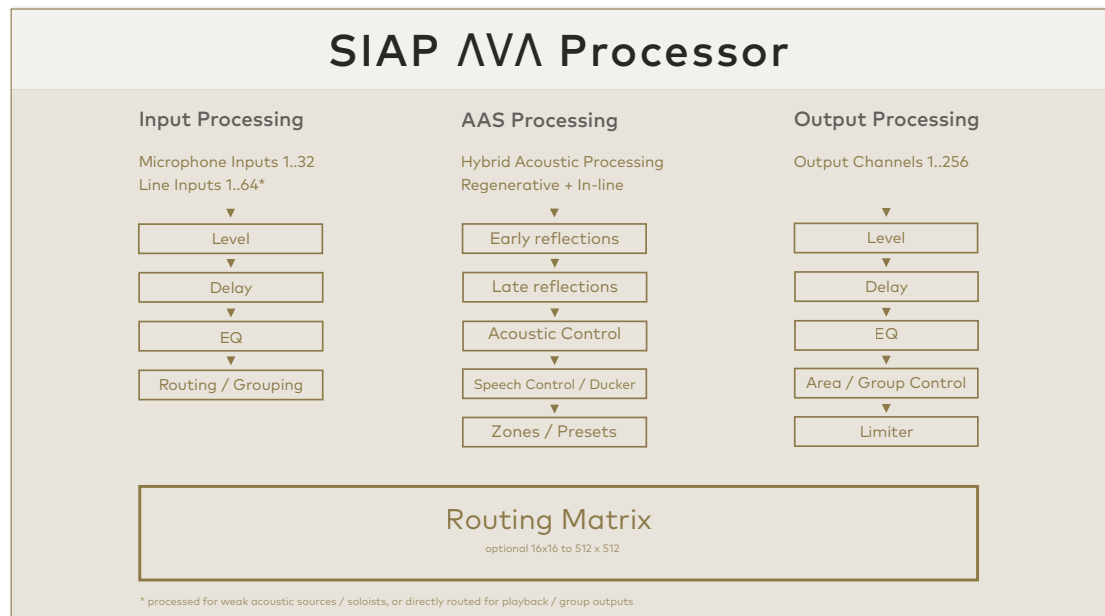
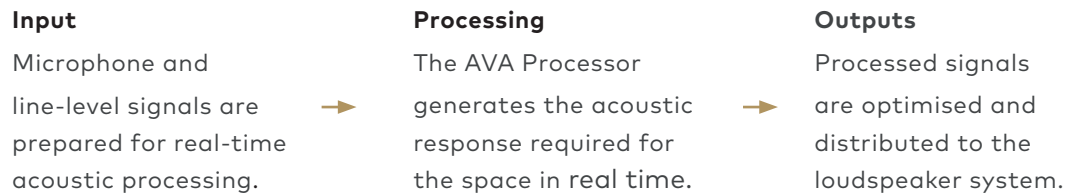
A FLEXIBLE ACOUSTIC RESPONSE

SIAP Active Acoustics addresses this challenge by electronically adjusting the acoustic behaviour of a space in real time.

Through microphones, real-time processing and loudspeakers, SIAP reshapes the room response for different performances - without physical alterations to the space. Stage, audience, balcony and under-balcony areas can be tuned as dedicated acoustic zones, helping challenging areas connect naturally with the main auditorium, ensuring a consistent listening experience for every seat in the hall.

HOW SIAP WORKS

At the core of the SIAP system is the AVA platform, which receives microphone, line-level and networked audio signals, applies SIAP's hybrid acoustic processing, and delivers the required acoustic response through the loudspeaker system.



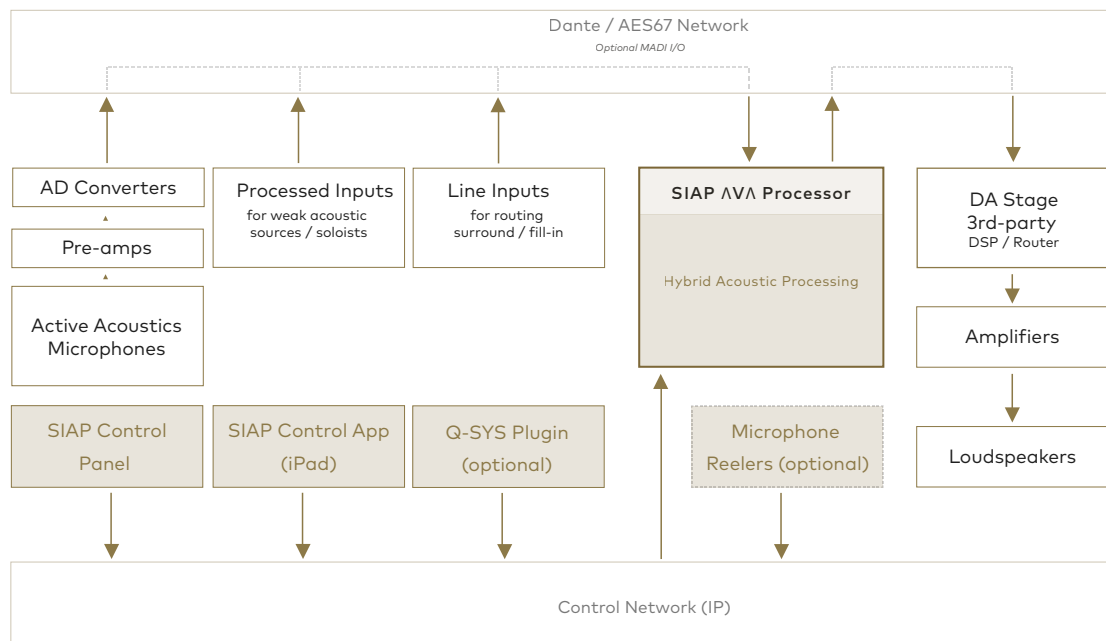
AVA PLATFORM REFERENCE

For AVA hardware details and audio/network interfaces, please refer to the AVA Processor datasheet. Processor scaling and application-specific configuration are described in this brochure.

SYSTEM INTEGRATION

SIAP Active Acoustics integrates into professional audio environments via Dante / AES67, with optional MADI support, allowing efficient connection to microphones, playback systems, external DSP systems and wider audio infrastructure.

The AVA Processor operates as the central processing unit within the network and is designed for brand-agnostic integration with third-party equipment, including microphones, pre-amps, amplifiers, loudspeakers and conversion systems. In the system diagram below, SIAP-supplied components are highlighted, while neutral blocks indicate third-party equipment selected to suit the project.



INTEGRATION REFERENCE

SIAP typically supplies the AVA Processor, system design, tuning and commissioning, and project-specific control and accessory items where required. SIAP provides the system drawings and block schematics that define how the AVA platform is to be integrated into the wider project infrastructure. Microphones, conversion stages, amplifiers, loudspeakers and the associated installation infrastructure are typically supplied and installed by the installer or system integrator as part of the wider project scope.

KEY BENEFITS

BENEFIT	DESCRIPTION
NATURAL ACOUSTIC RESPONSE	Builds a coherent and highly natural acoustic field through SIAP's hybrid processing approach.
AUDIENCE INDEPENDENT ACOUSTIC CONTROL	SIAP's hybrid processing approach maintains a predictable and consistent acoustic response independent of audience occupancy.
EFFECTIVE IN DRY ROOMS	Can be applied successfully in venues with very short natural reverberation times, where conventional regenerative approaches are limited.
ZONE-AWARE ACOUSTIC CONTROL	Provides zone-aware acoustic control, with dedicated tuning for stage, audience, balcony and under-balcony areas, delivering a uniform and immersive experience for all listeners.
SPEECH CONTROL	Automatically reduces acoustic support during spoken word to improve intelligibility, then restores the acoustic response when speech ends.
WEAK ACOUSTIC SOURCES / SOLOISTS	Signals from weak acoustic sources or soloists can be routed through processed line inputs, allowing them to be integrated into the same acoustic response as the room.
FOH SUPPORT / FILL-IN	Supports direct line-level routing to loudspeakers or loudspeaker groups for fill-in, reinforcement and amplified productions.
ELECTRONIC ORCHESTRA SHELL	Creates a dedicated on-stage acoustic environment, helping performers hear each other clearly, perform with confidence and maintain a natural connection with the room and audience.
OPEN SYSTEM ARCHITECTURE	Allows the loudspeaker and amplifier infrastructure to be shared efficiently with other processors and Dante devices within a wider networked system.
BRAND-AGNOSTIC	Designed to integrate with microphones, loudspeakers, amplifiers, preamps and conversion systems from a wide range of manufacturers, provided they meet SIAP performance standards.

SERVICES

SIAP Active Acoustics systems are always supplied with tuning and commissioning services to ensure stable operation, correct acoustic behaviour and final calibration to project requirements. From the design stage onward, SIAP supports system design, coordination, installation, commissioning and final handover documentation, helping consultants, integrators and venue teams achieve the required acoustic result.

DESIGN CRITERIA SUPPORT

Supports precise control of acoustic parameters in line with recognised design criteria, including ISO 23591, NS 8178 and ISO 3382.

SYSTEM CONFIGURATION

The AVA platform is available in scalable processor configurations, with licensed channel capacity matched to project requirements. AVA 3, 5, 7 and 9 support different system scales, from smaller venues to large performance spaces. Redundant dual-processor configurations are available where operational continuity is critical.

MODEL	AVA 3	AVA 5	AVA 7	AVA 9
TYPICAL APPLICATIONS	Rehearsal rooms, small venues	Lecture halls, small theatres	Auditoriums, medium theatres	Large theatres, concert halls, arenas
ACTIVE ACOUSTICS (AAS)	Included	Included	Included	Included (expanded capacity)
SPATIAL AUDIO ENGINE	Licensed option	Licensed option	Licensed option	Licensed option
ZONE-AWARE ACOUSTIC CONTROL*	Single-zone operation	Dual-zone operation	Multi-zone capable	Advanced multi-zone systems
VOICE-LIFT	Optional	Optional	Optional	Optional
SPEECH-CONTROL	-	Included	Included	Included
ELECTRONIC ORCHESTRA SHELL	-	Optional	Optional	Optional
REDUNDANT PROCESSOR	-	Optional	Optional	Optional
I/O CAPACITY	up to 16 x 16	up to 16 x 32	up to 32 x 64	up to 128 x 512

* Each zone can be configured with its own acoustic response parameters, including envelopment, EQ, reverberation characteristics, early and late reflections, level and timing, ensuring a consistent experience for all listeners, even in challenging areas such as balconies, under-balcony zones and stage areas.

OPTIONAL ACCESSORIES

Dedicated accessories and interfaces are available for project-specific workflows, including the SIAP Control Panel, SIAP Control App and Microphone Reelers. Separate datasheets are available for these items.

SIAP Control Panel

Dedicated hardware control for preset recall and day-to-day system operation.

SIAP Control App

Convenient wireless system control via the SIAP iPad interface.

Microphone Reelers

Optional motorised microphone reeler systems for venues where microphones need to be retracted and hidden when not in use.

GET IN TOUCH

One Space. Multiple Acoustics.
Let's design your ideal acoustics.

Part of the SIAP AVA Platform
Active Acoustics | Spatial | Virtual Acoustics



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