audio

L'acoustique active

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Public Address products

Public address in large volumes



DGRC principle

Active Audio brings innovation to each and every one of its products, both in term of acoustics or electronics. As such, the column loudspeakers StepArray and Ray-On are based on the DGRC principle, patented by Active Audio.



The aim of these column loudspeakers is to deliver perfect speech intelligibility. In order to do so, it is crucial to reduce to the maximum the reverberations on the walls and ceiling of the emitted sound, and to have a strong direct sound. In other words, it is necessary to control the directivity of the sound, with respect to the enclosed space to be covered.

The main advantage of DGRC is that it decreases the number of channels to be controlled, compared to a system where every loudspeaker must be controlled independently. This means that it becomes possible to separate the electronics from the columns, giving further advantages: reduced weight, slimmer dimensions for equivalent power, facilitated maintenance of the electronics, less electronics, cost efficiency.

The StepArray range

The StepArray columns have 3 standard colours : black, grey and white. In order to blend the columns into the decor, you can order a specific colour for your columns - all we need from you is the exact RAL/ Pantone code.

Model	Height	Audience	Range ±3dB	Range ±5dB	Frequency band- width (-10dB)	Max SPL (noise CEI268-16) with amplifier MPA6150	Horizontal opening angle	Weight
SA100P	1.00 m	Flat	15 m	21 m	110 Hz – 19 kHz	95 dBSPL à 10 m	180°	9 kg
SA180P	1.80 m	Flat	30 m	40 m	110 Hz – 19 kHz	95 dBSPL à 15 m	180°	17 kg
SA180S	1.80 m	Tilted	22 m	29 m	110 Hz – 19 kHz	95 dBSPL à 15 m	180°	17 kg
SA250P	2.50 m	Flat	35 m	45 m	110 Hz – 19 kHz	95 dBSPL à 20 m	180°	24 kg
SA250S	2.50 m	Tilted	28 m	36 m	110 Hz – 19 kHz	95 dBSPL à 20 m	180°	24 kg
SA400P	4.00 m	Flat	68 m	90 m	110 Hz – 19 kHz	95 dBSPL à 30 m	180°	39 kg

Technical data of the StepArray columns :

SA100P

1 m column with a range of 20 m. It is often coupled with another SA100P for a stereo sound using the same processor and the same amplifier. It is the right solution for medium length spaces with high ceilings such as conference halls, lecture theatres, courts of justice.

Acoustical data		
Angle of audience	0-5°	
Electrical data		
Loudspeakers connectors	Supplied 12 pins	
Recommended length of cable	Up to 300 m with 4G 1.5 mm ² cable Up to 500 m with 4G 2.5 mm ² cable	
Impedance	3 channels, 8 Ώ	
Mechanical data		
Dimensions (mm)	1024 x 124 x 131	



SA180P

1.80 m column for a horizontallyseated audience. Its range being close to 30 m, it is a good compromise for medium-sized spaces.

Acoustical data		
Angle of audience	0-5° (SA180P) / 5-20° (SA180S)	
Electrical data		
Loudspeakers connectors	Supplied 12 pins, through cable-gland	
Recommended length of cable	Up to 300 m with 4G 1.5 mm ² cable Up to 500 m with 4G 2.5 mm ² cable	
Impedance	3 channels, 8 Ώ	
Mechanical data		
Dimensions (mm)	1840 x 124 x 135	





SA 180P

SA 1805

SA400P

SA250S

SA250P

SA1805

1,80 m column. Ideal for conference rooms or lecture halls with a step-seated audience.



SA250P

2.50 m column for a horizontallyseated audience. Its range of 40 m, makes it suitable for very large and flat volumes such as railway stations, airports, places of worship, shopping malls, museums, historical buildings.

2.50 m column for a step-seated audience. Its range is over 30 m. It is the ideal solution for lecture theatres, auditoriums, sports halls.

Acoustical data		
Angle of audience	0-5° (SA250P) / 5-20° (SA250S)	
Electrical data		
Loudspeakers connectors	Supplied 12 pins	
Recommended length of cable	Up to 300 m with 7G 1.5 mm ² cable Up to 300 m with 7G 2.5 mm ² cable	
Impedance	6 channels, 4- 8 Ώ	
Mechanical data		
Dimensions (mm)	2505 × 124 × 159	



500-2kHz



SA400P

4 m high column, with a 90 m range, for huge buildings like an airport or a train station platform, or even a really deep cathedral.

Acoustical data		
Angle of audience	0-3°	
Electrical data		
Loudspeakers connectors	Supplied 12 pins, through cable-gland	
Recommended length of cable	Up to 300 m with 7G 1.5 mm ² cable Up to 300 m with 7G 2.5 mm ² cable	
Impedance	6 channels, 8 Ώ	
Mechanical data		
Dimensions (mm)	4096 x 124 x 135	



Installation and recommendation



The SAdrive software is used to calibrate the system. It is installed on a PC connected to the DSP processor UT26. The UT26 processor calculates the signals to be sent on each channel (group of loudspeakers) of the column via the amplifier MPA6150.

Once the system is calibrated and tuned, the PC can be disconnected, the parameters having been saved in the processor. It is possible to modify them by re-connecting the PC.





Cells can be done by digital data input, by increment / decrement, or by dragging the control points on the graph. The frequency responses curves of each cell and the overall response are displayed.

SAdrive is the software tool for calibrating, tuning and controlling an installation :

- Directivity setting, based on the shape of the enclosed space
- Sound equalisation per column or per group of columns
- Priority settings for sound signal inputs
- Setting of delays of one column with respect to other columns
- Adding a subwoofer
- Feedback killer algorithm
- Automatic Gain Control...

A typical installation



Typical StepArray architecture including a subwoofer for music diffusion, in the zone covered by the SA250P columns. The SA100P columns are connected in parallel, work in pairs and are in stereo mode.

Since both UT26 processors are linked together by the Digital Audio Bus, only one connection to the sound source is required.

For music diffusion, we recommend adding a subwoofer. An option allowing this is available for integration into the StepArray solution.

Simulation models

A simulation model of the sound coverage of the StepArray columns can be done with the acoustic simulation software CATT-Acoustic[™] and EASE. The corresponding DLL are available for free download at www.activeaudio.fr.



Security Sound System (SSS)

StepArray columns comply with the EN60849 standard (acoustic quality in public places). For further details, please refer to the option SSS described on www.activeaudio.fr.

Ray-On 100

Acoustics meets Architecture

Passive DGRC column for speech and music



Installations : Airports, Railway stations Places of worship Amphitheatres Conference rooms Shopping malls Amusement parks Reverberating spaces Ray-On 100 is a 1m passive column based on the DGRC principle.

- Unsurpassed speech intelligibility and SPL homogeneity. Ray-On 100 radiates a J shape wave front in the same way DSP columns do.
- Excellent architectural integration. Ray-On 100 is designed for vertical mounting, thus avoiding the ugliness of tilted columns.
- 8'Ω and 100V versions
- Indoor and outdoor use
- Easy modeling with DLLs and on www.activeaudio.fr
- 3 years guarantee



Electroacoustic Data	8 Ώ version	100 V version	
Sensitivity 1W/8m (equivalent 1W/1m)	71dB at 1W/8m (89dB/1W/1m)		
Continuous power	150W	25W / 50W / 100W	
Max SPL at 8m	93dB	85 / 88 / 91 dB	
Max SPL equivalent 1m	111dB	103 / 106 / 109 dB	
Frequency response at -3dB / -10dB	115Hz - 20kHz / 130Hz - 16,5kHz		
Vertical directivity	Wave front control		
Range on reflecting floor	15m at +/-3dB, 23m at +/-5dB		
Horizontal opening angle at -6dB	+/- 100° to 1kHz, +/-70° to 4kHz		
Nominal impedance	Ω'8	400 / 200 / 100 Ώ	
Recommended EQ	6 parametric cells		
Protection	Thermal fuse and overload protection		
Physical Data			
Dimensions (H x W x D)	1014 x 128 x 117 mm		
Weight	9 kg	10 kg	
Materials	Aluminium body / steel grid rustproof and UVproof		
Drivers	12 drivers 70x70mm, tropicalized		
Colours	White (RAL9016 repaintable) and Black (RAL9005)		

The rigging system is simple, effective, robust and aesthetic.



Stand-alone amplified loudspeaker for public places. Ideal for museums and amusement parks

The SAG32PA loudspeaker broadcasts on demand audio messages stored in its memory with perfect intelligibility and high acoustic quality, especially in a noisy environment. It can be installed inside as well as outside.

This loudspeaker features easy utilisation, easy installation, easy set-up, and most importantly superior acoustical comfort.

There are 2 types of loudspeakers : the master and the satellite.

- The master loudspeaker receives the set off signal and manages temporisations and audio levels. It contains the pre-recorded messages, and embeds all electronics.
- The satellite loudspeaker broadcasts the message sent by the master loudspeaker. It acts as a passive loudspeaker.

2 set off options :

- Equipped with a movement sensor for automatic broadcasting of the pre-recorded messages.
- Set them off with a remote, up to standard NFS 32-002 (remote compatible with all standard remotes for visually impaired).



Diffusion

The SAG32PA loudspeakers can store up to 5 messages of 30 seconds each, or a single one of 2 minutes 30s message.

These messages are easily interchangeable and programmable through the software included in the loudspeaker.



Technical data				
180 x 205 x 135 mm				
Master loudspeaker : 3 kg Satellite loudspeaker : 1.9 kg				
97 dBSPL at 1 m				
• Loudspeaker set up with our software downloaded on your PC and connected to the loudspeaker via Ethernet cable.				
Loudspeaker synchronisation possible when in the same detection field.				
Can be used inside and outside.				
e				

To install, prepare :

- A 230V power supply (possible option: solar power)
- A support on which to secure the loudspeaker at 3 m high (wall, pillar...)

Active Audio in the news

" In place of this blurred sound, which for years, attempted to inform passengers of delays and platform changes, the SNCF French railway operator installed an intelligible PA system and to top it all, it is almost invisible."

Le Moniteur

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" The comparison between a StepArray column and the existing traditional system of about fifteen columns is without question in favour of the Active Audio system."

Acoustique & Techniques

" Compared to a traditional public address system, the restricted number of necessary channels leads to a simplification of the wiring, a facilitated maintenance and a limited impact on interior design."

Actualité de la scénographie



ACTIVE AUDIO

332 Bd Marcel Paul CP 602 44806 St Herblain cedex | France Tel +33 (0)2 40 92 39 90 Fax +33 (0)2 40 92 39 91 www.activeaudio.fr

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