StepArray SA250P

Based on the new line-array concept DGRC*, StepArray active columns feature an ideal control of the radiated field, thus ensuring perfect speech intelligibility. Their wide frequency bandwidth and their high dynamic capability yield an amazingly clear sound for optimum acoustic comfort.

With a distance range of over 30 m, model SA250P is THE solution for speech and music diffusion in reverberant room of medium and large volumes such as railway stations, airport terminals, gymnasiums, museums, shopping malls, multipurpose rooms...

DSP processor UT26 ensures filtering (gain, EQ, delay, directivity, lp protection...) as well as high level functions such as automatic adjustment of the diffusion level according to the background noise, low signal-to-noise detection, detection of acoustic perturbation ...

Only 124 mm wide, it can easily fit in the interior design of the room.

Speech Intelligibility

Implementing the DGRC* principle illustrated below, StepArray columns provide a strong direct sound and minimize the energy of the sound reflected by the room for perfect speech intelligibility, even in highly reverberant environments, even far from the column.

Homogeneous SPL

Same sound level and same timbre at 1m and 30m from the SA250P column ! An unbelievable homogeneity of the SPL and timbre is achieved over the audience area by implementing the DGRC principle.

Acoustic Comfort

Column SA250P uses 30 high quality three inch loudspeakers. Sound is amazingly clear and sharp. With the microphone option, the level of diffusion can be automatically adjusted according to the background noise level in the room.

> Aesthetics

With their slim shape and a wide choice of colors, StepArray columns can be made almost invisible.

Cost-effectiveness

Public address in a large room requires only very few StepArray columns. Cabling is reduced to a minimum. Maintenance is easy.

Easy installation

Column SA250P operates with processor UT26 and amplifier MPA6150. Installation (flush mounted on a wall or suspended at the ceiling) is very straightforward. Simplicity of the directivity control principle makes their tuning easy and robust.

> CAD

We supply directivity files for modeling the column radiation with CATT and EASE (available june 2006).

High-level DSP functions

In addition to directivity control, the DSP ensures EQ, delay, Ip protection, RS485 interface (to PC), CAG function (automatic level adjustment based on background noise), AXV function (automatic detection of acoustic perturbation), LSNR function (Automatic low signal-to-noise detection).

SAdrive PC control software

SAdrive can control up to 255 StepArray columns. It allows adjustment of all DSP parameters, create groups, supervise the system operation...



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SA250P – Technical Data 1

Column SA250P operates with DSP processor UT26 and amplifier MPA6105. Several columns can share the same processor (see StepArray General Presentation).

Acoustical data

| Range (±3dB, avrg 500Hz-4kHz) | 30 m |
|-----------------------------------|----------------------------|
| Max SPL (pink noise) | 95dB _{SPL} at 20m |
| Frequency bandwidth (20m, +/-3dB) | 200Hz-15kHz |
| Horizontal opening angle | 180° |
| (-6dB 1kHz-2kHz) | |

Electrical data ¹

- Signal Inputs : 2 symmetrical analog 0dBU line inputs ² (XLR-F) Stereo Digital input AES/EBU (XLR-F).
- Dynamic range ³ : > 93dB Lin.
- Connection to PC : SuD9-M or SubD25-F ⁴.
- Command link between columns : SudB25, max 300m.
- Symmetrical filtered output for Sub bass (option).
- Other characteristics : see UT26 data sheet.
- Power amplifiers
- 6 channel, 100W /chan under 8Ω , 150W /chan under 4Ω . • Mains : 230v - 50Hz, max: 800VA.

Software data ¹

- Equalization, delay 170ms, gain, limiter, lp protection.
 CAG function ⁵: Automatic level adjustment according to background noise in the room.
- LSNR function ⁵ : Automatic detection of low signal-tonoise ratio during diffusion of a message.
- AXV function ⁵ : Automatic detection of acoustic
- perturbation (e.g. accidental displacement of the column). Input priority management ⁶ : input 1 overrules input 2 (e.g. announcement overrules music background).

SAdrive : Tuning and exploitation

SAdrive PC software allows creation of configurations comprising up to 255 StepArray processors, adjust all DSP parameters (directivity, EQ, delay, gains,...) of columns or groups of columns, save / load presets...

A control PC running SAdrive supervises operation of the processor(s) : DSP whatchdog, bus operation, overloads, lp overheat, LSNR,... (see SAdrive presentation).

StepArray columns can be used without running SAdrive.

Options

- CV232 : For interfacing a PC on the RS232 port of UT26.
- MICSA : Microphone for CAG, AXV, LSNR functions.
- SUB : Filtered analog output on UT26 for a sub bass.
- COL : Specific RAL color.
- SSS : Conformity to standard EN-60849 (available fall 2006)

¹ With processor UT26 and amplifier MPA6150. Data are subject to change without notice.

- Headroom 9.5dB. Only one with Microphone option (MICSA). Max continuous output level at 1kHz / output level when input is 0v.
- SubD9 RS232 with option CV232; SubD25 RS485 otherwise. 38400 baud. With Microphone option (MICSA).
- ⁶ Not available with Microphone option.

Physical data

Operation under shelter, temperature : 0-40°c Dimensions (HxWxD) : 2505x124x151 mm. Weight : 22 kg. Materials : steel and PVC. Protection grid : perforated steel. Colors : White (RAL9010), Grey (RAL7035), Black (RAL9011), other RAL on demand (COL option). Flush mounted or suspended with accessories (supplied).



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