



## DATA SHEET

### Digitally steerable array loudspeakers

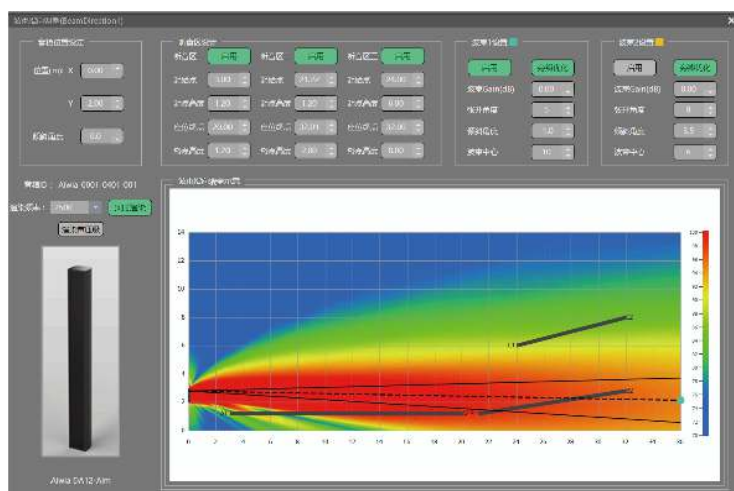
## DA12-AIM

#### Optimal Selection for High Reverberation Auditoriums

Acoustic environments that feature extended reverberation times and substantial volumes, such as auditoriums, exhibition centres, churches, and gymnasiums, often experience challenges related to speech intelligibility and music clarity. Consequently, it is essential to enhance speech clarity in these large spaces. The primary consideration is the direct sound, and improving the direct-to-mix ratio proves to be the most effective strategy for enhancing speech intelligibility.

Utilizing effective directional characteristics can significantly minimize sound reflections, improve sound coverage, and reduce interference. Aiwia's adjustable directional speakers provide superior sound clarity and intelligibility by digitally modifying beam directivity.

The innovative Fast Steering Technology (FST) enables the rapid calculation of beam adjustment parameters, facilitating real-time control of beam modifications. This approach ensures optimal auditory experiences in reverberant spaces.



### Product Attributes

- The system comprises twelve high-quality 3.2-inch full units, each equipped with an independent Class D amplifier module.
- It features a built-in 12-channel Digital Signal Processor (DSP) and amplifier module, allowing for precise adjustments to the speaker's coverage angle.
- Each speaker can accommodate two distinct beams, which can be oriented independently.
- Both beams may be individually adjusted and balanced to achieve optimal sound performance.
- The acoustic centre of each beam can also be modified for enhanced audio clarity.
- The vertical beam offers electronic adjustment within a range of  $-45^{\circ}$  to  $45^{\circ}$ , with customizable coverage angles.
- The system employs a high-performance DSP processing chip, delivering a 48kHz sampling rate and 24-bit AD/DA conversion.
- It includes 2 analog inputs, 2 Dante inputs, and 2 AES/EBU inputs for versatile connectivity.

### Application Scenarios

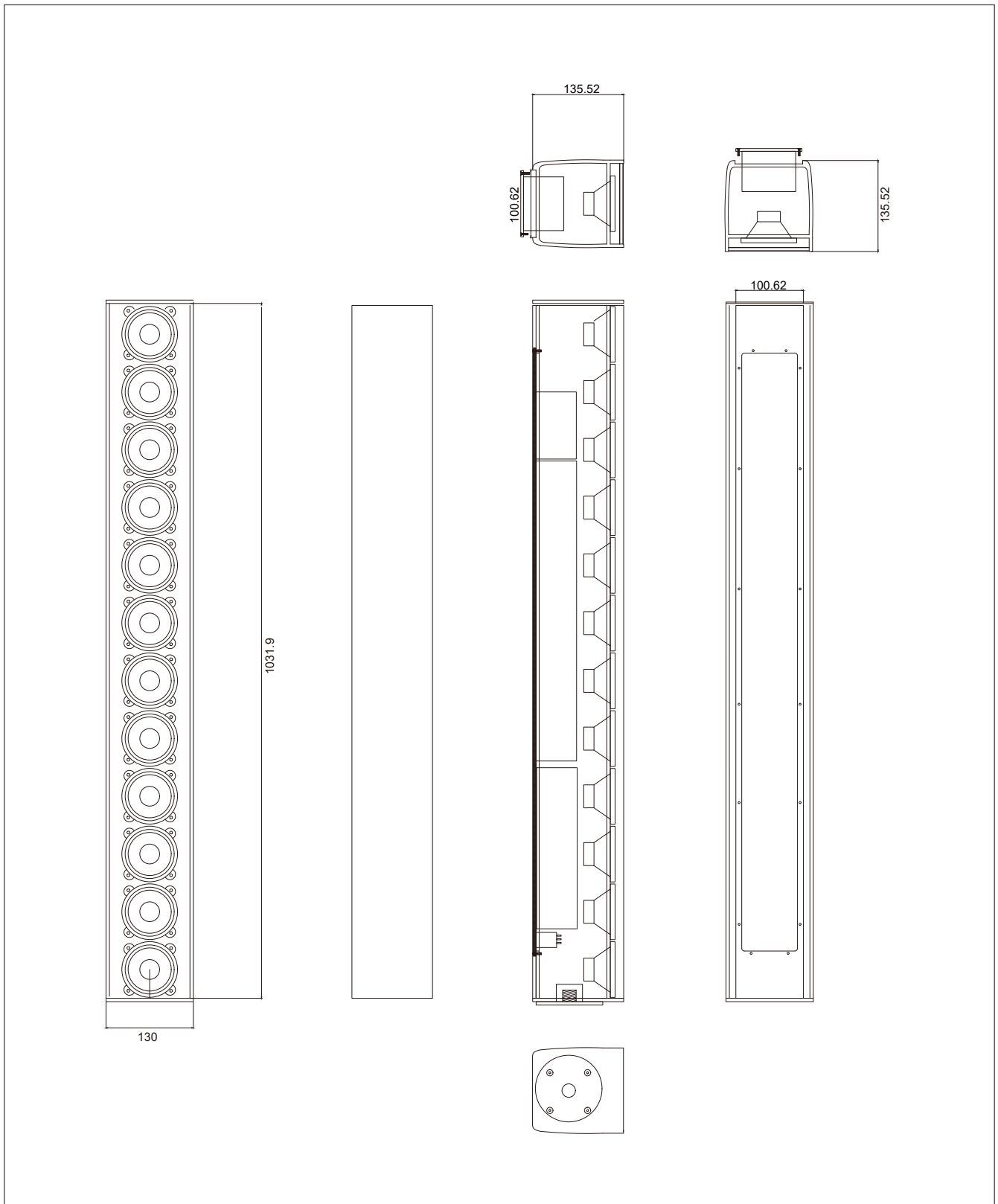
- Conference room/Multi-purpose hall/Lecture hall
- Command center
- Hotel lobby
- Concert hall
- Church

# DA12-AIM

Type:	Digitally steerable array loudspeakers
Frequency Response:	80Hz-18KHz( +/-3dB) 72Hz-20KHz( -10dB)
Calculated Max SPL*:	130.9 dB Peak 102dB Peak (30 m) 102dB Peak (30 m)
Amplifier Channels / Power Rating:	12 x 35W RMS 1000W Peak Note: 12-channel high-quality professional audio power amplifier
Horizontal beam width:	Horizontal coverage angle 135°(3.5k Hz) Horizontal coverage angle: 75° (7 kHz)
Vertical beamwidth:	The vertical coverage angle can be modified by the DSP, with an opening angle ranging from 0° to 90° and an adjustable increment of 1°
Vertical pointing angle:	The vertical pointing angle can be adjusted by the DSP, with a range from -45° to +45° and a fine adjustment step of 0.1°
DSP function module:	Independent dual-channel input DSP processing, input delay fine-tuning of 50ms, matrix mixing, priority mixing ducker, high-pass filter, low-pass filter, 12-band parametric equalization, independent pre-FIR filter, system delay of 1000ms, compressor/limiter, level control, and RMS level meter, 2-channel independent beam post-equalization, high-pass and low-pass processing. Temperature monitoring and amplifier status monitoring. Utilizes FST (Fast Steering Technology) to enhance real-time control
AES/EBU sampling rate:	Supports 24-bit / 44.1 kHz, 48 kHz, 88.2 kHz, and 96 kHz sampling rates
Speaker unit:	12 x 3.2-inch 82.9mm full-range, high-sensitivity unit
Sensitivity:	20dBu, 7.75V RMS analog signal
Impedance:	10 kΩ analog signal
THD+N Distortion:	+4dBu A-weighted 0.0008% analog input
Input interface (channel):	Analog (analog signal) x 2, Dante (network audio) x 2, AES/EBU (digital signal) x 2
Port connection details:	Control RJ45*1 for interfacing with Aiwia DSP control software and 3rd-party control networks Dante RJ45*1 for connecting to the Dante and AES67 network audio transmission systems AES/EBU 3P-PIN*1 Analog 3P-PIN*2
Dimensions:	130 x 136 x 1,038mm (WxDxH)
Weight:	12.6 kg (accessories not included)

Note: \* The loudspeaker employs an unweighted peak sound pressure level, measured at a distance of 1 meter under full space conditions, utilizing full-band pink noise with a 12dB crest factor. The beam's acoustic centre is positioned centrally, with the beam directed horizontally.

## Speaker dimensions



\*aiwia retains the ultimate authority to interpret this information; the technical specifications of related products may change without prior notice.