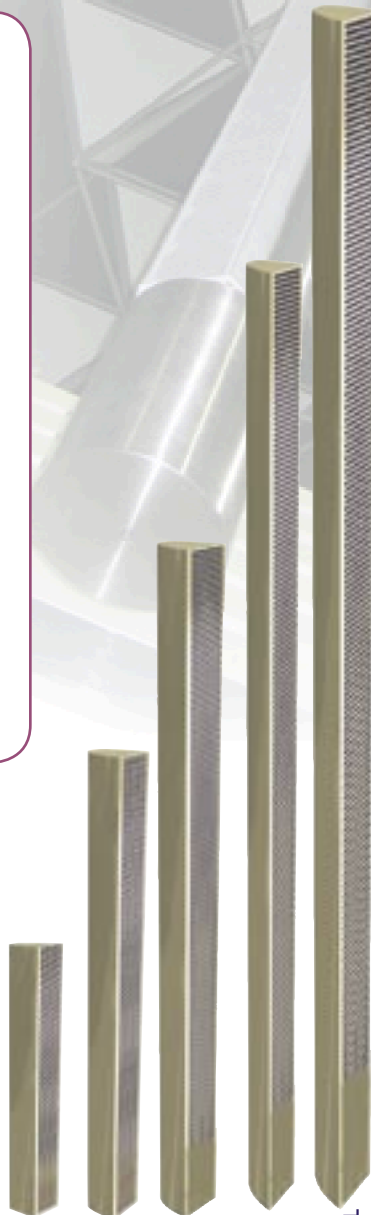




DSP SIDE LOBE FREE LINE ARRAY

MESSENGER_{G2}

INTELLIGENT ACOUSTIC SOLUTIONS



MESSENGER_{G2}® M
 MESSENGER_{G2}® L
 MESSENGER_{G2}® XL
 MESSENGER_{G2}® TwoL
 MESSENGER_{G2}® TwoXL

12 Loudspeakers - 1345 mm - 94 dB to 25 m.
 18 Loudspeakers - 2017 mm - 94 dB to 30 m.
 24 Loudspeakers - 2689 mm - 94 dB to 40 m.
 36 Loudspeakers - 4034 mm - 94 dB to 60 m.
 48 Loudspeakers - 5378 mm - 94 dB to 70 m.

ATEIS introduces here next generation range of steerable line-arrays that are fully redesigned to meet the current and future demands for the Voice-Alarm industry, commercial audio and Pro-sound.

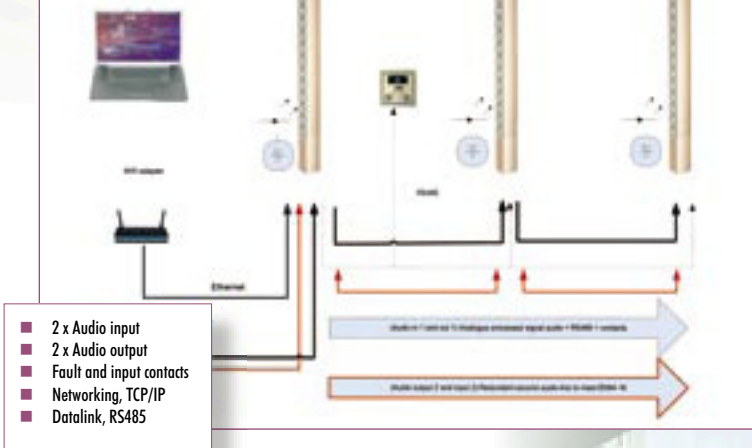
The Messenger_{G2} is a through 'next generation' design where we have focused on an improvement on the lobe-controls and the overall technical specifications, we can now say that the Messenger_{G2} provides broadcast S/N ratio, music quality frequency respond and a pro-sound power handling with more advanced pre-processing abilities.

New generation ATEIS Voice-Alarm and audio processors are equipped with remote control facilities by LAN or WAN and have

a variety of networking and control cards. To meet our future standards, the Messenger_{G2} has been equipped with equal networking facilities. The input section has been redesigned and upgraded to broadcast standards and has now 2 fully controllable audio inputs and outputs with override functions and hardware bypass function. The output to the slave unit's carries either the pre-processed mixed signal of the input mix and thus provides easier room control as equalization and feedback filtering or the original 'floor'- signal.

MESSENGER_{G2}®

EN54 -16

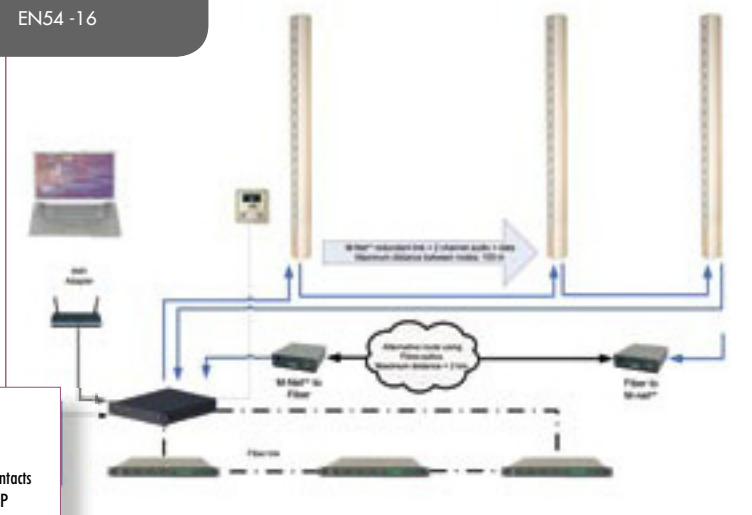


- 2 x Audio input
- 2 x Audio output
- Fault and input contacts
- Networking, TCP/IP
- Datalink, RS485

MESSENGER_{G2}®

DIGITAL LINK

EN54 -16



- MESSENGER MRC:
- 2 x Audio input
 - 2 x Audio output
 - Fault and input contacts
 - Networking, TCP/IP
 - Datalink, RS485
 - M-Net™ interface
 - ATEIS-Net convertor

DSP SIDE LOBE FREE LINE ARRAY



MESSENGER_{G2}

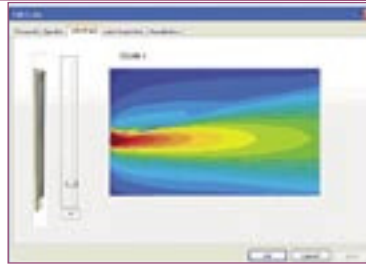
Software controlled Lobe Shaping with the Messenger's Lobe Assembly program. The Messenger series has a unique feature, which has great installation and application benefits. The acoustical centre can be moved over the array to match and compensate in relation to the required installation, mounting height and environmental need.

Each driver is separately powered and processed, therefore all lobe shape variations between a Symmetrical and an Asymmetrical arrangement can be made with the simple push of a button. This beneficial feature separates the Messenger from other line-array speakers, making it one of the most flexible options available with its unique software controlled directivity pattern with the Messenger's Lobe Assembly program.

Windows based PC Setup

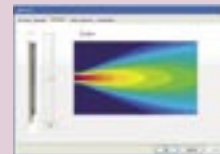


M-Control

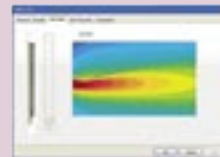


Lobe assembler

Variable Acoustic Centre. In nine-steps from Asymmetrical to Symmetrical.

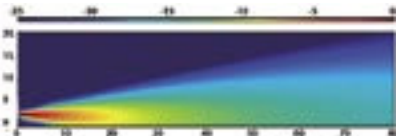


Symmetrical lobe



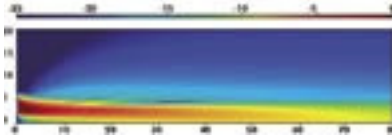
Asymmetrical lobe

Variable vertical dispersion from 20 down to 5 degrees

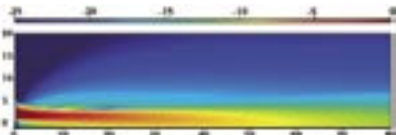


Symmetrical lobe with 20 degrees opening angle

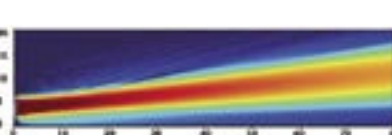
Multiple lobes up to 3 simultaneous lobes



Symmetrical lobe serving ground floor audience area



Asymmetrical lobe with 5 degrees opening angle

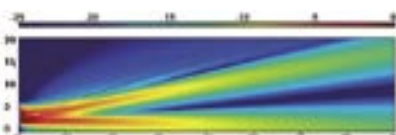


Symmetrical lobe steered upwards

LOBE CONTROL

- Symmetrical lobe is centered in the middle. The Asymmetrical lobe is centered at the bottom or the top of the array.
- Any other position of the acoustical centre between the middle and the bottom of the array is fading the lobe-shape from a purely Symmetrical shape to an Asymmetrical shape.
- Symmetrical lobes are often used for field coverage in combination with an Asymmetrical lobe for the near field area. The combination allows for individual level control for near and for field. Symmetrical lobes are also ideal to address high raised balcony seating areas.
- Asymmetrical lobes are used for mounting heights between 2.5 and 4 m from the floor and results in a lobe that starts at 5 m distance from the array at ear level and ends in a sharp lobe at 60 m and further
- The Asymmetrical lobe has the ability to keep the sound deviation within 3 dB from 5 to 100 m. Its mounting height is NOT critical and therefore it is the most used system solution. The vertical opening angle can be adjusted in steps from 3 to 25 degrees.

Beam steering

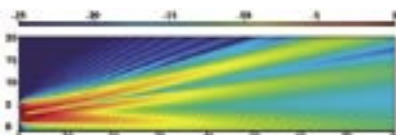


Dual lobe, serving ground floor and balcony

Side lobe suppression



Conventional arrays



Triple lobe serving ground floor and 2 balconies



Messenger lobe with side-lobe suppression

INTELLIGENT ACOUSTIC SOLUTIONS



STEERABLE BASS-ARRAY DSP CONTROLLER

8-CHANNEL BASS-ARRAY CONTROLLER

INTELLIGENT ACOUSTIC SOLUTIONS



MAIN PROPERTIES

- Controlled directivity.
- Low and Sub-Low steering.
- Variable opening angles.
- Controlled freq. 25 - 400 Hz.
- Signal decay, $\pm 1\text{ dB @ } 100\text{ m}$.
- Long throw.
- High SPL, $97\text{ dB @ } 100\text{ m}$.
- High clarity.
- Effective size: 7 to 14 m.

The Bass-Array Controller or Lambda Array is one of the latest technical creations of ATEIS INTERNATIONAL that fits perfectly in the 'Intelligent audio solution' range of products and has proven to be a real add-on to the third generation Messenger® line arrays.

The combination of Messenger line arrays and a Bass-Array offers the perfect solution for speech and musical performance in any difficult acoustic environment.

By applying the same patent Messenger® technology to the Bass-Array, makes it the first array of its kind that carries bass frequencies over long distances and keep the signal deviation within 2 dB over 100 m.

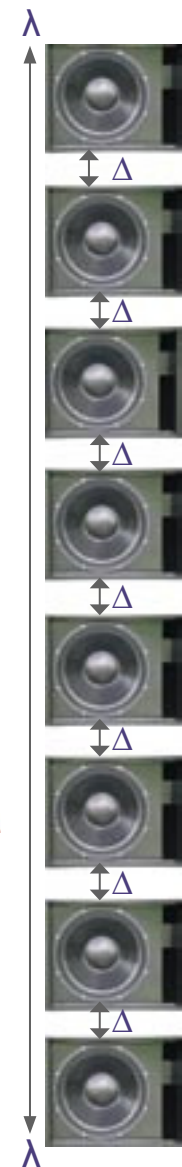
The technology:

The Bass-Array is based on the Messenger® patent algorithm that was introduced in 1999 by Johan van der Werff and is now owned by ATEIS INTERNATIONAL. Using a controlled power and frequency shading model, full directivity control and side-lobe suppression can be obtained. Upper and lower frequencies of this controlled directivity concept are defined by means of extending the total length for the lower frequencies by having multiple sources of which their acoustic centres are within $\frac{1}{2}$ distance of the upper frequencies spaced. With a total length of 14 meter and only 8 cabinets, lobe steering and directivity control can be achieved down to 35 Hz up to 400 Hz.

With the use of the powerful Messenger® LOBE-ASSEMBLER software you can built and shape the Bass-Array-Lobe to fit perfectly in the acoustic difficult environment. Use a dual or triple lobe and the Bass-Array-Lobe can cover both ground level and balcony with the highest directivity possible and with the lowest signal deviation. Variable opening angles for variable throws and symmetrical and/or asymmetrical lobes can be constructed. By changing the $\frac{1}{2}$ distance, the Bass-Array can be adapted to fit with required cross-over frequencies with any mid-high tone array available in the market.

The bass cabinets used in the Bass-Array can be of any brand and any size. The lobe assembler software can be easily adapted to any size and brand. For this we can adapt the Lobe Assembler software to meet the 3rd part brand specifications. The processor for the Bass-Array is delivered as 19-inch rack mount frame that provides analogue as well as AES interfacing with the self-powered third party Bass-cabinets.

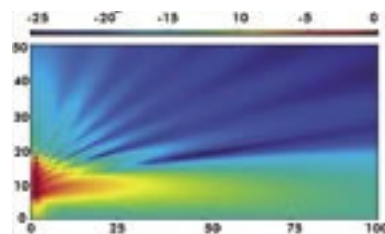
Lambda-Array



DIMENSIONS

Length	700 cm	Frequency respond	50-340 Hz, Delta – spacing Δ 100 cm
		Width	43.6 cm
		Steering	$\pm 15^\circ$
		Vertical opening	10 - 25
Length	1400 cm	Frequency respond	35-200 Hz, Delta - spacing: Δ 200 cm
		Width	43.6 cm
		Steering	$\pm 10^\circ$
		Vertical opening	5°-25°
		Power rating	8 x 500 Watt Self powered
		Max SPL@125 Hz	95 dB@ 5-100 m ± 2 dB
		3 rd party engine	15" long excursion cone driver, ferrofluid cooled Cabinet resonance <45 Hz

LOBE ASSEMBLER for BASS-ARRAY



In this example we have constructed a 14 m Array with 8 bass-cabinets. The Δ -spacing is set to 2 m. The lowest cabinet is positioned at a height of 4 m above ear level. The lobe has an asymmetrical base-FIR that is centred at speaker no. 3. With an opening angle of 7 degrees and an azimuth of -2 degrees, this lobe has only 2 db variation from 5 to 100 m, measured at a listening height of 1.80 m. This would result in an SPL @ 100 m of 94dB at 120 Hz. The signal that reach the ceiling at a height of 30 m is more than 10 dB down from the signal level at listening plane.

