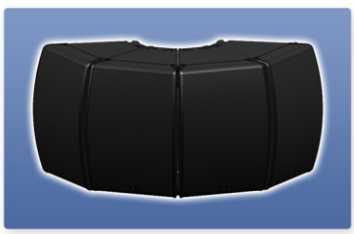
LOTUSLINE

France
2025



The key to Sound

The key to Sound

History & Innovation

At the end of 2005, a professional range of high quality loudspeakers was born – LOTUSLINE.

2006 to 2007	LOTUSLINE has applied three proprietary technologies in three series: SIC™ technology in Lotusline SB series MVC™ technology in Lotusline MA series SHM™ collinear waveguide technology in Lotusline LA system
2009	LOTUSLINE acquired its own compiler software EASE Focus, called LA system.
2011	LOTUSLINE applied a new proprietary technology CLS™ (Coaxial line source) technology.
2013	LOTUSLINE has licensed EASE Focus 2 and applied a new proprietary technology, SSA™ (Spherical source array) SSA based cabinets are arrayable asymmetrical elements to be used unitary or coupled up to full hemispherical perfectly coherent point source.
2016	LOTUSLINE first proposed the concept of spherical waves. This technology was first applied to the SSA series.
2021	LOTUSLINE officially authorized the establishment of the Asia-Pacific Operations Center in Guangzhou, China. This operations center works closely with Europe to become a big family.
2024	LOTUSLINE first proposed the concept of precise adjustable radiation and adaptive adjustment , to fully prepare for the innovative application of AI in the field of professional acoustics in the future

LOTUSLINE systems are state of the art innovative products and offer the sound designer, sophisticated but easy to use electro acoustic tools, which are the key to sound.

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Forget the system and enjoy the sound !

Coaxial Technology

Classical arrangement of two way loudspeakers uses separate transducers positioned on a common front baffle. In the transition frequency region, due to the difference of path length between the listening point and the two separate sources, spatial frequency answer cannot be homogenous. This problem is particularly sensitive for short field listening such as stage monitoring and small venues.

By superposing both of the two sources, coaxial technology eliminates the problem and creates a perfect homogenous acoustic field on all the speaker coverage as well horizontally as vertically.

The advantages of the coaxial approach include: single point source radiation, total wavefront coherency at all frequencies and superimposed LF/HF dispersion characteristics that are free of polar lobbing effects typical of traditional horn and woofer combinations. The net result is natural, studio monitor level sound quality that is ideal for proximity use.

Lotusline MA & MQ series include two different coaxial arrangements.

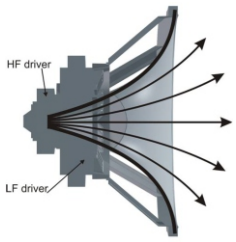
The first one uses the main driver cone as horn load for the HF driver.

This arrangement offer the largest possible conical coherent coverage and is used in MA8v2, MA10v2, MA12v2 and MA15v2.

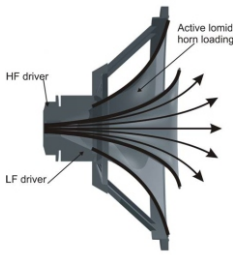
The second one uses a separate horn for the HF driver.

This arrangement offers smaller aperture angles and higher lomid efficiency by loading the main cone in its throat region. We call it “active” horn loading.

This arrangement is used in MQ60.



Standard coaxial arrangement



Coaxial active horn arrangement

Line Source Technology

All line arrays are not line sources ! What’s the difference ?

A true line source array generate an homogenous acoustic field on all its coverage area, in all its frequency range and is free of interference problems. The net result is the same sound from near field to far field.

The conception of a true line source encounters a lot of technical problems the designer has to solve. The main one is the fusion of all individual sources in only one virtual line source in order to generate on all the frequency range a perfect free of lobbing effects toroidal wavefront. If the solution is evident for low frequencies, this is not the same piece of cake for high ones. The acoustical size of a sound source is close to the wavelength of the generated signal. At 100Hz, the wavelength is 3.4m, so, two speakers distant of 1.2m (half the wavelength) create a perfect coherent source. At 1kHz, the wavelength is only 34cm and these two speakers are no more a coherent source and generate interferences. At 10kHz, the wavelength is 3.4cm and there are no speakers able to realize the performance to be smaller than 1.7cm in the real professional sound reinforcement world.

Many improvements have been made in line source technology, but the physical remain the same.

SHM™ and SIC™, Lotusline proprietary technologies applied in LA series, are fundamental improvements in professional loudspeaker design.

By respecting line source rules and all other acoustic laws, Lotusline LA series are true line source line arrays with a real behaviour close to the mathematical theory.

Proprietary Technologies

The key to Sound

SHM™ Technology

SHM™ (Single Horn loaded Midrange) improve dramatically midrange bandwidth and efficiency by avoiding multiple components dispersion and using collinear mid and hi frequency horns layout.

First line array uses mid drivers on plane baffle. Small improvements in efficiency have been made by using compression load midrange directly in the front common waveguide, but creating irregularities in frequency response, and dispersion in characteristics due to the multiplication of components. Actually, coaxial midrange equipped with rear standard HF driver is used in common acoustic chamber imposing a long path to high frequency waves. Lotus Line Array uses the shortest possible design by positioning the toroidal HF drivers in front of the midrange driver.

SHM™ technology reduces the total harmonic distortion both in high frequencies by minimizing the length of waveguides and in low mid by increasing the radiating surface of the driver.

CLS™ Technology

CLS™ (Coaxial Line Source)technology is the definitive solution for two way configuration line source symmetrical array systems.

Standard two way line source arrays using only one low frequency driver are asymmetrical cabinets, **CLS™** based Lotusline CL series are symmetrical and optimized minimum front baffle sized.

CLS™ technology offers all advantages of coaxial active horn arrangement applied to line source array systems. It means, minimum front baffle size, perfect symmetry of the baffle and so, perfect symmetry of the coverage.

Lotusline CL series uses **CLS™** technology, increasing the efficiency in low mid region, shaping the wavefront from spherical to ovoid and increasing consequently the maximum crossover frequency in vertical coupling.

SSA™ Technology

SSA™ (Spherical Source Array) technology is Lotusline's answer to an old question:
How to build a high SPL, compact and configurable, true point source system?

SSA™ cabinets are mathematically equivalent to a portion of a spherical segment whose acoustic centre at the centre of the mother sphere. In more simple words, **SSA™** cabinets are like pieces of orange, they can be used individually and can also rebuild a complete fruit.
SSA™ cabinets are perfectly arrayable without audible interferences, even in very high frequencies.

Each cabinet can be used unitary for covering small areas or coupled with other **SSA™** cabinets for larger ones.

MVC™ Technology

MVC™ (Multi Vent Convection) technology, increase the power handling capacity of vented loudspeaker by combining acoustical and cooling functions of vents. Multiple curved vents are placed around the main loudspeaker offering a natural air convection flow lowering the temperature of the voice coil in any working position. **MVC™** equipped speakers are much more thermal breakdown proofed than standard ones, and decrease thermal compression by lowering nominal temperature of the moving coil.

The **MVC™** (multi vent convection) technology, allows the Lotusline CL, MQ and MA series to handle nominal full power capacity in any working position.

SIC™ Technology

SIC™ (Single Interactive Chamber) technology, increases bandwidth and efficiency while reducing total volume of vented bass loudspeaker by combining rear and front load in the same volume. Because rear and front load do not work in the same frequency region, it is possible, with a special calculation layout, to fuse both functions in only one. In practice, **SIC™** technology, by using this new physical approach, virtually suppresses one of the two volumes and dramatically reduce the total size of vent loaded subwoofer.

Further advantage of **SIC™** technology is the better cooling of the loudspeakers due to the exceptionally large size of the vent aperture.

Lotusline Technologies

SIC™ technology used in SB Series
- Best versus frequency-extension to size ratio
- Hi efficiency
- Better cooling

MVC™ and Coaxial technologies used in MQ and MA Series
- Point source, regular spatial response, perfect acoustic field
- Better cooling, lo thermal compression in any working position

CLS™, MVC™ and Coaxial technologies used in CL Series
- True line source system
- Point source, regular spatial response, perfect acoustic field
- Better cooling, lo thermal compression in any working position

SSA™, MVC™ technologies used in SSA Series
- Spherical source array system
- Point source arrangement
- Better cooling, lo thermal compression in any working position

SHM™ and line source technologies used in LA Series
- True line source system
- Low distortion at hi SPL
- Perfectly coherent arrays controlling vertical opening

Subwoofer Source system

SB series

The key to Sound

SB 115 / SB 215S / SB 218S / SB 218PS

Lotusline SB series are based on the latest electro acoustics developments and include **SIC™** proprietary technology.

SIC™ technology, Single Interactive Chamber, increases bandwidth and efficiency while reducing total volume of vented bass loudspeaker by combining rear and front load in the same volume. Because rear and front load do not work in the same frequency region, it is possible, with a special calculation layout, to fuse both functions in only one. In practice, **SIC™** technology, by using this new physical approach, virtually suppresses one of the two volumes and dramatically reduce the total size of vent loaded subwoofer. Further advantage of **SIC™** technology is the better cooling of the loudspeakers due to the exceptionally large size of the vent aperture.

The loudspeaker enclosure constructed of 18 mm birch plywood with internal braces remains free of vibration at extreme sound pressure levels.

The enclosure have wood integrated handles on the sides and can be fitted with 4 optional castor plates on the back.

Products line

SB 115

SB 215S

SB 218S

SB 218PS

SB Series

The key to Sound

SB 115 Subwoofer system

- High power subwoofer system
- High efficiency
- SIC™ Technology
- Full power handling with low thermal compression
- Suitable for medium-power FOH and another applications
- Designed for high performance fixed installation and touring
- OEM factory presets for approved digital processors

Lotusline SB115 is a subwoofer offering low frequencies reinforcement for medium to high power systems. It uses one 15 inch transducer loaded by Single Interactive Chamber.

This technology offers the advantages of using a small volume for the load of the speaker, high efficiency in the usable bandwidth and perfect control of the excursion of the diaphragm.

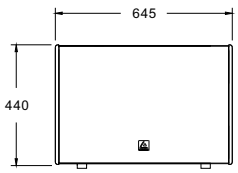
The SB115 subwoofer with Single Interactive Chambers have been developed to offer the best versus frequency-extension to size ratio.

The SB115 provides a very dynamic and punchy sound reproduction for the sound effects that are commonly found in electronic music where the whole dynamic capacity of systems is used. This subwoofer offers full flexibility for low frequency reinforcement of the Lotusline speakers and the Line Array systems.

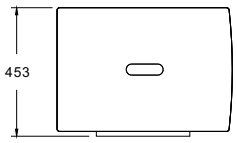
The SB115 is also ideal for Stadiums, arenas, and concert halls, Medium to large theatres, Cinema and nightclubs, multi-purpose venues or corporate events.

Specifications

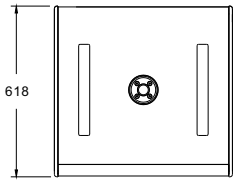
FEATURES	**Low Section**
Frequency range with processor (±3dB)	40 Hz to 250 Hz
Sensitivity@1W/1m, f>80Hz[1]	101 dB SPL
Maximum continuous level at 1m[2]	128 dB SPL
Peak level at 1m, f>65Hz	131 dB SPL
Nominal impedance	8 Ohms
COMPONENTS	
Transducers	1 x 15" weatherproof loudspeakers
Coil diameter	75 mm
Type of load	SIC™ Bass reflex
Power (AES/ Peak)	500 W / 1000 W
CONSTRUCTION & CHARACTERISTICS	
Cabinet	18mm birch plywood with internal braces
Crossover	The Crossover points shall be 80~120 Hz with 24 dB per octave Linkwitz-Riley characteristics.
Connectors[3]	2 x Speakon NL4MP
Handles	2 x wood integrated handles
Mounting on stand and bracket	1 x 35mm built in stand fitting
Dimensions (H x W x D)	440 x 645 x 618 mm
Net unit weight	35 kg 77.2 lbs
Gross weight, packed	38 kg 83.8 lbs



Front



Side



Top

1. Sensitivity is the average SPL measured over the components rated bandwidth
2. Power rating displays the long term AES power handling capacity using pink noise with a 6 dB crest factor over the components rated bandwidth
3. The SPEAKON connectors are wired, hot : pin 1+, cold : pin 1-.

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