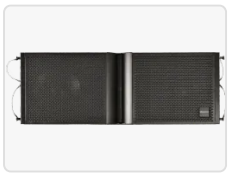
SSOUNDS LS310

Flagship of the LS series, large-format quad-amplified line array, 143 dB peak, 110° × 8°.

Part of the LS System. Three-way quad-amplified element for the longer throws in the system. LS stands for Line Source. Full system documentation at s-soundspro.com/systems/ls.



SSOUNDS LS310 · PRODUCT VIEWS

AT A GLANCE

MODEL / SKU
SS-LS310

CATEGORY
Line Array Speakers

BRAND
SSOUNDS

DRIVE
Passive

CONDITION
New

APPLICATIONS

TOURING · STADIUM · FLAGSHIP · LINE-ARRAY

OVERVIEW

The LS310 is the flagship of the SSOUNDS LS series: a large-format installation and touring line array built on a quad-amplified three-way package, twin 10″ LF, 8″ mid and dual 2.7″ HF on an isophasic waveguide, 143 dB peak, housed in a wide-format cabinet with 110° horizontal coverage. At 39 kg per element it flies fast on high-grade titanium rigging and scales from theatres to stadium-grade worship and open-air touring. Every cabinet is modelled in our AI-assisted prediction software and tuned before it ships.

- Flagship of the LS series
- 110° × 8° nominal dispersion
- 143 dB peak SPL, 46 Hz – 20 kHz (–10 dB), quad-amplified over NL8
- Fast-Set splay from 0° to 8°
- High-grade titanium captive rigging, up to 16 elements per hang
- Flies with the LS310 Sub on the same hang for full-range bandwidth
- IsoPhase waveguide sums the HF section into one coherent wavefront
- DynaControl holds the tuned response flat at maximum SPL

TECHNOLOGIES

CARDIOSTEER	Steerable cardioid arrays that direct low-frequency energy forward.
DYNACONTROL	Holds the tuned tonal balance as voice coils heat under sustained output.
FASTSET	Steel and aluminium rigging with captive titanium pins and detented splay for repeatable array geometry.
ISOPHASE	Isophasic HF waveguide summing multiple drivers into a single coherent wavefront.
PHASETRUE	FIR phase-linear crossovers for a coherent impulse response through the crossover region.
SNET	Networked control and monitoring for every amplifier and processor in the system.
VOXCLEAR	Voicing developed for speech intelligibility in acoustically difficult rooms.

SPECIFICATIONS

GENERAL

Type	3-way line-array element · quad-amplified
Certifications	CE · TÜV (rigging system) · EAC · WEEE

ACOUSTIC PERFORMANCE

Frequency response [2]	46 Hz – 20 kHz (–10 dB)
Coverage [4]	110° × 8°
Directivity control [4]	Nominal horizontal maintained to 300 Hz
Sensitivity [3]	HF 112 dB · MF 106 dB · LF 102 dB (1 W @ 1 m)
Maximum SPL [1]	143 dB peak @ 1 m

TRANSDUCERS & COMPONENTS

Low frequency	2 × 10″ cone drivers, dipolar arrangement · 8 Ω
Mid frequency	1 × 8″ horn-loaded cone driver · 8 Ω
High frequency	2 × 2.7″ diaphragm compression drivers on isophasic waveguide · 8 Ω

ELECTRICAL

Recommended amplifier power [5]	2,020 W
Nominal impedance [6]	LF1 16 Ω · LF2 16 Ω · MF 16 Ω · HF 16 Ω
Crossover	220 Hz · 900 Hz
Amplification	Quad-amplified by SSOUNDS D24X system DSP amplifier (D14X drives 2 cabinets)
Cabinets per amplifier	2 per D14X · up to 4 per D24X · four 16 Ω sections in parallel present 4 Ω per channel

CONNECTORS & I/O

Connectors	2 × NL8 speakON (in / link)
Pin map	1+/1– LF1 · 2+/2– LF2 · 3+/3– MF · 4+/4– HF

RIGGING & MOUNTING

System	High-grade titanium captive 3-point rigging · Fast-Set splay
Splay angles	0° – 8° adjustable
Max per array	Up to 16 elements per hang

PHYSICAL & CONSTRUCTION

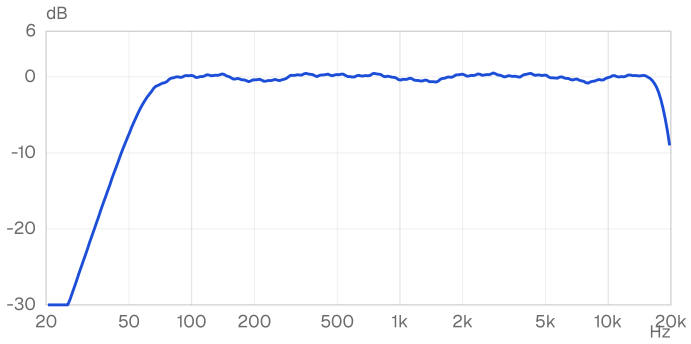
Dimensions (H × W × D) [8]	357 × 950 × 403 mm
Net weight [7]	39 kg / 86 lb
Enclosure	12 mm and 18 mm Baltic birch combined · Polyurea finish
Grille	Powder-coated perforated steel with acoustic cloth backing
Handles	2 side · 2 rear recessed
Colour	Black (custom RAL on request)

NOTES

1. Maximum SPL is the peak level at 1 m, driven with pink noise at crest factor 4 to the clipping point of the recommended amplifier, with the SSOUNDS system preset applied. Full-range enclosures are specified under free-field conditions; figures marked half-space are specified over a reflecting plane, the condition subwoofers are deployed in, which adds approximately 6 dB.
2. Frequency response is specified on axis at 1 m in a free field. The tolerance the figure is referenced to is stated alongside it; where no tolerance is given, the figure is the −6 dB bandwidth.
3. Sensitivity is specified at 1 W into the nominal impedance at 1 m on axis, averaged across the pass band of the enclosure.
4. Coverage angles are nominal −6 dB values averaged across the pass band. Per-octave directivity data is available from SSOUNDS system design support for prediction and modelling.
5. Recommended amplifier power is the amplifier output SSOUNDS specifies for this enclosure, driven with the SSOUNDS system preset. It guides amplifier selection and is not an AES power-handling rating for the transducers.
6. Nominal impedance is the manufacturer's rating for amplifier load calculation; minimum impedance across the operating band may be lower.
7. Net weight excludes packaging, flight case, accessories and optional rigging hardware.
8. Dimensions are stated in millimetres and exclude protruding rigging hardware, handles and connector panels unless noted.
9. All figures are typical values for production units specified under the conditions above. Individual units may vary within published tolerances.

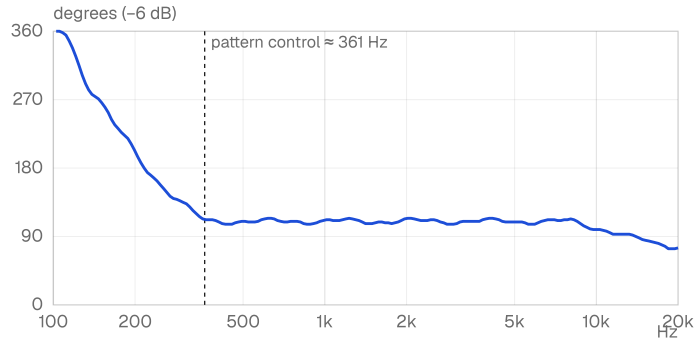
RESPONSE

FREQUENCY RESPONSE



Frequency response: 46 Hz to 20 kHz (−10 dB) · 1/24-octave smoothed

HORIZONTAL BEAMWIDTH

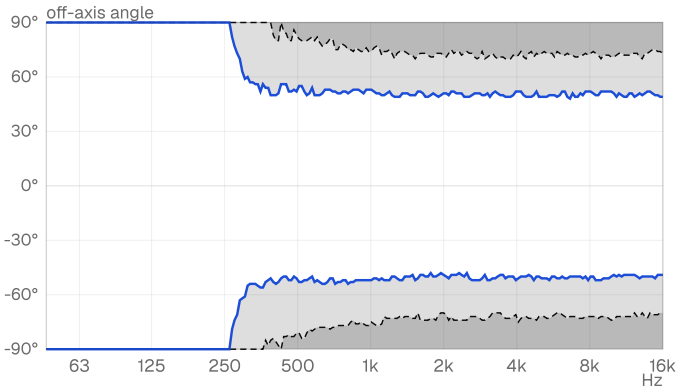


−6 dB horizontal beamwidth: 110° nominal

Plot conditions. Curves are generated by the SSOUNDS engineering toolchain from this product's specification. Frequency response is shown 1/24-octave smoothed, normalised to the midband reference, with the passband corners at the stated tolerance; response varies within ±1 dB across the passband with a subtle shelf in the top octave. Magnitude slopes are 24 dB/octave beyond the passband corners. The beamwidth curve shows the −6 dB included angle: nominal coverage holds down to the pattern-control limit set by the cabinet width ($f \approx c/w$) and widens below it.

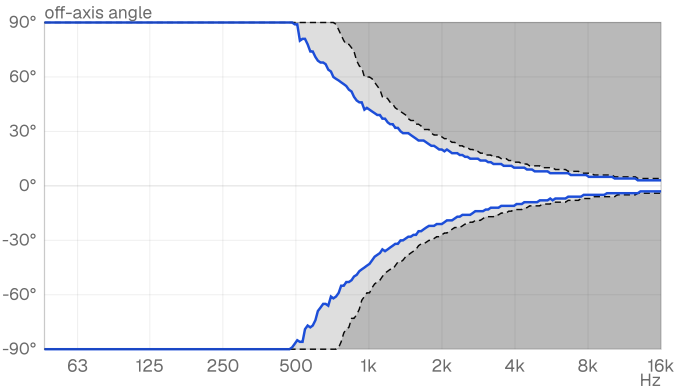
DIRECTIVITY

ISOBAR DIAGRAM, HORIZONTAL



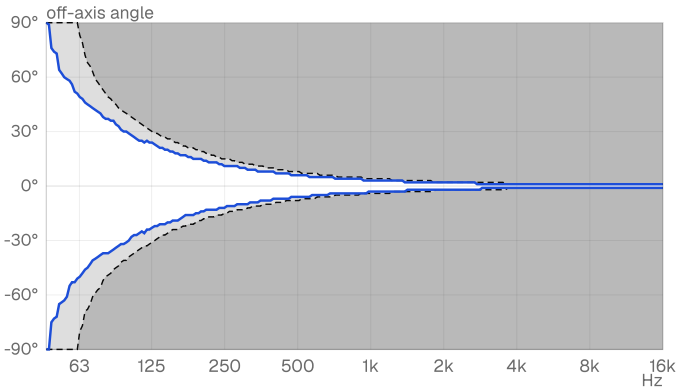
Lines of equal sound pressure. Blue: -6 dB. Dashed: -12 dB. White region holds within 6 dB of on-axis.

ISOBAR DIAGRAM, VERTICAL



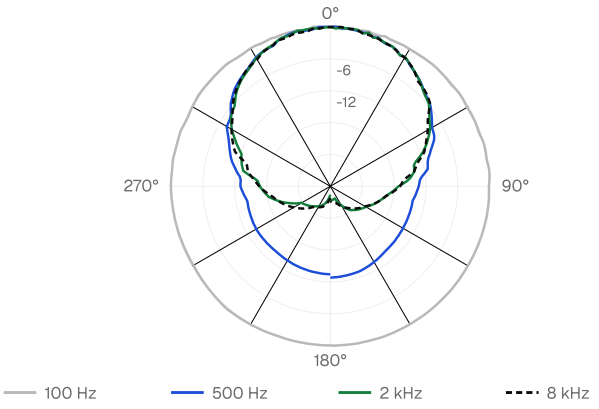
Lines of equal sound pressure. Blue: -6 dB. Dashed: -12 dB. White region holds within 6 dB of on-axis.

ISOBAR DIAGRAM, VERTICAL, 12-ELEMENT ARRAY



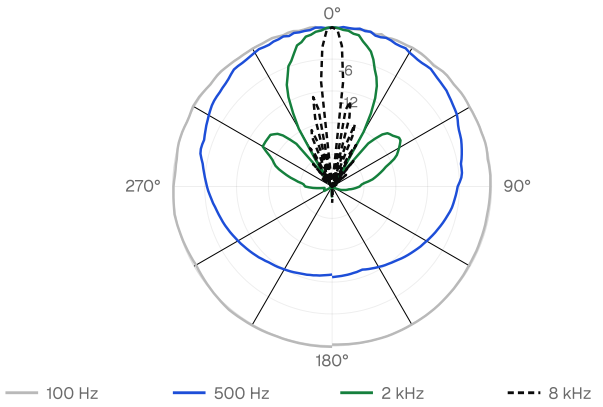
Lines of equal sound pressure. Blue: -6 dB. Dashed: -12 dB. White region holds within 6 dB of on-axis.

POLAR RESPONSE, HORIZONTAL



Normalised to on-axis. Rings at 6 dB intervals to a -30 dB centre. 1/3-octave band power.

POLAR RESPONSE, VERTICAL



Normalised to on-axis. Rings at 6 dB intervals to a -30 dB centre. 1/3-octave band power.

Charts span 46 Hz to 16 kHz, this cabinet's own operating band. The single-cabinet charts rate one element. Vertical pattern below the midrange is set by the length of the array, not by one box: the 12-element chart is a straight column of 4.28m at 0° splay, and it is the figure to design from. Horizontal coverage is a property of the cabinet and does not change with array length.

VERTICAL COVERAGE BY ARRAY SIZE, –6 DB

Elements	Length	63	125	250	500	1k	2k	4k	8k
4	1.4 m	—	—	71°	34°	17°	8.4°	4.2°	2.1°
8	2.9 m	—	71°	34°	17°	8.3°	4.2°	2.1°	1.0°
12	4.3 m	100°	46°	22°	11°	5.5°	2.8°	1.4°	0.7°
16	5.7 m	70°	34°	17°	8.3°	4.1°	2.1°	1.0°	0.5°
20	7.1 m	55°	27°	13°	6.6°	3.3°	1.7°	0.8°	0.4°
24	8.6 m	45°	22°	11°	5.5°	2.8°	1.4°	0.7°	0.3°

Frequencies in Hz. A dash means the column is not yet long enough to hold a pattern at that frequency and radiates through the full vertical plane. Straight hang, 0° splay: splaying the array trades pattern width for reach and widens these figures.

> **Chart conditions.** Directivity charts are computed by the SSOUNDS system prediction engine as a phase-coherent wave solution of this product's driver complement: each way represented by its physical radiator (rigid-piston cones with real diameters and spacings; waveguides as continuous mouth apertures, holding the rated coverage on a flare-controlled axis above the mouth's pattern-control limit and radiating the mouth's own diffraction limit on a wavefront-shaped axis; a horn-loaded mid shares the high-frequency mouth), summed as complex pressure through crossovers at the published points in the topology the cabinet is driven with (linear-phase FIR where the ways run on separate channels of a system DSP amplifier, Linkwitz-Riley where a passive network splits them), with way alignment referenced on axis and 1/24-octave band-power resolution. Single- cabinet vertical figures are free-field beamwidths of one element; the published per-element vertical coverage of a line array is its rigging splay, the sector one element covers in a curved hang. Cabinet edge diffraction, horn loading detail, driver breakup and production tolerances are outside the computation. Directivity files for prediction software (GLL/CLF) are issued from measured data only.

DOWNLOADS & DATA FILES

SSOUNDS LS310: User Manual — MANUAL

Directivity table, horizontal (CSV) / vertical — CSV

Loudspeaker data files for prediction software (GLL / CLF for EASE), 2D and 3D drawings and certification documents are issued on request. Contact support@s-soundspro.com and we will send the current release for this model.

SYSTEM OPERATION

Recommended: SSOUNDS D24X quad amplifier, up to four LS310 per amplifier, each channel driving the same section (LF1, LF2, MF, HF) across the cabinets. The 16 Ω sections put four cabinets in parallel at 4 Ω per channel; a D14X drives two.

Run fewer cabinets per amplifier where the design calls for finer gain or HF shading across the hang. Add one LS310 Sub per three to four tops for full-range response; the sub takes its own NL4 feed.

Typical deployments, 8 × LS310 per side with 2 × LS310 Sub flown in the same hang: full-range stadium worship with no separate sub hang. 6 × LS310 over 4 × XTO S218 ground-stacked: large open-air. 4 × LS310 in 70° mode: long, narrow rooms.

COMPATIBLE ACCESSORIES & OPTIONS

SS-LS310-SUB	SSOUNDS LS310 Sub

ARCHITECTURAL & ENGINEERING SPECIFICATION

The line array loudspeaker shall be of the SSOUNDS LS310 type, configured as a 3-way line-array element, quad-amplified. The line array loudspeaker shall incorporate a low-frequency section of 2 × 10″ cone drivers, dipolar arrangement, 8 Ω, a mid-frequency section of 1 × 8″ horn-loaded cone driver, 8 Ω, a high-frequency section of 2 × 2.7″ diaphragm compression drivers on isophasic waveguide, 8 Ω. The line array loudspeaker shall be capable of meeting the following performance criteria: a frequency response of 46 Hz – 20 kHz (–10 dB); a maximum sound pressure level of 143 dB peak @ 1 m; a sensitivity of HF 112 dB, MF 106 dB, LF 102 dB (1 W @ 1 m); nominal coverage of 110° × 8°. Electrically the line array loudspeaker shall provide a nominal impedance of LF1 16 Ω, LF2 16 Ω, MF 16 Ω, HF 16 Ω, a crossover at 220 Hz, 900 Hz. The unit shall be passive. Connection shall be by 2 × NL8 speakON (in / link). The line array loudspeaker shall be constructed of 2 per D14X, up to 4 per D24X, four 16 Ω sections in parallel present 4 Ω per channel, measuring 357 × 950 × 403 mm, and shall weigh 39 kg / 86 lb. The line array loudspeaker shall be covered by the manufacturer's two (2) year limited warranty and shall be supplied by SSOUNDS or an SSOUNDS-authorised distributor. No alternate shall be accepted without prior written approval of the consultant or specifying engineer.

SAFETY & COMPLIANCE

Read this section before specifying, installing or operating this product. It summarises the safety requirements set out in full in the product documentation supplied with the unit; where the two differ, the product documentation takes precedence.

SUSPENSION & RIGGING

Overhead suspension is potentially hazardous and must be carried out only by trained and competent personnel using SSOUNDS-approved hardware, within the working load limits and array configurations published in the relevant SSOUNDS rigging documentation. Never exceed the stated number of enclosures per array or the stated splay limits. Inspect all rigging components, pins and retaining clips before every deployment and withdraw from service any component that is deformed, corroded or of unknown history. Secondary safety attachment is required where local regulation calls for it. SSOUNDS accepts no liability for systems suspended using non-approved hardware or outside published limits.

SOUND PRESSURE LEVEL & HEARING

This equipment is capable of producing sound pressure levels that cause permanent hearing damage. Do not operate at high level in close proximity, and ensure that operators, performers and audience exposure complies with applicable occupational noise-exposure regulation. Provide hearing protection where exposure limits may be exceeded.

ENVIRONMENT & MECHANICAL

Unless a published IP rating states otherwise, this product is intended for indoor use or for outdoor use under cover, and must be protected from rain, standing water and prolonged direct sun. Ensure ventilation openings are unobstructed. Stack, pole-mount and transport only as described in the product documentation, and secure the product against toppling wherever the public has access.

DISPOSAL

At end of life, dispose of the product and any packaging in accordance with local regulation for electrical and electronic equipment. Do not dispose of electronic components in general waste.

LIMITED WARRANTY: TWO (2) YEARS

SSOUNDS products are warranted against defects in materials and workmanship for a period of two (2) years from the original date of purchase by the end user. Within that period SSOUNDS will, at its option, repair or replace the defective item with no charge for parts or labour. The item must be adequately packaged and dispatched, carriage pre-paid, to SSOUNDS or an SSOUNDS-authorised service centre, accompanied by proof of purchase and a returns reference issued in advance by SSOUNDS. Unauthorised repair, modification or removal of serial-number labelling voids this warranty.

THIS WARRANTY DOES NOT COVER

- Cosmetic wear, finish, grille cloth, paintwork and consumable parts.
- Damage caused by misuse, abuse, accident, neglect, or operation outside the published ratings on this sheet.
- Damage caused by transport or handling after delivery, or by inadequate packaging on return.
- Damage caused by mains or generator supply faults (over-voltage, under-voltage, phase imbalance, surge or incorrect earthing) or by lightning.
- Water, dust or corrosion ingress on products not carrying a published IP rating for the conditions of use.
- Damage resulting from amplification or processing outside the recommended configuration on this sheet, or from third-party presets.
- Products not purchased from SSOUNDS or an SSOUNDS-authorised distributor.

This warranty is in addition to, and does not affect, any statutory rights the purchaser may have under applicable consumer law. It is the sole warranty offered; no other warranty, express or implied, is given.

Warranty claims and returns references: support@s-soundspro.com · +44 20 3769 6537

LEGAL NOTICE

All information on this data sheet is subject to change without notice. SSOUNDS reserves the right to alter specification, design and construction in the course of continuous product development.

Specifications, drawings and images are provided for guidance in system design and tender documentation. Where a figure is critical to a design, confirm it in writing with SSOUNDS before committing to a specification.

S SOUNDS PRO LTD
82a James Carter Road, Mildenhall, IP28 7DE, United Kingdom
+44 20 3769 6537 · support@s-soundspro.com

SS-DS-LS310-EN-A4 · Rev. 2608 · Issued 21 Aug 2026