Version 2.1
May 2007

L-ACOUSTICS P SERIES

108P, 112P, SB15P

OPERATOR MANUAL

IMPORTANT SAFETY INSTRUCTIONS

The Lightning Flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating instructions in the literature accompanying the product.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use attachments / accessories specified by the manufacturer.

12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
15. Since the mains power supply cord attachment plug is used as disconnect device, the plug should always be easily accessible.
16. Fire ignition sources such as candles should not be placed on the product or in close proximity to the product.

- Operating temperature: 0°C to 35°C
- Operating mains voltage: 95VAC-125VAC (@115V voltage selector position), 195VAC-250VAC (@230V voltage selector position)

⚠ **Before applying AC power, ensure that the voltage selector is correctly set for the mains power source (115 V or 230 V) and that the fuse has the appropriate rating.**

FOREWORD

Thank you for purchasing the 108P, 112P or SB15P self-powered loudspeaker system.

This manual is intended to provide you with the information you require to effectively install and operate your P series loudspeaker in a variety of professional sound reinforcement applications.

We are confident that the information provided in this manual will be sufficient for most applications, however, should you require further assistance your distributor or L-ACOUSTICS® are available to provide additional technical support.

MANUAL ORGANIZATION

- The Introduction gives a brief presentation of coaxial technology and the P series.
- Chapter 1 introduces 108P , 112P and SB15P loudspeakers plus accessories
- Chapter 2 describes cabling and connections
- Chapter 3 discusses P Series applications
- Chapter 4 details 108P, 112P and SB15P installation procedures
- Chapter 5 outlines P Series loudspeaker operation
- Chapter 6 provides 108P, 112P and SB15P specifications

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0. INTRODUCTION

The 108P and 112P combine the significant advantages of L-ACOUSTICS' proven coaxial point source technology with the convenience of self-powered performance and the power plus flexibility of on-board digital signal processing.

Designed for portable applications, the 108P and 112P are suitable for distributed sound reinforcement in theatre, congress centre, concert hall, trade show, corporate A/V, houses of worship, club, or television applications. When used with the L-ACOUSTICS SB15P self-powered subwoofer, the 108P and 112P can also be used for side fill, drum monitoring or small-to-medium format front-of-house (FOH) applications. In addition to these applications, the 108P is specifically optimized for use as a high-power nearfield monitor while the 112P provides a high-performance stage monitoring solution.

The L-ACOUSTICS approach to distributed sound reinforcement starts with the specification that each individual loudspeaker should behave as a coherent point source. This specification can be met using coaxial components due to the fact that the directivity of the low and high frequency (LF and HF) transducers is matched at the crossover frequency. This provides a smooth transition between LF and HF sections with power response that is free of the polar lobing effects typical of traditional horn / woofer combinations. In addition, coaxial component directivity is horizontally, vertically and diagonally symmetric (axi-symmetric), thus providing true point source behavior.

Extensive sound design and installation experience acquired by L-ACOUSTICS over the years confirms this and we are confident that coaxial, axi-symmetric loudspeaker enclosures are the best tools for multiple source, distributed sound reinforcement.

1. THE P SERIES

The L-ACOUSTICS P Series consists of: 108P and 112P self-powered loudspeaker enclosures, the SB15P self-powered subwoofer and 108P, 112P, SB15P rigging accessories.

LOUDSPEAKER ENCLOSURES

(1) 108P
Self-powered 2-way coaxial loudspeaker with 100-degree axi-symmetrical coverage, containing 8" loudspeaker, 1" exit high frequency compression driver

(2) 112P
Self-powered 2-way coaxial loudspeaker with 90-degree axi-symmetrical coverage, containing 12" loudspeaker, 1.4" exit high frequency compression driver

108P **112P**

Figure 1: 108P, 112P Loudspeaker Enclosures

SUBWOOFER ENCLOSURE

(3) SB15P
Self-powered 15” subwoofer enclosure

Figure 2: SB15P self-powered subwoofer

RIGGING ACCESSORIES

(4) ETR8-2
Adjustable U-Bracket for ceiling, wall or scaffold mounting of the 108P

(5) ETR112XT
Adjustable U-Bracket for ceiling, wall or scaffold mounting of the 112P

(6) ETR15P
Adjustable U-Bracket for ceiling, wall or scaffold mounting of the SB15P

(7) XT-LIFTBAR
Allows for single point rigging of 112P loudspeaker enclosures with 5 pick points available for tilt adjustment

ETR112XT

ETR8-2

ETR15P

XT-LIFTBAR

Figure 3: P Series Rigging Components

1.1 OVERVIEW

L-ACOUSTICS 108P and 112P self-powered coaxial loudspeakers are intended for distributed sound reinforcement in small- to medium-sized portable applications or for use with the SB15P self-powered subwoofer for 3-way applications such as small- to medium-sized FOH or stage monitoring (drum/side fill). All P-series enclosures feature highly-advanced loudspeaker components and rigging accessories while benefiting from the sonic accuracy and flexibility afforded by application-engineered digital presets.

108P

The 108P is a 250 x 500 watt bi-amplified, digitally-processed loudspeaker featuring a 1" exit HF compression driver coaxially-loaded by an eight-inch low frequency transducer. Coaxial loading produces coherent point source radiation with 100-degree axisymmetric directivity along with superimposed LF/HF dispersion characteristics free of the polar lobing effects associated with traditional 2-way studio monitor configurations (i.e., separate woofer/tweeter). The end result is precise, stable image localization that is ideal for stereo or surround sound monitoring.

Integral digital crossover filtering, component time alignment and equalization provide superb sonic performance plus added flexibility due to the availability of four application-engineered presets (FILL, FRONT, MONITOR, X-OVER).

Accurate frequency response and imaging combined with elevated SPL output capacity make the 108P ideal for use as a high performance nearfield monitor for live FOH mix engineering and for stereo or 5.1 monitoring in studio, broadcast or post production environments. For nearfield monitoring applications, either FILL (free space conditions, for example, when the 108P is placed on a console bridge) or MONITOR (half space conditions, for example, when the 108P is wall- or soffit-mounted) presets should be selected.

Due to its' high power:size ratio, plug-and-play ease-of-use, versatile application-oriented presets and multi-purpose enclosure format, the 108P is also suitable for a wide variety of portable sound reinforcement applications. For proximity reinforcement such as distributed front fill, the 108P provides optimum fidelity and intelligibility, satisfying the strict requirements of classical music and opera. The compact, truncated wedge-shaped enclosure format provides a visually-discrete solution for floor monitoring, keyboard monitoring or underbalcony use and with the addition of L-ACOUSTICS subwoofers, the 108P is also suitable for small format FOH applications.

In addition to proximity fill and monitoring, the 108P can be used for portable distributed sound reinforcement in theatre, trade show, concert hall, houses of worship, congress centre, club, restaurant, retail, corporate boardroom or television applications. To facilitate installation, a pole mount socket is included as standard and an adjustable U-bracket is available as an optional rigging accessory for ceiling, wall, scaffold or truss mounting.

Figure 4: 108P Enclosure

112P

Ideal for multi-purpose, portable sound reinforcement, the 112P features advanced loudspeaker components powered by a 1000 W power amplifier module with dedicated on-board digital signal processing. Four application-engineered presets are available (FILL, FRONT, MONITOR, X-OVER), complementing the considerable flexibility of the 112P by providing convenient, plug-and-play ease of operation.

Featuring a 1.4" exit compression driver coaxially-loaded by a 12" transducer, the 112P provides coherent point source radiation with 90-degree axi-symmetric directivity (identical horizontal, vertical and axial coverage). Due to the coaxial component configuration, power response is free of the polar lobing effects typical of traditional horn / woofer combinations.

The net result is natural, studio monitor sound quality - ideal for proximity fill use or portable distributed sound reinforcement in theatre, congress centre, concert hall, trade show, corporate A/V, houses of worship, club, or television applications. When used with the L-ACOUSTICS SB15P self-powered subwoofer, the 112P is also highly suitable for side fill, drum monitoring or small-to-medium format front-of-house (FOH) applications.

Due to its compact, wedge-shaped enclosure format, the 112P provides an exceptionally high performance floor monitor solution. Excellent image and coverage stability is obtained due to the coaxial configuration and the performer experiences a generous, homogeneous coverage pattern without the subjective impression and potential feedback problems of listening to a separate horn / woofer combination.

To facilitate installation, pole mount sockets are included as standard and optional rigging accessories include an adjustable U-bracket for ceiling, wall, scaffold or truss mounting and a liftbar adapter that allows for single point rigging of the 112P (5 pick points available for tilt adjustment).

Figure 5: 112P Enclosure

SB15P

The SB15P (Sub Bass 15" Powered) is the companion subwoofer for L-ACOUSTICS 108P and 112P self-powered coaxial loudspeakers. Featuring a front-loaded fifteen-inch transducer loaded in an optimum-sized/-tuned vented enclosure, the SB15P combines the convenience of self-powered performance with the power of digital signal processing.

The 15" component employed in the SB15P features elevated power handling and excursion capability along with reduced distortion and thermal power compression. Advanced component performance is complemented by integral power amplification and protection to provide exceptional SPL output and secure operation. Optimized tuning provides an ideal combination of temporal accuracy, bass articulation, musicality and low end definition that only a front-loaded subwoofer can provide.

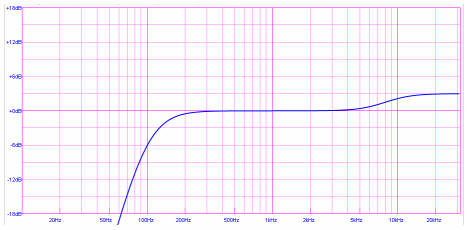
The compact dimensions of the SB15P provide a high degree of flexibility for installations where space is at a premium. Typical applications include portable distributed sound reinforcement for theatre, congress centre, concert hall, trade show, corporate A/V, houses of worship, club, conference room, multimedia installations or television. The SB15P is also ideal for stage monitoring applications such as compact side fill, keyboard or drum fill monitoring. For studio or nearfield monitoring, the SB15P can be used with 108P enclosures in stereo, 5.1 or 7.1 configurations.

A built-in pole mount socket is provided as standard, facilitating the creation of a compact FOH system when the SB15P is used with 108P or 112P enclosures. An adjustable U bracket is available as an optional rigging accessory for ceiling, wall, scaffold or truss mounting, adding a unique degree of versatility for fixed installation.

Figure 6: SB15P Enclosure

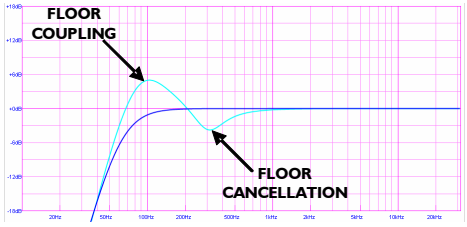
1.2 108P, 112P SERIES PRESETS

Four application-engineered presets are selectable via rear panel push button switch:



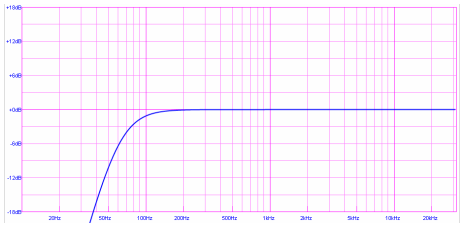
X-OVER
100 Hz HPF / 3 dB HF
(freefield conditions)

APPLICATIONS:
3-way system operation with SB15P self-powered subwoofer



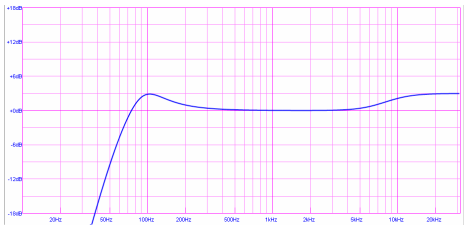
MONITOR
Nominally Flat
(halfspace conditions)

APPLICATIONS:
Floor Monitoring,
Wal/Ceiling/Proscenium Mounted



FILL
Nominally flat
(freefield conditions)

APPLICATIONS:
Speech, classical, proximity fill



FRONT
3 dB LF/HF Contour
(freefield conditions)

APPLICATIONS:
FOH (no subwoofers)

Figure 7: 108P, 112P preset selector switch closeup and preset options

Note: To memorize a preset (so that it is automatically recalled when cycling the mains power on/off), select the desired preset and hold the preset selector button until the led display is blinking.

FRONT presets are for standalone FOH operation (without subwoofers) where low and high frequency shelving equalization provide a frequency response contour suitable for music applications.

FILL presets provide nominally flat response for nearfield monitoring, speech reinforcement and classical music applications or, in general, when P Series enclosures are used as a close proximity fill enclosure.

FRONT and FILL presets are derived under freefield measurement conditions

MONITOR presets include additional low frequency equalization to account for half-space loading conditions and are intended for floor monitoring applications or installations where P Series loudspeakers are wall- or ceiling-mounted.

MONITOR presets are nominally flat under half-space measurement conditions

XOVER presets apply a 100 Hz highpass filter and a 3 dB high frequency shelving equalization contour for use of the 108P or 112P with the L-ACOUSTICS SB15P self-powered subwoofer.

1.3 SB15P PRESETS

The SB15P has an operating bandwidth of 45 – 100 Hz (-3 dB) with a usable low frequency of 40 Hz (-10 dB) and is optimized for use with 108P or 112P enclosures as a low frequency extension.

When used with 108P or 112P enclosures in X-OVER mode, the SB15P should be operated with positive polarity.

When used with 108P or 112P enclosures in FILL, FRONT or MONITOR mode, the SB15P should be operated with negative polarity.

Note: To memorize a preset (so that it is automatically recalled when cycling the mains power on/off), select the desired preset and hold the preset selector button until the led display is blinking.

Figure 8: SB15P preset selector switch closeup

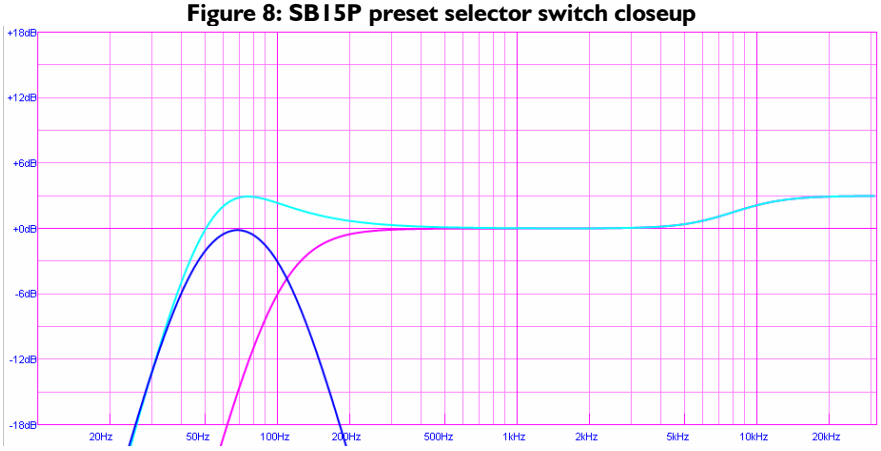


Figure 9: SB15P with positive polarity, 108P or 112P in X-OVER mode provides a 3 dB sub/low frequency contour (rear panel volume at 0 dB)

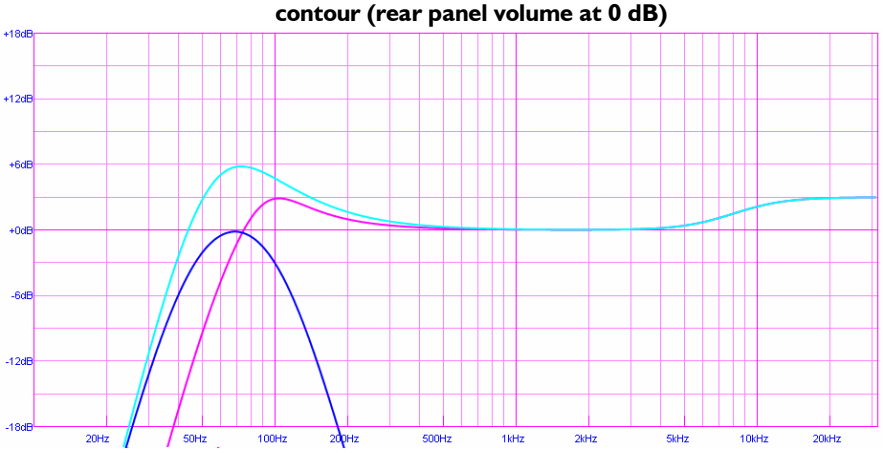


Figure 10: SB15P with negative polarity, 108P or 112P in FRONT mode provides a 6 dB sub/low frequency contour (rear panel volume at 0 dB). The SB15P should also be operated with negative polarity when FILL or MONITOR presets are selected for the 108P or 112P to obtain a similar sub/low frequency contour

1.4 108P DESCRIPTION

The 108P is a self-powered, bi-amplified, two-way coaxial full range loudspeaker containing one direct radiating, bass reflex-loaded, weather-resistant 8-inch low frequency transducer and one 25 mm (1.0 inch) exit, 44 mm (1.7 inch) voice coil diameter, polyester diaphragm, compression driver. The cone body of the 8-inch low frequency component provides pattern control loading for the compression driver and yields a 100-degree conical directivity pattern that is axi-symmetric. As a full range system, frequency response is 65 Hz to 20 kHz with less than +/- 3 dB variation and the usable bandwidth is 50 Hz to 22 kHz (-10 dB).

The 108P contains internal digital signal processing electronics and a two-channel power amplifier. The power amplifier provides 500 W continuous (1 kHz, 0.5% THD) into 4 ohms and 250 W continuous (1 kHz, 0.5% THD) into 8 ohms for powering low and high frequency transducers, respectively. The power amplifier provides thermal protection, short-circuit/overload output protection, clip and RMS signal limiting. Digital processing electronics also provides corrective component and system equalization, component time alignment and crossover filtering.

Four presets are selectable via rear-panel push button switch with the following characteristics: FILL has nominally flat frequency response when the loudspeaker is used under freefield conditions; FRONT has +3 dB low and high frequency shelving characteristics under freefield conditions; MONITOR has nominally flat response under half-space loading conditions; X-OVER provides a 100 Hz high pass filter and +3 dB high frequency shelving characteristics for use of the 108P with the L-ACOUSTICS SB15P self-powered subwoofer. Connection to the 108P is made via two parallel XLR connectors and gain is controllable via rear panel volume potentiometer. AC power connectors are PowerCon type and 115V or 230V operation is selectable via rear panel rotary switch.

The 108P has a truncated wedge shape with a curved front profile. Dimensions are 42.1 cm (16.6 in) high, 25.0 cm (9.8 in) wide by 29.9 cm (11.8 in) deep. When used as a floor monitor, the front baffle of the enclosure is oriented at 30° with respect to vertical. Enclosure weight is 12.8 kg (28.2 lbs) and cabinet construction consists of 15 mm (0.6 in) and 18 mm (0.7 in) Baltic birch plywood with joints that are sealed, screwed and rabbeted. The finish is maroon gray, high resiliency paint and the front of the 108P is protected by a black powder-coated 1.5 mm (0.06 in) thick steel grill covered with acoustically-transparent grille cloth. The 108P has a 35 mm (1.38 in) diameter pole mount socket mounted on the bottom side and a recessed plate on the top side for rigging the enclosure in conjunction with an adjustable U-bracket assembly.

Figure 11: 108P (floor monitor orientation)

1.5 112P DESCRIPTION

The 112P is a self-powered, two-way, coaxial full range loudspeaker containing one direct radiating, bass reflex-loaded, weather-resistant 12-inch low frequency transducer and one 1.4 inch exit, 3 inch voice coil diameter, titanium alloy diaphragm compression driver. The cone body of the 12" low frequency component provides pattern control loading for the compression driver and yields a 90-degree conical directivity pattern that is axi-symmetrical. As a full range system, the frequency response is 60 Hz to 18 kHz with less than ± 3 dB variation and the usable bandwidth is 50 Hz to 20 kHz (-10 dB).

The 112P contains internal digital signal processing electronics and a mono bridged power amplifier that provides 1000 W continuous (1 kHz, 0.5% THD) into 8 ohms with thermal protection, short-circuit/overload output protection, clip and RMS signal limiting. Integral digital signal processing provides corrective component and system equalization. Four presets are selectable via rear-panel push button switch with the following characteristics: FILL has nominally flat frequency response when the loudspeaker is used under freefield conditions; FRONT has +3 dB low and high frequency shelving characteristics under freefield conditions; MONITOR has nominally flat response under half-space loading conditions; X-OVER provides a 100 Hz high pass filter and +3 dB high frequency shelving characteristics for use of the 112P with the L-ACOUSTICS SB15P self-powered subwoofer.

Connection to the 112P is made via two parallel XLR connectors and gain is controllable via rear panel volume potentiometer. AC power connectors are PowerCon type and 115V or 230V operation can be selected via rear panel rotary switch.

The 112P has a truncated wedge shape with a curved front profile. Dimensions are 54 cm (21.3 in) high, 41.6 cm (16.1 in) wide and 39 cm (15.4 in) deep. When used as a floor monitor, the front baffle of the 112P is oriented at a 30 degree angle with respect to vertical. Enclosure weight is 32.2 kg (70.9 lbs) and cabinet construction consists of 30 mm (1.18 in) and 18 mm (0.70 in) Baltic birch plywood with internal steel bracing and joints that are sealed, screwed and rabbeted. The finish is maroon-gray high resilient paint and the front of the enclosure is protected by a black powder-coated, 1.5 mm (0.06 in) thick steel grill covered with acoustically-transparent grille cloth.

The 112P has 36 mm (1.42 in) diameter pole mount sockets mounted on the top and bottom sides that can be used with a U-bracket accessory for rigging the enclosure in either horizontal or vertical orientations with angular adjustment at 10 degree resolution. The XTLIFTBAR accessory functions with either of the pole mount sockets and provides five attachment points for rigging purposes.

Figure 12: 112P (floor monitor orientation)

1.6 SB15P DESCRIPTION

The SB15P self-powered subwoofer contains a single 15-inch loudspeaker component that is front-loaded in an optimally-tuned and vented enclosure. Usable frequency response is 45 to 100 Hz with less than ± 3 dB variation and the usable -10 dB low frequency response is 40 Hz. Loudspeaker ports are of large area dimension in order to minimize port non-linearity and turbulence effects.

The fifteen-inch transducer has a 4-inch (100 mm) diameter edgewound copper ribbon voice coil, 18 mm (0.71 in) peak excursion capability, diecast aluminum frame, massive vented magnet structure and high thermal capacity that provides reduced power compression, long term reliability and low distortion output.

The SB15P features internal digital signal processing electronics and a mono bridged power amplifier that provides 1000 W continuous (1 kHz, 0.5% THD) into 8 ohms with thermal protection, short-circuit/overload output protection and clip / RMS signal limiting. Integral digital signal processing performs crossover filtering (100 Hz low pass filter) and system equalization for use of the SB15P in conjunction with the 108P or 112P. Positive or negative polarity operation is selectable via rear-panel push button switch.

When used with 108P or 112P enclosures in X-OVER mode, the SB15P should be operated with positive polarity.

When used with 108P or 112P enclosures in FILL, FRONT or MONITOR mode, the SB15P should be operated with negative polarity.

Connection to the SB15P is made via two parallel XLR connectors and gain is controllable via rear panel potentiometer. AC power connectors are PowerCon type and 115V or 230V operation is selectable via rear panel slider switch.

The enclosure is constructed of 18 mm (0.7 in) baltic birch and is internally braced with steel corner plates and sealed, screwed, rabbeted joints in order to remain vibration-free at extreme sound pressure levels. Dimensions are 445 mm (17.5 in) high, 520 mm (20.5 in) wide and 520 mm (20.5 in) deep and the enclosure weight is 36 kg (79.4 lbs). Finish is maroon-gray high resilient paint and the front of the enclosure is protected by a black powder-coated, 1.5 mm (0.06 in) thick steel grill, covered with acoustically-transparent grille cloth.

Two recessed handles are located on the sides of the SB15P for handling purposes and a 36-mm (1.42 in) diameter pole mount socket mounted on the top side. When used in conjunction with a bottom attachment plate, the pole mount socket can be used with the optional ETR15P U-bracket accessory for rigging the enclosure in either horizontal or vertical orientations with continuous angular adjustment.

Figure 13: SB15P (with pole-mounted 108P)

2. CONNECTORS AND CABLES

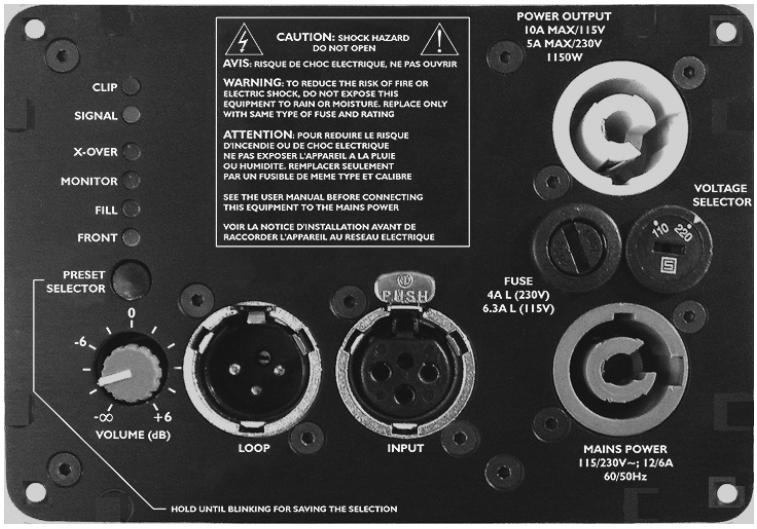


Figure 14a: 108P / 112P DSP Power Amplifier Module Rear Panel

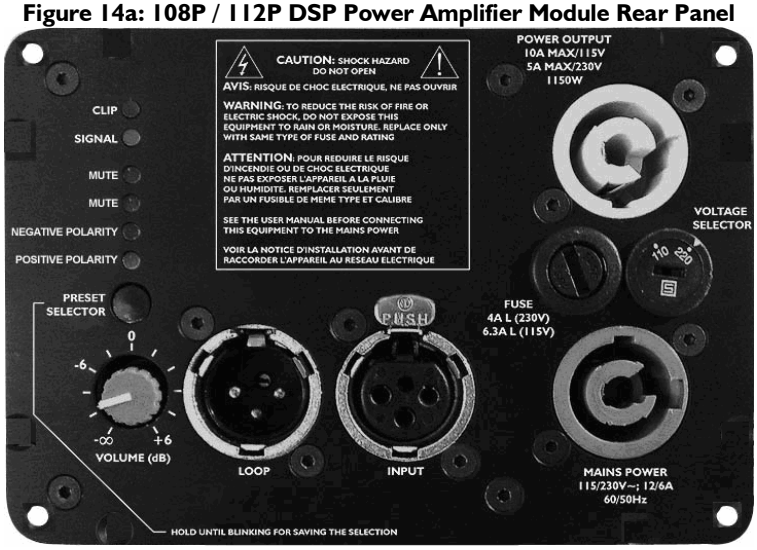


Figure 14b: SB15P DSP Power Amplifier Module Rear Panel

⚠ Before applying AC power, ensure that the voltage selector is correctly set for the mains power source (115 V or 230 V) and that the fuse has the appropriate rating.

⚠ Always use the mains power cable that was provided with your 108P, 112P or SB15P.

115V mains cable

230V mains cable

Figure 15: P Series mains power cables

⚠ Do not connect 108P, 112P or SB15P loudspeakers to an unearthed mains supply or by using an unearthed mains cable.

To daisy-chain connect mains power from a 108, 112P or SB15P loudspeaker to additional P Series enclosures (up to 3), use a cable with a grey Neutrik PowerCon NAC3FCB connector at one end (connected to the Power Output connector of the P Series enclosure that is supplying power) and a blue Neutrik PowerCon NAC3FCA connector at the other end (connected to the Power Input connector of the P Series enclosure that is being daisy-chain connected).

Note: Neutrik PowerCon connectors are color-coded:
Blue = power input = Neutrik NAC3FCA PowerCon connector
Grey = power output = Neutrik NAC3FCB PowerCon connector

⚠ Never daisy chain connect more than 3 P series enclosures using the Power Output connector.

⚠ Do not daisy-chain connect P Series enclosures using an unearthed PowerCon NAC3FCA to PowerCon NAC3FCAB cable.

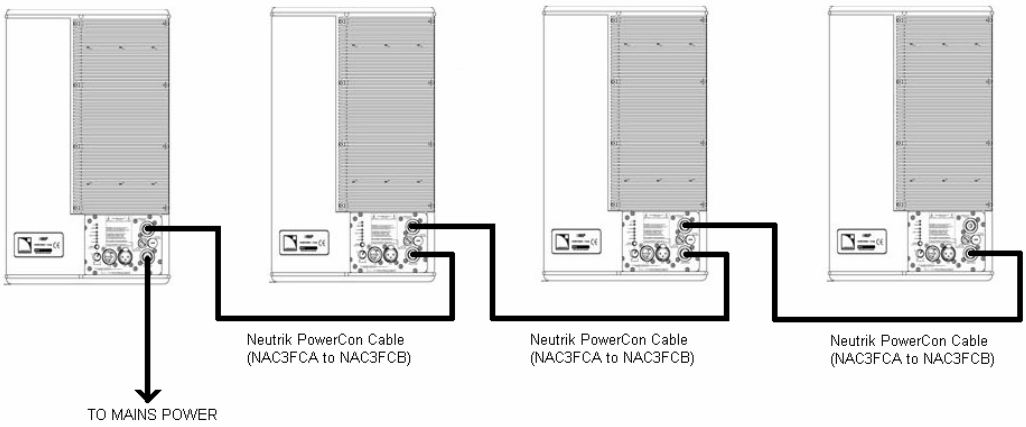


Figure 16: Daisy-chain connection of P Series enclosures

These cables (NAC3FCA to NAC3FCB) must handle at least 5A@230V or 10A@115V.

SIGNAL INPUT/LOOP THROUGH

P Series loudspeakers are supplied with dual XLR connectors that are internally wired in parallel, allowing for loop through connection and parallel operation of multiple 108P, 112P or SB15P enclosures.

XLR connectors are wired as follows:

Pin 1 = ground
Pin 2 = signal +ve
Pin 3 = signal –ve

Unbalanced sources (for example, RCA or ¼" TS phone jack connectors) can be connected to the 108P or 112P provided that pin 3 is grounded to pin 1 (see Figure 17).

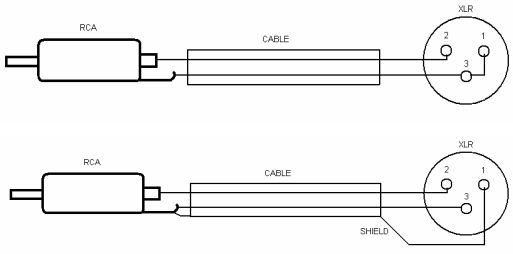


Figure 17: Connecting unbalanced sources

Note: When cabling your P Series loudspeaker for the first time, set the volume control fully counter-clockwise (-∞). The input sensitivity of the 108P, 112P or SB15P can be matched to the output of the mixing console (or other program source) by using the volume control on the rear panel.

The ferrite provided with your P series loudspeaker helps improve immunity to electromagnetic fields (above 100 MHz) and should be placed on the XLR audio cable used for connecting input signal to the 108P, 112P or SB15P. Perform a cable loop near the male XLR plug when attaching the ferrite.

3. APPLICATIONS

P Series loudspeakers are intended for portable distributed sound reinforcement, nearfield monitoring (108P), floor monitoring or small- to medium-scale Front-Of-House (FOH) applications. Guidelines for the use of P Series loudspeakers in these applications are discussed in this section.

3.1 AIMING P SERIES ENCLOSURES

Due to their controlled directivity behavior, P Series enclosures should be aimed so as to geometrically cover the desired audience area with the main zero degree axis oriented towards the middle or rear of the audience area. Since the wavefront radiated by an axi-symmetric sound source has directivity that is smoothly increasing with frequency, this helps to match coverage, frequency response and SPL to the acoustic environment of a typical auditorium (i.e., normally the reverberation time in auditoria decreases smoothly above 1 kHz and at greater distances in the venue, the low frequency energy is fairly constant due to the reverberant field).

Loudspeaker focus or aiming should be adjusted so that maximum HF energy is directed towards the farthest listening areas – this helps to balance the SPL attenuation with distance that occurs in the direct field. At closer listening positions, the off-axis attenuation at higher frequencies provides a similar tonal balance and the overall SPL attenuation with distance is reduced.

Although P Series enclosures have controlled directivity attenuation properties it is important not to have the first members of the audience too close to the system (i.e., in order not to produce excessive sound pressure levels down front). Ideally, the ratio between the shortest and the furthest distance covered should not exceed 1:4 and in order to obtain this throw distance ratio, it is often desirable to fly the system. However, when P Series enclosures are flown and the audience seating area begins very close to the stage, it is often necessary to use distributed front-fill speakers (for example, 108P) or a stacked left/right 112P stereo infill system in order to improve coverage and image localization for the first few rows of the audience.

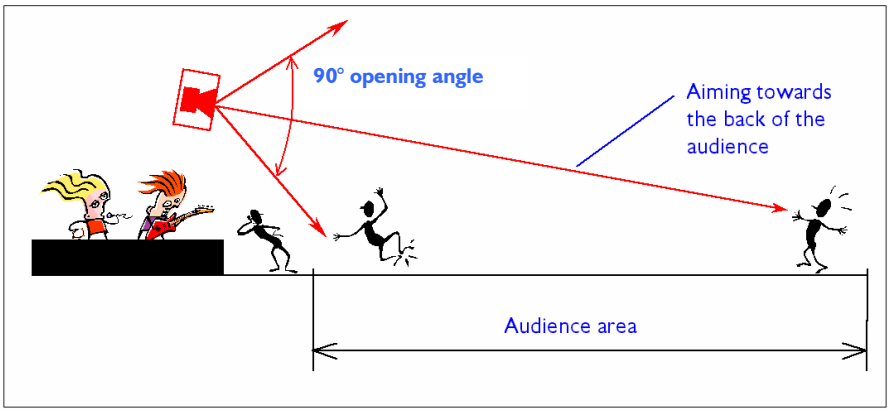


Figure 18: General guidelines for aiming P Series enclosures

3.2 DISTRIBUTED SOUND REINFORCEMENT

Distributed sound reinforcement using P Series enclosures can provide even SPL coverage and frequency response while reducing audible interference effects. For distributed installation, the optimum spacing between enclosures will depend on the coverage angle of the individual enclosure (100 degrees for 108P, 90 degrees for 112P) and the throw distance to the audience listening plane.

In general, the goal is to separate P Series enclosures so that the -6 dB coverage angle of one enclosure is aligned with the main 0 degree axis of the other enclosure (and vice versa) at the listening plane of the audience. This is termed centre-to-centre alignment and is illustrated in Figure 15.

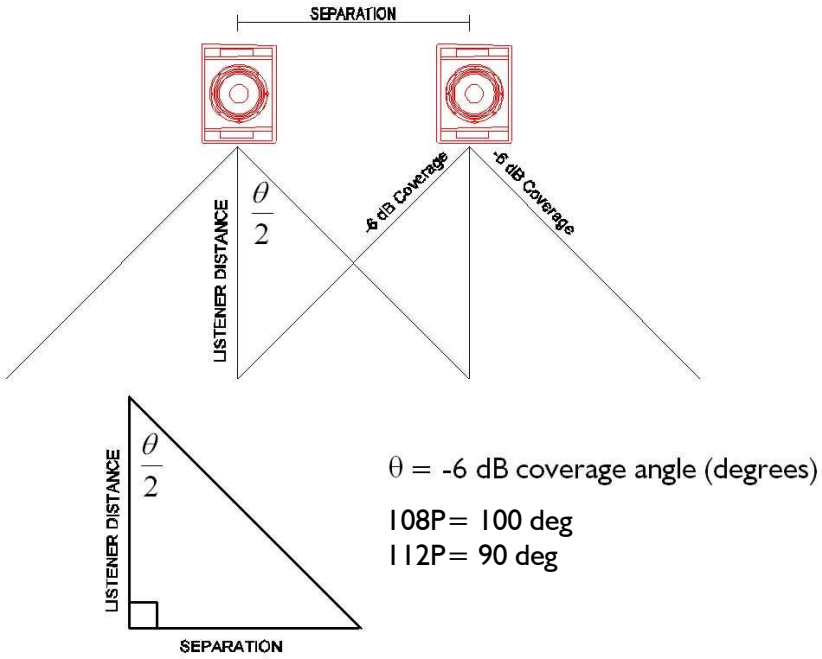


Figure 19: General guidelines for 108P or 112P enclosure spacing for distributed sound reinforcement

3.3 108P NEARFIELD MONITORING

Accurate frequency response (due to on-board DSP) and imaging (due to the point source coaxial configuration) combined with elevated SPL output capacity make the 108P ideal for use as a high performance nearfield monitor for live FOH mix engineering and for stereo or 5.1 monitoring in studio, broadcast or post production environments.

For nearfield monitoring, either FILL (free space conditions, for example, when the 108P is placed on a console bridge) or MONITOR (half space conditions, for example, when the 108P is wall- or soffit-mounted) presets should be selected.

For stereo monitoring, left/right 108P separation should be approximately equal to the throw distance to the listening position. Horizontal azimuth (panning) should be adjusted so that the zero degree axes of left/right 108P monitors are oriented towards the listening position.

3.4 FLOOR MONITORING

For floor monitoring, the coaxial component configuration employed in the 112P provides a high degree of image and coverage stability. The benefits of axi-symmetric directivity are readily apparent since the performer is in close physical proximity to the enclosure and experiences a generous, homogeneous coverage pattern without the subjective impression (and potential feedback problems) of listening to a separate horn / woofer combination.

The MONITOR preset accounts for half-space loading conditions, i.e., there is a 6 dB increase around 100 Hz (due to floor coupling), followed by a broad cancellation that occurs between 200 – 600 Hz (due to floor reflections). The MONITOR preset compensates for these two half-space loading effects and provides a nominally flat frequency response curve with excellent fidelity and feedback resistance.

When using 112P enclosures in pairs for floor monitoring, the same principles apply as for distributed systems, i.e., the optimum spacing between floor monitors depends on the coverage angle of the enclosure (90 degrees for 112P) and the throw distance to the performing artist (which is determined by the 30-degree floor monitor angle with respect to vertical and the artist's height). Center-to-center overlap will provide the most uniform coverage (see Figure 19) and it is not advised to angle wedges in but to use them with the front faces parallel to each other (essentially, angling in wedges no longer provides optimum center-to-center overlap).

4. INSTALLATION PROCEDURES

The ETR8-2 is an optional accessory U-Bracket for wall or ceiling mounting of the 108P.
Note: Always orient the ETR8-2 with the fixed arm on the bottom when installing the 108P in the vertical orientation

4.1 ETR8-2 U-BRACKET ATTACHMENT

(1) 108P and ETR8-2 U-bracket

(2) Remove locking pin on the pivoting arm

(3) U-bracket stud mates with 108P pole mount socket

(4) Remove recessed set screw on adapter plate (if necessary), rotate pivoting arm into position

(5) Attach pivoting arm using the tilt adjustment knob

(6) Secure the locking pin on the pivoting arm

(7) Rotate the U bracket to the desired position and securely tighten the tilt adjustment knob.

(7) Three attachment points are available on ETR8-2 for mounting the 108P in the horizontal orientation

Figure 20: ETR8-2 U-bracket installation procedure

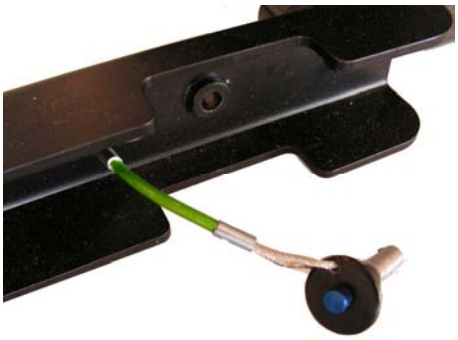
4.2 ETR112XT U-BRACKET ATTACHMENT

The ETR112XT is an optional U-Bracket accessory for wall (vertical orientation) and ceiling or scaffold (horizontal orientation) mounting of the 112P. Three mount holes are available on the center section of the ETR112XT for bracket mounting. Pole mount adapter plates on the 112P in conjunction with angle selection locking pins on the ETR112XT allow for 10 degree angular resolution.

Note: When using ETR112XT in the vertical orientation, always install with the fixed arm on the bottom and the pivoting arm on top.

(1) ETR112XT U-bracket

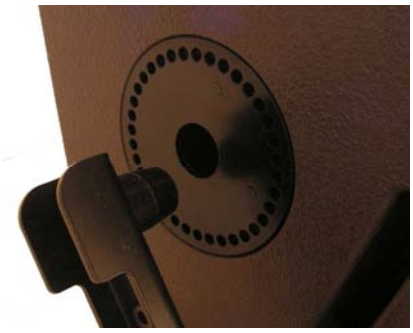
(2) Closeup of angle selection locking pin



(3) Remove locking pins on both U-bracket arms

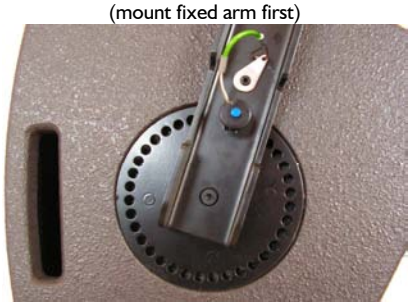
(4) Release pivoting arm locking pin

(5) ETR112XT - ready for attachment



(6) 112P pole mount sockets mate with U-bracket studs (mount fixed arm first)

(7) Rotate the pivoting arm into position – the pivoting arm locking pin automatically secures the U-bracket



(8) Rotate the loudspeaker into position and select the desired angle. Secure using the locking pins on both fixed and pivoting arms

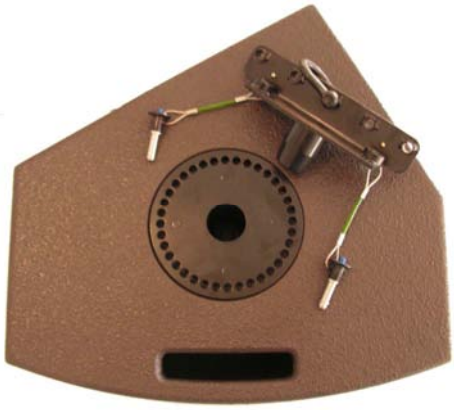
(9) Front perspective view

(9) Rear perspective view

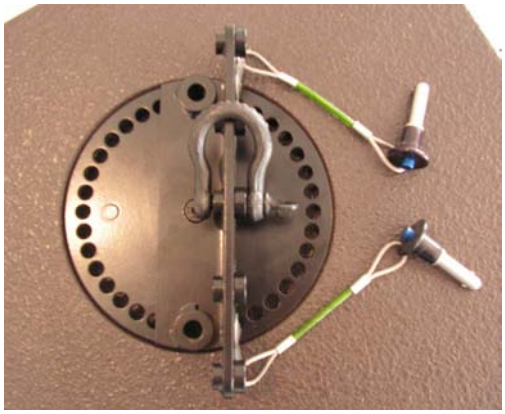
Figure 21: ETR112XT U-bracket installation procedure

4.3 XTLIFTBAR ATTACHMENT

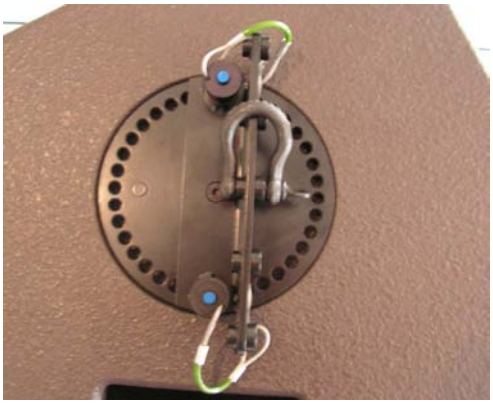
The optional XTLIFTBAR accessory allows for single point rigging of 112P enclosures with 5 pick points available for tilt adjustment. Pick point holes (from front to back) provide tilt angles of +18, +11, +3, -5 or -13 degrees, respectively.



(1) XTLIFTBAR and the 112P enclosure



(2) The XTLIFTBAR mounting stud mates with 112P pole mount sockets (top or bottom)



(3) When installing XTLIFTBAR, ensure that the main section is aligned with the center of the enclosure in order to properly balance the center of gravity.

(4) Two locking pins are used to secure the XTLIFTBAR. Shackle locations (front to back) provide +18, +11, +3, -5, -13 degree tilt angles, respectively

Figure 22: XTLIFTBAR installation procedure

4.4 ETR15P U-BRACKET ATTACHMENT

The ETR15P is an optional U-Bracket accessory for wall mounting (vertical orientation only – fixed arm on the bottom / pivoting arm on top) and ceiling or scaffold mounting (horizontal orientation only). Three mount holes are available on the center section of the ETR15P for bracket mounting and an M8 threaded insert (8 mm diameter) provided on the rear of the SB15P for safety attachment.

Note: When using ETR15P in the vertical orientation, always install with the fixed arm on the bottom and the pivoting arm on top.

(1) ETR15P U-bracket

(2) Release pivoting arm locking pin

(3) ETR15P - ready for attachment

(4) SB15P pole mount socket mates with U-bracket stud

(5) Mount fixed arm first

(6) Rotate the pivoting arm into position

(7) Rotate the SB15P to the desired angle and secure using the tilt adjustment knob (pivoting arm locking pin automatically secures the U-bracket as the adjustment knob is tightened)

(8) The recessed M8 insert (8 mm diameter) is available for attachment of an I-Bolt plus safety steel

Figure 23: ETR15P U-bracket installation procedure

4.5 SAFETY RULES

L-ACOUSTICS loudspeakers can be ceiling-suspended or attached to a wall (vertical orientation only) using accessories that are either supplied or recommended by L-ACOUSTICS only. Installation must be done according to the following instructions :

Loudspeaker Model	Accessory model	Instructions	
		Wood support	Incompressible plain support (concrete or equivalent)
108P	ETR8-2	Use 3 x self tapping screws with minimum 8 mm diameter and 60 mm length (hexagonal head screw DIN571 or equivalent)	Use 3 x anchors for heavy load 8 mm diameter and 50 mm length minimum
112P	ETR112XT	Use 3 x self tapping screws with minimum 8 mm diameter and 80 mm length (hexagonal head screw DIN571 or equivalent)	Use 3 x anchors for heavy load (10 mm diameter and 50 mm length minimum)
112P	XTLIFTBAR	Do not suspend the loudspeaker from this type of support	Use a tested rigging point (130 kg) and in conformity with national safety regulations of the country of installation
SB15P	ETR15P	Use 3 x self tapping screws with minimum 8 mm diameter and 80 mm length (hexagonal head screw DIN571 or equivalent) Attach M8 (8 mm diameter) I-bolt to rear threaded insert for attachment of safety steel	Use 3 x anchors for heavy load (10 mm diameter and 50 mm length minimum) Attach M8 (8 mm diameter) I-bolt to rear threaded insert for attachment of safety steel

The 108P or 112P can be used with a loudspeaker stand (L-ACOUSTICS recommends the K&M 21435 or equivalent). The footprint (base diameter) must be at least 1300 mm and withstand a maximum centric load of 350 N (35 kg) or higher. Tripod stand legs must be completely opened and the height must not exceed 2020 mm when used with the 108P and 1420 mm when used with the 112P.

Always ensure that the ETR112XT or ETR15P rotating arm is securely fastened by verifying that the spring-loaded locking pin at the pivot point is correctly seated before adjusting the tilt angle of the 112P or SB15P.

When using ETR8-2, ETR112XT or ETR15P in the vertical orientation, always install the U-bracket with the fixed arm on the bottom and the pivoting arm on top.

Maximum one 112P can be rigged per XTLIFTBAR.

L-ACOUSTICS recommends the use of safety steels at all times.

Attachment to concrete has not been investigated during the CSA approval.

5. P SERIES LOUDSPEAKER OPERATION

⚠ **Before applying AC power, ensure that the voltage selector is correctly set for the mains power source (115 V or 230 V) and that the fuse has the appropriate rating.**

Set the rear panel volume potentiometer to the minimum setting, i.e., fully counter-clockwise (-∞)

Connect a program signal source (output from a mixing console, for example) to the XLR input of the 108P or 112P. For unbalanced sources, refer to Figure 17.

Note: The LOOP connector (male XLR) can be used to daisy-chain up to six P Series enclosures.

Ensure that the program signal source (mixing console output) is muted before powering your P series loudspeaker.

Power up the 108P, 112P or SB15P by connecting the PowerCon cable that was provided with your P series loudspeaker to an appropriate mains power source.

Note: The Power Output connector (grey PowerCon receptacle on the rear panel of the P Series enclosure) can be used to daisy-chain connect up to 3 additional P Series enclosures.

Note: Neutrik PowerCon connectors are color-coded:
BLUE = power input = Neutrik NAC3FCA PowerCon connector
GREY = power output = Neutrik NAC3FCB PowerCon connector

Select the desired preset for the 108P / 112P (FILL, FRONT, MONITOR or XOVER) and/or the SB115P (POSITIVE or NEGATIVE polarity) using the rear panel "Preset Selector" switch (see Section 1.2 and 1.3 for further details concerning P Series presets).

When used with 108P or 112P enclosures in X-OVER mode, the SB15P should be operated with positive polarity.

When used with 108P or 112P enclosures in FILL, FRONT or MONITOR mode, the SB15P should be operated with negative polarity.

Note: To memorize a preset (so that it is automatically recalled after cycling the mains power on/off), select the desired preset and hold the preset selector button until the led display is blinking.

Run program signal (e.g. CD player), and slowly bring up the mixing console output level to check that gain structure is correct.

If necessary, adjust the rear panel volume potentiometer in order to obtain the desired system gain structure.

Note: Signal LED illuminates when the input signal level is greater than -40 dBV.

Note: Clip LED illuminates when the amplifier output clip point is reached.

6. SPECIFICATIONS

6.1 108P SPECIFICATIONS

ACOUSTICAL PERFORMANCE

Frequency Response

Frequency response:	65 – 20k Hz (± 3 dB)	(FILL preset)
Usable bandwidth:	55 – 22k Hz (-10 dB)	

System Sensitivity

-21 dBu (0.071 Vrms)	94 dB SPL	65 – 20k Hz	(FILL preset)

Nominal Directivity (-6 dB)

Axi-symmetrical	100° (± 15°)

System Output	**SPL**		
One enclosure	115dB (cont)	125 dB (peak)	FILL preset
	113 dB (cont)	123 dB (peak)	XOVER preset

FILL preset provides nominally flat response under freefield conditions
XOVER preset applies a 100 Hz high pass filter and a 3 dB high frequency shelving eq contour

Components

LF 1 x 8" weather resistant loudspeaker (2" voice coil)
HF 1 x 1" exit compression driver (polyester diaphragm, coaxial assembly)

ELECTRICAL PERFORMANCE

Input

Type	Electronically balanced (pin 2 hot)
Max Input Level	+12 dBu (gain potentiometer at 0 dB position)

DSP

Sampling	24 bit / 48 kHz
Dynamic Range	> 105 dBA

Amplifier

Output Power	1 x 500 W (4 ohms – LF section)
	1 x 250 W (8 ohms – HF section)
Gain	32 dB

Enclosure

Height	421 mm 16.6 in
Width	250 mm 9.8 in
Depth	299 mm 11.8 in
Floor Monitor Angle	30 degrees with respect to vertical
Net Weight	12.8 kg 28.2 lbs
Shipping Weight	14.3 kg 31.5 lbs
Shipping Dimensions	490 x 330 x 370 mm
	19.3 x 13.0 x 14.6 in
Connectors	2 x XLR, 2 x PowerCon
	(input, loop through)
Material	15 mm, 18 mm Baltic birch plywood
Finish	Maroon-gray™
Grill	Black epoxy perforated steel with acoustically-transparent, technically-advanced grille cloth
Rigging	Integrated pole mount socket, adjustable U-bracket accessory available

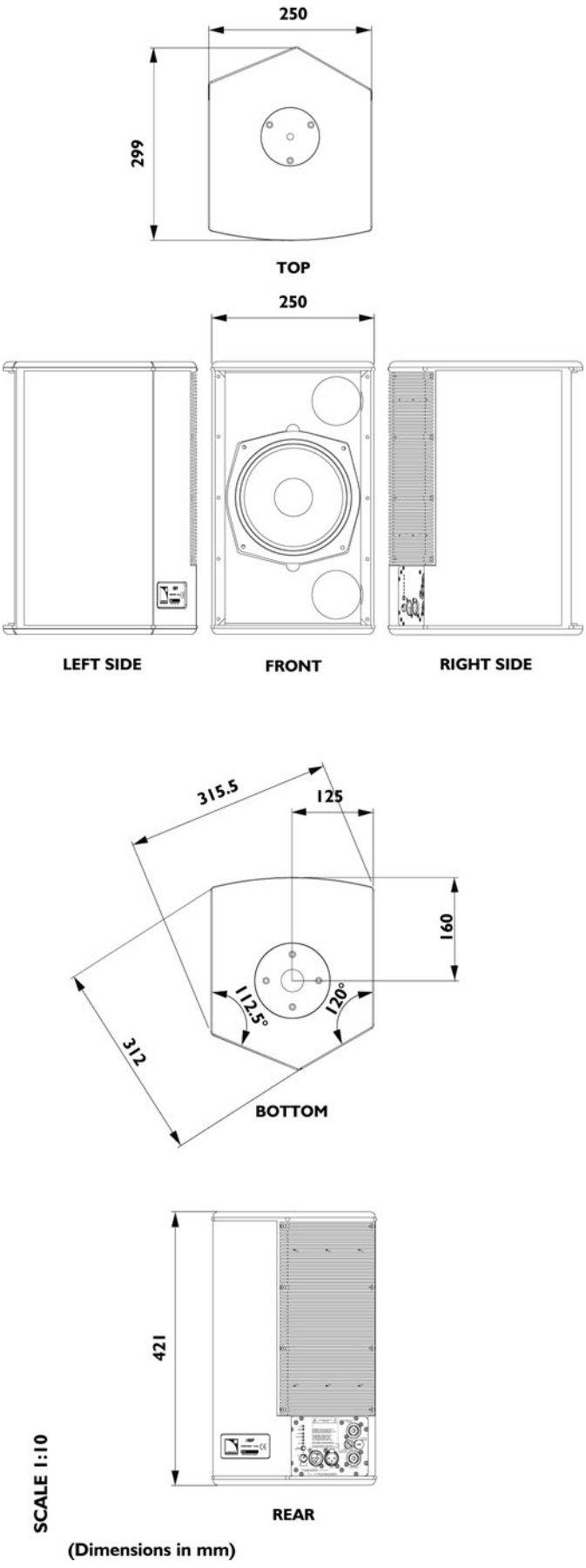


Figure 24: 108P Line Drawing

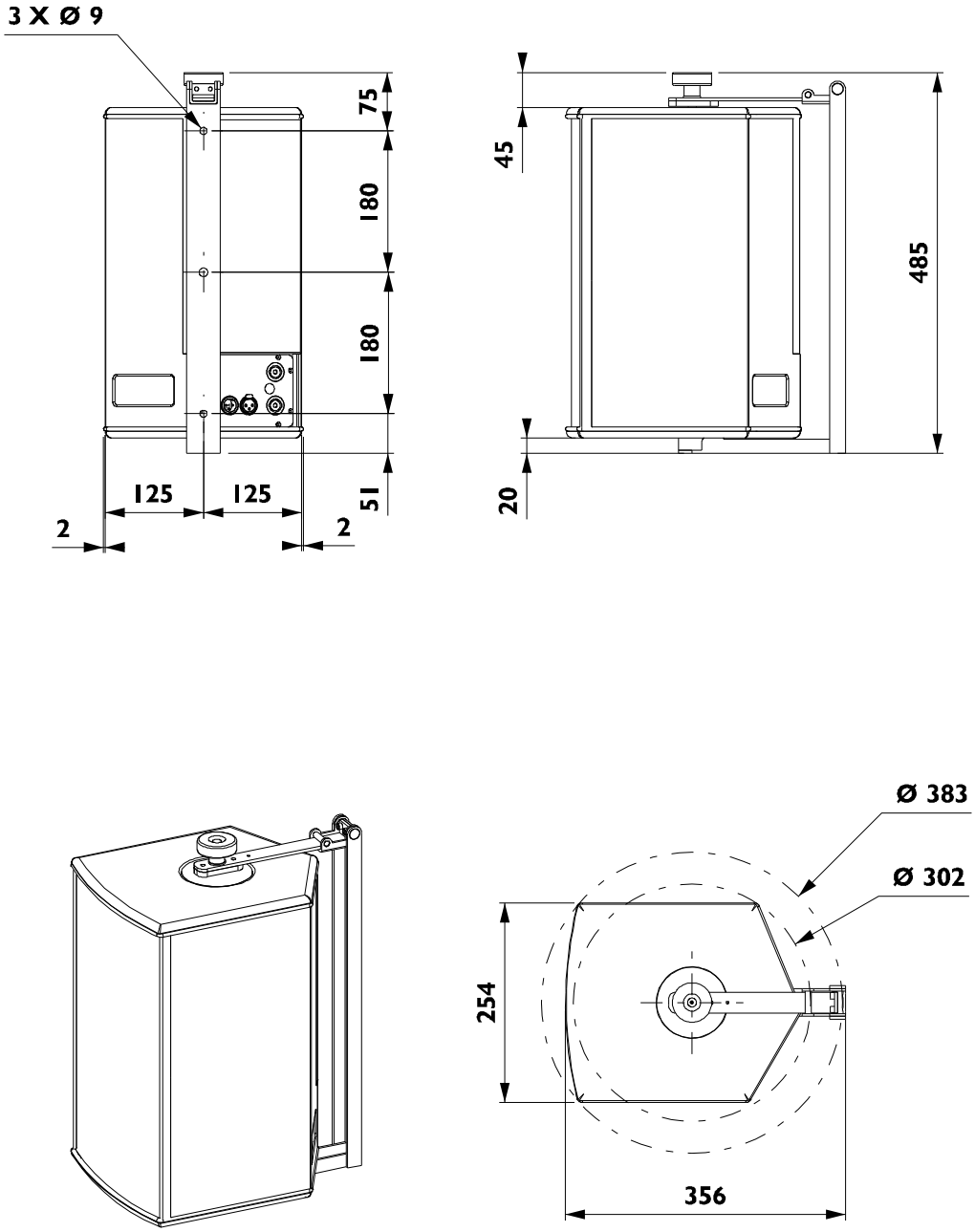


Figure 25: 108P + ETR8-2 Line Drawing

6.2 112P SPECIFICATIONS

ACOUSTICAL PERFORMANCE

Frequency Response

Frequency response:	60 – 18k Hz (± 3 dB)	(FILL preset)
Usable bandwidth:	50 – 20k Hz (-10 dB)	

System Sensitivity

-21 dBu (0.071 Vrms)	96 dB SPL	60 – 18k Hz	(FILL preset)

Nominal Directivity (-6 dB)

Axi-symmetrical	90° (± 20°)

System Output	**SPL**		
One enclosure	121dB (cont)	131 dB (peak)	FILL preset
	119 dB (cont)	129 dB (peak)	XOVER preset

FILL preset provides nominally flat response under freefield conditions
XOVER preset applies a 100 Hz high pass filter and a 3 dB high frequency shelving eq contour

Components

LF 1 x 12" weather resistant loudspeaker (3" voice coil)
HF 1 x 1.4" exit compression driver (titanium diaphragm, 3" voice coil, coaxial assembly)

ELECTRICAL PERFORMANCE

Input

Type	Electronically balanced (pin 2 hot)
Max Input Level	+12 dBu (gain potentiometer at 0 dB position)

DSP

Sampling	24 bit / 48 kHz
Dynamic Range	> 105 dBA

Amplifier

Output Power	1 x 1000 W (8 ohms)
Gain	32 dB

Enclosure

Height	540 mm	21.3 in
Width	416 mm	16.4 in
Depth	390 mm	15.4 in
Floor Monitor Angle	30 degrees with respect to vertical	
Net Weight	32.2 kg	70.9 lbs
Shipping Weight	35.5 kg	78.2 lbs
Shipping Dimensions	615 x 470 x 465 mm	
	24.2 x 18.5 x 18.3 in	
Connectors	2 x XLR, 2 x Power Con (input, loop through)	
Material	18 mm, 30 mm Baltic birch plywood	
Finish	Maroon-gray™	
Grill	Black epoxy perforated steel with acoustically-transparent, technically-advanced grille cloth	
Rigging	Integrated pole mount socket, adjustable U-bracket and liftbar accessories available	

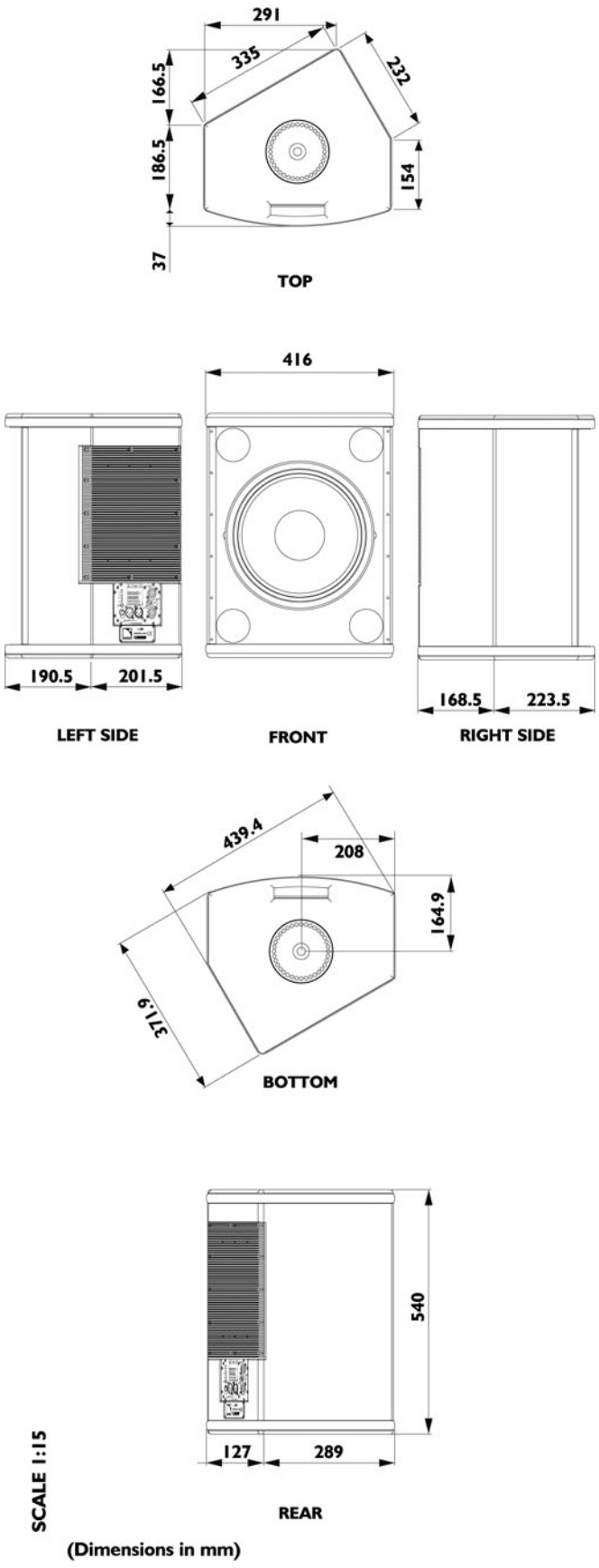


Figure 26: 112P Line Drawing

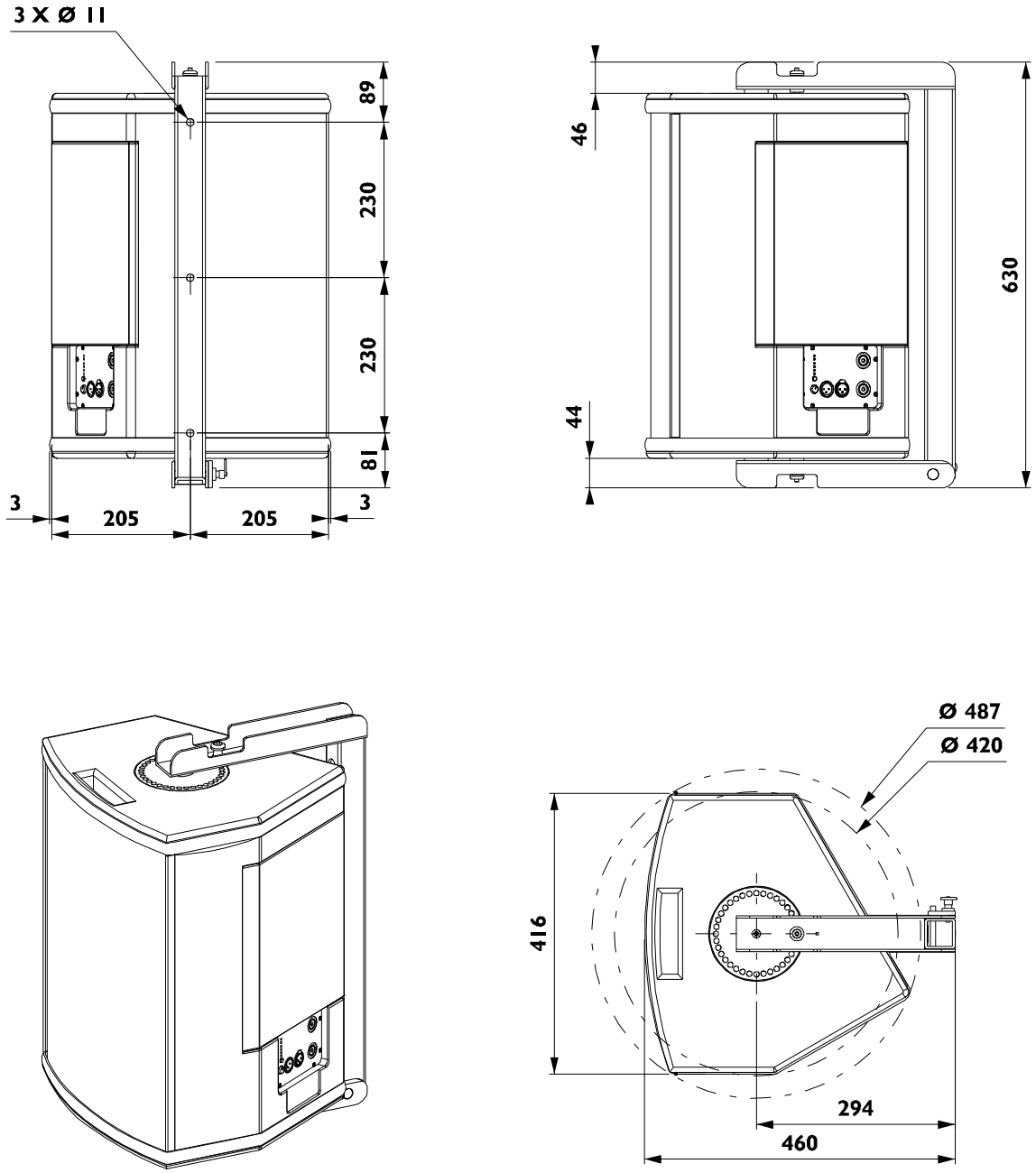


Figure 27: 112P + ETR112XT Line Drawing

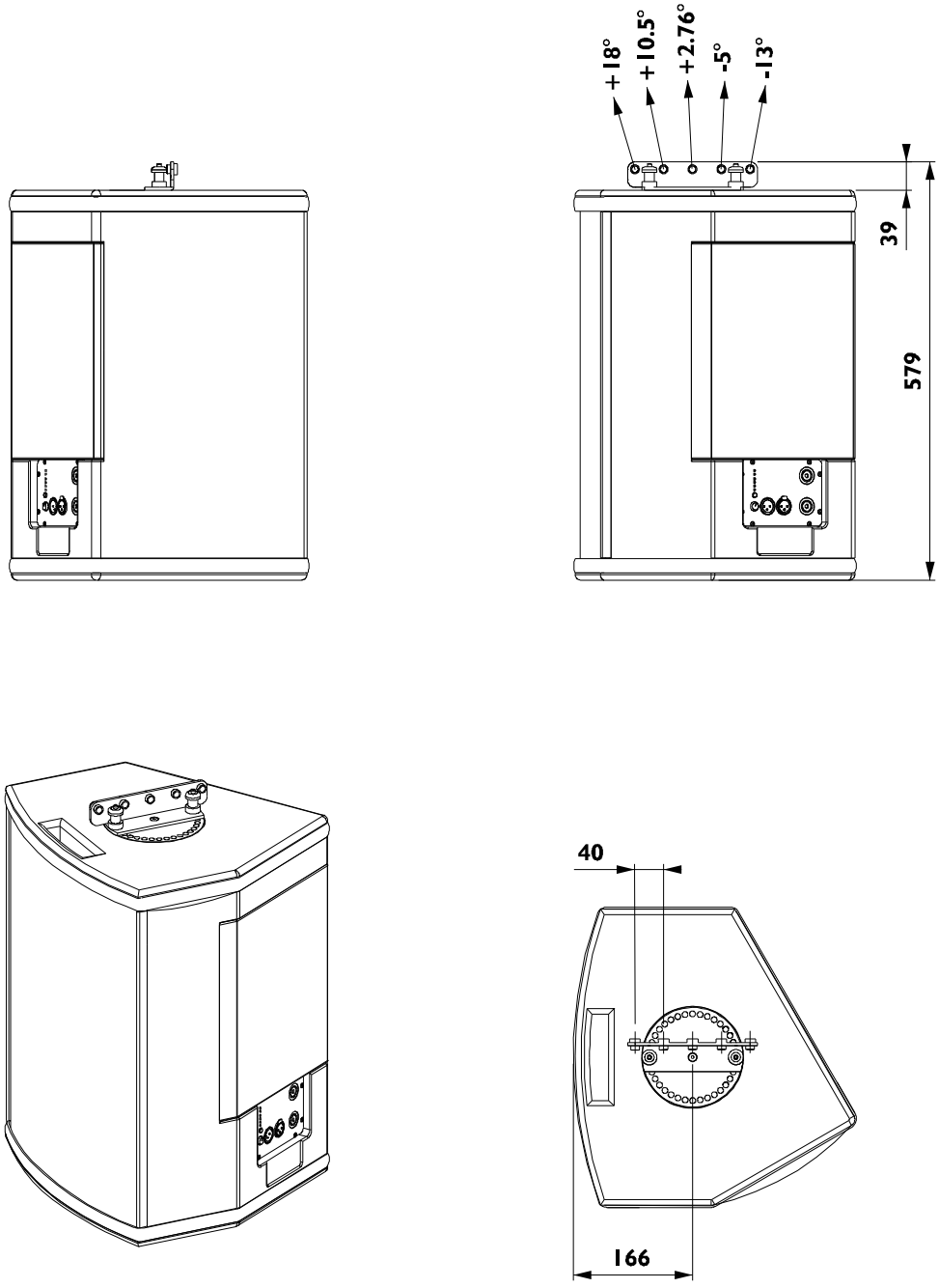


Figure 28: 112P + XTLIFTBAR Line Drawing

6.3 SB15P SPECIFICATIONS

ACOUSTICAL PERFORMANCE

Frequency Response

Operating Bandwidth:	45 – 100 Hz (± 3 dB)
Usable Low Frequency:	40 Hz (-10 dB)

System Sensitivity

-21 dBu (0.071 Vrms)	93 dB SPL	45 – 200 Hz

System Output	**SPL**	
One enclosure	121dB (continuous)	131 dB (peak)
Two enclosures	127 dB (continuous)	137 dB (peak)
Three enclosures	133 dB (continuous)	143 dB (peak)

Components

1 x 15" weather resistant loudspeaker (4" voice coil)

ELECTRICAL PERFORMANCE

Input

Type	Electronically balanced (pin 2 hot)
Max Input Level	+12 dBu (gain potentiometer at 0 dB position)

DSP

Sampling	24 bit / 48 kHz
Dynamic Range	> 105 dBA

Amplifier

Output Power	1 x 1000 W (8 ohms)
Gain	32 dB

Enclosure

Height	445 mm	17.5 in
Width	520 mm	20.5 in
Depth	520 mm	20.5 in
Net Weight	36 kg	79.4 lbs
Shipping Weight	38 kg	83.3 lbs
Shipping Dimensions	650 x 530 x 610 mm 25.6 x 20.9 x 24 in	
Connectors	2 x XLR, 2 x Power Con (input, loop through)	
Material	18 mm, 24 mm Baltic birch plywood	
Finish	Maroon-gray™	
Grill	Black epoxy perforated steel with acoustically-transparent, technically-advanced grille cloth	
Rigging	Integrated pole mount socket, adjustable U-bracket accessory available	
Safety	Insert for attachment of an I-Bolt	

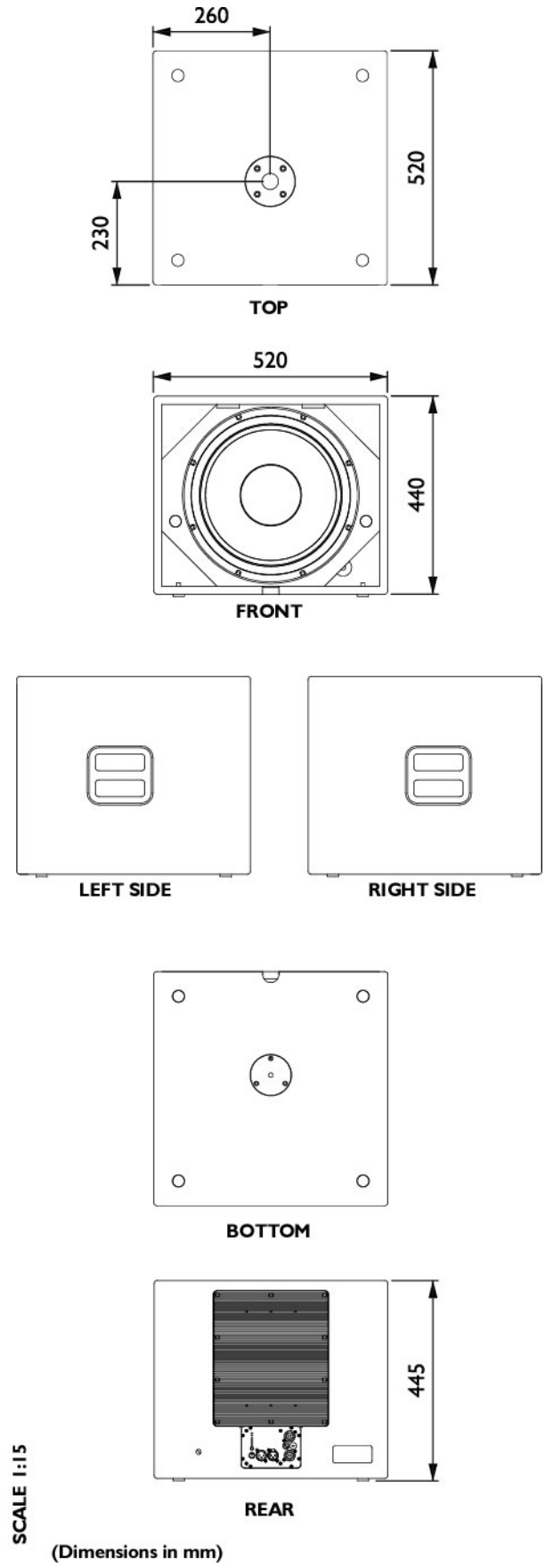


Figure 29: SB15P Line Drawing

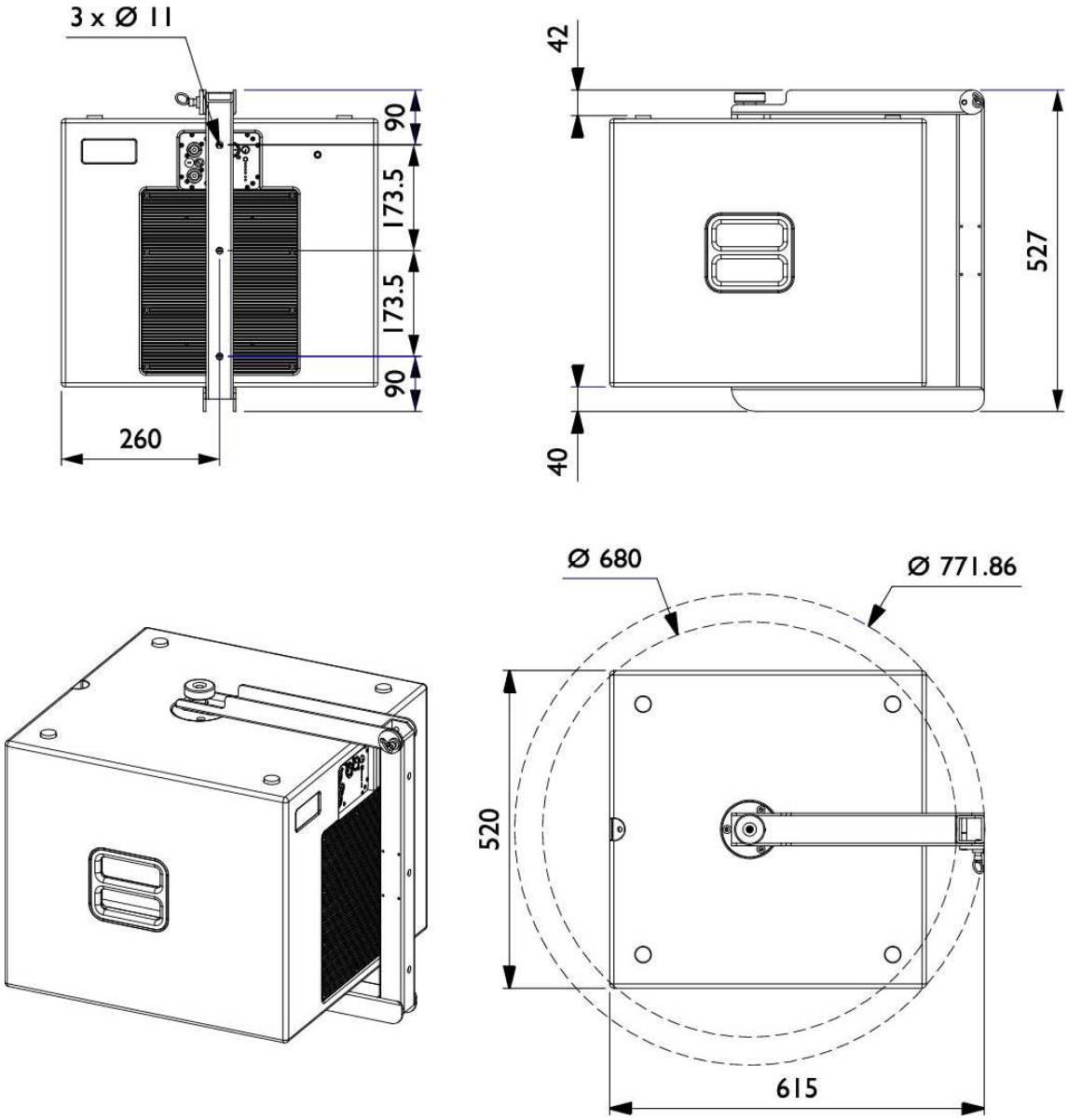


Figure 30: SB15P + ETR15P Line Drawing

WARRANTY AND DISCLAIMERS

This product is warranted to be free from defects in components and factory workmanship under normal use and service for a period of 3 years from the date of original purchase.

During the warranty period, L-ACOUSTICS or its nominated agents will undertake to repair, or at its option, replace this product at no charge to its owner if it fails to perform as specified, provided that the unit is returned undamaged and shipped pre-paid to the factory or an authorised service facility.

No other warranty is expressed or implied.

This warranty shall be null and void if the product is subjected to:

1) Repair work or alteration by persons other than those authorised by L-ACOUSTICS or its agents.

2) Operation with incorrect AC voltage.

3) Shipping accidents, war, civil insurrection, misuse, abuse, operation with faulty associated equipment or abnormal wear and tear. Units on which the serial number has been removed or defaced will not be eligible for warranty service.

4) L-ACOUSTICS will not be responsible for any incidental or consequential damages with respect to the products warranted.

L-ACOUSTICS reserves the right to make changes or improvements in the design or manufacturing without assuming any obligation to change or improve products previously manufactured.

FACTORY SERVICE

In the event that your L-ACOUSTICS product needs factory service, contact the L-ACOUSTICS service department for return instructions and a Return Authorisation number.

Please note when returning products for service:

1. Use the original packing
2. Include a copy of the sales receipt, your name, return address, phone number, fax number and a description of the defect.
3. Mark the Return Authorisation number on the outside of the packing.
4. Ship the product prepaid to:

INTERNATIONAL:
L-ACOUSTICS
Attention : SAV
Parc de la Fontaine de Jouvence
91462 Marcoussis
France

Telephone: **+33 (0)1 69 63 69 63**
Fax: **+33 (0)1 69 63 69 64**
E-mail: **info@l-acoustics.com**

NORTH AMERICA:
L-ACOUSTICS US
Attention : After Sales Service
2201 Celsius Avenue, Unit E
Oxnard, CA
93030 USA

Telephone: **+1 (805) 604 0577**
Fax: **+1 (805) 604 0858**
E-mail: **info@l-acoustics-us.com**

DECLARATION OF EC CONFORMITY

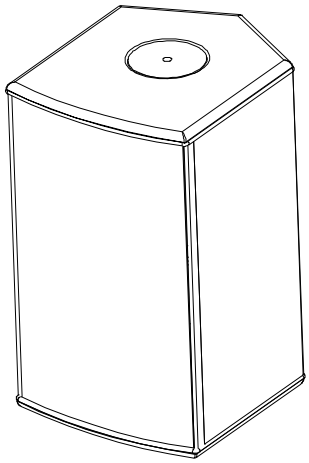
For the product:

Catalog Item: 108P

Description: L-ACOUSTICS® 108P loudspeaker enclosure

Dimensions: 421 mm x 250 mm x 299 mm (H x W x D)

Material: Baltic birch plywood with external steel rigging plates



Optional accessories:

Rigging accessory – ETR8-2

Product Origin

Country of origin of the product: France

Country of origin for components of the product: EEC

Standards conformity

L-ACOUSTICS hereby declares that the 108P loudspeaker conforms to :

1. **The Machinery Directive 98/37/CE**, Part 4 : Lifting Accessories
2. **Low Voltage Directive 73/23/CE** (harmonized standard EN60065).
3. **Electromagnetic Compatibility Directive 89/336/CE** (harmonized standard EN55103-1 E3 and EN55103-2 E3)

Established at Marcoussis, France, on the 4th of May, 2006

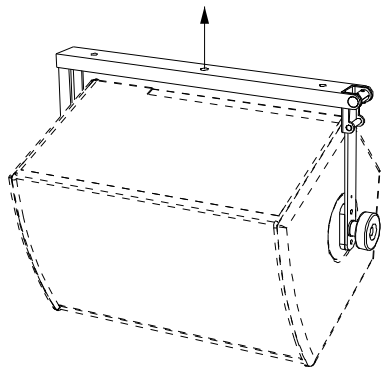
Signature of L-ACOUSTICS representative :

Jacques Spillmann

Chief Engineer - Manufacturing

DECLARATION OF EC CONFORMITY

For the product:



Catalog Item: ETR8-2

Description: L-ACOUSTICS® ETR8-2 rigging accessory

Dimensions: 485 mm x 225 mm x 50 mm (H x W x D)

Material: Steel

Product Origin

Country of origin of the product: France

Country of origin for components of the product: EEC

Technical Specifications:

The ETR8-2 rigging accessory is intended for overhead suspension (horizontal or vertical orientation) of MTD108a or 108P loudspeakers only. The following chart indicates the safety factor when using the ETR8-2 rigging accessory with MTD108a or 108P loudspeakers according to the conditions described in the L-ACOUSTICS MTD LINE OPERATOR MANUAL or the L-ACOUSTICS P SERIES OPERATOR MANUAL :

	ETR8-2
Weight	1.9 Kg / 4.2 lbm
WLL	13 daN / 29.2 lbf
Ultimate Strength Safety Factor	>10

Standards conformity

MTD108a or 108P loudspeaker enclosures are designed to be suspended using the rigging accessory ETR8-2 in the horizontal or vertical orientation. The ETR8-2 can be attached to an appropriate support using 1, 2 or all 3 of the 9 mm diameter holes on the main bracket, refer to the appropriate operator manual for detailed mounting instructions.

L-ACOUSTICS hereby declares that the ETR8-2 conforms to:

4. **The Machinery Directive 98/37/CE**, Part 4: Lifting Accessories

Established at Marcoussis, France, on the 4th of May, 2006

Jacques Spillmann, Chief Engineer - Manufacturing

DECLARATION OF EC CONFORMITY

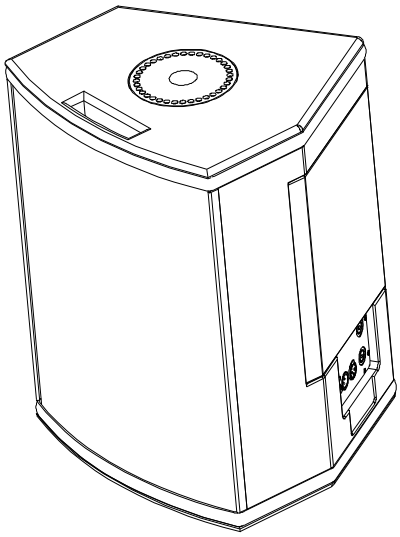
For the product:

Catalog Item: 112P

Description: L-ACOUSTICS® 112P loudspeaker enclosure

Dimensions: 540 mm x 416 mm x 390 mm (H x W x D)

Material: Baltic birch plywood with external steel rigging plates



Optional accessories:

Rigging accessory – ETR112XT

Rigging accessory – XTLIFTBAR

Product Origin

Country of origin of the product: France

Country of origin for components of the product: EEC

Standards conformity

L-ACOUSTICS hereby declares that the 112P loudspeaker conforms to :

5. **The Machinery Directive 98/37/CE**, Part 4 : Lifting Accessories
6. **Low Voltage Directive 73/23/CE** (harmonized standard EN60065).
7. **Electromagnetic Compatibility Directive 89/336/CE** (harmonized standard EN55103-1 E3 and EN55103-2 E3)

Established at Marcoussis, France, on the 4th of May, 2006

Signature of L-ACOUSTICS representative :

Jacques Spillmann

Chief Engineer – Manufacturing

DECLARATION OF CE CONFORMITY

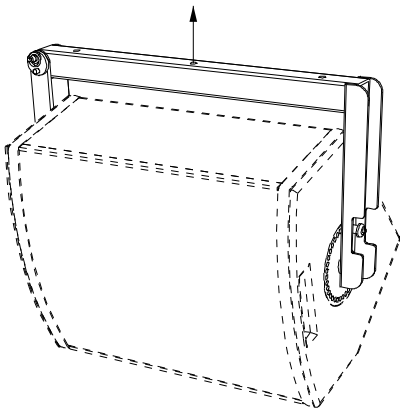
For the product:

Catalog Item: ETR112XT

Description: L-ACOUSTICS® ETR112XT Rigging accessory

Dimensions: 630 mm x 320 mm x 54 mm

Material: Steel



Product Origin

Country of origin of the product: France

Country of origin for components of the product: EEC

Technical Specifications :

The ETR112XT rigging accessory is intended for overhead suspension (horizontal or vertical orientation) of 112XT or 112P loudspeakers. The following chart indicates the safety factor when using the ETR112XT rigging accessory according to the conditions described in the L-ACOUSTICS XT LINE OPERATOR MANUAL

or

L-ACOUSTICS P SERIES OPERATOR MANUAL:

	ETR112XT
Weight	5.25 Kg / 11.6 lbm
WLL	56.5 daN / 127 lbf
Ultimate Strength Safety Factor	>12

Standards conformity

The ETR112XT is designed for the suspension of one 112XT or 112P loudspeaker enclosures only. The ETR112XT can be attached to an appropriate support using 1, 2 or all 3 of the 11 mm diameter holes on the main bracket, refer to the appropriate operator manual for detailed mounting instructions.

L-ACOUSTICS hereby declares that the ETR112XT conforms to :

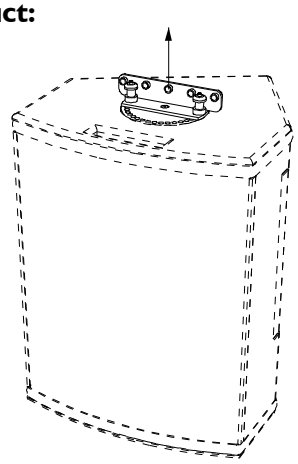
8. **The Machinery Directive 98/37/CE**, Part 4 : Lifting Accessories

Established at Marcoussis, France, on the 4th of May, 2006

Jacques Spillmann, Chief Engineer - Manufacturing

DECLARATION OF EC CONFORMITY

For the product:



Catalog Item: XTLIFTBAR

Description: L-ACOUSTICS® XTLIFTBAR rigging accessory

Dimensions: 180 mm x 79 mm x 46 mm (H x W x D)

Material: Steel

Product Origin

Country of origin of the product: France

Country of origin for components of the product: EEC

Technical Specifications :

The XTLIFTBAR rigging accessory is intended for overhead suspension (vertical orientation) of 112P, 112XT or 115XT loudspeakers. The following chart indicates the safety factor when using the XTLIFTBAR rigging accessory according to the conditions described in the L-ACOUSTICS XT LINE OPERATOR MANUAL or

L-ACOUSTICS P SERIES OPERATOR MANUAL:

	XTLIFTBAR
Weight	0.55 Kg / 1.2 lbm
WLL	33 daN / 73 lbf
Ultimate Strength Safety Factor	>10

Standards conformity

The XTLIFTBAR is designed for the vertical suspension of 1 x 112P, 112XT or 115XT loudspeaker only, refer to the appropriate operator manual for detailed mounting instructions.

L-ACOUSTICS hereby declares that the XTLIFTBAR conforms to :

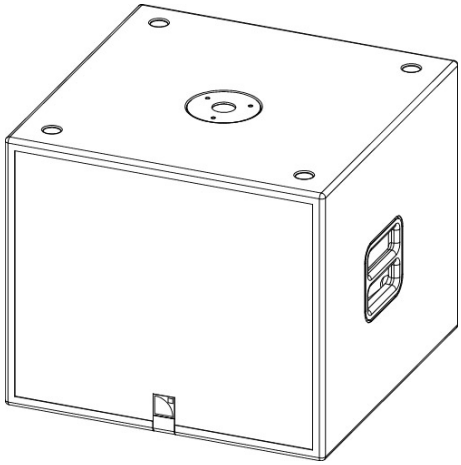
9. **The Machinery Directive 98/37/CE**, Part 4 : Lifting Accessories

Established at Marcoussis, France, on the 4th of May, 2006

Jacques Spillmann, Chief Engineer - Manufacturing

DECLARATION OF EC CONFORMITY

For the product:



Catalog Item: SB15P

Description: L-ACOUSTICS® SB15P loudspeaker enclosure

Dimensions: 445 mm x 520 mm x 520 mm (H x W x D)

Material: Baltic birch plywood with external steel rigging plates

Optional accessories:

Rigging accessory – ETR15P

Product Origin

Country of origin of the product: France

Country of origin for components of the product: EEC

Standards conformity

L-ACOUSTICS hereby declares that the SB15P loudspeaker conforms to :

10. **The Machinery Directive 98/37/CE**, Part 4 : Lifting Accessories
11. **Low Voltage Directive 73/23/CE** (harmonized standard EN60065).
12. **Electromagnetic Compatibility Directive 89/336/CE** (harmonized standard EN55103-1 E3 and EN55103-2 E3)

Established at Marcoussis, France, on the 4th of May, 2006

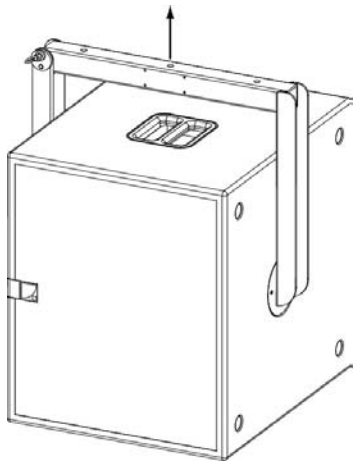
Signature of L-ACOUSTICS representative :

Jacques Spillmann

Chief Engineer – Manufacturing

DECLARATION OF CE CONFORMITY

For the product:



Catalog Item: ETR15P

Description: L-ACOUSTICS® ETR15P
Rigging accessory

Dimensions: 527 mm x 415 mm x 60 mm

Material: Steel

Product Origin

Country of origin of the product: France

Country of origin for components of the product: EEC

Technical Specifications :

The ETR15P rigging accessory is intended for overhead suspension (horizontal or vertical orientation) of the SB15P loudspeaker. The following chart indicates the safety factor when using the ETR15P rigging accessory according to the conditions described in the L-ACOUSTICS P SERIES OPERATOR MANUAL:

	ETR15P
Weight	5.3 Kg / 11.7 lbm
WLL	36 daN / 80.9 lbf
Ultimate Strength Safety Factor	>12

Standards conformity

The ETR15P is designed for the suspension of one SB15P loudspeaker enclosure only. The ETR15P can be attached to an appropriate support using 1, 2 or all 3 of the 11 mm diameter holes on the main bracket, refer to the P Series Operator manual for detailed mounting instructions.

L-ACOUSTICS hereby declares that the ETR15P conforms to :

13. **The Machinery Directive 98/37/CE**, Part 4 : Lifting Accessories

Established at Marcoussis, France, on the 4th of May, 2006

Jacques Spillmann, Chief Engineer - Manufacturing

APPROVALS

CE This equipment conforms to the requirements of Low Voltage Directive 73/23/EEC and the EMC directive 89/336/EEC.

This equipment also conforms to the following standards:

EMC Emission	EN55103-1, E3
EMC Immunity	EN55103-2, E3
EMC	47 CFR FCC Part 15 of 2005
EMC	CISPR 13 of 2003
Electrical Safety	EN60065, Class I

C US For 115V use only

CAN/CSA 60065-03 - Audio, Video and Similar Electronic Apparatus - Safety Requirements.

UL Std No. 60065-03 - Audio, Video and Similar Electronic Apparatus - Safety Requirements.

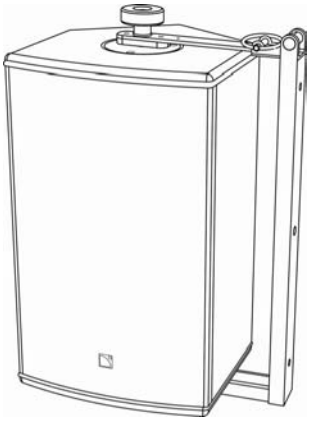
XT COAXIAL RANGE/ GAMME COAXIALE

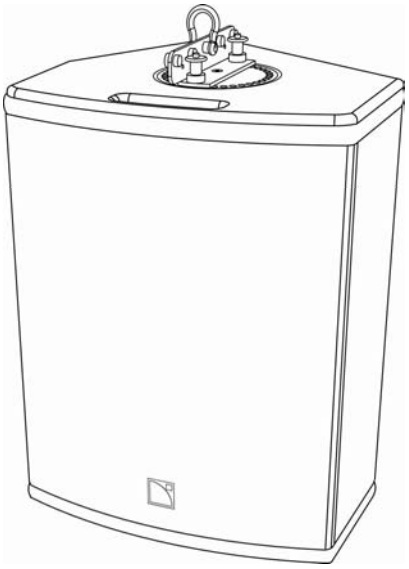
P SELF-POWERED COAXIAL RANGE/ GAMME COAXIALE AMPLIFIEE

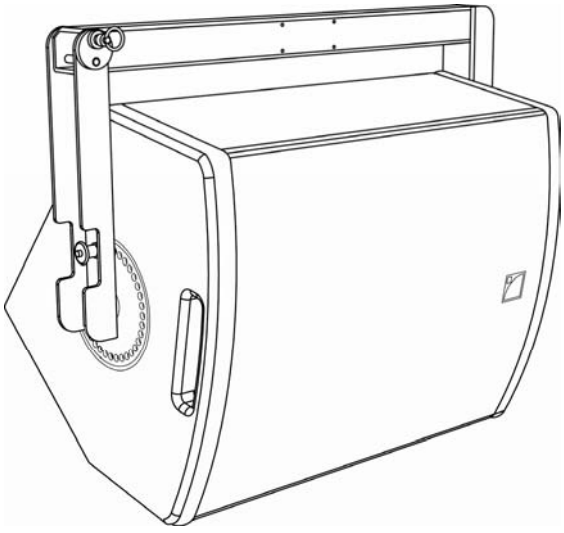
VERSION 1.1

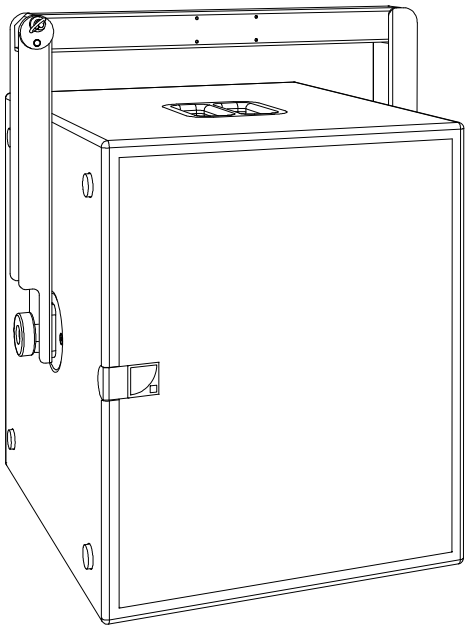
USER MANUAL **EN**

MANUEL D'UTILISATION **FR**









1 SAFETY WARNINGS

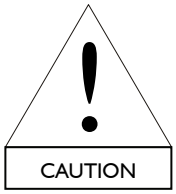
All information hereafter detailed applies for one of the **L-ACOUSTICS® ETR8-2, ETR12, ETR15, or ETR15P** mounting accessories or for the **L-ACOUSTICS® XTLIFTBAR** rigging accessory, hereafter designated as **"the product"**.

EN

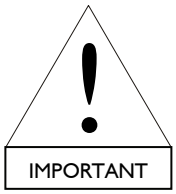
1.1 Symbol description

Throughout this manual the potential risks are indicated by the following symbols:

The WARNING symbol indicates a potential risk of physical harm to the user or people within close proximity to the product.
In addition, the product may also be damaged.



The CAUTION symbol notifies the user about information to prevent possible product damage.



The IMPORTANT symbol is a notification of an important recommendation of use.

1.2 Important safety instructions

1. **Read this manual**
2. **Heed all safety warnings**
3. **Follow all instructions**
4. **The user should never incorporate equipment or accessories not approved by L-ACOUSTICS®**

5. **System parts and rigging inspection**

All system components must be inspected before use, in order to detect any possible defects. Please refer to the "Care and Maintenance" section of this manual as well as any other manuals pertaining to the system for a detailed description of the inspection procedure.
Any part showing any sign of defect must be immediately put aside and withdrawn for use to be inspected by qualified service personnel.

6. **Additional rigging equipment**

L-ACOUSTICS® is not responsible for any rigging equipment and accessories that are not manufactured by L-ACOUSTICS®.
It is the user's responsibility to ensure that the Working Load Limit (WLL) of all additional hardware rigging accessories is greater than the total weight of the loudspeaker assembly in use.

7. Suspension points

It is the user's responsibility to ensure that the Working Load Limit (WLL) of the suspension points and/or chain hoists is greater than the total weight of the loudspeaker assembly in use.

8. System load capacity and setup safety limits

Load capacity and setup safety limits when flying or stacking a loudspeaker assembly should be strictly followed according to the instructions outlined in this manual.
Always refer to the mechanical data and warning indications provided in SOUNDVISION to verify that safe system setup safety limits apply.

9. Local regulations

Some countries require higher Ultimate Strength Safety Factors and specific rigging approvals. It is the user responsibility to ensure that any overhead suspension of L-ACOUSTICS® systems has been made in accordance with all applicable local regulations.
As a general rule, L-ACOUSTICS® recommends the use of safety steel at all times.

10. Flying a loudspeaker

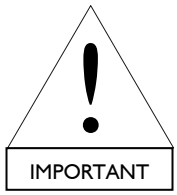
Always ensure that nobody is standing underneath the loudspeaker assembly when it is being raised. As the system is being raised check each individual component to make sure that it is securely fastened to the component above. Never leave the system unattended during the installation process.

11. Ground stacking a loudspeaker

Do not ground stack the system on uneven ground or platform.
If the system is ground stacked on a structure, platform, or stage always check that it can support the total weight of the system.
If necessary, secure the system to a stable platform or structure.

12. Dynamic load

When a loudspeaker assembly is deployed in an open air environment wind effect should be taken into account.
Wind can produce dynamic stress to the rigging components and suspension points. If the wind force exceeds 6 bft. (beaufort scale) it is highly recommended to lower down and/or secure the loudspeaker assembly.



13. Manual

Keep this manual in a safe place during the product lifetime.
This manual forms an integral part of the product.
Reselling of the product is only possible if the user manual is available.
Any changes made to the product have to be documented in writing and passed on to the buyer in the event of resale.

1.3 EC declaration of conformity

L-ACOUSTICS®
13 rue Levacher Cintrat
Parc de la Fontaine de Jouvence
91462 Marcoussis Cedex
France

EN

State that the following products:
Mounting accessory, ETR8-2
Mounting accessory, ETR12
Mounting accessory, ETR15
Mounting accessory, ETR15P
Rigging accessory, XTLIFTBAR

Are in conformity with the provisions of:
Machinery Directive 98/37/EC

Applied rules and standards:
EN ISO 12100-1: 2004

Established at Marcoussis, France
January 8th, 2007

Jacques Spillmann

2 CONTENTS

3 INTRODUCTION

3.1 Welcome to L-ACOUSTICS®

Thank you for purchasing a system of the **L-ACOUSTICS® XT Coaxial Range** or **L-ACOUSTICS® P Self-Powered Coaxial Range**.

This manual contains essential information on the **XT and P ranges** rigging procedures. Read this manual carefully in order to make familiar with these procedures.

As part of a continuous evolution of techniques and standards, L-ACOUSTICS® reserves the right to change the specifications of the product and the content of this manual without prior notice. Please check the L-ACOUSTICS® web site @ www.l-acoustics.com on a regular basis for latest update.

If the product requires repair or if information about the warranty is needed, please contact an approved L-ACOUSTICS® distributor. To obtain the address of the nearest distributor go to the L-ACOUSTICS® web site.

3.2 Unpacking

Carefully open the shipping carton and check the product for any noticeable damage.
Each L-ACOUSTICS® product is tested and inspected before leaving the factory and should arrive in perfect condition.

If found to be damaged, notify the shipping company or the distributor immediately.
Only the consignee may initiate a claim with the carrier for damage incurred during shipping.
Be sure to save the carton and packing materials for the carrier's inspection.

4 XT AND P COAXIAL RANGES

4.1 XT Coaxial Range

The **L-ACOUSTICS® ETR8-2, ETR12, and ETR15** mounting accessories are the dedicated U-brackets for wall or ceiling-mounting the **8XT, 12XT, and 115XT HiQ** enclosures, respectively.
The **L-ACOUSTICS® XTLIFTBAR** rigging accessory is dedicated for flying the **12XT and 115XT HiQ** enclosures.

The system approach developed by L-ACOUSTICS® for the XT range consists of the elements needed to fully take advantage of the possible configurations and optimize the system. The main components of the system are:

8XT	⇨	Passive compact coaxial enclosure
12XT	⇨	Active/passive multipurpose coaxial enclosure
115XT HiQ	⇨	Active coaxial stage monitor
ETR8-2	⇨	Mounting accessory for the 8XT enclosure
ETR12	⇨	Mounting accessory for the 12XT enclosure
ETR15	⇨	Mounting accessory for the 115XT HiQ enclosure
XTLIFTBAR	⇨	Rigging accessory for the 12XT and 115XT HiQ enclosures
SB118	⇨	Subwoofer enclosure
LA4	⇨	Medium power amplified controller
LA RAK	⇨	Amp rack containing three **LA8** high power amplified controllers
LA NETWORK MANAGER	⇨	Software for remote controlling the amplified controllers
SOUNDVISION	⇨	Acoustical and mechanical modeling software

Figure 1: XT range components (part 1)

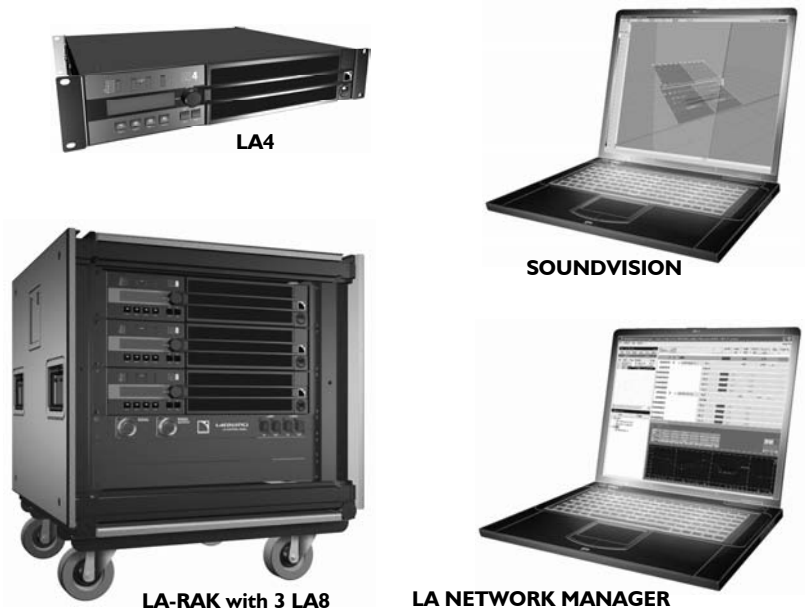


Figure 2: XT range components (part 2)

4.2 P Self-Powered Coaxial Range

The **L-ACOUSTICS® ETR8-2, ETR12, and ETR15P** mounting accessories are the dedicated U-brackets for wall or ceiling –mounting the **108P, 112P, and SB15P** enclosures, respectively.
The **L-ACOUSTICS® XTLIFTBAR** rigging accessory is dedicated for flying the **112P** enclosure.

The system solution developed by L-ACOUSTICS for the P range consists of the elements needed to fully take advantage of the possible configurations and optimize the system. The main components of the system are:

108P	⇨	Self-powered coaxial enclosure
112P	⇨	Self-powered coaxial enclosure
SB15P	⇨	Self-powered compact subwoofer
ETR8-2	⇨	Mounting accessory for the 108P enclosure
ETR12	⇨	Mounting accessory for the 112P enclosure
ETR15P	⇨	Mounting accessory for the SB15P enclosure
XTLIFTBAR	⇨	Rigging accessory for the 112P enclosure
SOUNDVISION	⇨	Acoustical and mechanical modeling software

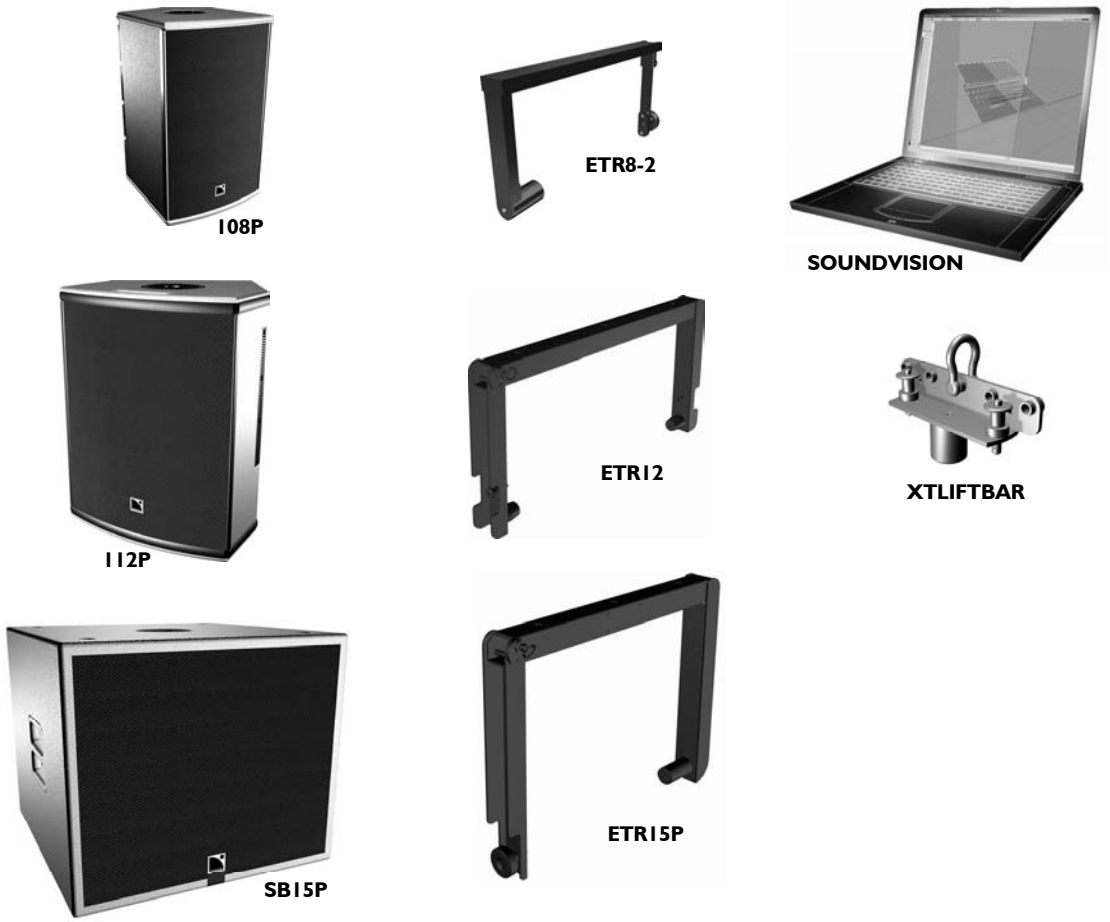


Figure 3: P range components

5 ETR8-2, ETR12, ETR15, ETR15P, AND XTLIFTBAR ACCESSORIES

5.1 ETR8-2 mounting accessory

EN

The **L-ACOUSTICS® ETR8-2** U-bracket (Figure 4) is adapted for attaching an **L-ACOUSTICS® 8XT** or **108P** enclosure. It can be either fastened to a wall or suspended from a structure or ceiling (typically for under-balcony applications).

It is possible to secure the ETR8-2 to a structure using two 8 mm/0.31 in. screws and one 10 mm/0.39 in. screw (not provided).

It is the sole responsibility of the user to verify that the ETR8-2 is correctly secured to the structure.

L-ACOUSTICS recommends securing to a concrete ceiling using expansion anchors designed to support at least 5 times the total load of the system (the weight of the product is indicated on the identification label of each product).

The ETR8-2 can support **one** 8XT or 108P at the maximum.

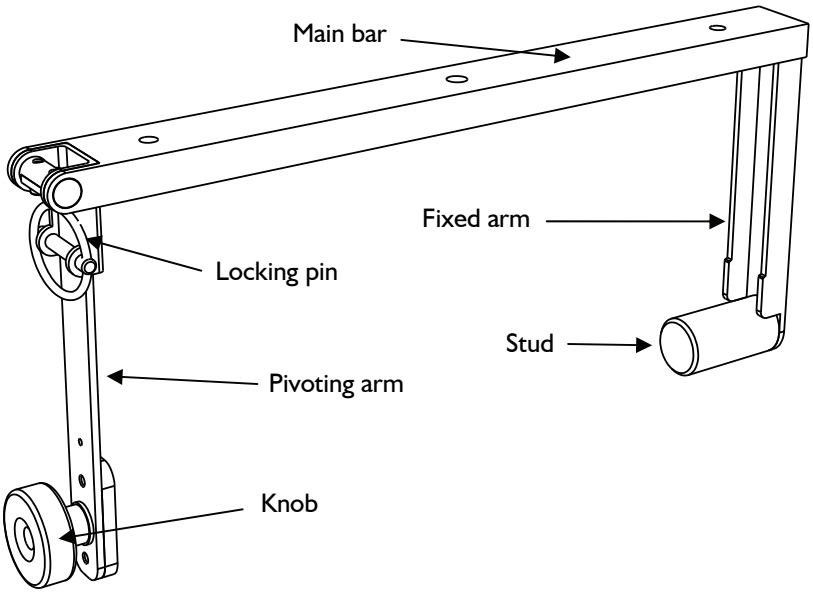


Figure 4: ETR8-2 mounting accessory

5.2 ETR12 and ETR15 mounting accessories

The **L-ACOUSTICS® ETR12** (resp. **ETR15**) U-bracket (Figure 5) is adapted for attaching an **L-ACOUSTICS® 12XT** or **112P** (resp. **115XT HiQ**) enclosure. It can be either fastened to a wall or suspended from a structure or ceiling (typically for under-balcony applications).

It is possible to secure the ETR12 (resp. ETR15) to a structure using three 10 mm/0.39 in. screws (not provided).

It is the sole responsibility of the user to verify that the ETR12 (resp. ETR15) is correctly secured to the structure.

L-ACOUSTICS recommends securing to a concrete ceiling using expansion anchors designed to support at least 5 times the total load of the system (the weight of the product is indicated on the identification label of each product).

The ETR12 (resp. ETR15) can support **one** 12XT or 112P (resp. 115XT HiQ) at the maximum.

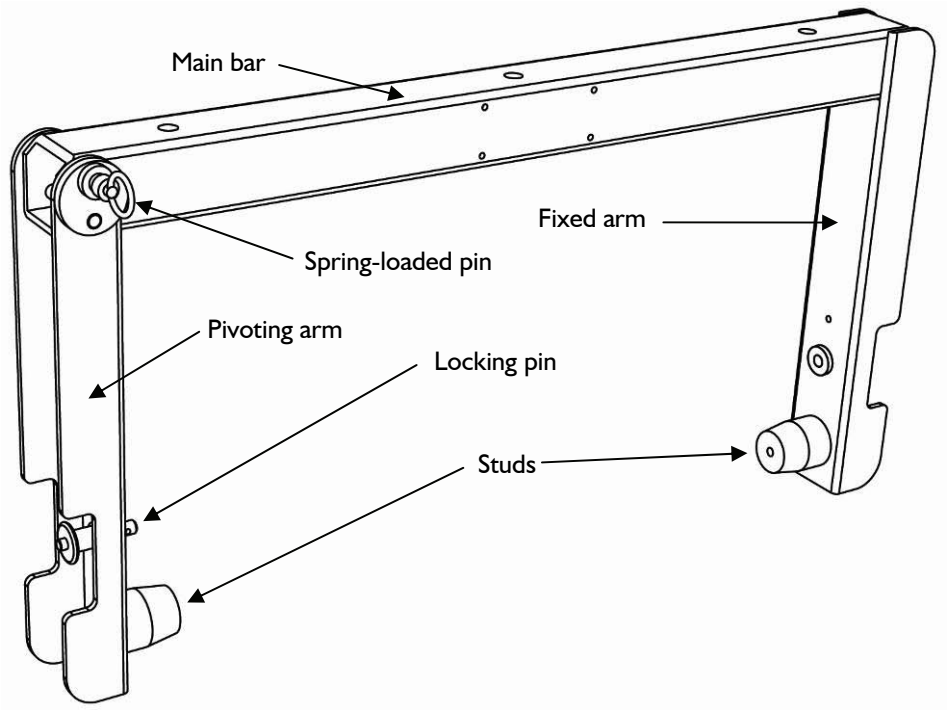


Figure 5: The ETR12 mounting accessory

Note: The ETR12 and ETR15 share the same design, the ETR15 being of a larger size than the ETR12.

5.3 ETR15P mounting accessory

The **L-ACOUSTICS® ETR15P** U-bracket (Figure 6) is adapted for attaching an **L-ACOUSTICS® SB15P** enclosure. It can be either fastened to a wall or suspended from a structure or ceiling (typically for under-balcony applications).

It is possible to secure the ETR15P to a structure using three 10 mm/0.39 in. screws (not provided).

It is the sole responsibility of the user to verify that the ETR15P is correctly secured to the structure.

L-ACOUSTICS recommends securing to a concrete ceiling using expansion anchors designed to support at least 5 times the total load of the system (the weight of the product is indicated on the identification label of each product).

The ETR15P can support **one** SB15P at the maximum.

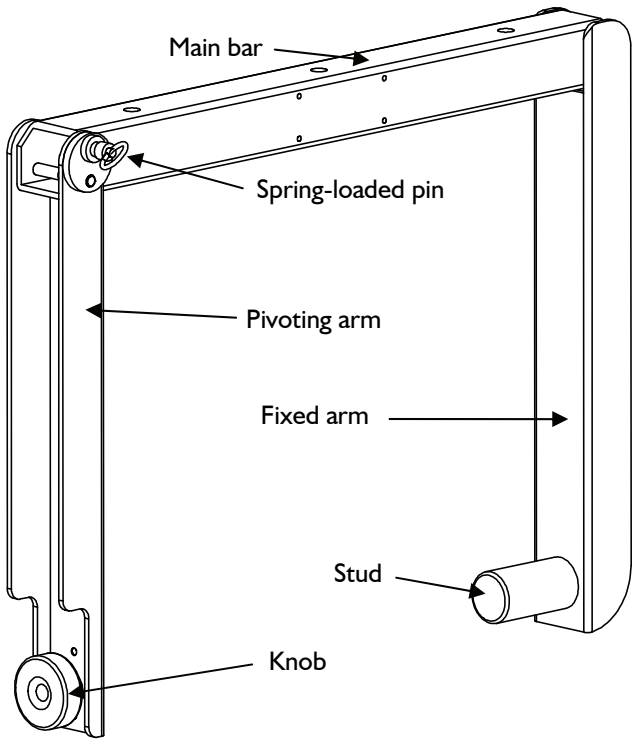


Figure 6: The ETR15P mounting accessory

5.4 XTLIFTBAR rigging accessory

The **L-ACOUSTICS® XTLIFTBAR** (Figure 7) is to be used for flying the **L-ACOUSTICS® 112XT, 112P, or 115XT HiQ** enclosures.

It is provided with one shackle that can support up to 250 kg/551 lb. with an Ultimate Strength Safety Factor of 5:1. This shackle allows for flying the 12XT, 112P, or 115XT HiQ enclosures using one rigging point.

The XTLIFTBAR can support **one** 12XT, 112P, or 115XT HiQ at the maximum.

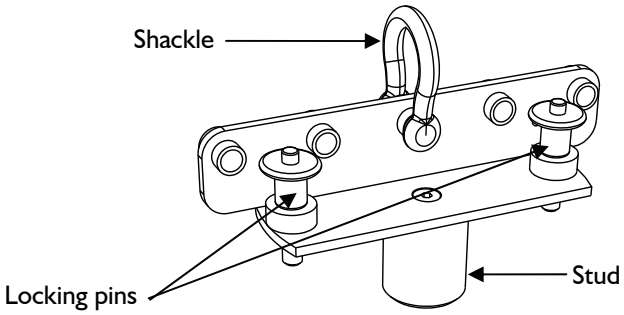


Figure 7: The XTLIFTBAR rigging accessory

6 INSTALLATION

6.1 Rigging the 8XT or 108P enclosure with the ETR8-2

6.1.1 Assembling

EN

The ETR8-2 U-bracket is secured to the 8XT or 108P enclosure in the following way:

1. Remove the recessed set screw located on the top face of the enclosure.

Note: Put the screw in a safe place.

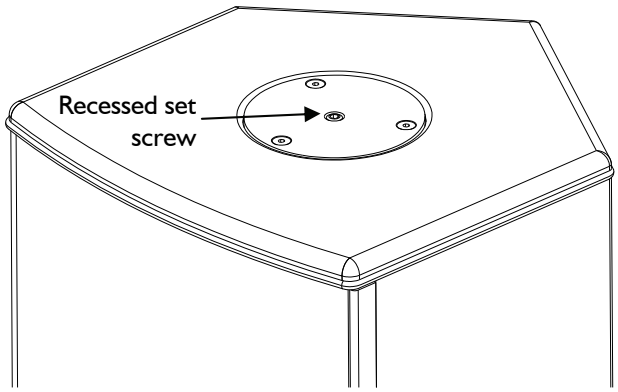


Figure 8: Recessed set screw

2. Remove the locking pin from the U-bracket and open the pivoting arm.

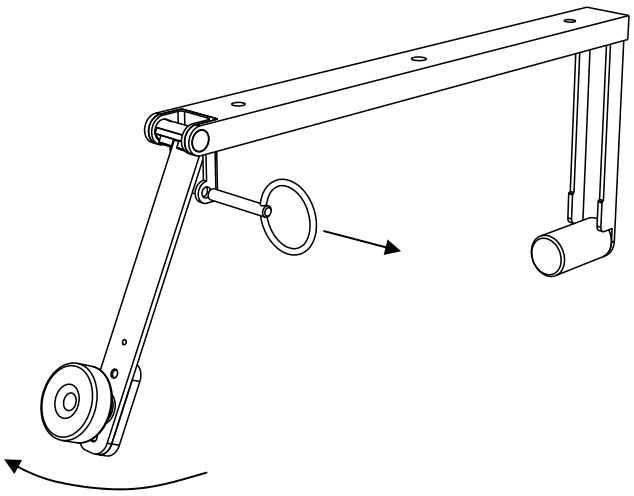


Figure 9: Opening the pivoting arm

3. **a.** Insert the enclosure's bottom pole socket into the U-bracket's stud.
b. Rotate the pivoting arm into position.
c. Select the desired enclosure's orientation and firmly screw the knob.
d. Secure the locking pin on the pivoting arm.

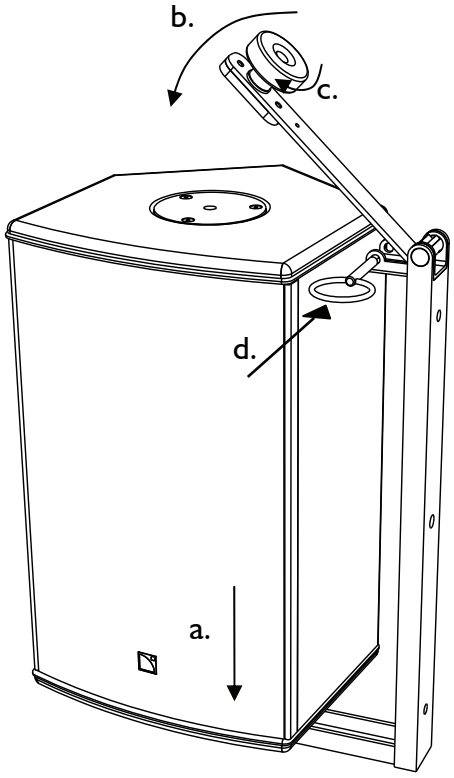


Figure 10: Securing the ETR8-2 to the enclosure

Verify that the enclosure is correctly secured by checking that it cannot rotate freely.

Verify that the pivoting arm is secured by checking that the locking pin is correctly engaged and cannot move freely.

When installing the enclosure in the vertical orientation, always position the ETR8-2 U-bracket with the fixed arm underneath the enclosure.

L-ACOUSTICS recommends using an additional safety point when rigging enclosures.

A safety eye-bolt accessory can be added using the M8* insert located on the rear face of the 8XT enclosure (see Figure 19).

* The "M8" notation refers to the European standard (see applicable external documentation).

6.1.2 Disassembling

Disassembling should be carried out in the reverse order of assembly.

6.2 Rigging the 12XT or 112P (resp.115XT HiQ) enclosure with the ETR12 (resp. ETR15)

6.2.1 Assembling

The ETR12 (resp. ETR15) U-bracket is secured to the 12XT or 112P (resp. 115XT HiQ) enclosure in the following way:

1. **a.** Remove the locking pin located on the U-bracket's pivoting arm.
   b. Pull on the spring-loaded pin and open the pivoting arm.

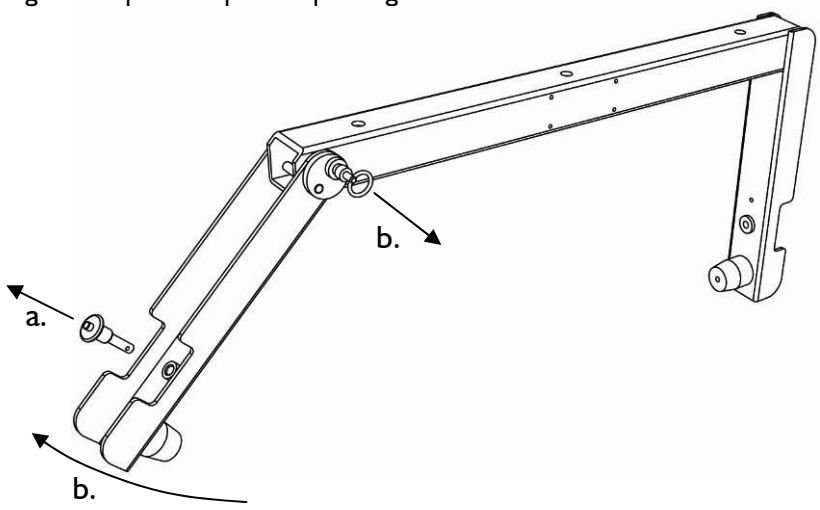


Figure 11: Opening the pivoting arm

2. **a.** Insert one enclosure's pole socket into the stud located on the U-bracket's fixed arm.
   b. Rotate the pivoting arm into position: the spring-loaded pin will re-engage automatically into its initial position.

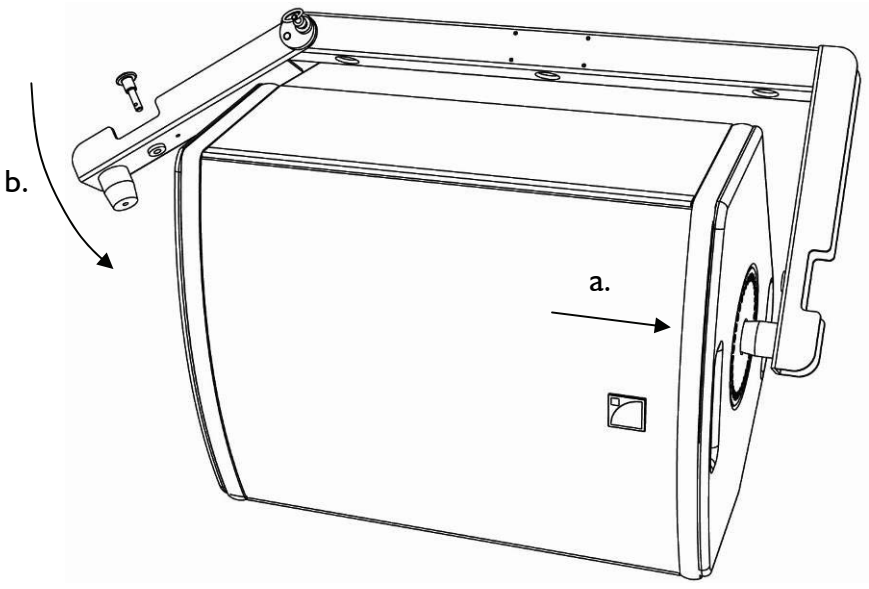


Figure 12: Securing the ETR12 to the enclosure

Verify that the pivoting arm is secured by checking that the spring-loaded pin is engaged and that the pivoting arm cannot move freely.

When installing the enclosure in the vertical orientation, always position the U-bracket with the fixed arm underneath the enclosure.

3. Select the desired enclosure's orientation (10° steps angle selection) and secure the locking pin to the enclosure through the U-bracket's pivoting arm.

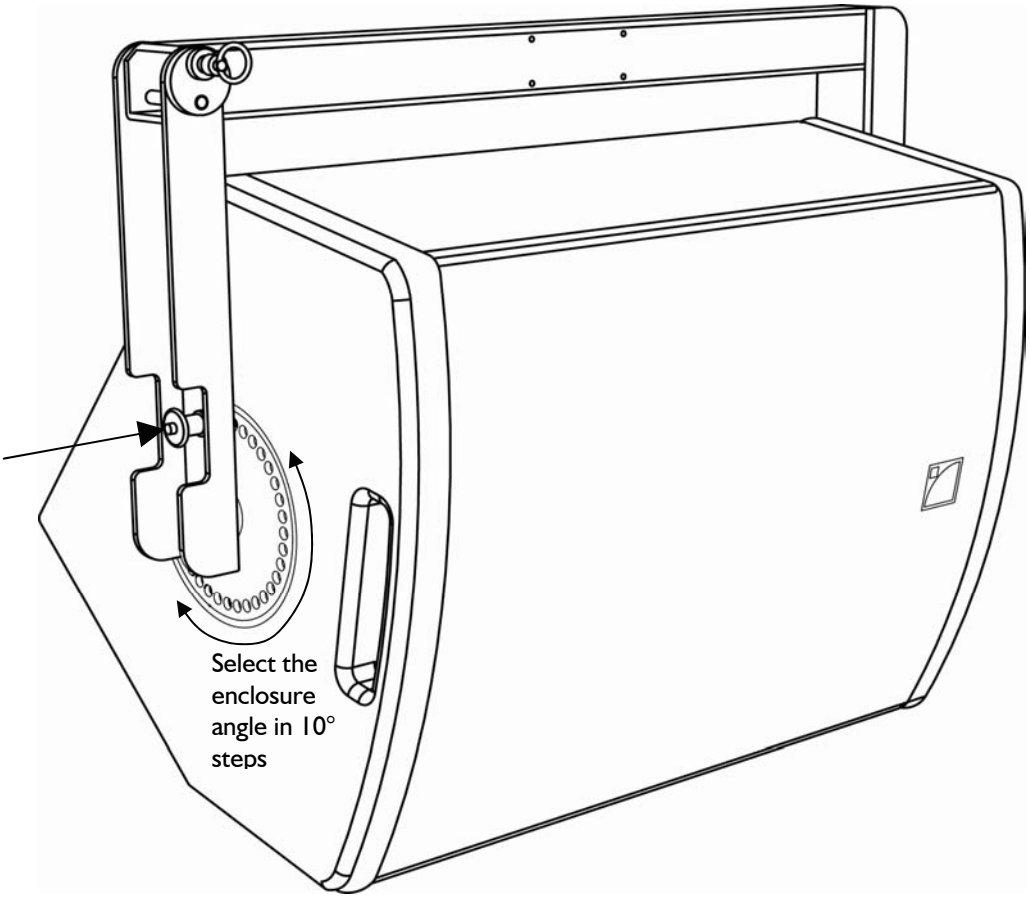


Figure 13: Selecting and securing the enclosure's orientation

The locking pin must be located on the **pivoting arm** (and **not** on the fixed arm) to secure the U-bracket to the enclosure.

Verify that the enclosure is secured to the U-bracket by checking that the locking pin is engaged and cannot move freely.

L-ACOUSTICS recommends using an additional safety point when rigging enclosures.

A safety eye-bolt accessory can be added using the M8* insert located on the rear face of the 12XT enclosure (see Figure 19).

* The "M8" notation refers to the European standard (see applicable external documentation).

6.2.2 Disassembling

Disassembling should be carried out in the reverse order of assembly.

6.3 Rigging the SB15P enclosure with the ETR15P

6.3.1 Assembling

The ETR15P is secured to the SB15P enclosure in the following way:

EN

1. Remove the recessed set screw located on the bottom face of the enclosure.

Note: Put the screw in a safe place.

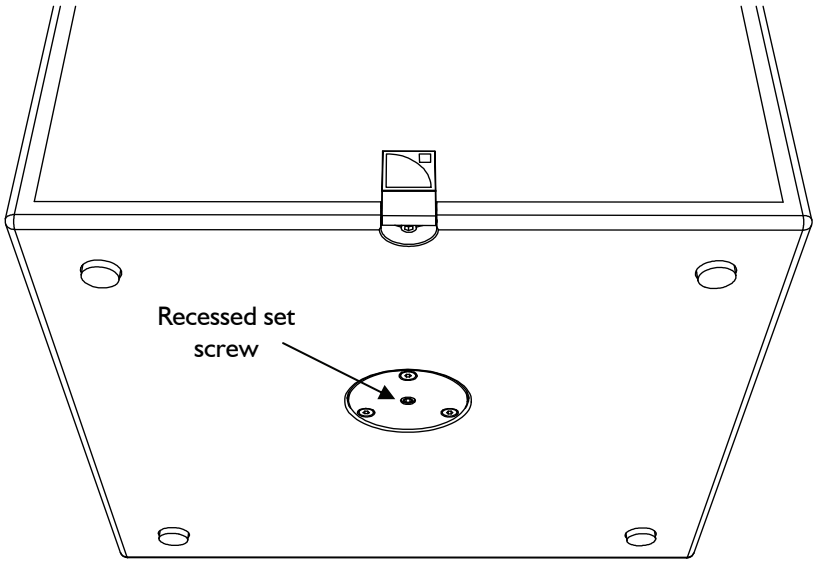


Figure 14: Recessed set screw

2. Pull on the U-bracket's locking pin and open the pivoting arm.

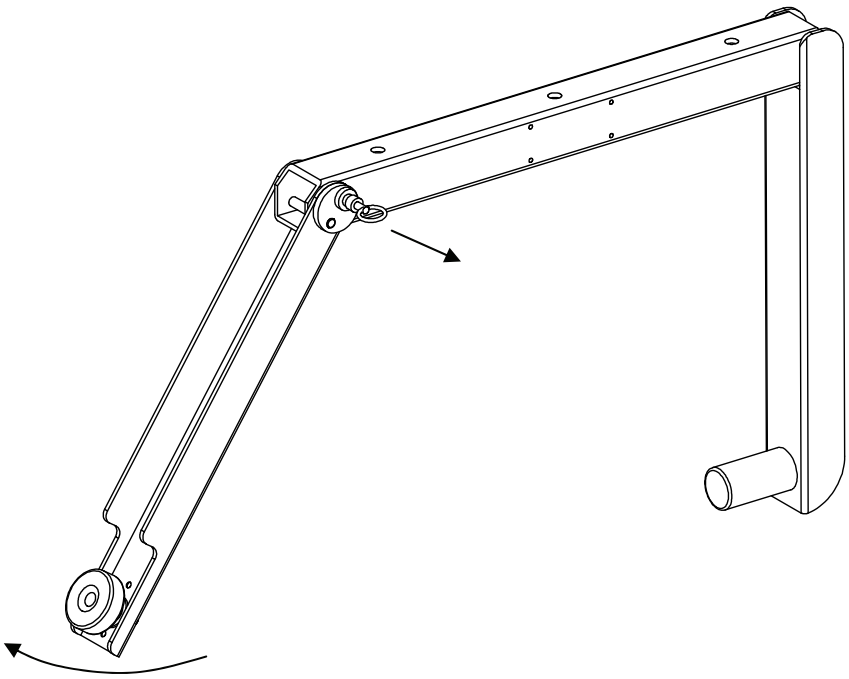


Figure 15: Opening the pivoting arm

3. **a.** Insert the enclosure's top face pole socket into the U-bracket's stud.
b. Rotate the pivoting arm into position: the spring-loaded pin will re-engage automatically into its initial position.
c. Select the desired enclosure's orientation and firmly screw the knob.

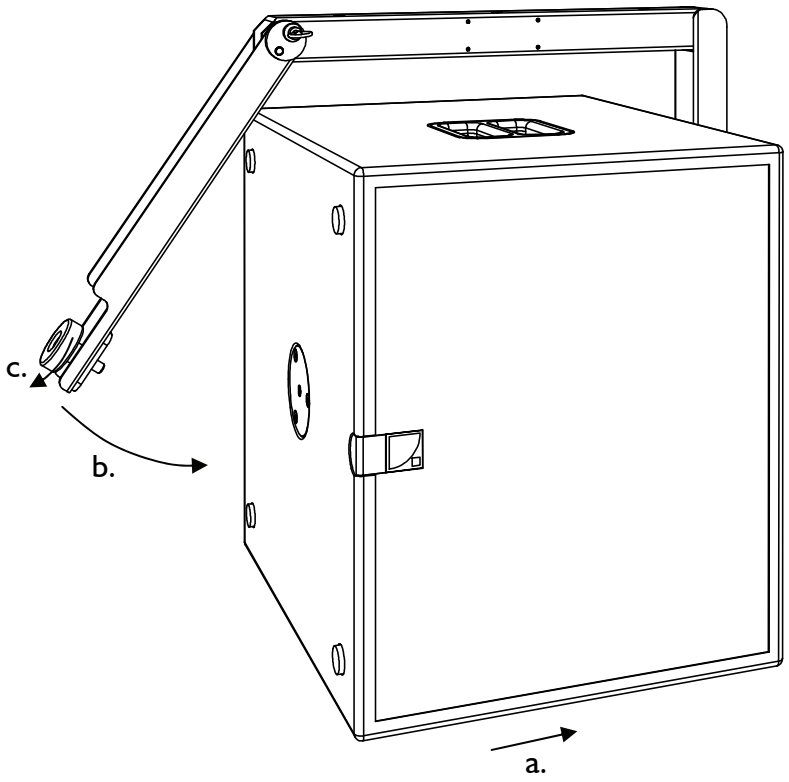


Figure 16: Securing the ETR15P to the SB15P enclosure

Verify that the pivoting arm is secured by checking that the spring-loaded pin is engaged and that the pivoting arm cannot move freely.

Verify that the enclosure is secured to the U-bracket by checking that it cannot rotate freely.

When installing the SB15P enclosure in the vertical orientation,
always position the ETR15P U-bracket with the fixed arm underneath the enclosure.

L-ACOUSTICS recommends using an additional safety point when rigging enclosures.

A safety eye-bolt accessory can be added using the M8* insert located on the rear face of the SB15P enclosure (see Figure 19).

* The "M8" notation refers to the European standard (see applicable external documentation).

6.3.2 Disassembling

Disassembling should be carried out in the reverse order of assembly.

6.4 Flying the 12XT, 112P, or 115XT HiQ enclosure with the XTLIFTBAR

6.4.1 Assembling

1. Remove both locking pins.

2. **a.** Insert the XTLIFTBAR stud into the enclosure's top pole socket.
b. Select the desired angle: in 10° steps for azimuth angle setting (directivity in the horizontal plane), or at the 0° position (parallel to the sides of the enclosure) for site angle setting (directivity in the vertical plane).
c. Engage both locking pins to secure the XTLIFTBAR to the enclosure.

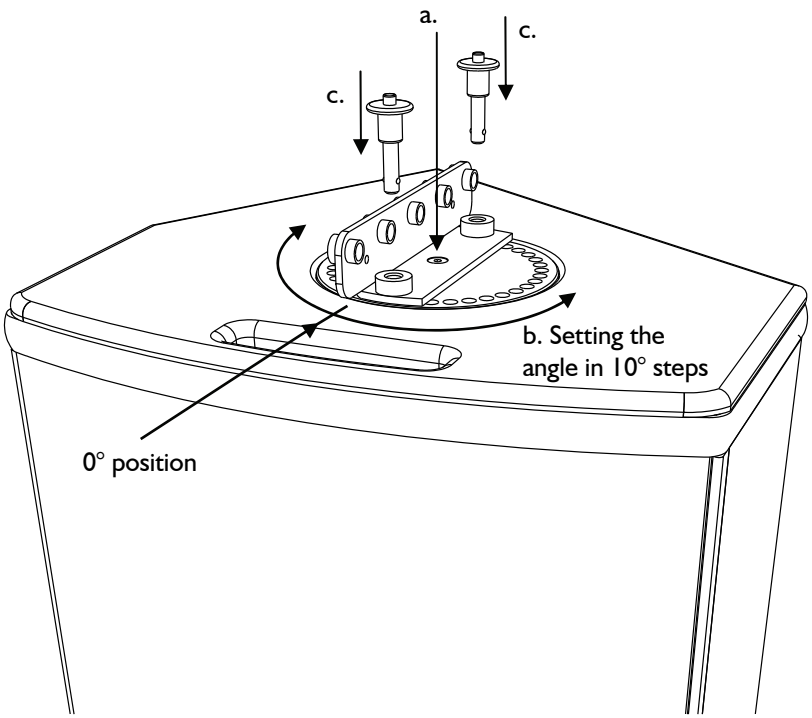
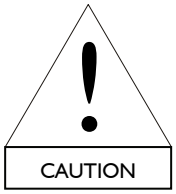


Figure 17: XTLIFTBAR secured to the enclosure for setting site angle

Verify that the enclosure is correctly secured to the XTLIFTBAR by checking that both locking pins are engaged and cannot move freely.



For site angle setting, ensure that the XTLIFTBAR is parallel to the enclosure's sides in order to properly balance the center of gravity.

3. Position the shackle in the predetermined hole: hole position #3 for azimuth angle setting, or hole positions #1 to 5 corresponding respectively to site angles of +14°, +7°, 0°, -7°, -14°.

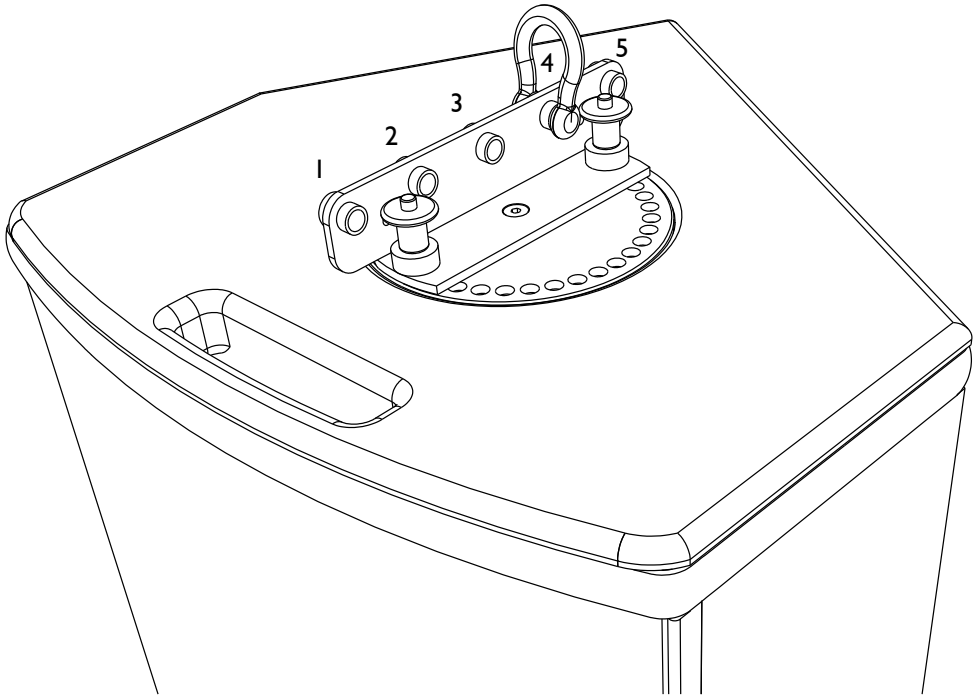


Figure 18: XTLIFTBAR with shackle in hole position #4 (-7° site angle)

4. Fly the enclosure by rigging to the shackle.

L-ACOUSTICS recommends using an additional safety point when rigging enclosures.

A safety eye-bolt accessory can be added using the M8* insert located on the rear face of the 12XT enclosure (see Figure 19).

* The "M8" notation refers to the European standard (see applicable external documentation).

6.4.2 Disassembling

Disassembling should be carried out in the reverse order of assembly.

6.5 Rigging the 8XT or 12XT enclosure with the OMNIMOUNT® accessories

Four predrilled inserts located on the rear face of the 8XT and 12XT enclosures allow for mounting the OMNIMOUNT® rigging accessories.

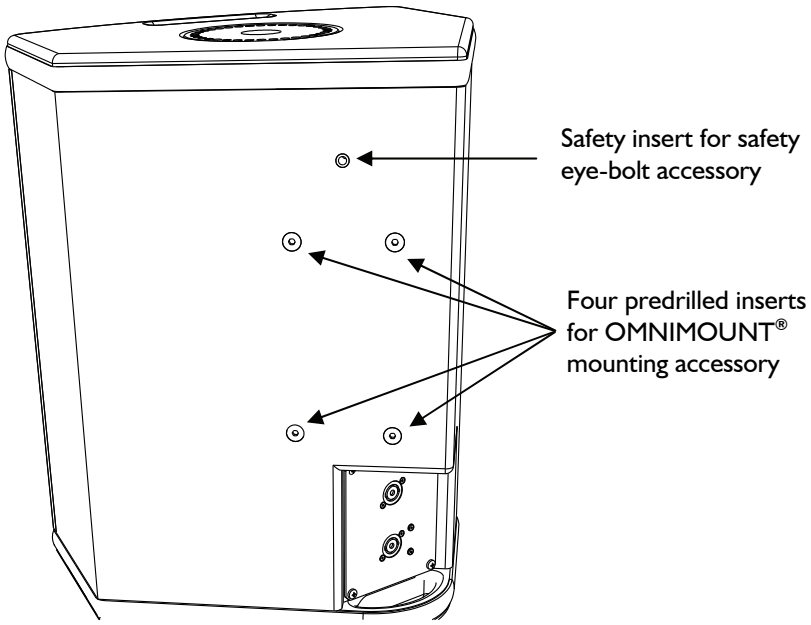


Figure 19: Inserts on the 12XT enclosure

Remove the four screws (they will be employed for fixing the rigging accessory) from the four predrilled inserts and follow the mounting instructions (provided by the OMNIMOUNT® manufacturer) regarding the:

- **OMNIMOUNT® 30.0 SERIES** mounting accessories for the 8XT enclosure,
- **OMNIMOUNT® 120.0 SERIES** mounting accessories for the 12XT enclosure.

L-ACOUSTICS recommends using an additional safety point when rigging enclosures.

A safety eye-bolt accessory can be added using the M8* insert located on the rear face of the enclosure (see Figure 19).

* The “M8” notation refers to the European standard (see applicable external documentation).

7 CARE AND MAINTENANCE

The components for assembling the XT and P range enclosures are as follows:

- Mounting accessories ETR8-2, ETR12, ETR15, and ETR15P
- Rigging accessory XTLIFTBAR

If components are used in the manner as described in this manual, they will remain fully operational over the life of the enclosure. In order to guaranty their durability it is necessary to regularly check the following points:

The ETR8-2, ETR12, ETR15, ETR15P, and XTLIFTBAR accessories
as well as the shackles and pins should not show any deformation, indentation, or rust.

The sockets on the enclosures should not show any signs of deformation, indentation, or rust.

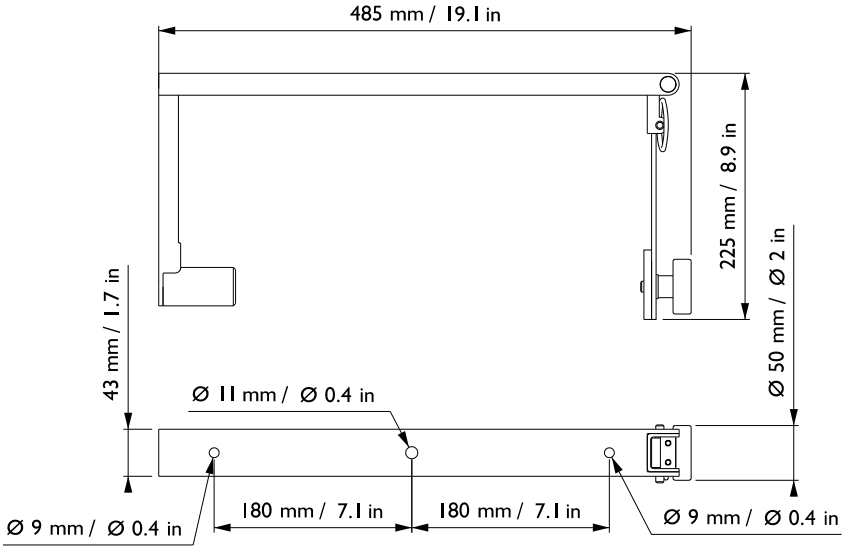
They must be securely fixed to the enclosure.

Any enclosure incorporating a part showing signs of defect must be immediately put aside
and withdrawn for use to be inspected by qualified service personnel.

Ensure that each pin on the ETR8-2, ETR12, ETR15, ETR15P, and XTLIFTBAR mounting accessories operate correctly by moving its mechanism and checking that nothing prevents its movement.

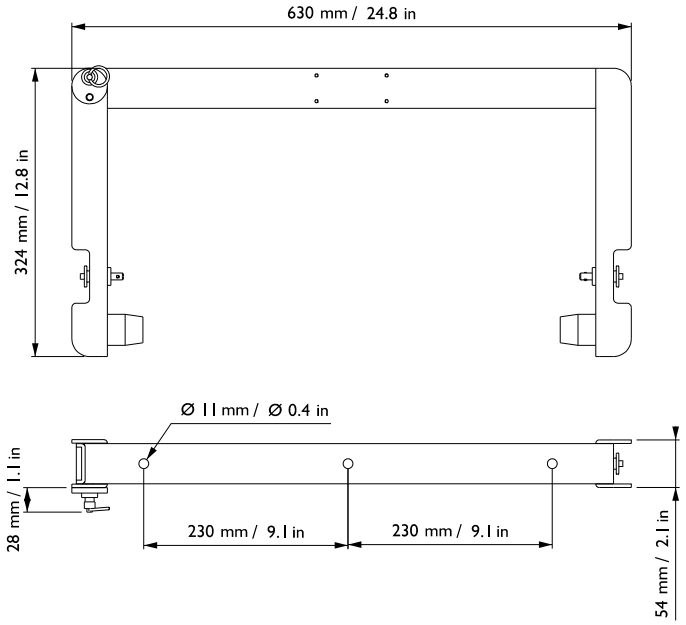
8 SPECIFICATIONS

Reference	ETR8-2
Dimensions (W x H x D)	485 x 225 x 50 mm ⇨ 19.1 x 8.9 x 2 in.



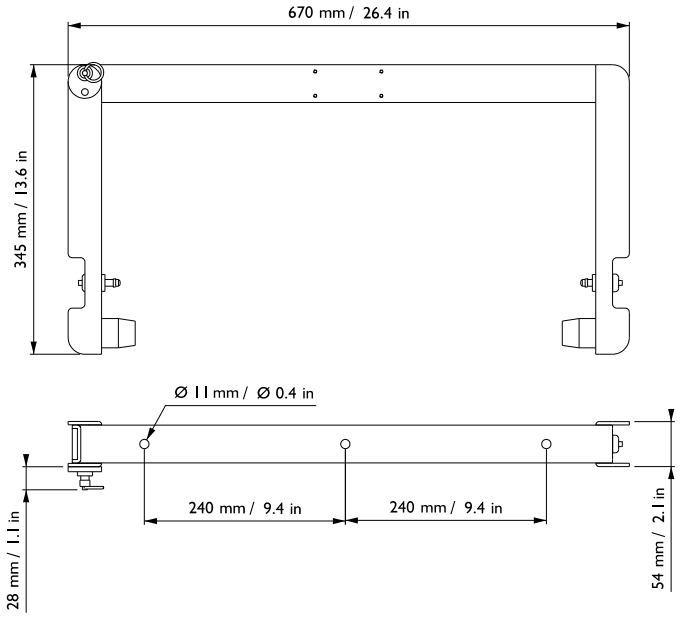
Weight	1.9 kg / 4.2 lb.
Setup safety limit	Maximum of one 8XT or 108P enclosure per ETR8-2
Material	black epoxy-coated steel

Reference	ETR12
Dimensions (W x H x D)	630 x 324 x 54 mm ⇨ 24.8 x 12.8 x 2.1 in.



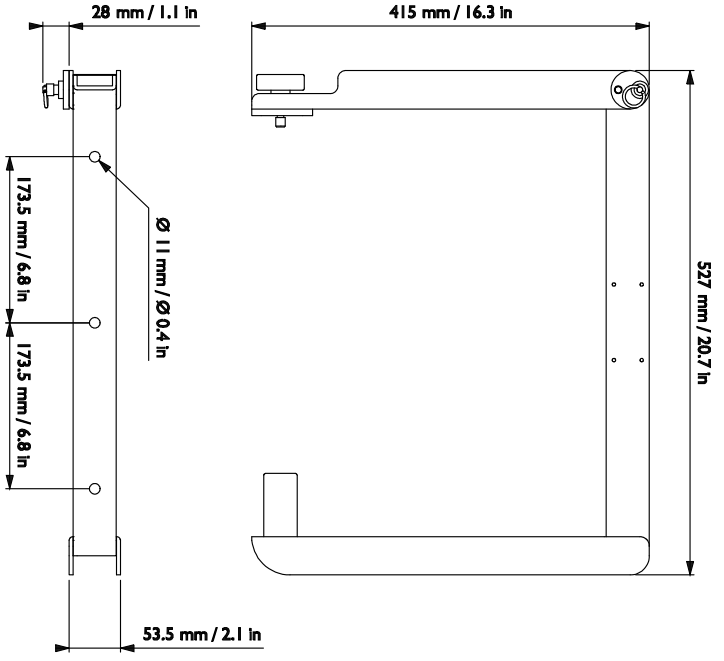
Weight	5.25 kg / 11.6 lb.
Setup safety limit	Maximum of one 12XT or 112P enclosure per ETR12
Material	black epoxy-coated steel

Reference	ETR15
Dimensions (W x H x D)	670 x 345 x 54 mm ⇨ 26.4 x 13.6 x 2.1 in.



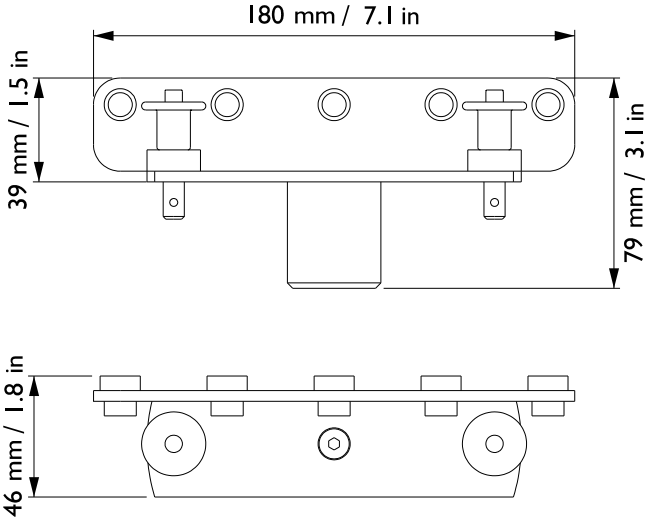
Weight	5.5 kg / 12.1 lb.
Setup safety limit	Maximum of one 115XT HiQ enclosure per ETR15
Material	black epoxy-coated steel

Reference	ETR15P
Dimensions (W x H x D)	527 x 415 x 53.5 mm ⇨ 20.7 x 16.3 x 2.1 in.



Weight	5.3 kg / 11.8 lb.
Setup safety limit	Maximum of one SB15P enclosure per ETR15P
Material	black epoxy-coated steel

Reference	XTLIFTBAR
Dimensions (W x H x D)	180 x 79 x 46 mm ⇨ 7.1 x 3.1 x 1.8 in.



Weight	0.55 kg / 1.2 lb.
Setup safety limit	Maximum of one 12XT, 112P, or 115XT HiQ enclosure per XTLIFTBAR
Material	black epoxy-coated steel

1 DÉCLARATIONS DE SÉCURITÉ

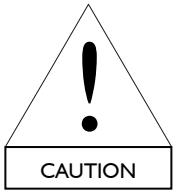
Les informations détaillées ci-dessous s'appliquent à l'un des accessoires d'accrochage **L-ACOUSTICS® ETR8-2, ETR12, ETR15, ou ETR15P** ou à l'accessoire de levage **L-ACOUSTICS® XTLIFTBAR**, dénommé par la suite **"le produit"**.

1.1 Symboles utilisés

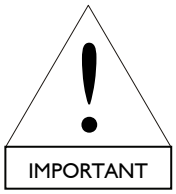
Tout au long de ce manuel les risques potentiels sont signalés par les symboles suivants :

Le symbole WARNING signale un risque d'atteinte à l'intégrité physique de l'utilisateur et de toute autre personne présente.

Le produit peut de plus être endommagé.



Le symbole CAUTION signale un risque de dégradation du produit.



Le symbole IMPORTANT signale une recommandation d'utilisation importante.

1.2 Consignes de sécurité importantes

1. **Lire le présent manuel**
2. **Suivre les consignes de sécurité**
3. **Suivre les instructions**
4. **N'utiliser en aucun cas des équipements ou accessoires non approuvés par L-ACOUSTICS®**

5. Vérification du matériel
Tous les éléments du système doivent être inspectés avant utilisation afin de détecter d'éventuels défauts.
Prière de se référer à la section "Entretien et maintenance" de ce manuel et des manuels des autres éléments du système pour description des procédures d'inspection.
Tout élément présentant un défaut doit immédiatement être marqué et placé hors du circuit d'utilisation pour inspection par un service de maintenance agréé.

6. Équipements d'accrochage complémentaires
L-ACOUSTICS® ne peut être tenu responsable de l'utilisation d'équipements et d'accessoires de levage fournis par d'autres fabricants.
Il est de la responsabilité de l'utilisateur de s'assurer que la Charge Maximale d'Utilisation (CMU) de tout équipement de levage complémentaire soit supérieure au poids total du système suspendu.

7. Points de suspension

Il est de la responsabilité de l'utilisateur de s'assurer que la Charge Maximale d'Utilisation (CMU) des points de suspension soit supérieure au poids total du système suspendu.

8. Limites mécaniques du système

Lors du posage ou du levage du système il est de la responsabilité de l'utilisateur de respecter les limites mécaniques décrites dans ce manuel.
Avant montage, vérifier la conformité mécanique de toute configuration à l'aide d'une modélisation dans le logiciel SOUNDVISION (section "Mechanical Data").

9. Règlementation locale

Certains pays imposent des Coefficients de Sécurité à la Rupture supérieurs et une règlementation spécifique pour l'installation en hauteur.
Il est de la responsabilité de l'utilisateur de s'assurer que tout levage d'un système L-ACOUSTICS® soit réalisé dans le strict respect de la règlementation locale en vigueur.
De manière générale, L-ACOUSTICS® recommande l'utilisation d'élingues de sécurité pour toute installation en hauteur.

10. Levage d'un système

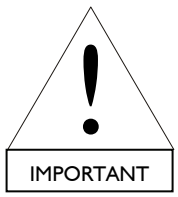
S'assurer que personne ne se trouve au-dessous d'un système lors de son levage.
Au cours du levage du système vérifier que chaque élément soit bien accroché à l'élément immédiatement supérieur.
Ne jamais relâcher la surveillance du système pendant la procédure d'installation.

11. Posage d'un système

Ne pas poser un système sur un sol ou plateforme instable.
Si le système est posé sur une structure, plateforme, ou scène, toujours vérifier que cette dernière puisse supporter le poids total du système.
Arrimer le système à la structure, plateforme, ou scène à l'aide de sangles à rochet ou tout autre moyen approprié.

12. Charge dynamique

L'influence du vent doit être prise en compte lorsqu'un système est installé en plein air.
Le vent peut engendrer des efforts dynamiques sur les éléments d'accrochage et les points de suspension.
Si la force du vent est supérieure à 6 sur l'échelle de Beaufort il est fortement recommandé de descendre et /ou de sécuriser le système.



13. Manuel

Conserver ce manuel en lieu sûr pendant la durée de vie du produit.
Ce manuel en fait partie intégrante. La revente du produit n'est possible qu'accompagnée du présent manuel.
Toute modification du produit doit être consignée dans ce manuel en cas de revente.

1.3 Déclaration de conformité CE

L-ACOUSTICS
13 rue Levacher Cintrat
Parc de la Fontaine de Jouvence
91462 Marcoussis Cedex
France

FR

Déclare que les produits suivants :
Accessoire d'accrochage, ETR8-2
Accessoire d'accrochage, ETR12
Accessoire d'accrochage, ETR15
Accessoire d'accrochage, ETR15P
Accessoire de levage, XTLIFTBAR

Sont conformes aux dispositions de :
Directive Machine 98/37/CE

Règles et standards appliqués :
EN ISO 12100-1 : 2004

Fait à Marcoussis, le 8 Janvier 2007,

Jacques Spillmann

2 SOMMAIRE

3 INTRODUCTION

3.1 Bienvenue chez L-ACOUSTICS®

Merci d'avoir fait l'acquisition d'un système de la **Gamme Coaxiale L-ACOUSTICS® XT** ou de la **Gamme Coaxiale Amplifiée L-ACOUSTICS® P**.

Ce manuel contient les informations indispensables au bon déroulement des procédures d'accrochage des **systèmes XT et P**. Il est nécessaire de lire attentivement ce manuel pour se familiariser avec les procédures.

En raison de l'évolution constante des techniques et des normes, L-ACOUSTICS® se réserve le droit de modifier sans préavis les caractéristiques des produits et les informations contenues dans ce manuel. Se référer au site internet www.l-acoustics.com pour obtenir la dernière version de ce manuel.

Si le produit nécessite une réparation ou pour tout renseignement sur la garantie, contacter un distributeur agréé. Pour obtenir les coordonnées du distributeur le plus proche consulter le site internet de L-ACOUSTICS®.

3.2 Déballage du produit

Dès réception, inspecter soigneusement le produit afin de détecter un éventuel défaut.
Chaque produitL-ACOUSTICS® est soigneusement contrôlé en sortie d'usine et doit être livré en parfait état.

À la découverte du moindre défaut, prévenir immédiatement la société de transport ou le distributeur.
Seul le destinataire peut faire réclamation pour tout dommage occasionné pendant le transport.
Conservez le carton et les pièces d'emballage pour constatation de la part de la société de livraison.

4 GAMME COAXIALES XT ET P

4.1 La Gamme Coaxiale XT

Les accessoires d'accrochage **L-ACOUSTICS® ETR8-2, ETR12, et ETR15** sont respectivement dédiés à l'accrochage des enceintes **8XT, 12XT, et 115XT HiQ**.
L'accessoire de levage **L-ACOUSTICS® XTLIFTBAR** est dédié au levage des enceintes **12XT et 115XT HiQ**.

L'approche système développée par L-ACOUSTICS® pour la gamme XT comprend un ensemble d'éléments qui, associés les uns aux autres, supportent et optimisent toutes les configurations possibles. Les principaux éléments du système sont :

8XT	⇨	Enceinte coaxiale passive compacte
12XT	⇨	Enceinte coaxiale active/passive polyvalente
115XT HiQ	⇨	Enceinte coaxiale active retour de scène
ETR8-2	⇨	Accessoire d'accrochage pour l'enceinte 8XT
ETR12	⇨	Accessoire d'accrochage pour l'enceinte 12XT
ETR15	⇨	Accessoire d'accrochage pour l'enceinte 115XT HiQ
XTLIFTBAR	⇨	Accessoire de levage pour les enceintes 12XT ou 115XT HiQ
SB118	⇨	Enceinte sub-grave
LA4	⇨	Contrôleur amplifié de puissance moyenne
LA-RAK	⇨	Rack d'amplification pour trois contrôleurs amplifiés **LA8** de puissance élevée
LA NETWORK MANAGER	⇨	Logiciel de pilotage en réseau des contrôleurs amplifiés
SOUNDVISION	⇨	Logiciel de simulation acoustique et mécanique

Figure 1 : Eléments de la gamme XT (partie 1)

LA4

SOUNDVISION

LA-RAK avec 3 LA8

LA NETWORK MANAGER

Figure 2 : Eléments de la gamme XT (partie 2)

4.2 La Gamme Coaxiale Amplifiée P

Les accessoires d'accrochage **L-ACOUSTICS® ETR8-2, ETR12, et ETR15P** sont respectivement dédiés à l'accrochage des enceintes **108P, 112P, et SB15P**.
L'accessoire de levage **L-ACOUSTICS® XTLIFTBAR** est dédié au levage de l'enceinte **112P**.

La solution système développée par L-ACOUSTICS pour la gamme P comprend un ensemble d'éléments qui peuvent être associés les uns aux autres pour supporter toutes les configurations possibles. Les principaux éléments du système sont :

108P	⇨	Enceinte coaxiale amplifiée
112P	⇨	Enceinte coaxiale amplifiée
SB15P	⇨	Enceinte sub-grave compacte amplifiée
ETR8-2	⇨	Accessoire d'accrochage pour l'enceinte 108P
ETR12	⇨	Accessoire d'accrochage pour l'enceinte 112P
ETR15P	⇨	Accessoire d'accrochage pour l'enceinte SB115P
XTLIFTBAR	⇨	Accessoire de levage pour l'enceinte 112P
SOUNDVISION	⇨	Logiciel de simulation acoustique et mécanique

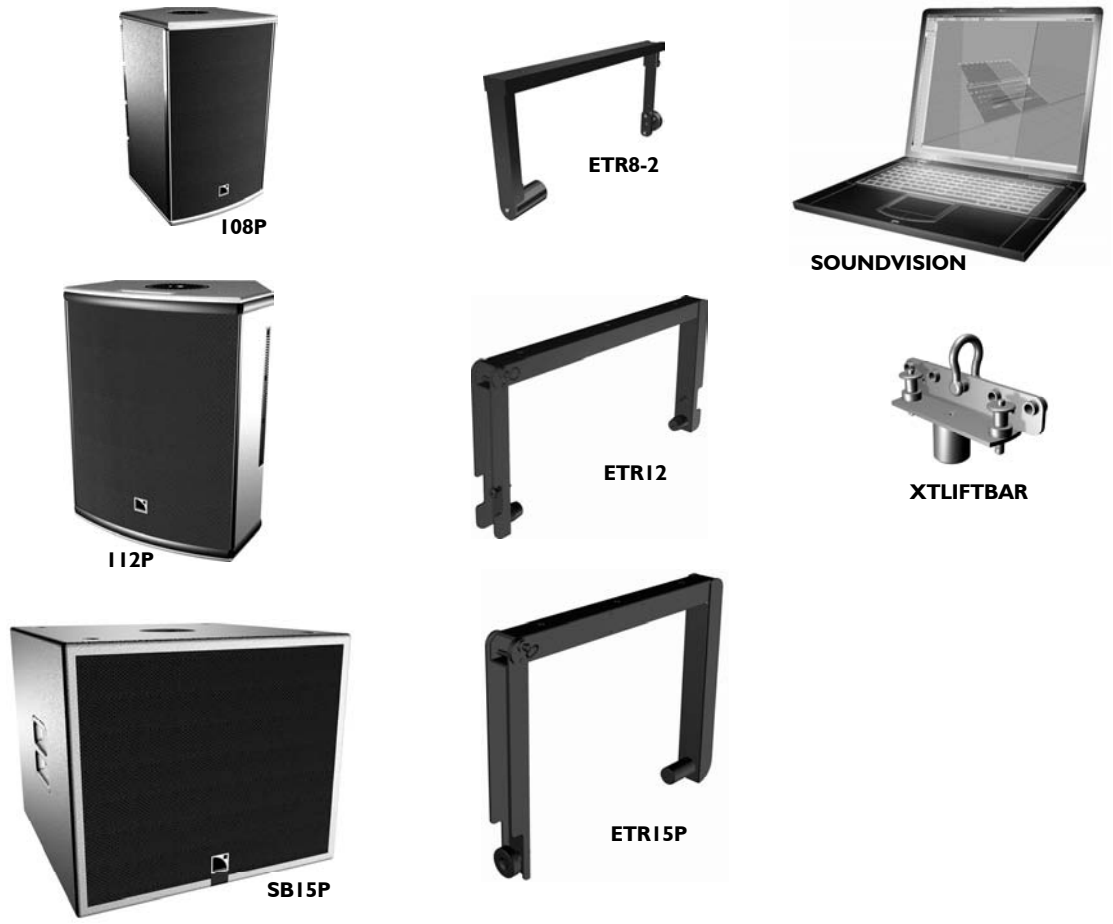


Figure 3 : Eléments constitutifs de la gamme P

5 ACCESSOIRES ETR8-2, ETR12, ETR15, ETR15P, ET XTLIFTBAR

5.1 Accessoire d'accrochage ETR8-2

L'étrier **L-ACOUSTICS® ETR8-2** (Figure 4) s'adapte aux pièces d'accrochage d'une enceinte **L-ACOUSTICS® 8XT** ou **108P**. Il peut être fixé à un mur ou suspendu à une structure ou un plafond (typiquement pour une utilisation sous-balcon).

Des perçages sur la barre principale permettent la fixation de l'étrier ETR8-2 à l'aide de deux vis de diamètre 8 mm/0.31 in. et d'une vis de diamètre 10 mm/0.39 in. (non fournies).

Il est de la responsabilité de l'utilisateur de contrôler que l'étrier ETR8-2 soit correctement fixé au support.

L-ACOUSTICS recommande la fixation de l'étrier ETR8-2 dans un plafond ou un mur en béton à l'aide de chevilles à expansion prévues pour supporter au moins 5 fois la charge totale du système (les indications de poids figurent sur les étiquettes d'identification des produits).

L'étrier ETR8-2 permet d'accrocher au maximum une enceinte 8XT ou 108P.

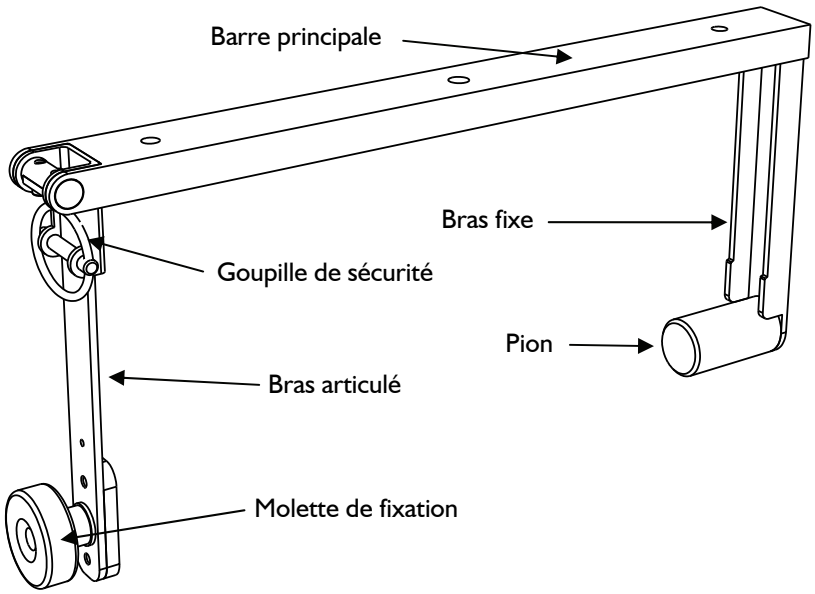


Figure 4 : L'accessoire d'accrochage ETR8-2

5.2 Accessoires d'accrochage ETR12 et ETR15

L'étrier **L-ACOUSTICS® ETR12** (resp. **ETR15**) (Figure 5) s'adapte aux pièces d'accrochage d'une enceinte **L-ACOUSTICS® 12XT** ou **112P** (resp. **115XT HiQ**). Il peut être fixé à un mur ou suspendu à une structure ou un plafond (typiquement pour une utilisation sous-balcon).

Des perçages sur la barre principale permettent la fixation de l'étrier à l'aide de trois vis de diamètre 10 mm/0.39 in. (non fournies).

Il est de la responsabilité de l'utilisateur de contrôler que l'étrier soit correctement fixé au support.

L-ACOUSTICS recommande la fixation de l'étrier dans un plafond ou un mur en béton à l'aide de chevilles à expansion prévues pour supporter au moins 5 fois la charge totale du système (les indications de poids figurent sur les étiquettes d'identification des produits).

L'étrier ETR12 (resp. ETR15) permet d'accrocher au maximum une enceinte 12XT ou 112P (resp. 115XT HiQ).

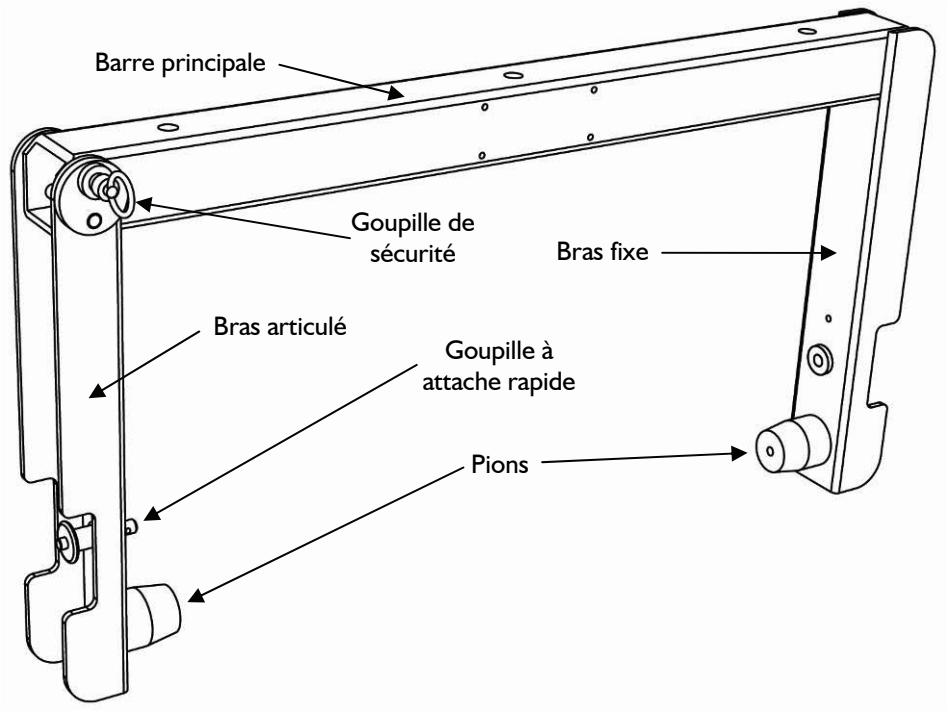


Figure 5 : L'accessoire d'accrochage ETR12

Note : L'accessoire ETR15 est du même modèle que l'ETR12 dans un format plus grand.

5.3 Accessoire d'accrochage ETR15P

L'étrier **L-ACOUSTICS® ETR15P** (Figure 6) s'adapte aux pièces d'accrochage d'une enceinte **L-ACOUSTICS® SB15P**. Il peut être fixé à un mur ou suspendu à une structure ou un plafond (typiquement pour une utilisation sous-balcon).

Des perçages sur la barre principale permettent la fixation de l'étrier ETR15P à l'aide de trois vis de diamètre 10 mm/0.39 in. (non fournies).

Il est de la responsabilité de l'utilisateur de contrôler que l'étrier ETR15P soit correctement fixé au support.

L-ACOUSTICS recommande la fixation de l'étrier ETR15P dans un plafond ou un mur en béton à l'aide de chevilles à expansion prévues pour supporter au moins 5 fois la charge totale du système (les indications de poids figurent sur les étiquettes d'identification des produits).

L'étrier ETR15P permet d'accrocher au maximum une enceinte SB15P.

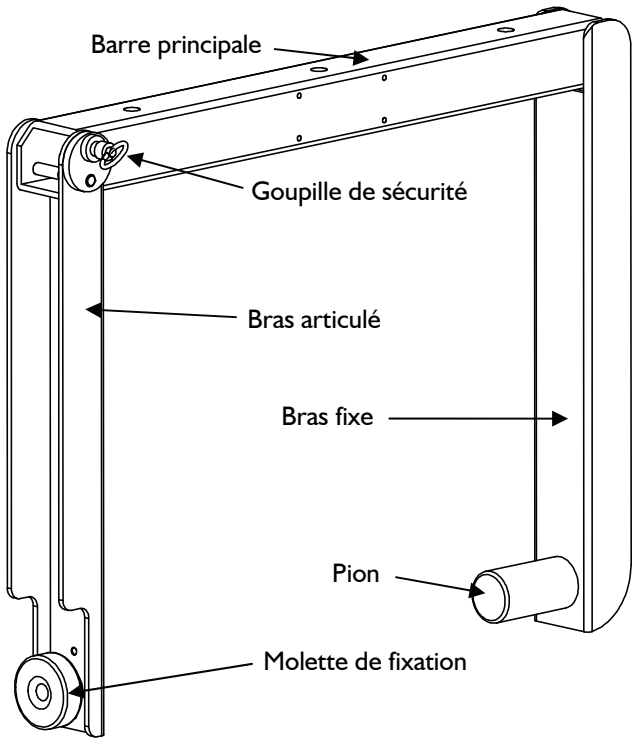


Figure 6 : L'accessoire d'accrochage ETR15P

5.4 Accessoire de levage XTLIFTBAR

L'accessoire de levage **L-ACOUSTICS® XTLIFTBAR** (Figure 7) est dédié au levage des enceintes **L-ACOUSTICS® 12XT, 112P,** et **115XT HiQ**.

Il est fourni avec une manille lyre supportant 250 kg/551 lb. avec un coefficient de sécurité à la rupture de 5:1. Cette manille permet de soulever une enceinte 12XT, 112P, ou 115XT HiQ avec un point de suspension.

L'accessoire de levage XTLIFTBAR peut supporter **une** enceinte 12XT, 112P, ou 115XT HiQ au maximum.

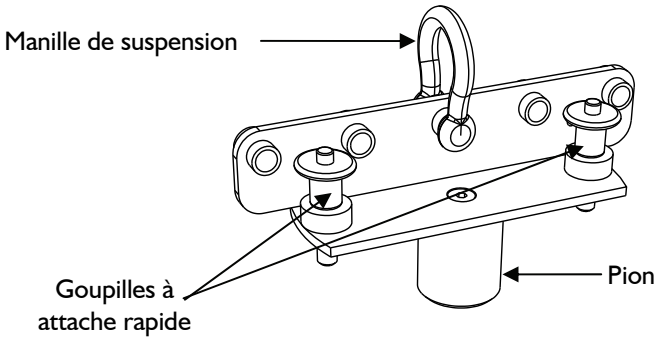


Figure 7 : L'accessoire de levage XTLIFTBAR

6 INSTALLATION

6.1 Accrochage d'une enceinte 8XT ou 108P par l'étrier ETR8-2

6.1.1 Montage

L'étrier ETR8-2 s'enclenche sur une enceinte 8XT ou 108P de la manière suivante :

1. Ôter la vis de réglage située sur la face supérieure de l'enceinte.

Note : Mettre la vis en lieu sûr.

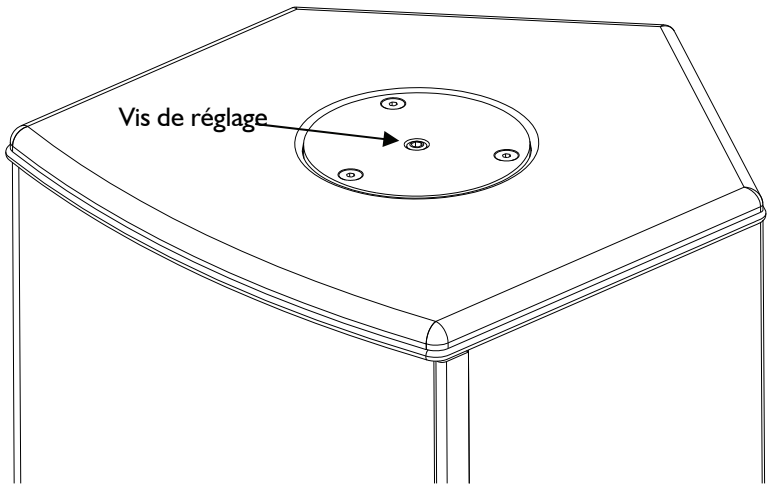


Figure 8 : Vis de réglage

2. Ôter la goupille de sécurité de l'étrier puis ouvrir le bras articulé.

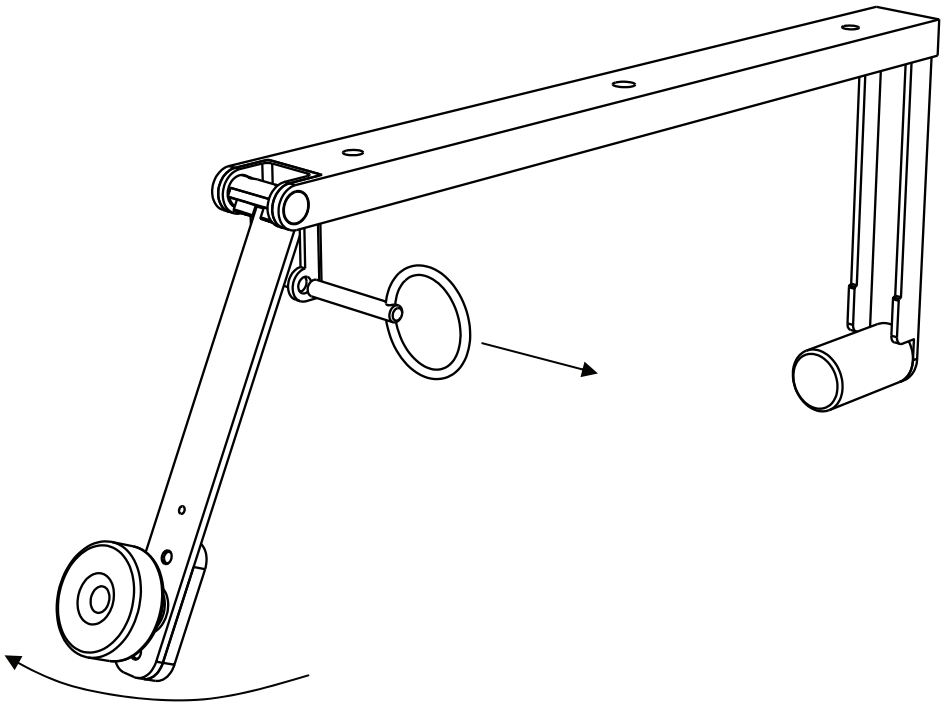


Figure 9 : Ouverture du bras articulé

3. **a.** Enclencher l'embase inférieure de l'enceinte sur le pion du bras fixe de l'étrier.
b. Replier le bras articulé.
c. Sélectionner l'orientation de l'enceinte puis visser fermement la molette de fixation.
d. Remettre en place la goupille de sécurité.

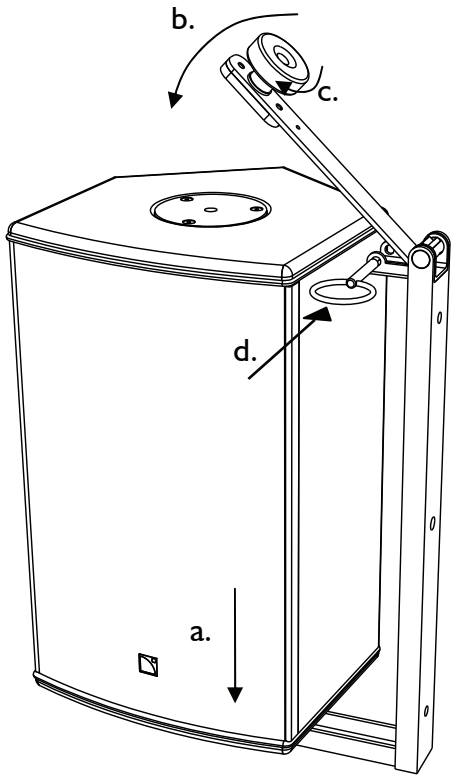


Figure 10 : Fixation de l'étrier ETR8-2 sur l'enceinte

S'assurer que l'enceinte est sécurisée en vérifiant qu'elle ne puisse plus pivoter autour de l'étrier.

S'assurer que le bras articulé de l'étrier est sécurisé en vérifiant que la goupille de sécurité soit correctement verrouillée.

Pour installer l'enceinte en position verticale, toujours positionner le bras fixe de l'étrier ETR8-2 au-dessous de l'enceinte.

L-ACOUSTICS® recommande l'utilisation d'une sécurité supplémentaire à chaque accrochage d'enceinte.

Un insert de diamètre M8* est prévu à cet effet sur la face arrière de l'enceinte 8XT pour l'adjonction d'un anneau de levage (voir Figure 19).

*La notation "M8" se réfère au standard Européen (consulter une documentation externe appropriée).

6.1.2 Démontage

Le démontage s'effectue dans l'ordre inverse du montage.

6.2 Accrochage d'une enceinte 12XT ou 112P (resp.115XT HiQ) par l'étrier ETR12 (resp. ETR15)

6.2.1 Montage

L'étrier ETR12 (resp. ETR15) s'enclenche sur une enceinte 12XT ou 112P (resp. 115XT HiQ) de la manière suivante :

1. **a.** Ôter la goupille à attache rapide située à l'extrémité du bras articulé de l'étrier.
   b. Tirer la goupille de sécurité et ouvrir le bras articulé.

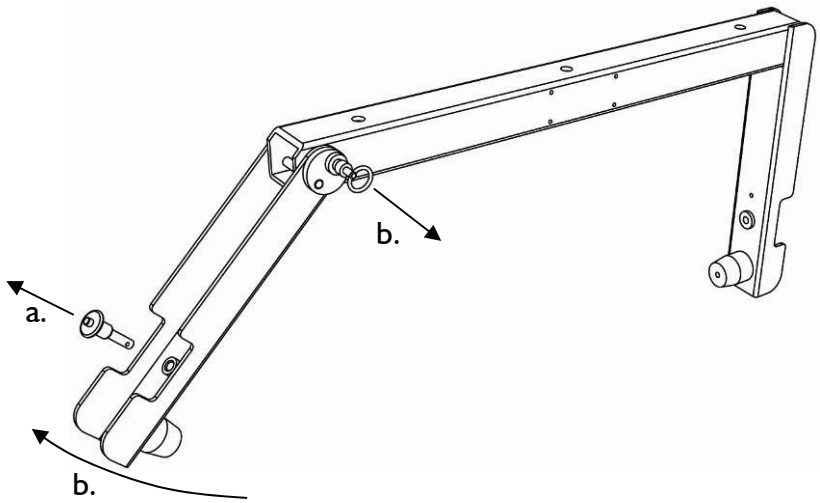


Figure 11 : Ouverture du bras articulé

2. **a.** Enclencher une embase de l'enceinte sur le pion du bras fixe.
   b. Replier le bras articulé sur la seconde embase de l'enceinte : la goupille de sécurité se réenclenche automatiquement.

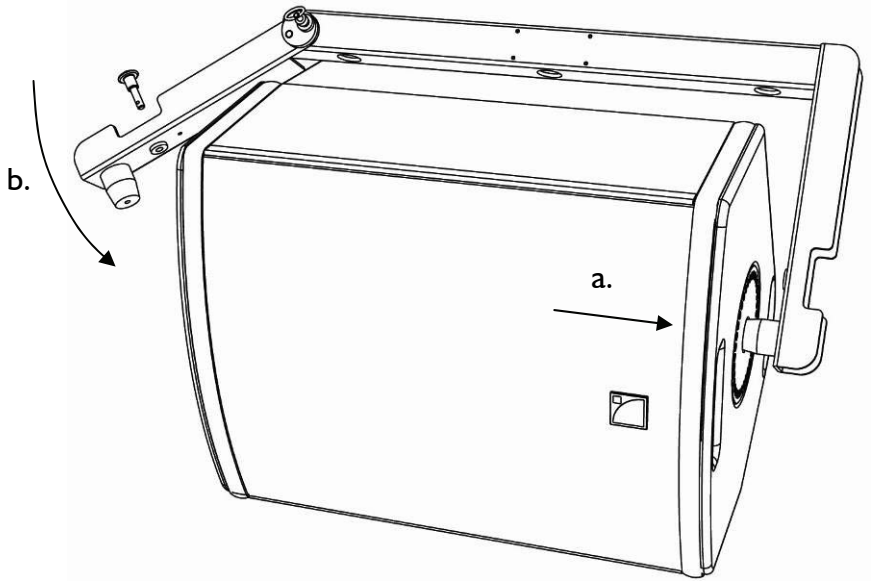


Figure 12 : Fixation de l'étrier ETR12 sur l'enceinte

S'assurer que le bras articulé de l'étrier est sécurisé en vérifiant que la goupille de sécurité soit enclenchée et que le bras articulé ne puisse plus pivoter librement.

Pour installer l'enceinte en position verticale,
toujours positionner le bras fixe de l'étrier au-dessous de l'enceinte.

3. Sélectionner l'orientation désirée (angulation par pas de 10°) puis sécuriser l'étrier en réenclenchant la goupille à attache rapide sur le bras rotatif.

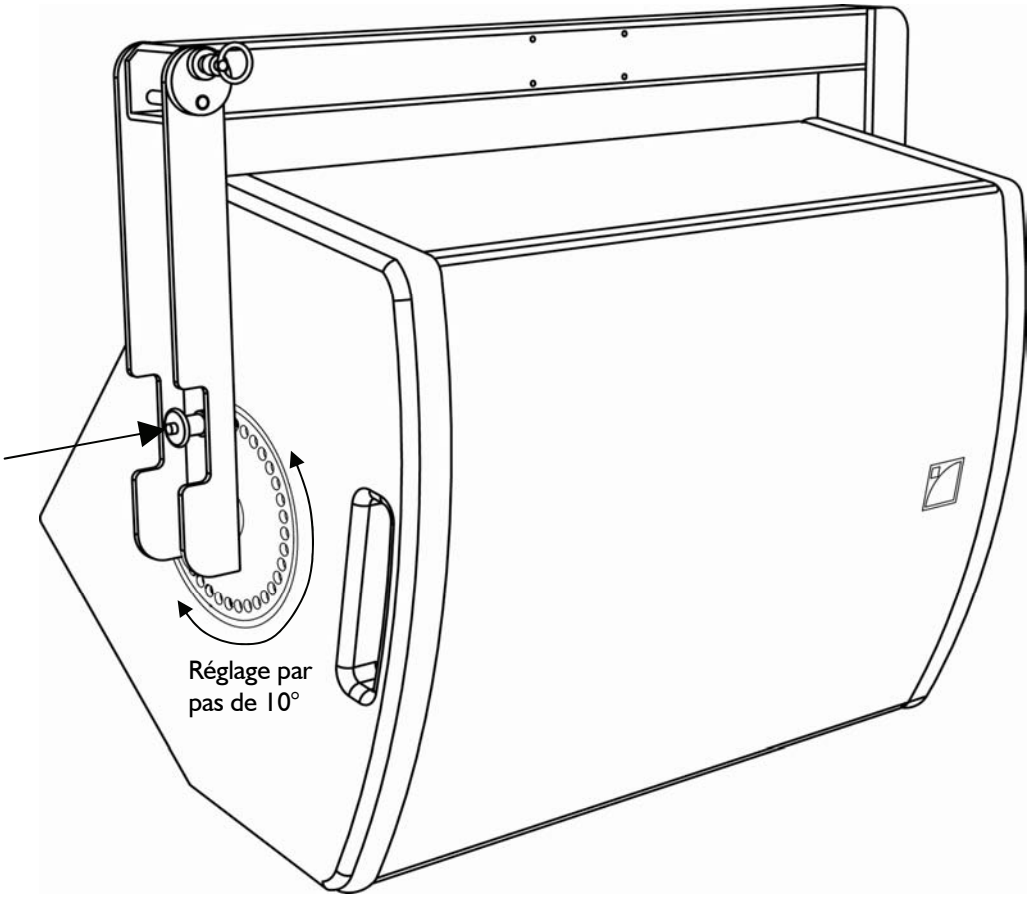


Figure 13 : Réglage et sécurisation de l'angle de l'enceinte

La goupille à attache rapide doit être enclenchée sur le **bras mobile** (et **non** sur le bras fixe) pour définitivement sécuriser l'étrier sur l'enceinte.

S'assurer que la goupille à attache rapide est correctement enclenchée en vérifiant qu'elle ne puisse plus translater librement.

L-ACOUSTICS® recommande l'utilisation d'une sécurité supplémentaire à chaque accrochage d'enceinte.

Un insert de diamètre M8* est prévu à cet effet sur la face arrière de l'enceinte 8XT pour l'adjonction d'un anneau de levage (voir Figure 19).

*La notation "M8" se réfère au standard Européen (consulter une documentation externe appropriée).

6.2.2 Démontage

Le démontage s'effectue dans l'ordre inverse du montage.

6.3 Accrochage d'une enceinte SB15P par l'étrier ETR15P

6.3.1 Montage

L'étrier ETR15P s'enclenche sur une enceinte SB15P de la manière suivante :

1. Ôter la vis de réglage située sur la face inférieure de l'enceinte.

Note : Mettre la vis en lieu sûr.

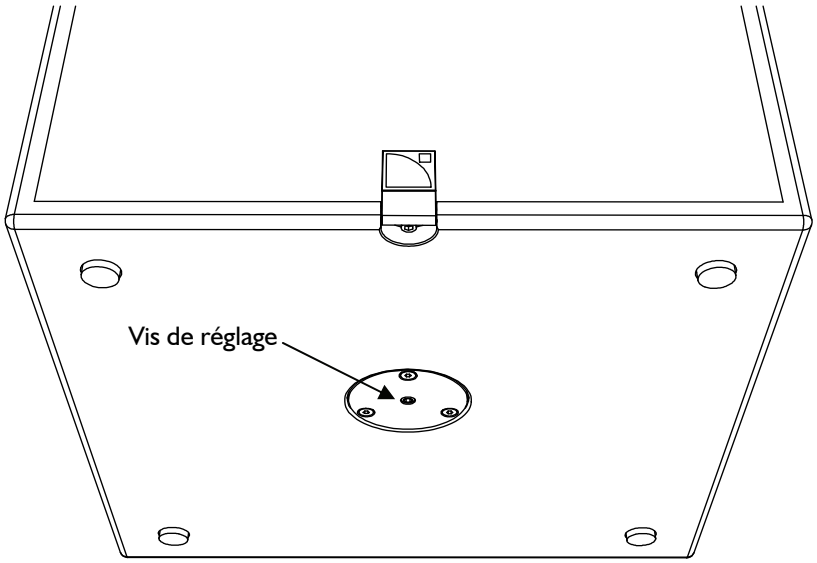


Figure 14 : Vis de réglage

2. Tirer la goupille de sécurité de l'étrier puis ouvrir le bras articulé.

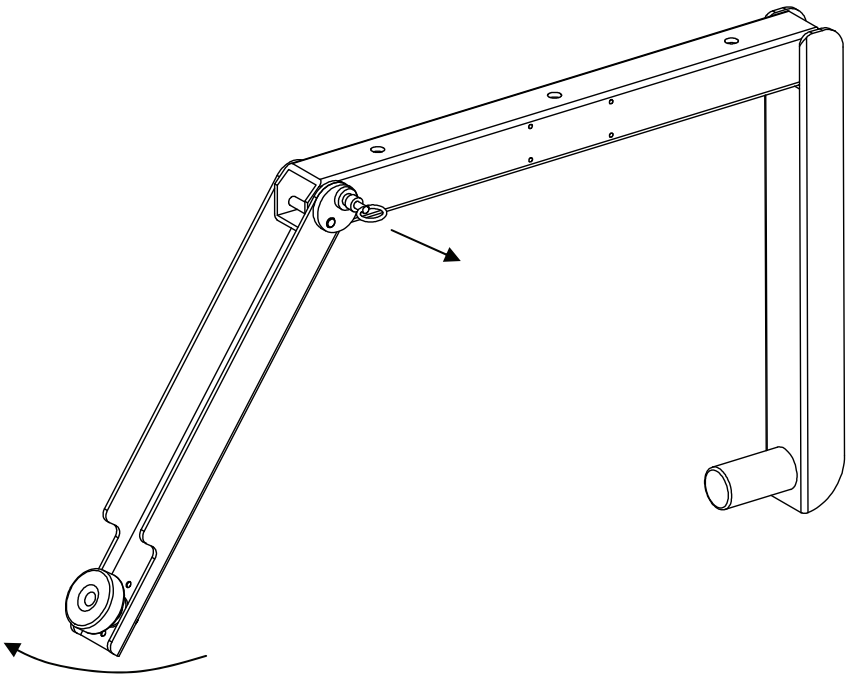


Figure 15 : Ouverture du bras articulé

3. **a.** Enclencher l'embase supérieure de l'enceinte dans le pion de l'étrier.
b. Replier le bras articulé : la goupille de sécurité se réenclenche automatiquement dans sa position initiale.
c. Sélectionner l'orientation de l'enceinte puis visser fermement la molette de fixation.

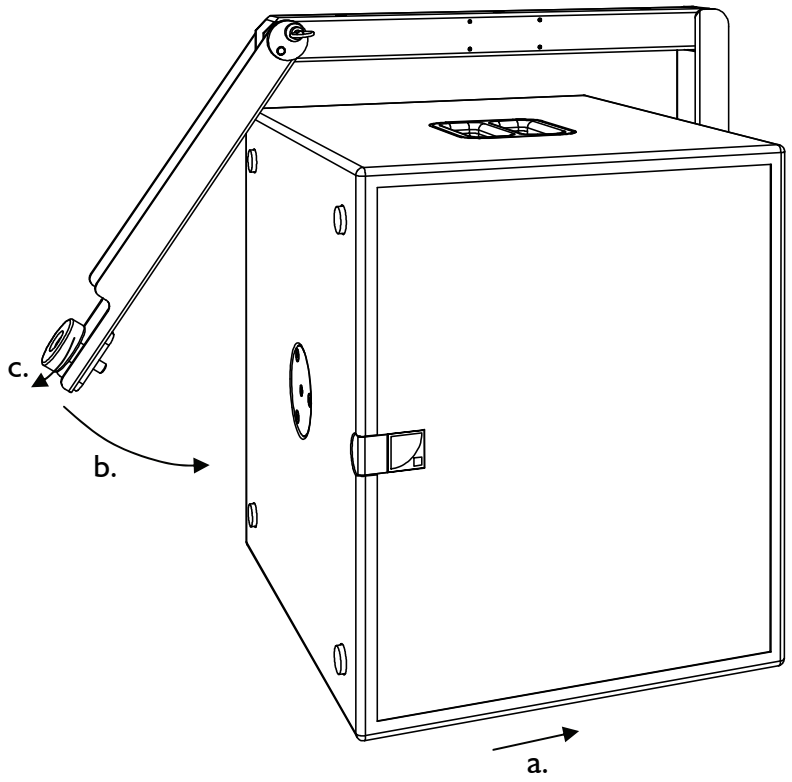


Figure 16 : Fixation de l'étrier ETR15P sur l'enceinte SB15P

S'assurer que le bras articulé de l'étrier est sécurisé en vérifiant que la goupille de sécurité soit enclenchée et que le bras articulé ne puisse plus pivoter librement.

S'assurer que l'enceinte est sécurisée en vérifiant qu'elle ne puisse plus pivoter autour de l'étrier.

Pour installer l'étrier ETR15P en position verticale, toujours positionner le bras fixe au-dessous de l'enceinte.

L-ACOUSTICS® recommande l'utilisation d'une sécurité supplémentaire à chaque accrochage d'enceinte.

Un insert de diamètre M8* est prévu à cet effet sur la face arrière de l'enceinte 8XT pour l'adjonction d'un anneau de levage (voir Figure 19).

*La notation "M8" se réfère au standard Européen (consulter une documentation externe appropriée).

6.3.2 Démontage

Le démontage s'effectue dans l'ordre inverse du montage.

6.4 Levage d'une enceinte 12XT, 112P, ou 115XT HiQ par l'accessoire XTLIFTBAR

6.4.1 Montage

1. Ôter les deux goupilles à attache rapide.

2. **a.** Insérer le pion du XTLIFTBAR dans l'embase supérieure de l'enceinte.
b. Sélectionner l'angle désiré : par pas de 10° pour un réglage en azimut (directivité dans le plan horizontal), ou sur la position 0° (parallèle aux côtés de l'enceinte) pour un réglage en angle de site (directivité dans le plan vertical).
c. Enclencher les deux goupilles à attache rapide pour sécuriser le système.

FR

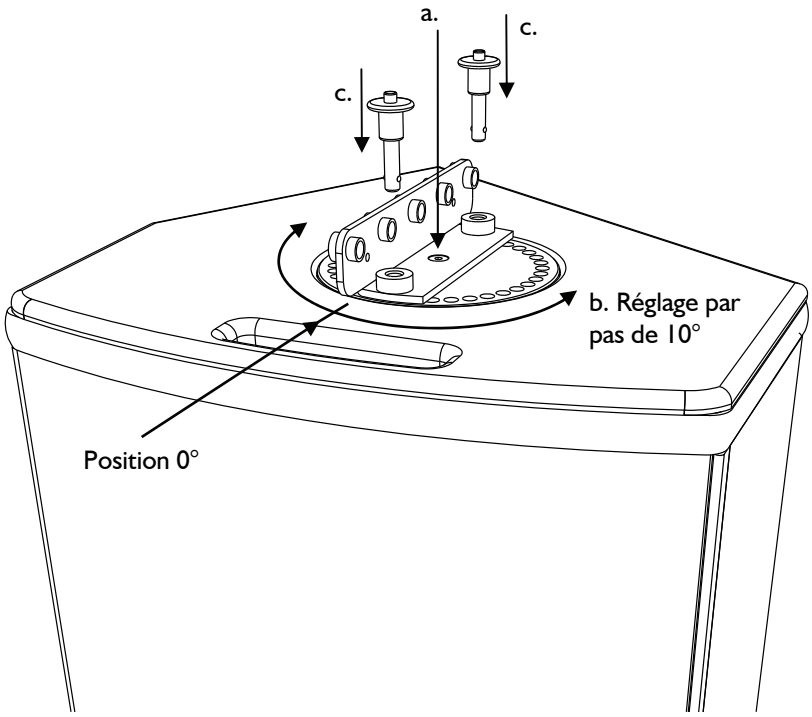
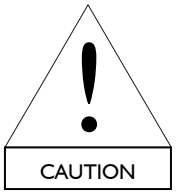


Figure 17 : Positionnement du XTLIFTBAR sur une enceinte pour un réglage en angle de site

S'assurer que l'ensemble est sécurisé en vérifiant que les deux goupilles à attache rapide soient enclenchées et qu'elles ne puissent plus translater librement.



Pour un réglage en angle de site, vérifier que le XTLIFTBAR soit parallèle aux faces latérales de l'enceinte afin d'équilibrer le centre de gravité de l'ensemble.

3. Positionner la manille à l'emplacement prévu : logement n°3 pour un réglage en azimut, ou l'un des logements n°1 à 5 correspondant respectivement aux angles de site +14°, +7°, 0°, -7°, -14°.

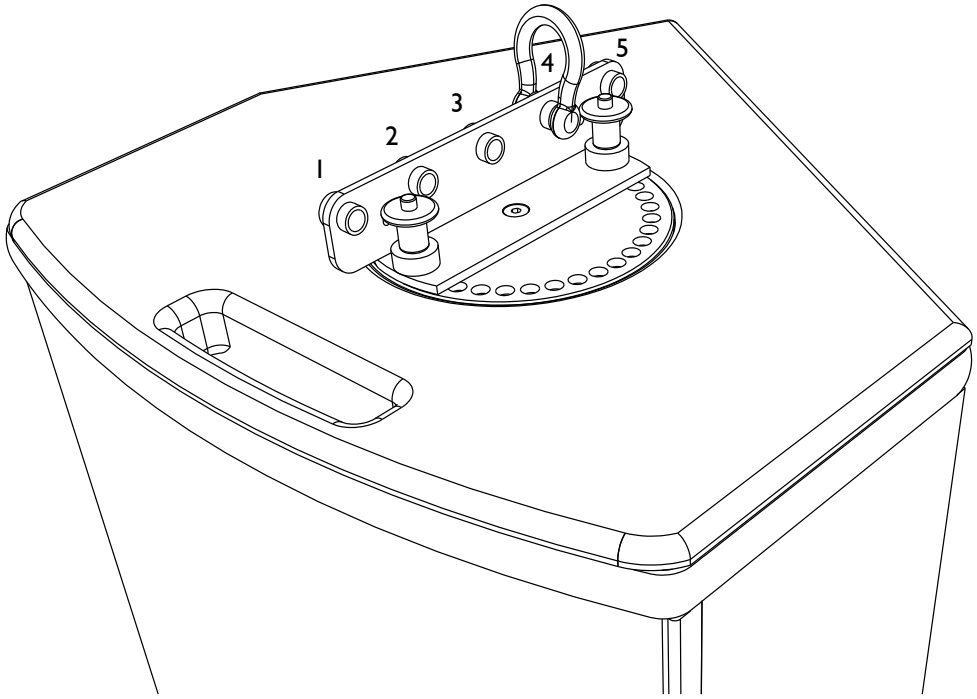


Figure 18 : Manille du XTLIFTBAR dans le logement n°4 (angle de site de -7°)

S'assurer que la manille est fermement verrouillée.

4. Suspendre l'ensemble en accrochant le câble de levage à la manille.

L-ACOUSTICS® recommande l'utilisation d'une sécurité supplémentaire à chaque accrochage d'enceinte.

Un insert de diamètre M8* est prévu à cet effet sur la face arrière de l'enceinte 8XT pour l'adjonction d'un anneau de levage (voir Figure 19).

*La notation "M8" se réfère au standard Européen (consulter une documentation externe appropriée).

6.4.2 Démontage

Le démontage s'effectue dans l'ordre inverse du montage.

6.5 Accrochage d'une enceinte 8XT ou 12XT par support OMNIMOUNT®

4 inserts situés sur les faces arrière des enceintes 8XT et 12XT autorisent le montage de supports OMNIMOUNT®.

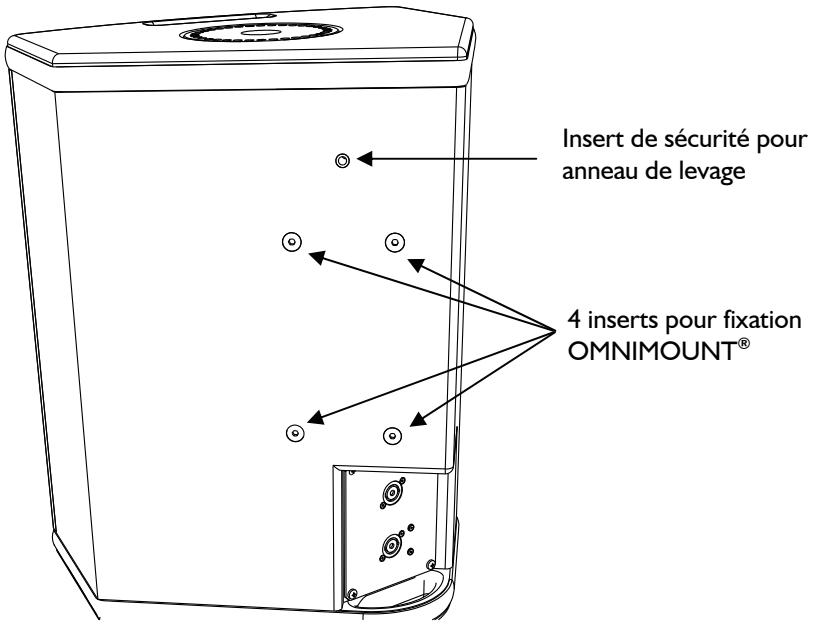


Figure 19 : Les inserts sur l'enceinte 12XT

Ôter les quatre vis des inserts (celles-ci serviront à la fixation du support) puis suivre la procédure de montage (fournie par le fabricant OMNIMOUNT®) des supports :

- **OMNIMOUNT® SÉRIE 30.0** pour l'enceinte 8XT,
- **OMNIMOUNT® SÉRIE 120.0** pour l'enceinte 12XT.

L-ACOUSTICS® recommande l'utilisation d'une sécurité supplémentaire à chaque accrochage d'enceinte.

Un insert de diamètre M8* est prévu à cet effet sur la face arrière de l'enceinte 8XT pour l'adjonction d'un anneau de levage (voir Figure 19).

*La notation "M8" se réfère au standard Européen (consulter une documentation externe appropriée).

7 ENTRETIEN ET MAINTENANCE

Les éléments d'accrochage des gammes XT et P sont les suivants :

- Accessoires d'accrochage ETR8-2, ETR12, ETR15, et ETR15P
- Accessoire de levage XTLIFTBAR

S'ils sont utilisés dans le strict respect des procédures décrites dans ce manuel, ces accessoires doivent rester opérationnels pendant la durée de vie de l'enceinte. Dans le but de garantir leur longévité, vérifier régulièrement les points suivants :

Les accessoires d'accrochage ETR8-2, ETR12, ETR15, ETR15P, et XTLIFTBAR
ainsi que les manilles et goupilles ne doivent pas présenter de déformation, fissure, ou rouille.

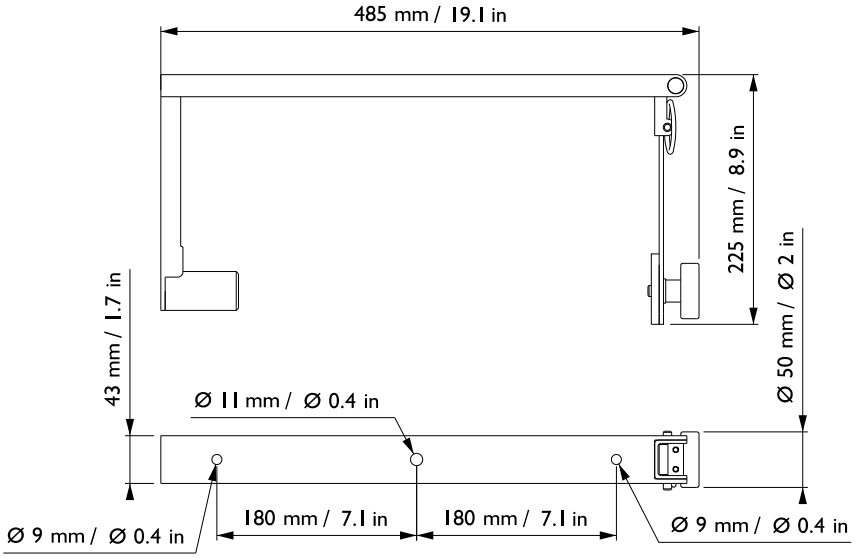
Les embases des enceintes ne doivent pas présenter de déformation, fissure, ou rouille.
Elles doivent être fermement fixées aux enceintes.

Toute enceinte comportant une pièce présentant un jeu suspect doit être marquée
et mise à part pour vérification par un service de maintenance agréé.

Vérifier le bon fonctionnement des goupilles sur les accessoires d'accrochage
ETR8-2, ETR12, ETR15, ETR15P, et XTLIFTBAR :
actionner le mécanisme de rétractation et s'assurer que rien ne gène son mouvement.

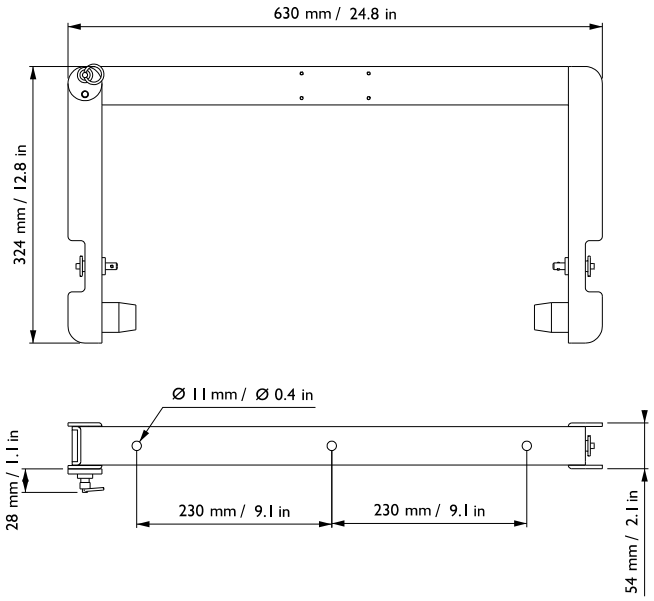
8 SPÉCIFICATIONS TECHNIQUES

Référence	**ETR8-2**
Dimensions (L x H x P)	485 x 225 x 50 mm ⇨ 19.1 x 8.9 x 2 in



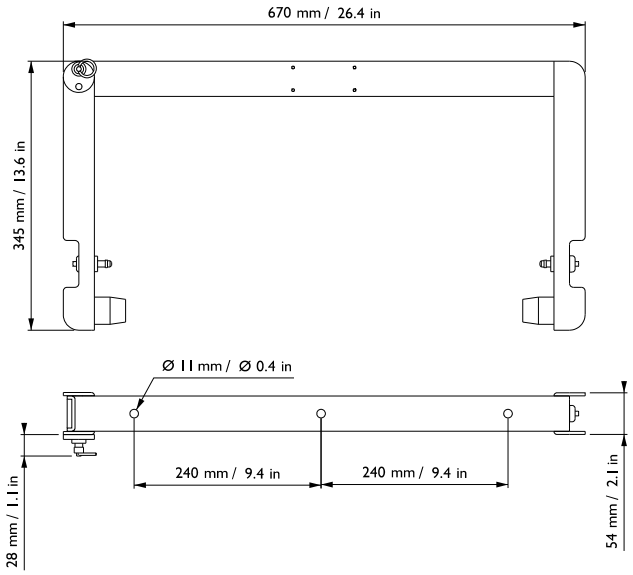
Poids	1,9 kg / 4.2 lb.
Limite mécanique du système	1 enceinte 8XT ou 108P au maximum
Matériau	Acier, revêtement poudre époxy noire

Référence	**ETR12**
Dimensions (L x H x P)	630 x 324 x 54 mm ⇨ 24.8 x 12.8 x 2.1 in



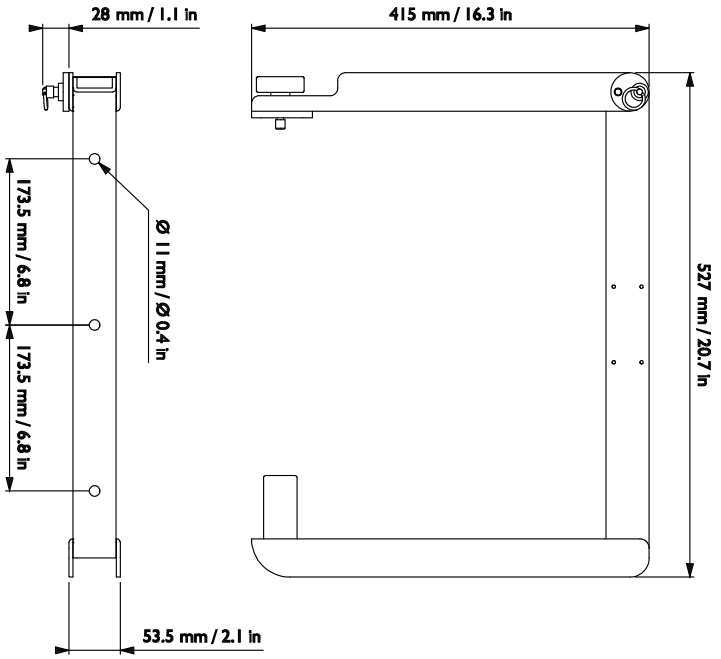
Poids	5,25 kg / 11.6 lb.
Limite mécanique du système	1 enceinte 112XT ou 112P au maximum
Matériau	Acier, revêtement poudre époxy noire

Référence	**ETR15**
Dimensions (L x H x P)	670 x 345 x 54 mm ⇨ 26.4 x 13.6 x 2.1 in



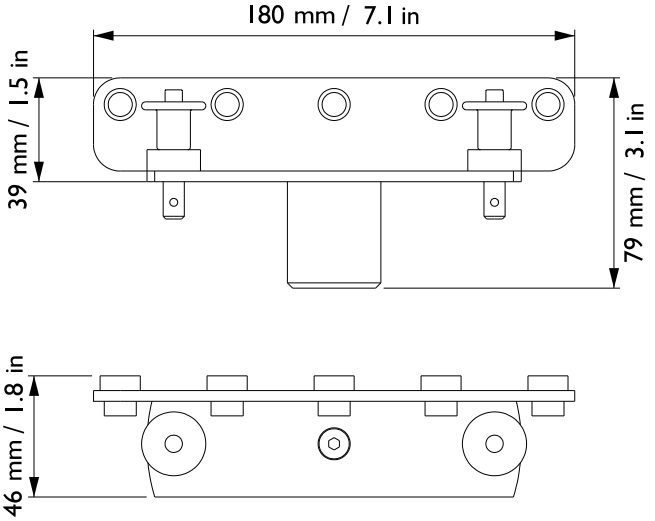
Poids	5,5 kg / 12.1 lb.
Limite mécanique du système	1 enceinte 115XT HiQ au maximum
Matériau	Acier, revêtement poudre époxy noire

Référence	**ETR15P**
Dimensions (L x H x P)	527 x 415 x 53,5 mm ⇨ 20.7 x 16.3 x 2.1 in



Poids	5,3 kg / 11.8 lb.
Limite mécanique du système	1 enceinte SB15P au maximum
Matériau	Acier, revêtement poudre époxy noire

Référence	XTLIFTBAR
Dimensions (L x H x P)	180 x 79 x 46 mm ⇨ 7.1 x 3.1 x 1.8 in



Poids	0,55 kg / 1.2 lb.
Limite mécanique du système	1 enceinte 12XT, 112P, 115XT HiQ au maximum
Matériau	Acier, revêtement poudre époxy noire

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