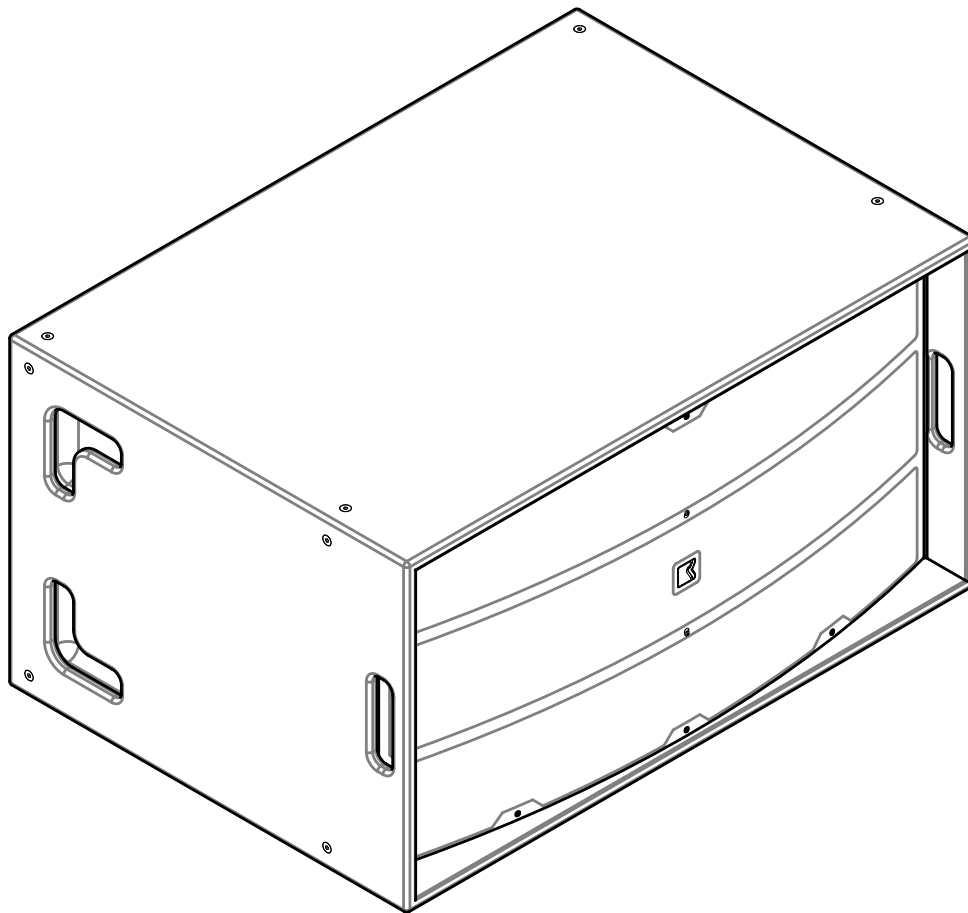


ROUTINE

SUB218

High Output Sub-bass System



USER MANUAL

SAFETY REGULATIONS


Please read this manual carefully and in its entirety. It contains important information regarding safety issues, including guidelines for general safe use of rigging systems as well as advisories on government regulations and liability laws. The suspension of large, heavy objects in public places is subject

to numerous laws and regulations at the national/federal, state/provincial, and local levels. The user must assume the responsibility for making sure that the use of any rigging system and its components in any particular circumstance or venue conform to all applicable laws and regulations in force at the time.

GENERAL SAFETY RULES


- Carefully read this manual in all its parts
- Respect the working load limits and maximum configurations of the elements and of any third-party component (such as suspension points, motors, rigging accessories, etc...)
- Do not incorporate any accessory not designed in compliance with current safety regulations by qualified personnel or not provided by Outline; all damaged or defective components must be replaced only by equivalent parts approved by Outline
- Ensure personnel health and safety, ensure that no one is standing under the system during the installation, ensure that all personnel involved in the installation are equipped with personal safety devices
- Always double check that the elements are correctly connected before suspending the system.

DISPOSAL OF WASTE MATERIALS

 Your product is designed and manufactured with high quality materials and components, which can be recycled and reused. When this crossed-out wheeled bin symbol is attached to a product, it means the product is covered by the European Directive 2012/19/EU and subsequent amendments. This means that the product must NOT be disposed of with other household-type waste. It is

the users' responsibility to dispose of their waste electrical and electronic equipment by handing it over to an approved reprocessor. For more information about where you can send your equipment for recycling, please contact your local distributor. The correct disposal of your old product will help prevent potential negative consequences for the environment and human health.

CONFORMITY AND WARRANTY

 All the Outline electro-acoustic and electronic devices are in conformity with the provisions of EC/EU directives (as stated in our CE declaration of conformity).

The CE declaration of conformity is attached to the product warranty certificate and is shipped with the product.

SYSTEM DESCRIPTION

The SUB 218 enclosure is a high output sub-bass system equipped with two long-excursion 18" transducers. Consequently it is ideal for those applications requiring super-powerful sub bass delivery, including live music and dance venues. SUB 218 is particularly well-suited to reproducing modern dance music as the design provides not only extended low-frequency reproduction (down to 28 Hz) but also tremendous 'punch' in and around the frequencies normally produced by both real and synthetic bass drums.

This focus and clarity not only enhances the reproduction of program material but also makes the most efficient use of amplifier power. This is

a result of Outline's proprietary 'E.R.P.' ('Energy Retentive Porting') design. Based on the principles of fluid dynamics and successfully applied to the science of controlling pneumatic forces within a loudspeaker enclosure, this unique arrangement of specially-shaped ports ensures an optimum airflow. This reduces internal turbulence, maximising the efficiency of the transducers and thus allowing more amplifier power to be converted into acoustic energy. Such a design requires high-precision manufacturing techniques, and Outline's engineering team have applied some original production techniques to turn an exciting concept into a physical reality.

RIGGING INSTRUCTIONS

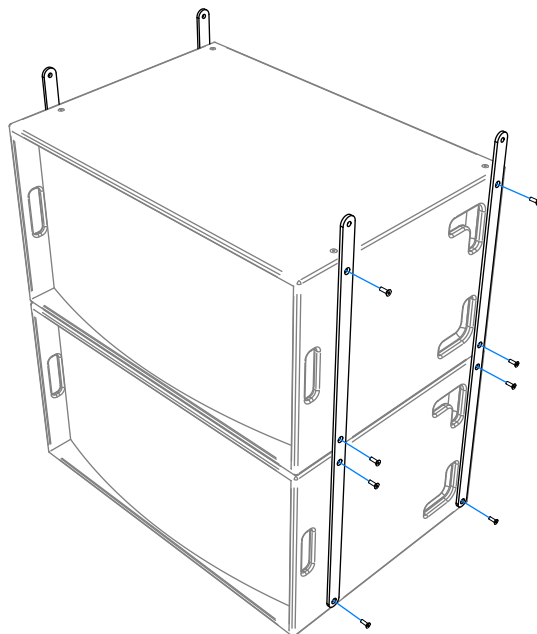
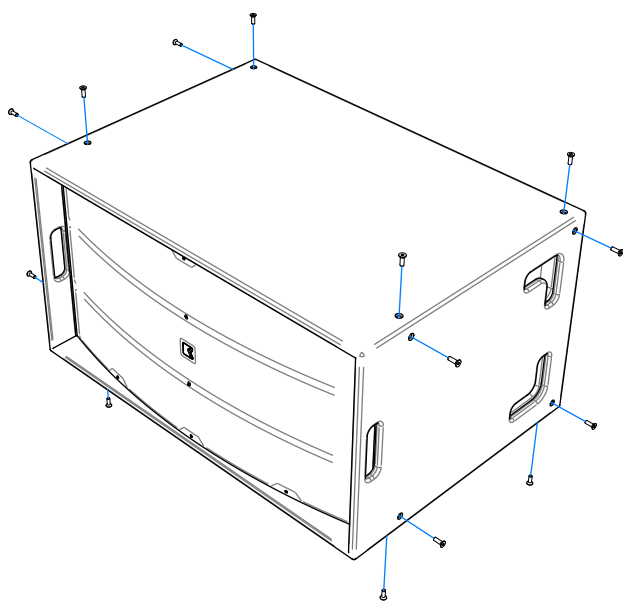
The loudspeaker offers a few rigging possibilities: sixteen M8 threaded flying points are available for multiple purposes. It is possible to suspend a single cabinet using brackets, eyebolts and so on.

If you want to hang two or more loudspeakers use continuous side bars to independently support each cabinet.

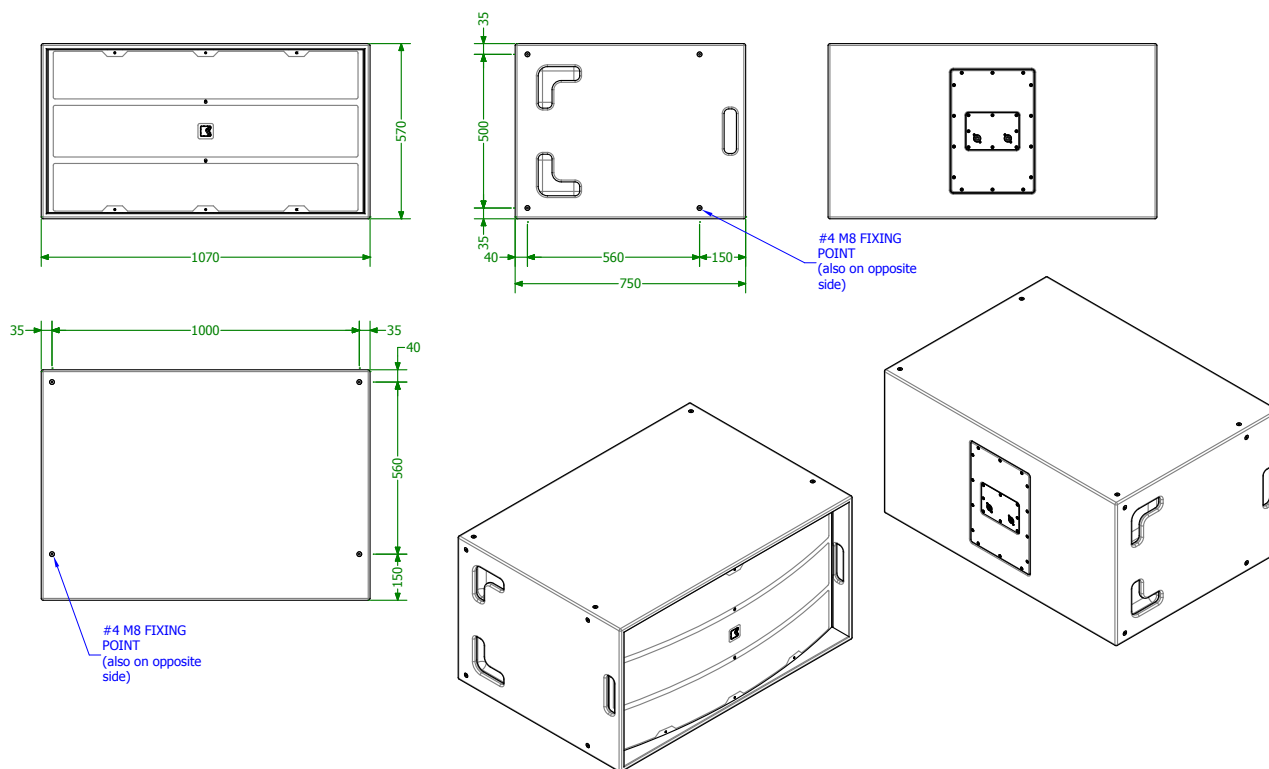
Please note that is not possible to hang up more than one unit directly from the threaded points but the

system requires an appropriate external hardware, accessory.

The external rigging hardware must provide support for each loudspeaker. This means that the loudspeakers are NOT intended to support other loudspeakers or other weights. the external rigging must embrace each loudspeaker and the entire array, as shown in the example below.



OVERALL DIMENSIONS



TECHNICAL SPECIFICATIONS

PERFORMANCE SPECIFICATIONS

Frequency Response (-10 dB)	28 Hz – 250 Hz
Suggested Cross-Over	max 120 Hz
Nominal Dispersion	Quasi-Omnidirectional
Impedance (Nom/Min)	2 x 8 Ω / 2 x 5.5 Ω
Watt AES (Continuous/Peak)	2 x 1200 W / 2 x 4800 W
Maximum SPL Output *	148.5 dB SPL

* calculated using +10 dB Crest Factor signal @ 1 m, half-space

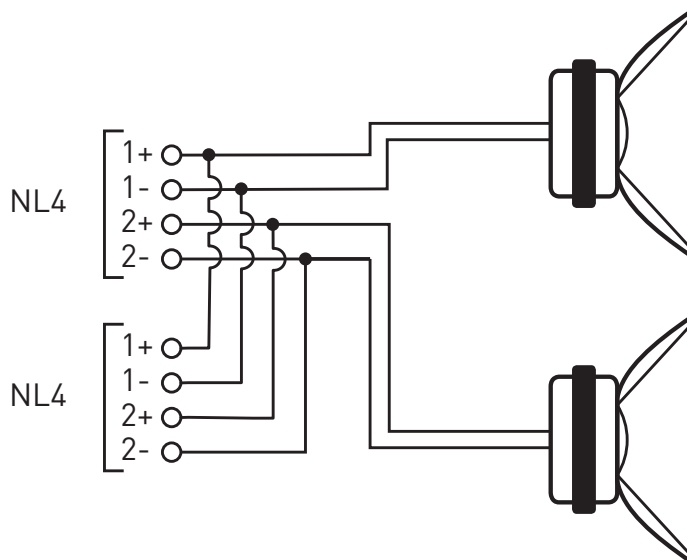
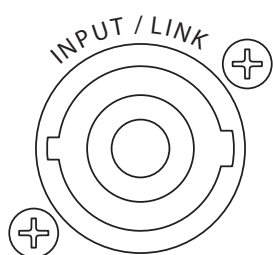
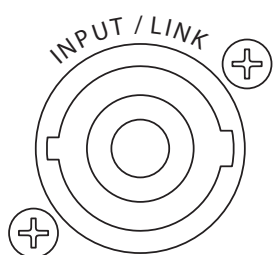
PHYSICAL

Component	2 x 18" direct radiation woofers
Connectors	2 x NL4 Pins 1+/1-, 2+/2-
Cabinet Material	Baltic birch plywood
Cabinet Finish	Black polyurea coating
Grill	Epoxy powder coated
Installation Points	16 x M8 threaded points
Height	570 mm – 22 1/2"
Width	1070 mm – 42 1/8"
Depth	750 mm – 29 1/2"
Weight	80 kg – 176.4 lb

AMPLIFIER CONNECTION

Sub218 is using two 18" woofer. It requires two amplification channel. The connections are available on two NL4 connectors. Both connectors are in parallel to facilitate wiring on portable and installed systems.

A proper size amplifier and a processing platform are required to properly operate the loudspeaker system and achieve the best performance while controlling dynamics.



APPENDIX - PERIODIC CONTROLS

All the loudspeakers, before the shipment, are fully tested at the end of the production line, but before the system is installed an overall check shall be performed to ensure that the system has not been

damaged during the shipment. Periodic controls shall be performed at regular time intervals. The following table represents an ideal check.

Loudspeaker Serial Number:				Position:				
Date								
Transducers Impedance								
Loudspeaker cabinet								
Loudspeaker grills								
Screws								
Additional notes								
Signature								



Outline carries out on-going research for product improvement. New materials, manufacturing methods and design upgrades are introduced to existing products without prior notice as a routine result of this philosophy. For this reason, any current Outline product may differ in some aspect from its description, but will always equal or exceed the original design specifications unless otherwise stated.

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