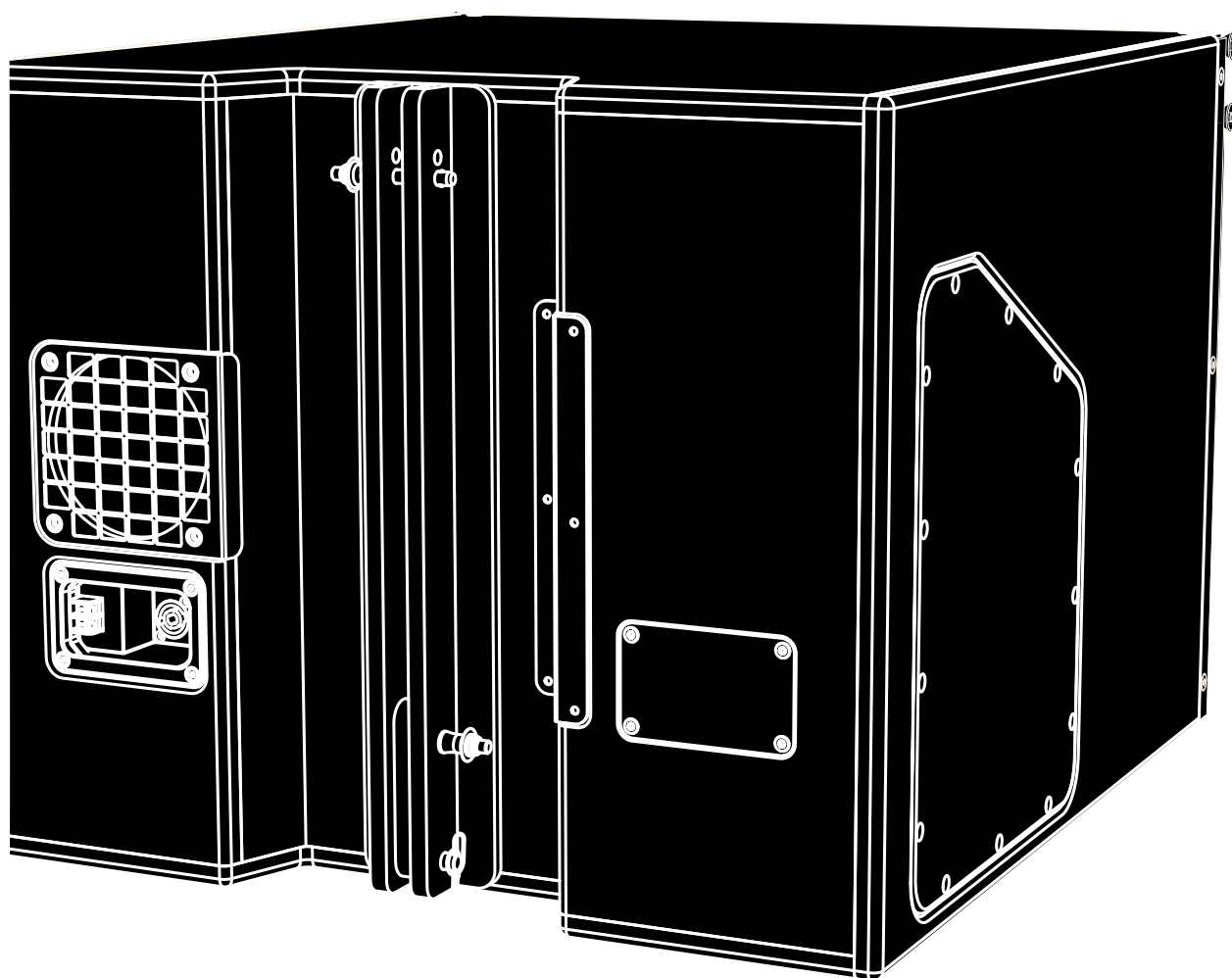


**Yi-SUB**  
**Manual 1.3 en**



## **General information**

Yi-SUB Manual

Version: 1.3 en, 10/2018, D2714.EN .01

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**Keep this manual with the product or in a safe place so that it is available for future reference.**

We recommend you to regularly check the d&b website for the latest version of this document.

When reselling this product, hand over this manual to the new owner.

If you supply d&b products, please draw the attention of your customers to this manual. Enclose the relevant manuals with the systems. If you require additional manuals for this purpose, you can order them from d&b.

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## 1.1 Information regarding the use of loudspeakers

### Potential risk of personal injury

Never stand in the immediate vicinity of loudspeakers driven at a high level. Professional loudspeaker systems are capable of causing a sound pressure level detrimental to human health. Seemingly non-critical sound levels (from approx. 95 dB SPL) can cause hearing damage if people are exposed to it over a long period.

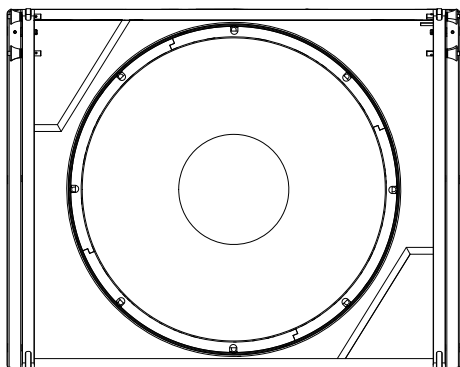
In order to prevent accidents when deploying loudspeakers on the ground or when flown, please take note of the following:

- When setting up the loudspeakers or loudspeaker stands, make sure they are standing on a firm surface. If you place several systems on top of one another, use straps to secure them against movement.
- Only use accessories which have been tested and approved by d&b for assembly and mobile deployment. Pay attention to the correct application and maximum load capacity of the accessories as detailed in our specific "Mounting instructions" or in our "Flying system and Rigging manuals".
- Ensure that all additional hardware, fixings and fasteners used for installation or mobile deployment are of an appropriate size and load safety factor. Pay attention to the manufacturers' instructions and to the relevant safety guidelines.
- Regularly check the loudspeaker housings and accessories for visible signs of wear and tear, and replace them when necessary.
- Regularly check all load bearing bolts in the mounting devices.

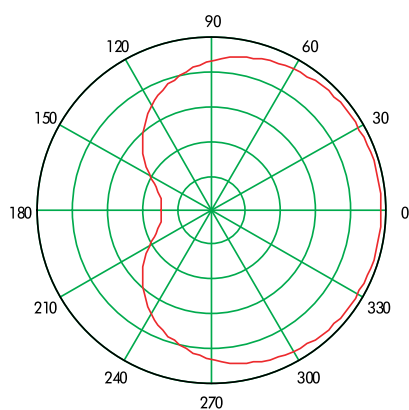
### Potential risk of material damage

Loudspeakers produce a static magnetic field even if they are not connected or are not in use. Therefore make sure when erecting and transporting loudspeakers that they are nowhere near equipment and objects which may be impaired or damaged by an external magnetic field. Generally speaking, a distance of 0.5 m (1.5 ft) from magnetic data carriers (floppy disks, audio and video tapes, bank cards, etc.) is sufficient; a distance of more than 1 m (3 ft) may be necessary with computer and video monitors.

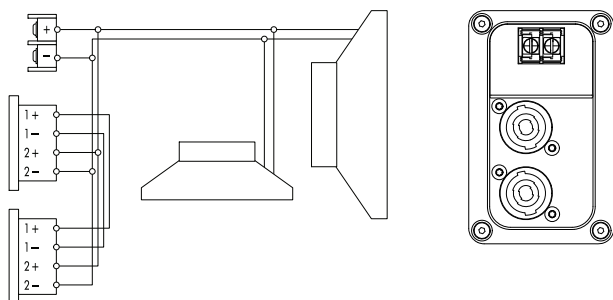
## 2 Yi-SUB loudspeaker



Yi-SUB loudspeaker



Cardioid dispersion pattern



Connector wiring

### 2.1 Product description

The Yi-SUB is a compact high performance cardioid subwoofer designed to supplement the d&b Yi-Series cabinets.

The Yi-SUB houses two long excursion neodymium drivers in an integrated cardioid setup: an 18" driver in a bass-reflex design facing to the front and a 12" driver in a two chamber bandpass design radiating to the rear. The arrangement and tuning provide a cardioid dispersion pattern using a single amplifier channel.

The frequency response extends from 39 Hz to 140/110 Hz.

### Cardioid dispersion

Cardioid dispersion avoids unwanted energy behind the system and greatly reduces the reverberant field at low frequencies providing highest accuracy in low frequency reproduction. The subwoofers can be used as stand-alone solutions or in stacked combinations with a minimum distance of 60 cm (2 ft) between adjacent cabinets or between the cabinets and a side wall. When set up in front of walls, the minimum distance to rear walls should be 30 cm (1 ft).

### Yi-Series rigging components and arrays

Cabinets are mechanically connected using the rigging strands on both sides of the cabinet front and a central strand at the rear of the cabinet. All necessary rigging components are mounted to the cabinet and fold out or slide out when needed. The rigging components are also intended to interconnect and secure Yi-SUB cabinets in ground stacked applications.

A detailed description of the Yi-Series rigging components is given in the Yi-Series Rigging manual which is provided with the corresponding Yi Mounting frames.

A detailed description of planning and designing Yi arrays is given in the technical information "TI 385 d&b Line array design, ArrayCalc" which is provided with the Y Flying frame.

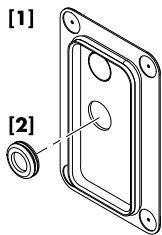
The d&b ArrayCalc simulation software can be downloaded from the d&b website at [www.dbaudio.com](http://www.dbaudio.com).

### 2.2 Connections

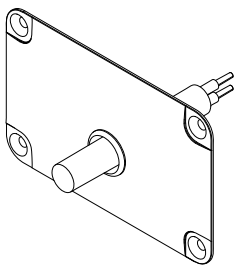
The cabinet is fitted with a pair of NL4 M connectors and a two pole screw terminal block (ST). All four pins of both NL4 M connectors are wired in parallel. The cabinet uses the pin assignments 2+/2-. Pins 1+/1- are designated to full range cabinets.

Pin equivalents of the applicable connector options are listed in the table below.

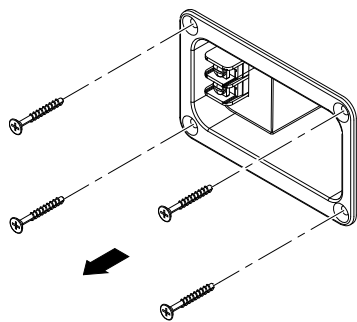
NL4 M	1+	1-	2+	2-
ST	n.a.	n.a.	+	-



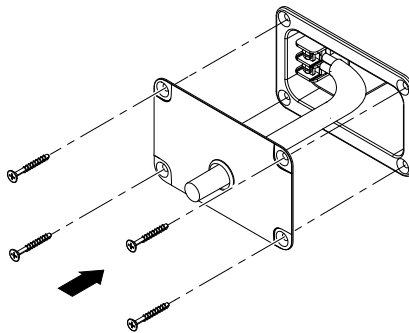
Step 1



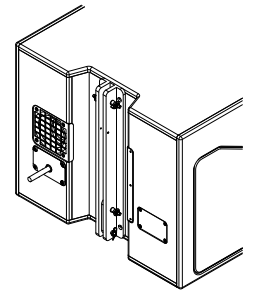
Step 2



Step 3

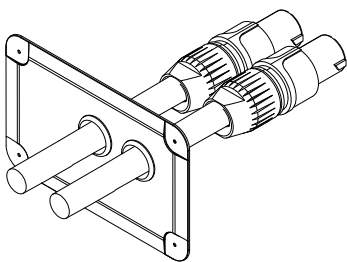


Step 4/5



Step 6

**Installing the fixed cable connection**



NL4 cable connection with cover plate [1]

**Fixed cable connection**

The Yi-SUB loudspeaker is supplied with a cover plate [1] and a rubber grommet feed through [2]. For indoor operation, these items can be used to hide the connector panel, if required. For unprotected outdoor operation, the connector panel must be covered, i.e. both items must be used to achieve an IP degree of protection of IP34.

To install the fixed cable connection, proceed as follows:

**Tools required:** Philips screw driver (#PH2).

1. Remove the knockout opening in the cover plate [1] and attach the rubber grommet [2] correspondingly.
2. Insert the connection cable through the rubber grommet.
3. Undo the four screws of the connector panel.
4. Connect the cable wires to the screw terminal.  
⇒ Observe the correct polarity!
5. Push the cover plate towards the connector panel until it fits into place.
6. Finally fix the cover plate together with the connector panel using all screws.

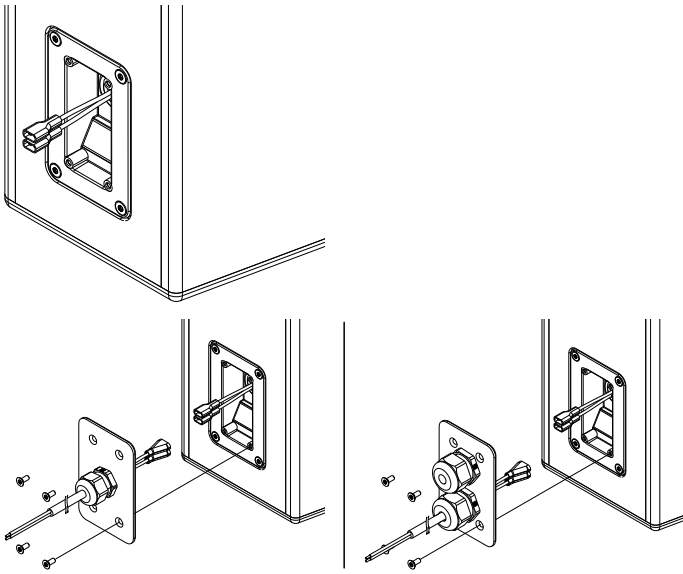
**NL4 connection with cover plate**

The two NL4 connector sockets of the cabinet's connector panel are located in a recess to allow the use of the cover plate [1] together with NL4 cable connectors, as shown in the graphic opposite.

**Note:** Neutrik NL4FC type connectors must be used for this option.

The cover plate is equipped with two knockout openings to allow daisy chaining of the loudspeaker.

To use the NL4 connection, proceed in the same manner as described in the previous section .



### WR option (Weather Resistance)

WR cabinets are equipped with a recessed connector panel including a Faston type connector (2 x 6,3 mm, female). A cover plate which accepts single or dual PG cable glands (Type PG13.5 for cable diameters from 6 - 12 mm) is enclosed, as shown in the graphic opposite.

To install the fixed connection cable, please proceed as follows:

**Tools required:** Screw driver (T20).

**Note:** Observe the correct polarity of the cable Brown (+) / Blue (-).

1. Insert the connection cable through the PG screwing and connect the male connector to the female connector.
2. Push the cover plate towards the connector panel until it fits into place.
3. Fix the cover plate to the connector panel using the four countersunk screws.

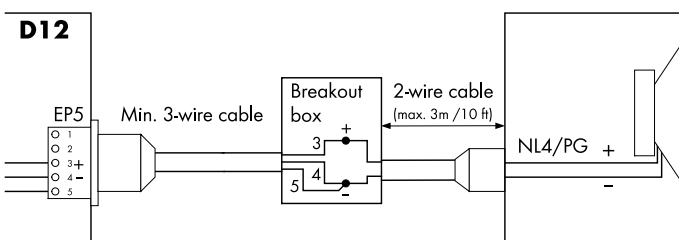
### d&b LoadMatch

Starting with the D80 amplifier platform, the LoadMatch function enables the amplifier to electrically compensate for the properties of the loudspeaker cable used without the need for an additional sense wire. For applicable loudspeakers, LoadMatch is therefore independent of the connector type used.

### d&b SenseDrive

The SenseDrive feature within D12 amplifiers enables electrical compensation for the properties of the loudspeaker cable used. SenseDrive requires an additional sense wire. SenseDrive is therefore only available with EP5 connectors and 5-wire cabling for applicable loudspeakers.

**Note:** When the D12 is operated in "Mix TOP/SUB mode", the SenseDrive function is only available at the output B connector.



In permanent installations, SenseDrive can also be applied to cabinets with NL4 connectors or the fixed cable option (PG). The connection of the negative signal wire (EP5 pin 4 of the respective D12 output) to the SenseDrive wire (EP5 pin 5 of respective D12 output) is made in a breakout box close to the loudspeaker cabinet. For an uncompromising SenseDrive performance the connection should be done not more than 3 m (10 ft) away from the loudspeaker.

## 2.3 Operation

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### NOTICE!

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Only operate d&b loudspeakers with a correctly configured d&b amplifier, otherwise there is a risk of damaging the loudspeaker components.

#### **Applicable d&b amplifiers:**

D80/D20/D12/D6/10D/30D.

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<b>Application</b>	<b>Setup</b>	<b>Cabinets per channel</b>
<b>Yi-SUB</b>	Y-SUB	2

Within applicable amplifiers, the controller setup is available in Dual Channel or Mix TOP/SUB mode.

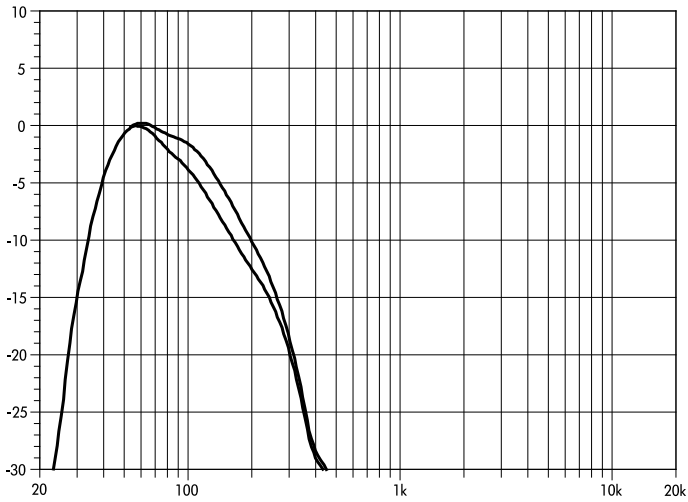
### **2.3.1 Controller settings**

For acoustic adjustment the 100 Hz mode can be selected.

#### **100 Hz mode**

With the 100 Hz mode selected, the upper operating frequency of the system is reduced from 140 Hz to 110 Hz.





**Yi-SUB frequency response, standard and 100 Hz mode**

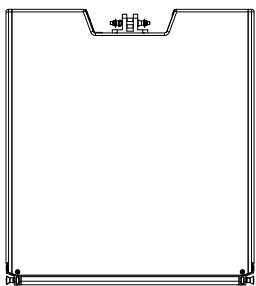
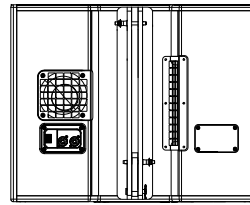
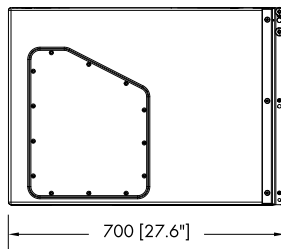
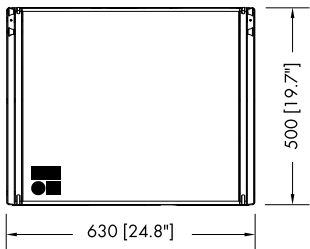
## 2.4 Technical specifications

### Yi-SUB system data

Frequency response (-5 dB standard) .....	39 Hz - 140 Hz
Frequency response (-5 dB 100 Hz mode) .....	39 Hz - 110 Hz
Max. sound pressure (1 m, free field) .....	.....
with D6/10D .....	128 dB
with D12/D20/30D .....	131 dB
with D80 .....	134 dB
..... (SPLmax peak, pink noise test signal with crest factor of 4)	

### Yi-SUB loudspeaker

Nominal impedance .....	8 ohms
Power handling capacity (RMS/peak 10 ms) .....	600/2400 W
Components .....	1 x 18" driver
.....	1 x 12" driver
Connections .....	2 x NL4 M
.....	1 x screw terminal (ST - up to 4 mm <sup>2</sup> /AWG 11)
Optional fixed cable (PG): .....	.....
.....	H07-RN-F, 2 x 2.5 mm <sup>2</sup> (AWG 13), 5.5 m (18 ft)
Pin assignment .....	NL4 M: 2+/2-
.....	Fixed cable (PG): Brown: (+) / Blue: (-)
Weight .....	49 kg (108 lb)



**Yi-SUB cabinet dimensions in mm [inch]**



### 3.1 EU conformity of loudspeakers (CE symbol)

This declaration applies to:

#### **d&b Yi-SUB loudspeaker, Z0719**

manufactured by d&b audiotechnik GmbH.

All production versions of these types are included, provided they correspond to the original technical version and have not been subject to any later design or electromechanical modifications.

We herewith declare that said products are in conformity with the provisions of the respective EC directives including all applicable amendments.

A detailed declaration is available on request and can be ordered from d&b or downloaded from the d&b website at [www.dbaudio.com](http://www.dbaudio.com).

#### **3.1.1 WEEE Declaration (Disposal)**

Electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime.

Please dispose of this product according to the respective national regulations or contractual agreements. If there are any further questions concerning the disposal of this product, please contact d&b audiotechnik.



