

Ti-SUB

Manual 1.1 en



Symbols on the equipment

Please refer to the information in the operating manual.

WARNING!
Dangerous voltage!

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General Information

Ti-SUB Manual

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

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

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.

d&b audiotechnik GmbH
Eugen-Adolff-Strasse 134, D-71522 Backnang, Germany
Telephone +49-7191-9669-0, Fax +49-7191-95 00 00
E-mail: docadmin@dbaudio.com, Internet: www.dbaudio.com

Safety precautions



WARNING!

Information regarding use of loudspeakers

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.

CAUTION!

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.

Ti-SUB

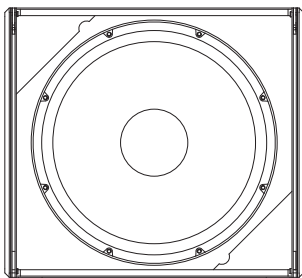


Fig. 1: Ti-SUB loudspeaker

The Ti-SUB is the subwoofer for the Ti-Series. It can be used to supplement Ti10 cabinets in various combinations, either flown or ground stacked. The Ti-SUB cabinet is an actively driven bass-reflex design housing a long excursion 15" driver, its frequency response extends from 47 Hz to 140 Hz.

The Ti-SUB cabinet is constructed from marine plywood and has an impact and weather resistant black paint finish. The front of the loudspeaker cabinet is protected by a rigid metal grill in front of an acoustically transparent foam.

Ti-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 are folded or slide out when needed.

A detailed description of the T-Series rigging components is given in the T-Series Rigging manual which is provided with the Z5370 T Flying frame.

A detailed description of planning and designing T-Series arrays is given in the technical information "TI 385 Line array design, ArrayCalc" which is also provided with the T Flying frame.

The d&b ArrayCalc simulation software can be downloaded from the d&b website at www.dbaudio.com.

Ti-SUB rigging procedure

Ti-Series arrays with Ti-SUB cabinets at the top of the array are set up using the Z5370 T Flying frame. The rigging procedure follows the description given in the T-Series Rigging manual which is provided with the T Flying frame. However, Ti-SUB cabinets have different front rigging mechanisms. The Ti-SUB front rigging is equipped with hooks and fixed bolts instead of locking pins and hidden behind a cover in cabinet color.

To attach a Ti-SUB cabinet to the T Flying frame and at the top of an Ti-Series array, proceed as follows:

1. Slide out the Front links of the cabinet.
2. Release the Locking of the Rear link and slide out the Rear link up to its stop position.

Insert the Locking pin to fix the Rear link in place.

3. Keep the cabinet at an angle of 90° to the upper cabinet/frame and insert the Front links into the front rigging of the upper cabinet.
4. Slowly lower the cabinet and make sure the hooks rest in the bolts.
5. Release the Locking pins at the rear rigging strand of the upper cabinet.
6. Lift the back of the cabinet and insert the Rear link into the rear rigging strand of the upper cabinet.
7. Insert the two Locking pins for the Rear link on the upper cabinet.

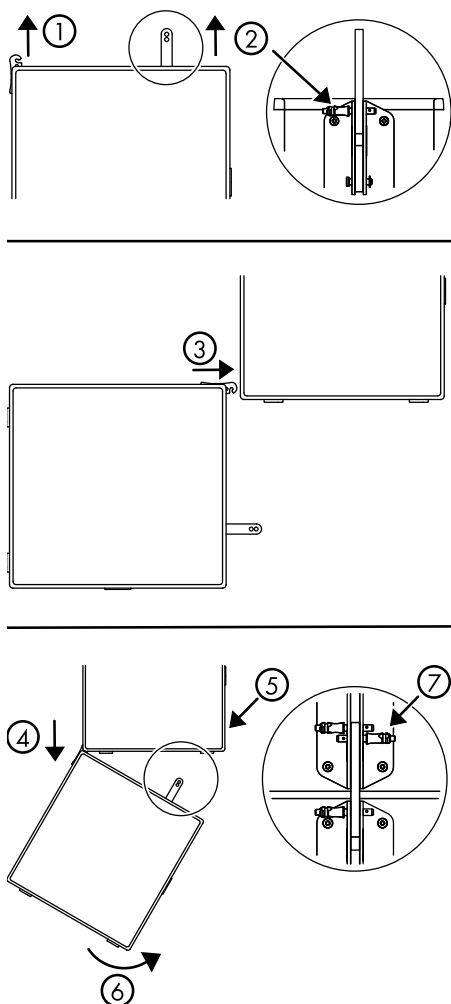


Fig. 2: Assembly of Ti-SUB cabinets

Ti-SUB cabinet options

The special color (SC) version of the cabinet is available in all colors of the RAL color table. The connector type is NL4.

The weather resistant (WR) version is available in black only. It is equipped with a fixed input cable (5 m / 16.4 ft, type H-07-RN-F 2 x 2.5 mm²/AWG 13).

NOTICE: The WR option enables operation of loudspeakers in changing ambient conditions, however it is not intended to enable permanent, unprotected operation of loudspeakers outdoors.

- Provide an additional cover over the loudspeakers.
- Aim the cabinets either horizontally or with a downward tilt.

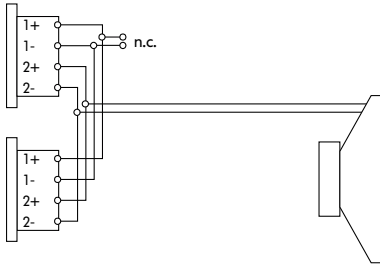


Fig. 3: Connector wiring

Connections

The Ti-SUB cabinet is fitted with a pair of NL4 connectors. All pins of both connectors are wired in parallel. The Ti-SUB uses the pin assignments 2+/2-. Pins 1+/1- are designated to d&b full range systems. Using the male connector as the input, the female connector allows for direct connection to additional loudspeakers.

The weather resistant (WR) version of the Ti-SUB is equipped with a fixed input cable (5 m/16.4 ft, type H-07-RN-F 2 x 2.5 mm²/AWG 13).

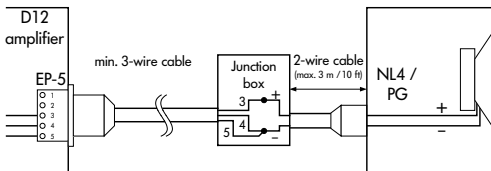
Pin equivalents of NL4 connectors and the fixed cable option are listed in the table below.

NL4	1+	1-	2+	2-	n.a.
Fixed cable (PG)			Brown (+)	Blue (-)	

Connecting D12 EP5 outputs to installed loudspeaker cabinets (SenseDrive)

To apply SenseDrive for the subwoofer D12 amplifiers with EP5 connectors have to be used.

When the D12 is operated in "Mix TOP/SUB mode" the SenseDrive function is available on the output B connector only.



In permanent installations SenseDrive can also be applied to cabinets with NL4 connectors or fixed cable option (PG). The connection of the negative signal wire (EP5 pin 4 of respective D12 output) to the SenseDrive wire (EP5 pin 5 of respective D12 output) is made in a junction 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.

Operation

NOTICE!

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.

Application	Setup	Cabinets per channel
Ti-SUB	T-SUB	2

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

Controller settings

100 Hz circuit

If the 100 Hz circuit is selected, the upper operating frequency of the system is reduced from 140 Hz to 100 Hz.

Technical specifications

Ti-SUB system data

Frequency response (-5 dB standard).....47 Hz ... 140 Hz
 Frequency response (-5 dB 100 Hz mode).....47 Hz ... 100 Hz
 Max. sound pressure (single cabinet, 1 m, free field)
 with D6/10D.....127 dB
 with D80/D20/D12/30D.....130 dB
 (SPLmax peak, pink noise test signal with crest factor of 4)

Ti-SUB loudspeaker

Nominal impedance.....8 ohms
 Power handling capacity (RMS / peak 10 ms).....300/1600 W
 Components.....15" driver with neodymium magnet
 Connections.....2 x NL4
WR option: Fixed cable 5 m (16.4 ft) (H-07-RN-F 2 x 2.5 mm²/AWG 13)
 Pin assignments.....NL4: 2+/2-
Fixed cable: Brown + / Blue -
 Weight.....17 kg (37 lb)

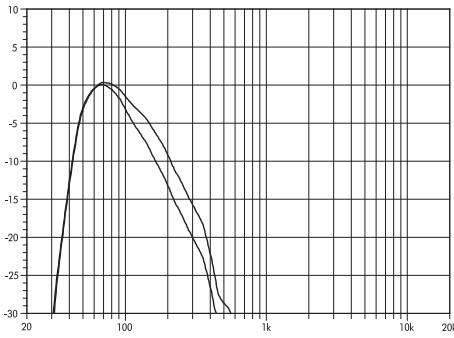


Fig. 4: Ti-SUB frequency response, standard and 100 Hz settings

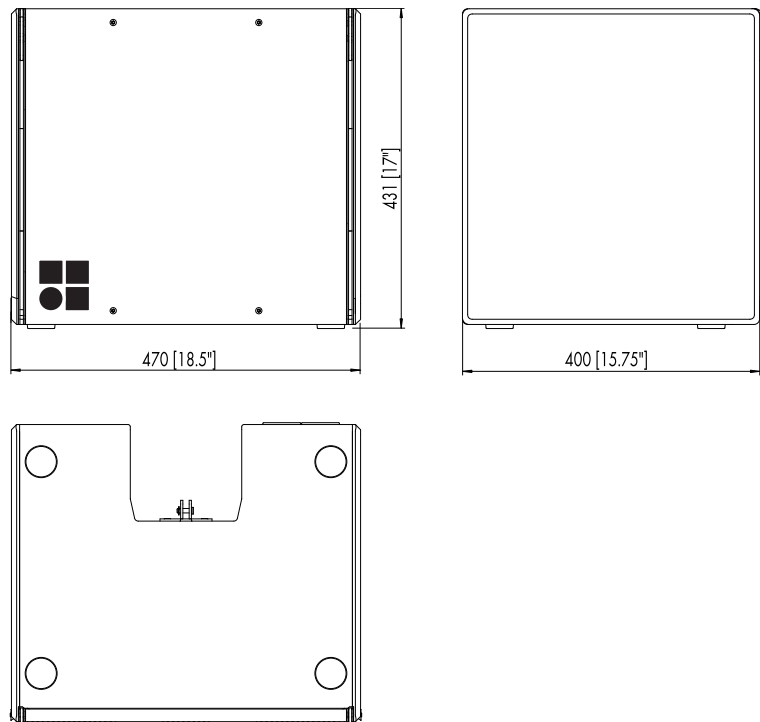


Fig. 5: Ti-SUB cabinet dimensions in mm [inch]

Manufacturer's Declarations



EU conformity of loudspeakers (CE symbol)

This declaration applies to

Ti-SUB loudspeaker, Z056 1

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.

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.

