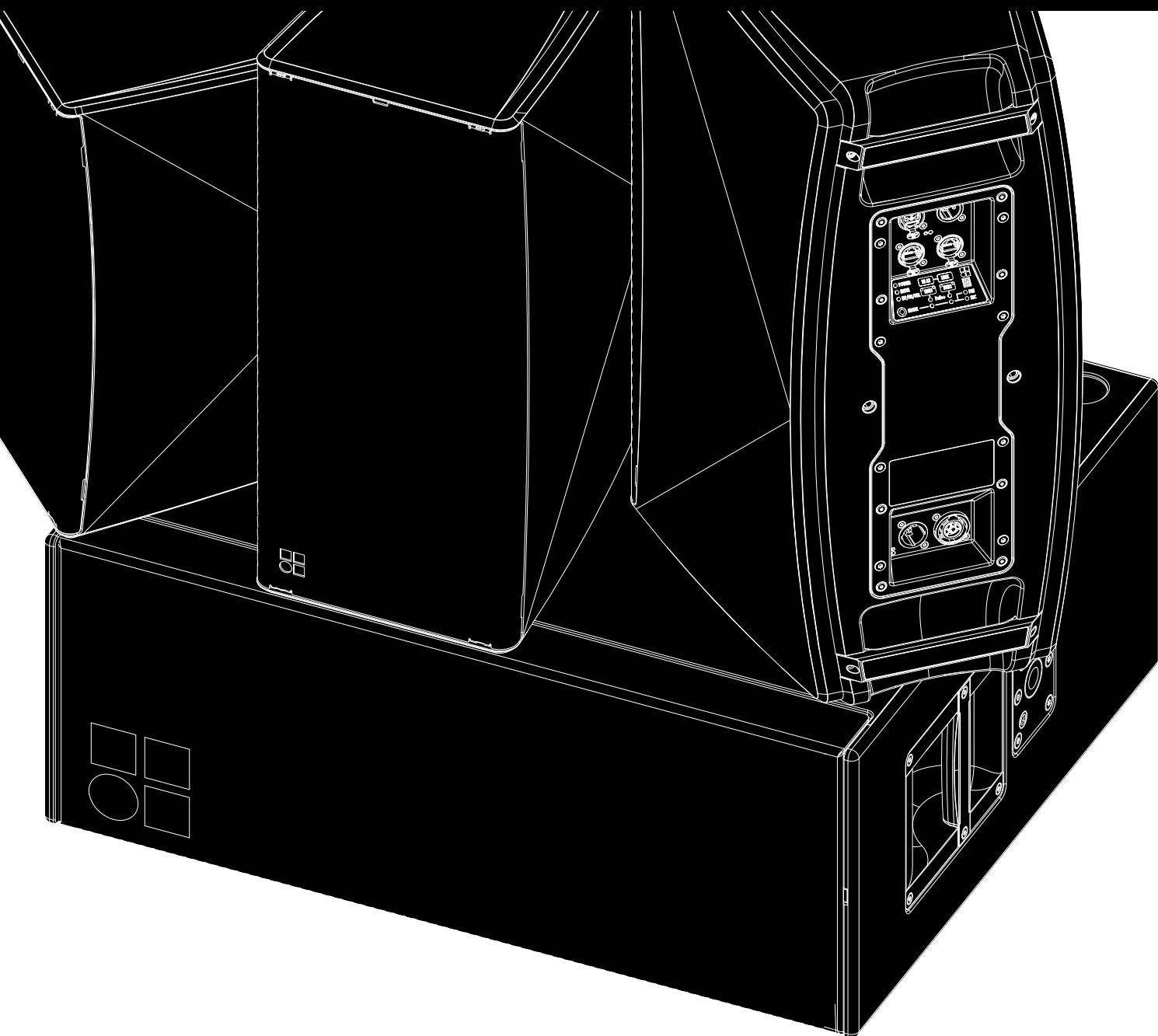


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UxN/B10N-/Bi10N-SUB Manual 1.1 en



Notes on document version

Version 1.1

Initial edition.

General information

UxN/B10N-/Bi10N-SUB Manual

Version: 1.1 en, 04/2026, D2791.EN .01

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Explanation of graphical symbols



The lightning symbol within a triangle is intended to alert the user to the presence of uninsulated "dangerous voltages" within the unit's chassis that may be of sufficient magnitude to constitute a risk of electric shock to humans.



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

Before using this product, carefully read the applicable items of the following safety instructions.

1. Keep these instructions for future reference.
2. Read these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. **WARNING!** To reduce the risk of fire or electric shock:
 - Do not expose the rear connector panel to rain or moisture.
 - Operate the unit in wet environments or rain only with additional water protection.
 - Keep water or other liquids away from the unit.
 - Do not place liquid filled containers, for example beverages, on top of the unit.
 - Do not operate the unit while it is wet or standing in liquid.
6. When the AC power supply is used, always operate the unit with the chassis ground wire connected to the electrical safety earth.
 - Do not defeat the safety purpose of a 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.
7. Do not use this unit if the power cord is damaged or frayed. Protect the power cord from being walked upon or pinched, particularly at the plugs and the point where it exits from the apparatus.
8. Unplug this apparatus during lightning storms or when unused for long periods of time.
9. Lay all cables connected to the unit carefully so that they cannot be crushed by vehicles or other equipment and that no one can either step on them or trip over them.
10. 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 into the unit.
 - The unit has been exposed to rain or moisture.
 - The unit does not operate normally.
 - The unit was dropped or the chassis is damaged.
 - Do not remove the rear connector panel. Removal will expose hazardous voltages. There are no user serviceable parts inside and removal may void the warranty.
11. Use the mains plug as the disconnecting device and keep it readily accessible.

Safety precautions loudspeaker

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.

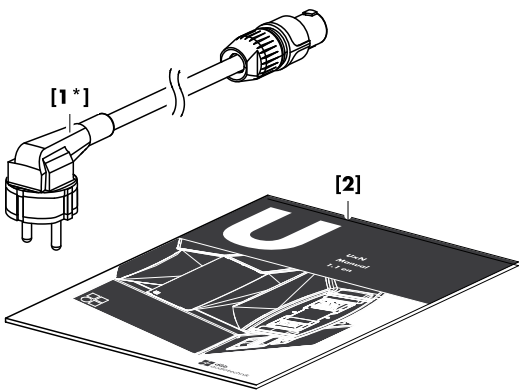
In order to prevent accidents when deploying loudspeakers on the ground or when flown, please take note of the following:

- 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 deployment. Pay attention to the correct application and maximum load capacity of the accessories as detailed in our specific "Mounting instructions" or in our "Rigging manuals".
- Ensure that all additional hardware, fixings and fasteners used for 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 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.

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1.1 Scope of supply

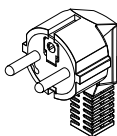
Before starting up the device, please verify the shipment for completeness and proper condition of the items.

If there is any sign of obvious damage to the unit and/or the power cord, do not operate the unit and contact your local dealer from whom you received it.

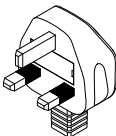
Each of the cabinets comes with the following, additional items:

Pos.	Qty.	d&b Code	Description
[1]	1	Z2613.xxx	Power cord (powerCON® TRUE1 TOP - 2.5 m / appr. 8 ft - specific to country)*.
[2]		D2791.EN .01	d&b UxN Manual.

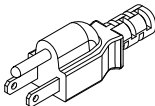
*Mains plug types and associated standards



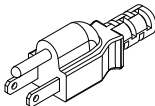
Z2613.000
3-pin Schuko
CEE 7/7



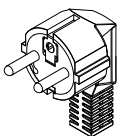
Z2613.010
3-pin UK
BS 1363A



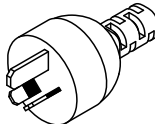
Z2613.020
3-pin N-America
NEMA 5-15P



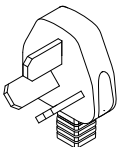
Z2613.030
3-pin Japan
NEMA 5-15P



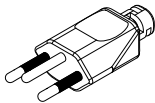
Z2613.040
3-pin South Korea
KS C8305



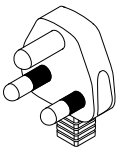
Z2613.050
3-pin Australia
AS 3112



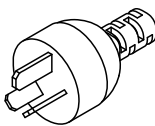
Z2613.060
3-pin China
GB 2099



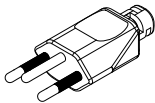
Z2613.070
3-pin Switzerland
SEV 1011



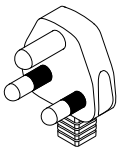
Z2613.100
3-pin South Africa
SANS 164-1



Z2613.110
3-pin Argentina
IRAM 2073

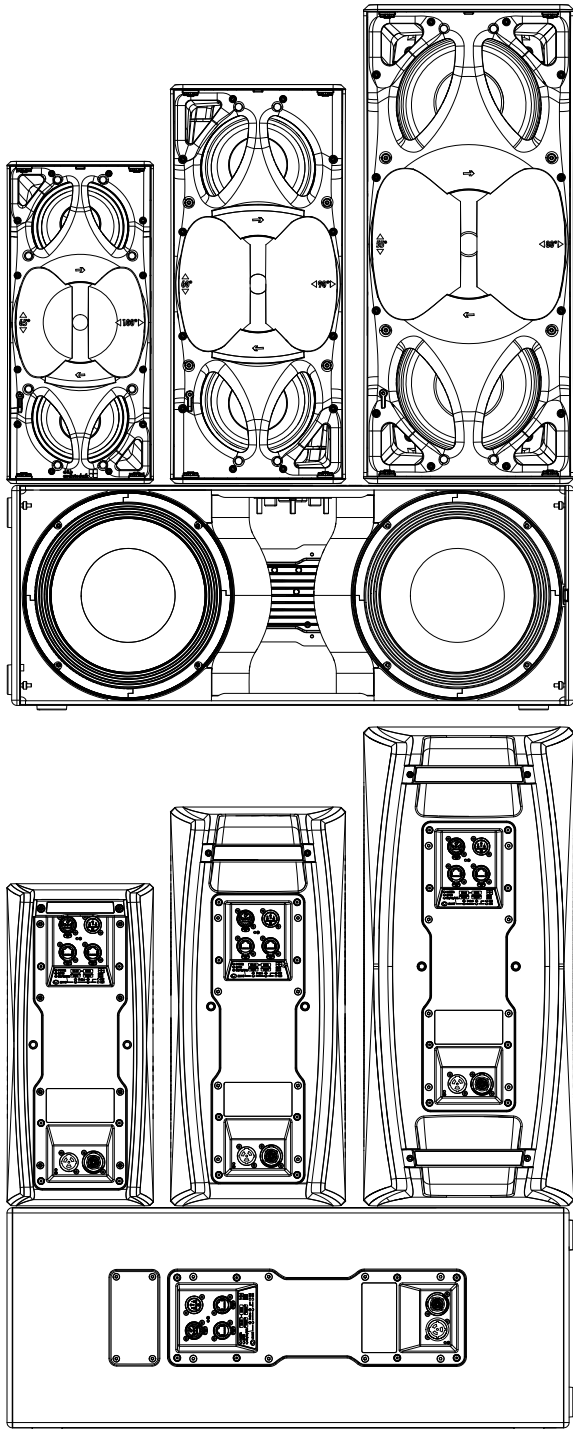


Z2613.120
3-pin Brazil
NBR 14136



Z2613.130
3-pin India
IS 1293

Note: Plugs are similar illustrations, not in scale



1.2 Intended use

The U-Series U3N, U5N and U7N as well as the B10N-SUB and Bi10N-SUB form a family of compact, high-performance networked loudspeakers covering a wide range of typical point-source applications. They are designed and intended for either mobile or fixed installation purposes.

NOTICE!

To avoid any water ingress and/or moisture entry, UxN as well as the B10N-SUB and Bi10N-SUB loudspeakers require additional protection when exposed to rain or when operated in wet environments.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules as well as EN 55032:2019 (product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use).

These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Acoustic interference and malfunctions may occur if the unit is operated in the immediate vicinity of high-frequency transmitters (e.g. wireless microphones, mobile phones, etc.). Damage to the device is unlikely, but cannot be excluded.

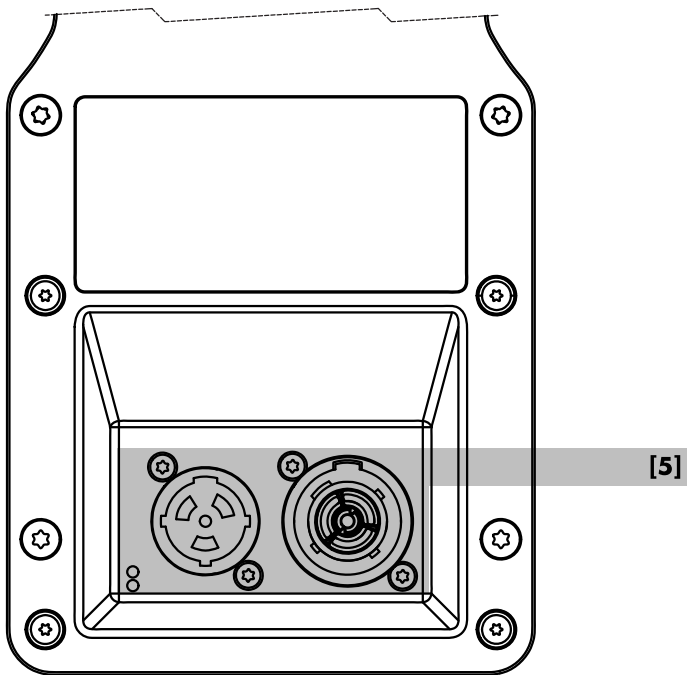
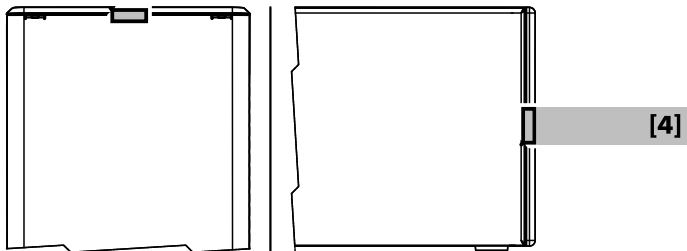
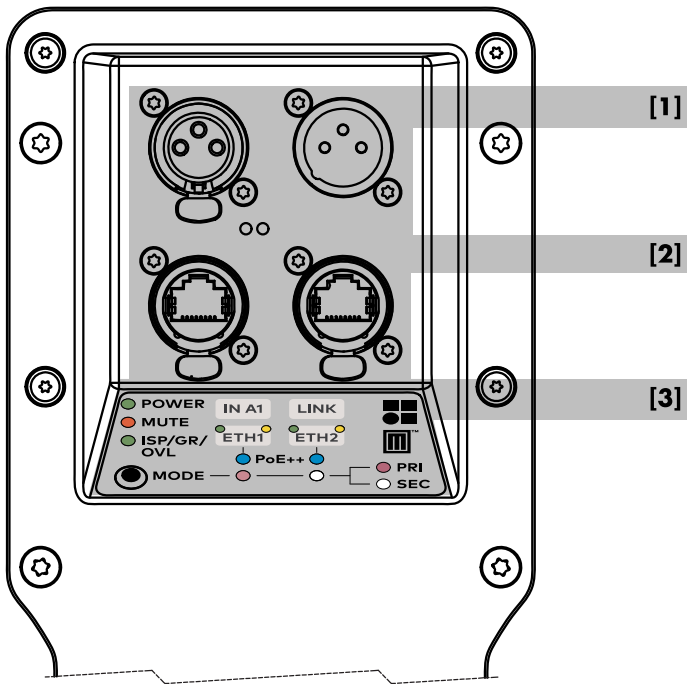
Only shielded network cables must be used.

The loudspeakers can be powered from a conventional AC mains supply as well as from PoE++ (802.3bt Class 8 / 90 W PSE). Each supply option provides the full functionality of the loudspeaker. With two network ports featuring PoE++, multiple combinations of AC and PoE can be used to create redundant supply scenarios.

The network ports provide a control interface via the d&b Remote network using the d&b R1 Remote control software and can receive Milan™ signals. The ports can be configured to work either in redundant or switched mode. The combination of Milan™ and PoE enables the single cable operation with power, audio and control over one connection. In addition, an analog input with link is also provided.

The basic configuration of the loudspeaker can also be done using the inbuilt NFC interface in either the powered or unpowered state. Two apps with different feature sets are available: the d&b ArrayCalcViewer and the d&b N.Control app.

A detailed description on the loudspeaker cabinets, their acoustical design and technical specifications is given in ⇒ Chapter 3 "UxN/B10N-/Bi10N-SUB loudspeaker" on page 16.



Overview

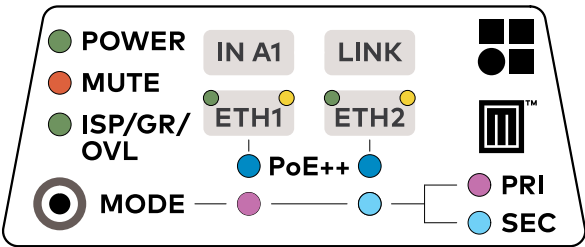
Analog IN A1 and LINK

Refer to ⇒ Chapter 2.1 “Analog IN A1 and LINK” on page 8.

Network and PoE

Refer to ⇒ Chapter 2.2 “Network and PoE” on page 8.

Control and indicators



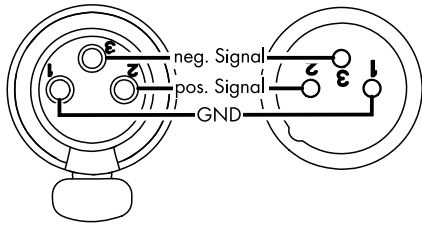
Refer to ⇒ Chapter 2.3 “Controls and indicators” on page 10.

Front LED indicator and NFC

Refer to ⇒ Chapter 2.4 “Front LED indicator and NFC” on page 12.

AC MAINS INPUT and AC LINK

Refer to ⇒ Chapter 2.5 “AC MAINS INPUT and AC LINK connector” on page 13.



2.1 Analog IN A1 and LINK

A 3-pin female XLR input connector is provided. Wired in parallel is a 3-pin male XLR link connector used to feed the input signal onto the next device in the signal chain.

Specifications

IN A1	3 pin XLR female
Pin assignment	1 = GND 2 = pos. 3 = neg.
Input impedance	20 kOhms, electronically balanced
CMRR @ 100 Hz/1 kHz / 10 kHz	>60 / >60 / >60 dB
Maximum input level (balanced/unbalanced)	+24 / +18 dBu
	+27.3 dBu @ 0 dBFS
LINK	3 pin XLR male, parallel to input

2.2 Network and PoE

NOTICE!

Only **shielded network** cables (**STP**) must be used!

For PoE the maximum cable length is 100 m. The required cross section depends on the actual cable run. AWG26 cables are sufficient up to 10 m, AWG24 up to 50 m, for longer cables AWG23 is recommended.

PoE/ PoE++ does not support daisy-chaining.

The device provides two etherCON® connectors (ETH1/ETH2) and allows remote control, digital audio networking (Milan™), and power supply (PoE) via Ethernet.

IP configuration options

The default IP configuration is «AUTO» supporting DHCP or Link Local address management. The use of manual IP addressing can be configured via R1 or via NFC using the d&b N.Control app.

2.2.1 Network modes

Switched mode (default)

In «Switched» mode, either of the connector sockets can be used for remote control. The other connector socket can be used to feed the control signal to the next device in the signal chain (daisy-chain).

This is also applicable for the primary Milan™ signal which can be fed to and linked from the device.

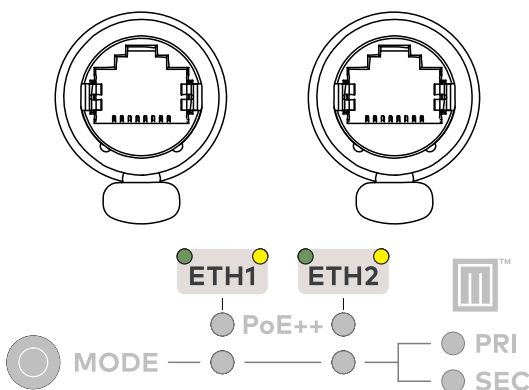
Note: The maximum recommended number of UxN/B10N-SUB loudspeakers on a network chain is 6.

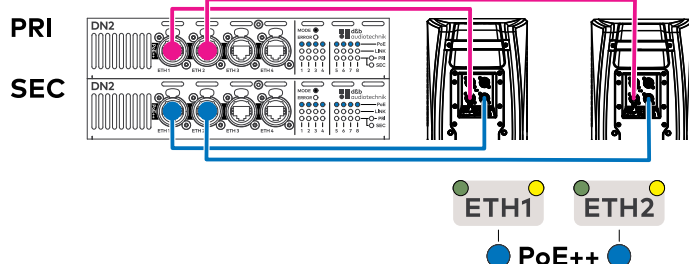
Redundant mode*

* Available from firmware version 1.02.

In «Redundant» mode, ETH1 is used for the standard remote control via the d&b Remote network using the d&b R1 Remote control software.

This connector socket is also used for the primary (PRI) Milan™ signal, while ETH2 is used for the redundant (SEC) Milan™ signal and PoE++ only.





2.2.2 PoE

The devices can be powered independently from the AC mains supply and/or using PoE on either or both network ports. For full operation a Type 4, Class 8 (PoE++ / 90 W PSE) switch or injector according to IEEE 802.3bt is required.

The recommended switch is the d&b DN2. For Standby operation and firmware updates a Type 1, Class 3 or higher PoE switch or injector is sufficient (please also refer to the table below).

PoE can be used in both «Switched» and «Redundant» mode.

Note: The PoE power supply cannot be linked through. If the control and Milan™ signal is daisy-chained to the next loudspeaker using the «Switched» mode, power must be fed separately to this loudspeaker.

It is possible to feed the speakers with PoE++ on both ethernet ports simultaneously. This is possible in «Switched» and in «Redundant» mode. However, in «Switched» mode, avoid creating network loops by connecting both ports to the same PSE.

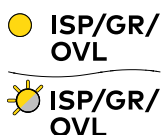
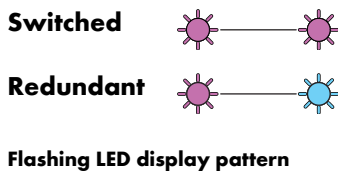
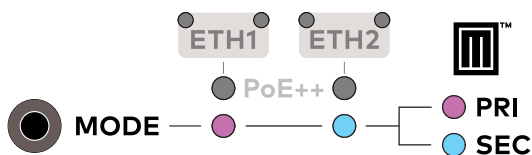
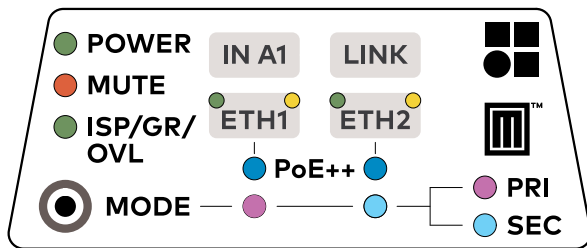
Due to the energy storage capacity of the electronics module, all U7N and B10N-SUB loudspeakers achieve their specified peak SPL with only one PoE++ connection.

Depending on the input signal and its crest factor, U7N and B10N-SUB can achieve a higher continuous SPL by adding another PoE++ supply (approx. 2 dB more than with one PoE++ supply) or AC power (approx. 4 dB more than with a single PoE++ supply).

PoE Classes, Types, Names and Standards

									Full operation
Class	0	1	2	3	4	5	6	7	8
Type	-	1	1	1	2	3	3	4	4
Name	PoE	PoE	PoE	PoE	PoE+	PoE++	PoE++	PoE++	PoE++
IEEE	802.3af	802.3af	802.3af	802.3af	802.3at	802.3bt	802.3bt	802.3bt	802.3bt
Power PD	12.95 W	3.84 W	6.49 W	12.95 W	25.5 W	40 W	51 W	62 W	71.3 W
Power PSE	15.4 W	4.0 W	7.0 W	15.4 W	30 W	45 W	60 W	75 W	90 W
Standby operation/Firmware update									

PD: Powered Device | **PSE:** Power Sourcing Equipment



2.3 Controls and indicators

Local user interface

The local interface provides a «**MODE**» button for basic operating settings as well as all relevant status indicator LEDs.

Further configurations are done by the d&b R1 Remote control software and/or the d&b N.Control app for mobile devices.

2.3.1 MODE button (Network modes)

The «**MODE**» button provides multiple functions, triggered by different operating patterns.

Milan™ operating modes*

*Available from firmware version 1.02.

Two Milan™ operating modes can be set:

Mode	LED display pattern
Switched (default)	
Redundant	

Please also refer to ⇒ Chapter 2.2.1 “Network modes” on page 8.

To change the Milan™ operating mode configuration, proceed as follows:

- Press and hold the «**MODE**» button for 2 to 5 sec. to enter the Milan™ operating mode configuration function.
 - Once the device has entered this mode, both network mode LEDs will start flashing, indicating the current set mode.
- Press the button to toggle between the two operating modes.
 - Watch the display pattern of the network mode LEDs until the desired mode is indicated.
- Once the desired mode is indicated, leave the button unpressed.
 - After 5 sec. the desired operating mode is taken over and the LEDs will illuminate permanently, indicating the set mode.

Remote reset mode

A remote reset resets all user definable parameters concerning the network IP settings.

- To activate the remote reset mode, press and hold the «**MODE**» button for 5 to 8 sec..
 - Once the device has entered this mode, the ISP/GR/OVL LED will flash orange.
- Release the button and press it again within 2 sec.
 - The ISP/GR/OVL LED will flash once in orange to confirm the action.
 - The remote reset has been successfully executed.

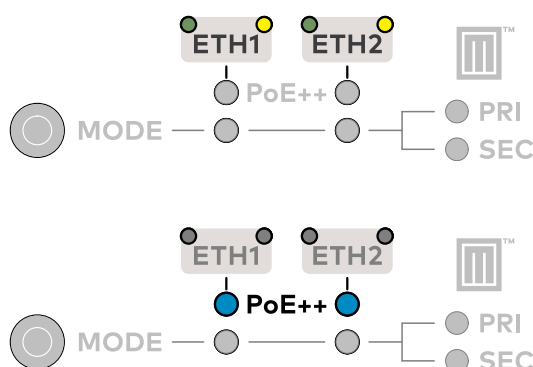
● ISP/GR/OVL

☀ ISP/GR/OVL

● POWER

● MUTE

● ISP/GR/OVL



System reset

1. Disconnect all power supplies from the device and wait until all LEDs are off.
2. Press and hold the «MODE» button and repower the device.
3. Once the ISP/GR/OVL LED flashes orange, release the button and press it again within 2 sec.
 - ↳ The ISP/GR/OVL LED will flash once in orange to confirm the action.

The system reset has been successfully executed and the device is set to factory defaults.

2.3.2 Further LED indicators

Apart from the network mode status LEDs described in the previous section, the following LED indicators are provided:

Device status LED indicators

POWER

- **LED off:** Off.
- **LED on - green:** AC powered - On.
- **LED on - blue:** PoE powered - On.
- ☀ **LED flashing - green:** AC powered - Standby.
- ☀ **LED flashing - blue:** PoE powered - Standby.
- ☀ **LED flashing - red:** Error related to the power supply.

MUTE

Mute and channel error status of the device.

- **LED off:** Device unmuted.
- **LED on - red:** Device muted.
- ☀ **LED flashing - red:** Device or Channel error.

ISP/GR/OVL

Input signal states:

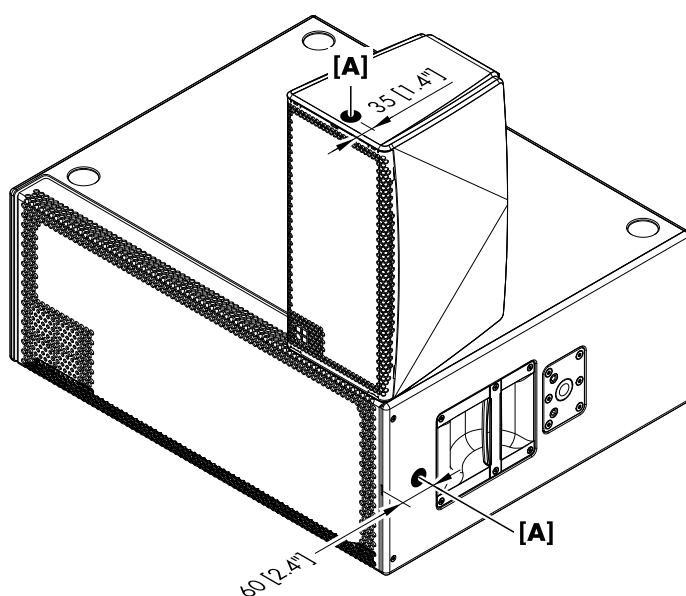
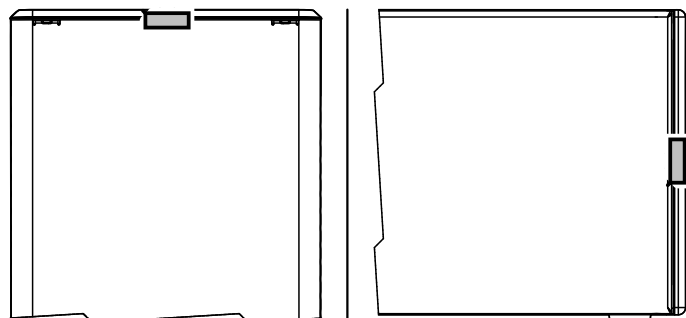
- **LED off:** No input signal detected
- **ISP - green:** Input **S**ignal **P**resent.
- **GR - orange:** **G**ain **R**eduction.
- **OVL - red:** **O**verload.

ETH1/ETH2 LED indicators

- /☀ **ETH1/ETH2:** Illuminates permanently when the device is connected to an active network and flashes as long as a data stream is transmitted.
- /● **Speed:**
 - Is off when the speed is 100 Mbit/s or lower.
 - Illuminates permanently when the speed is 1 Gbit/s.

PoE LED indicators

- **LED off:** No PoE power detected.
- **LED on - blue:** PoE++ established and sufficient power provided.
- ☀ **LED flashing - blue:** PoE class of connected PSE is insufficient for operation in On mode, but sufficient for Standby operation.
- **LED on - red:** PoE error detected.



2.4 Front LED indicator and NFC

The cabinets provides a front LED indicator as well as an NFC interface.

2.4.1 Front LED indicator

A white-color LED indicator is located on the center top front of the cabinet's front grill and indicates the following states:

Wink

The «Wink» function (LED flash ratio 2:1) can be used for device identification, either triggered by briefly pressing the «**MODE**» button on the rear user interface or via R1.

Firmware update

Executing a firmware update, this LED indicates the running update by emitting the morse code "U" (□□□□).

2.4.2 Near Field Communication (NFC)

The device features an NFC interface to allow the configuration and readout of information using a smart phone or tablet with the d&b N.Control app installed.

Note:

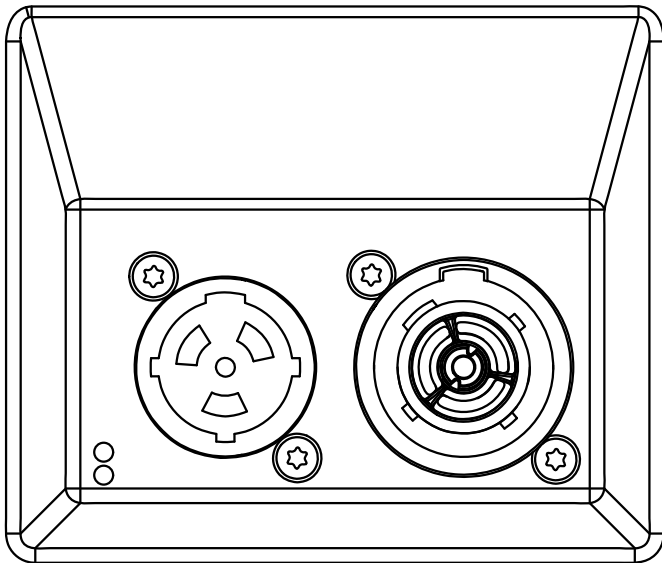
- If the device is connected to R1, the NFC interface is disabled.
- The d&b ArrayCalc Viewer app can be used to change the remote IDs.
- The d&b N.Control app can be used to additionally set the basic controller settings and IP configuration.

The NFC interface/antenna [A] is located at the center front, directly underneath the top panel of the UxN cabinets at a distance of 35 mm (1.4") and on one side panel of the B10N-SUB/Bi10N-SUB cabinet at a distance of 60 mm (2.4"), behind «Wink» LED, as shown in the graphic opposite.

It can be used with the device either way, powered or unpowered.

For proper functionality, the NFC interface in the smart phone or tablet must be closely aligned in the right spot with the NFC interface/antenna in the device.

The NFC reliability and working range may vary between individual smart phones or tablets.



2.5 AC MAINS INPUT and AC LINK connector



WARNING!

Potential risk of electric shock or fire!

Before connecting the device to the mains supply, check that the mains voltage and frequency correspond to the specifications on the rating label above the mains connector sockets.

Mains voltage range: 100 to 240 VAC, ~ 50/60 Hz, 200 W.

A powerCON® TRUE1 TOP AC MAINS INPUT and AC LINK connector is provided on the rear panel.

An appropriate power cord for the AC MAINS INPUT is supplied.

The AC LINK socket can be used to feed the mains voltage to a total of up to six (6) UxN/B10N-SUB loudspeakers on an AC chain.

Note: Local regulations for electrical installations may reduce this number, taking into consideration mains voltage, circuit breaker ratings, wiring cross-sections, and lengths.

When feeding third party devices from the AC LINK socket, make sure that the total current draw of the chain does not exceed 16 A_{RMS} or any lower limit imposed by local mains limitations (circuit breakers).

The AC supply can be used independently from the PoE supply. If the AC supply is available, the majority of the power is drawn from this interface, regardless of the additional availability of PoE.

2.6 Initial device setup

The device is mainly intended to be set up and operated via the d&b Remote network using the d&b R1 Remote control software.

Provided R1 is already installed and the device has been connected either directly or through the network, proceed as follows:

- ⇒ From the startup menu, choose the «**R1 V3 Initial device setup**» entry.
 - ↳ **R1** is launched and automatically switches to «**Online**» **mode** and the «**Service**» **view** is displayed.

In the left pane of the view, the connected device is listed.

In the right pane, the corresponding

«**Filter**» ⇒ «**Initial device setup**»

is set by default and provides you with basic parameters (in alphabetical order) to set up the device.



2.7 Firmware update

Checking for an available update of the device firmware at the initial device setup and also regularly checking for updates is highly recommended.

The firmware is continuously improved and updates are made available for download.

Note: Updating the firmware will reset the device to factory default settings (System reset).

To perform a firmware update the d&b R1 Remote control software must be used to download and install the update. For downloading, an internet connection is required for the computer running R1.

UxN and B10N-SUB/Bi10N-SUB loudspeakers do not require an internet connection.

When performing a firmware update, the device can be powered via AC power and/or PoE (Class 3 or higher).

However, the installation of PoE-specific software components will only be finalized when the device boots up with PoE connected to the respective port.

This may cause a slight delay when the device is powered via PoE for the first time after a firmware update.

In R1, a corresponding message will be issued if a restart is required to complete the update process.

Update procedure

Provided R1 is already installed and the device has been connected either directly or through the network, proceed as follows:

1. Use either the R1 initial device setup or the regular R1 entry from the start menu. In case of the latter, switch to «Online» mode and open the «Service» view.
2. Select your device(s) to be updated on the left side.
 - ↳ Multiple devices can be updated at once.
3. On the right side select the «Firmware» tab.
4. Download the intended firmware, if needed.
5. Select the firmware and click on «Update device».
 - ↳ The firmware update dialog will be launched.
6. Check all entries and observe the on-screen instructions.
7. Click «Continue» to start the data transfer.
 - ↳ The progress will be shown in the dialog.
 - Once the data has been transferred, the update is installed on the device. During that time, the device is not visible in R1.
 - During the update installation, the «Wink» LED is flashing.
 - Additionally, the PoE and network mode LEDs on the rear user interface show a circular pattern.
 - As soon as the installation is finished, the device reboots on its own.
 - After the start-up procedure is completed, the device will be available in R1 again.

Operating conditions

Operating temperature (*continuous/**short-term)	
..... -10 °C ... +40*/+50** °C (+14 °F ... +104*/+122** °F)	
Storage temperature	 -20 °C ... +70 °C (-4 °F ... +158 °F)
Humidity (rel.), non-condensating	 < 70 %
Maximum height above sea level	 2000 m/6560 ft

AC power supply

Switched mode power supply with automatic mains range selection and active Power Factor Correction (PFC).

AC MAINS INPUT/AC LINK	
..... powerCON® TRUE1 TOP - INPUT and LINK	
Mains fuse	 internal
Rated mains voltage	 100 - 240 V, 50 - 60 Hz
Rated mains current	
U3N	 1 ... 0.4 A
U5N	 1.1 ... 0.5 A
U7N	 1.6 ... 0.7 A
B10N-SUB/Bi10N-SUB	 2.6 ... 1.1 A

Protection circuits**Mains and power supply AC**

Overvoltage and undervoltage, inrush current limiter, internal fuse.

Overvoltage shutdown at	 266 V
Overvoltage restart when below	 260 V
Undervoltage shutdown at	 75 V
Undervoltage restart when above	 85 V

Output

Overcurrent, DC offset, pop-noise suppression.

Cooling

Passive, self-resetting overtemperature protection.

Power consumption (typical values, AC powered)

Standby	 5 W
Idling	 16 W
At rated output	
U3N	 70 W
U5N	 80 W
U7N	 130 W
B10N-SUB/Bi10N-SUB	 200 W

2.8 Technical specifications**Analog IN A1 and LINK**

IN A1	 3 pin XLR female
Pin assignment	 1 = GND 2 = pos. 3 = neg.
Input impedance	 20 kOhms, electronically balanced
CMRR @ 100 Hz/1 kHz / 10 kHz	 >60 / >60 / >60 dB
Maximum input level (balanced/unbalanced)	 +24 / +18 dBu
.....	 +27.3 dBu @ 0 dBFS
LINK	 3 pin XLR male, parallel to input

Milan™ inputs

Device type	 Endstation or endstation/bridge (switchable)
Input channel streams	 1 stream with up to 8 channels @ 48 kHz
Redundancy	 In endstation / redundant mode
Routable Milan™ inputs	 M1-4

Network and PoE connections

Connector type	 2 x RJ 45 (etherCON®)
PoE++	 single or dual IEEE 802.3bt, Type 4, Class 8
Switch	 integrated 2-port, 1 Gbit/s/100 Mbit/s
IP modes	 AUTO/MANUAL
Default IP address/Subnet mask	
U3N	 192.168.1.3
U5N	 192.168.1.5
U7N	 192.168.1.7
B10N-SUB/Bi10N-SUB	 192.168.1.10
Subnet mask	 255.255.255.0
ETH1/PRI	 Milan™, Remote control via R1
ETH2/SEC	
Switched mode	 Milan™ Primary, Remote control via R1
Redundant mode	 Milan™ Secondary only

Digital signal processing

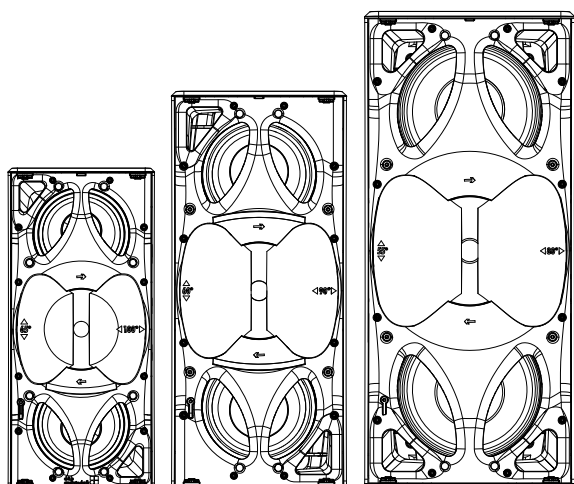
System start-up time from AC or PoE	 < 25 sec.
Time to tone from Standby (AC)	 < 1 sec.
Time to tone from Standby (PoE)	 < 1.5 sec.
Conversion	 48 kHz
Latency analog input	 1.1 ms
Equalizer	 2 user definable 16-band equalizer
.....	 Filter types: PEQ/Notch/HiShlv/LowShlv/Asym
Delay	 1.1 ms to 1 sec.
Frequency generator	 Pink noise or sine wave 10 Hz to 20 kHz

Control and indicators

MODE (push button)	 Wink, Network mode selection, Reset
LED indicators	 Wink / Power / Mute / ISP / GR / OVL
.....	 PoE++ ETH1/ETH2
.....	 Network mode ETH1/ETH2
.....	 Network speed and activity ETH1/ETH2

Near Field Communication (NFC)

NFC interface	 data readout and configuration via N.Control app
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3.1 U3N/U5N/U7N loudspeaker

The U3N, U5N, U7N form a family of compact, high-performance networked loudspeakers covering a wide range of typical point-source applications. They are designed and intended for either mobile or fixed installation purposes.

All cabinets house two neodymium LF drivers in a bass-reflex design and one HF driver mounted on a rotatable CD horn thus providing rotatable dispersion characteristics without the need for any tools.

The cabinets are actively crossed-over two-way designs and can be used as stand-alone systems or supplemented by applicable d&b subwoofers such as the B10N-SUB.

The two LF drivers are positioned in a bipolar arrangement providing vertical dispersion control even at lower frequencies. Specially designed ports with optimized flow characteristics provide efficient low frequency reproduction.

The cabinet enclosures are injection molded with an impact resistant paint finish and made of highly durable partially recycled ABS. The front panels of the cabinets incorporate a rigid metal grill backed by an acoustically transparent and water repellent fabric. Each rear panel incorporates handles while two M8 threaded inserts allow for the attachment of various mounting accessories.

3.1.1 Controller settings

Note: The following controller settings are accessible via the d&b R1 Remote control software or NFC via the d&b N.Control app.

For acoustic adjustment, the functions CUT, HFA and CPL can be selected.

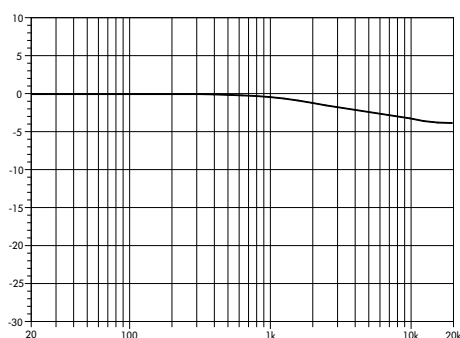
CUT mode

Set to CUT, the low frequency level is reduced. The cabinet is now configured for use with applicable d&b subwoofers.

HFA mode

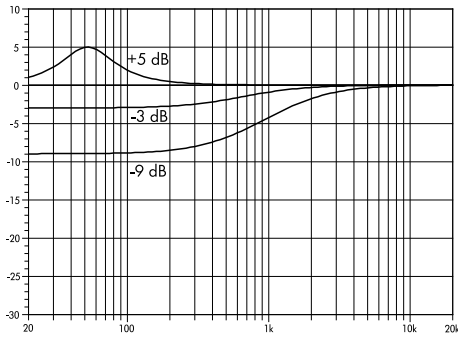
In HFA mode (High Frequency Attenuation), the HF response of the system is rolled off. HFA provides a natural, balanced frequency response when a cabinet is placed close to listeners in near field or delay use.

High Frequency Attenuation begins gradually at 1 kHz, dropping by approximately 3 dB at 10 kHz. This roll off mimics the decline in frequency response experienced when listening to a system from a distance in a typically reverberant room or auditorium.



Frequency response correction in HFA mode*

*schematic diagram



Frequency response correction of the CPL function

CPL function

The CPL (Coupling) function compensates for coupling effects between the cabinet and close boundary surfaces. CPL begins gradually around 1 kHz, with the maximum attenuation below 400 Hz. To achieve a balanced frequency response, the CPL function can be set to dB attenuation values between 0 and -9.

In situations where the system is operated without subwoofers and at lower levels, positive CPL values (0 to +5 dB) can be used to increase its low frequency output.

Extended full-range mode

The CPL boost functionality can also be used to achieve a consistent low-frequency extension among the U3N, U5N, and U7N loudspeakers.

The following CPL settings for U3N and U5N cabinets result in a lower corner frequency of 55 Hz for all cabinets:

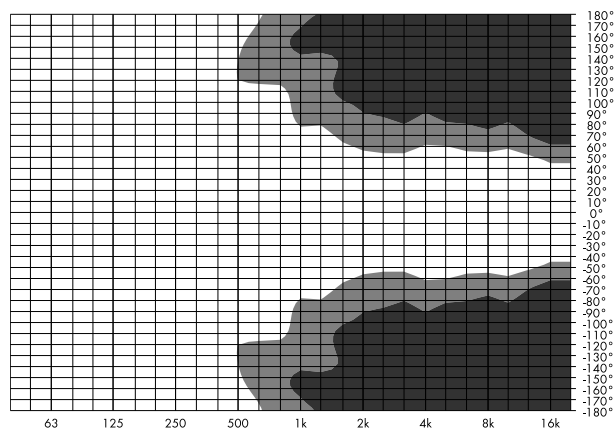
- **U3N:** CPL +3 dB
- **U5N:** CPL +2 dB

Please also refer to ⇒ Chapter 3.1.3 "Technical specifications" on page 22.

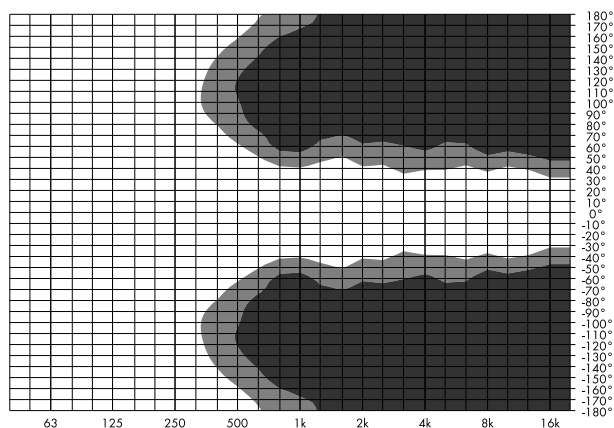
3.1.2 Dispersion characteristics

The following graphs show dispersion angle over frequency of a single cabinet plotted using lines of equal sound pressure (isobars) at -6 dB and -12 dB.

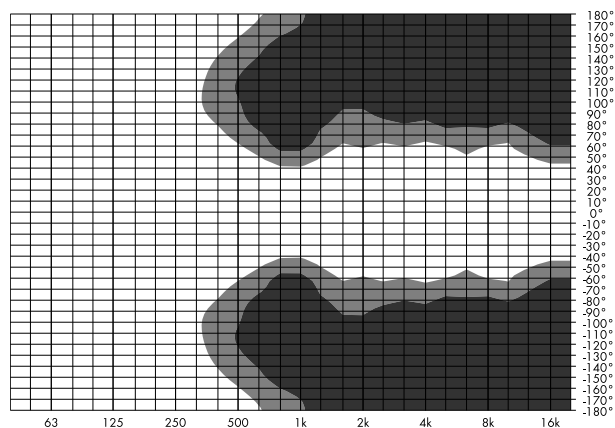
U3N



U3N
vertical setup

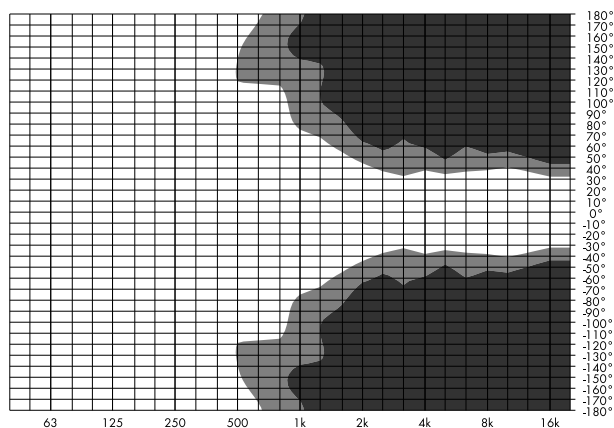


Isobar diagram U3N horizontal, standard setup



U3N
horizontal setup,
horn rotated

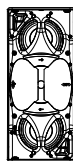
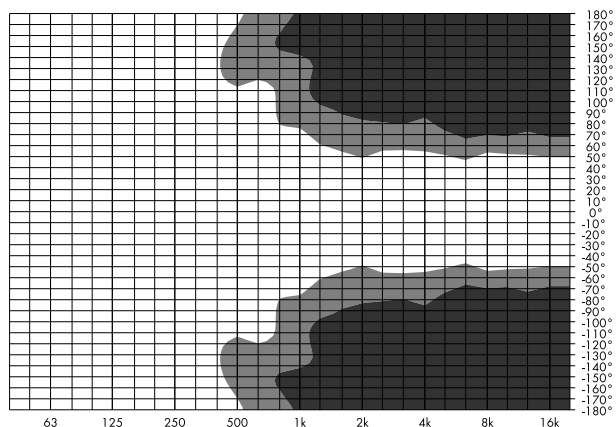
Isobar diagram U3N vertical, standard setup



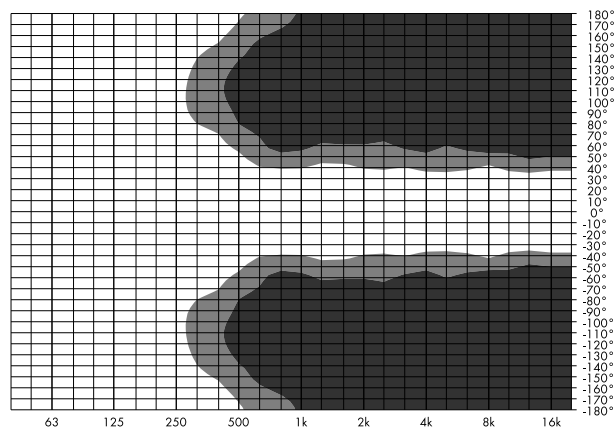
Isobar diagram U3N horizontal, horizontal setup with the horn rotated

Isobar diagram U3N vertical, horizontal setup with the horn rotated

U5N

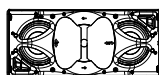
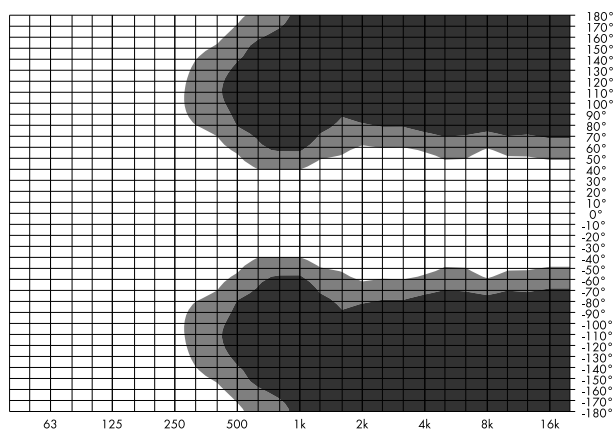


U5N
vertical setup

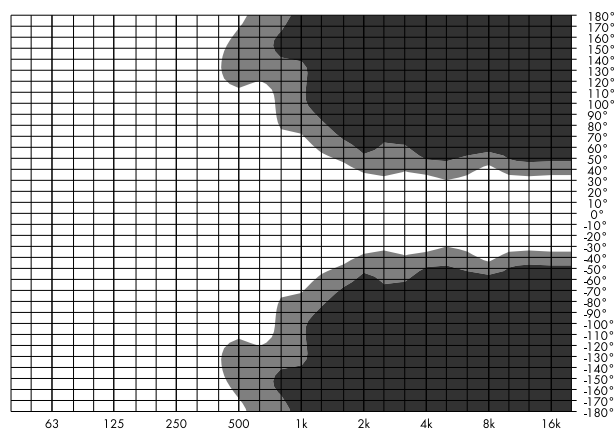


Isobar diagram U5N horizontal, standard setup

Isobar diagram U5N vertical, standard setup



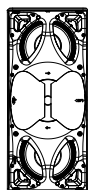
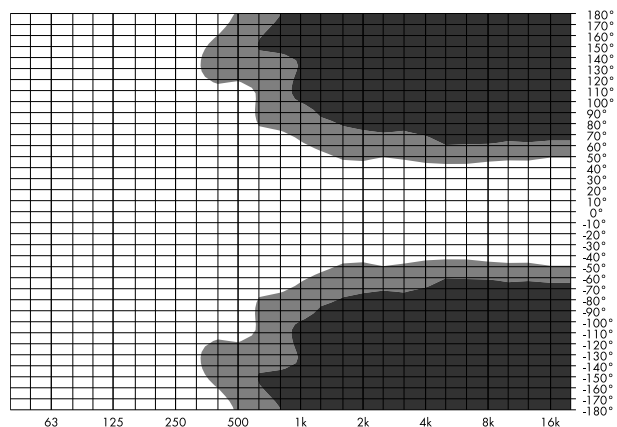
U5N
horizontal setup,
horn rotated



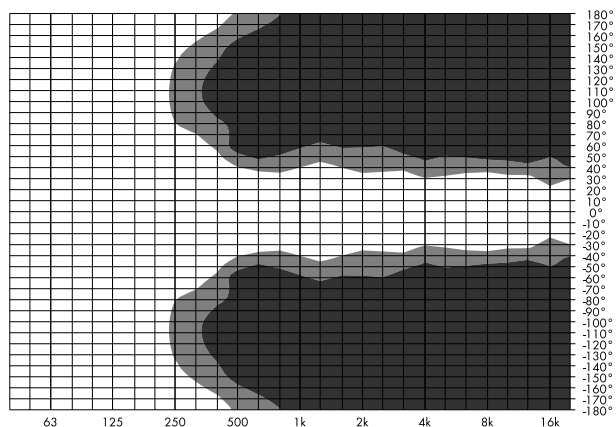
Isobar diagram U5N horizontal, horizontal setup with the horn rotated

Isobar diagram U5N vertical, horizontal setup with the horn rotated

U7N

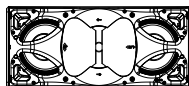
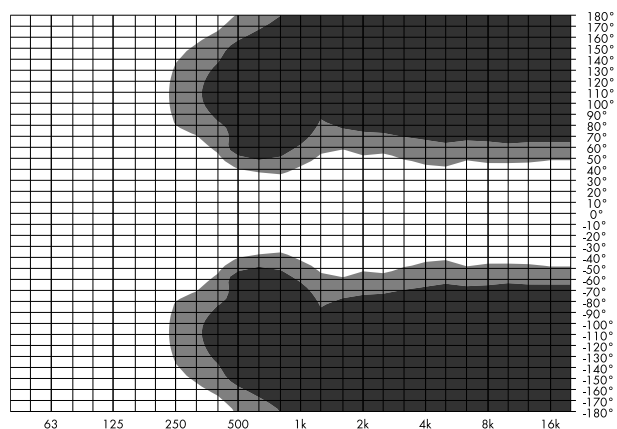


U7N
vertical setup

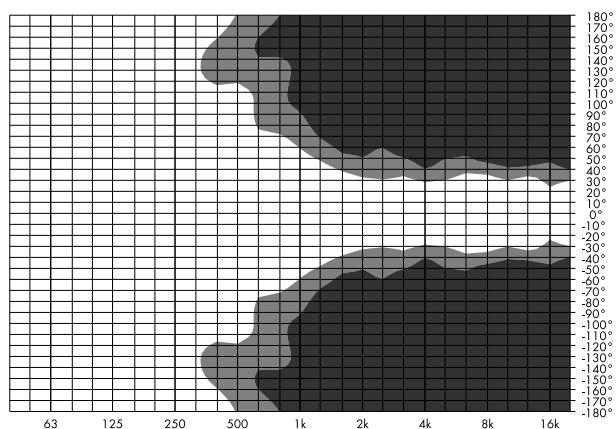


Isobar diagram U7N horizontal, standard setup

Isobar diagram U7N vertical, standard setup



U7N
horizontal setup,
horn rotated



Isobar diagram U7N horizontal, horizontal setup with the horn rotated

Isobar diagram U7N vertical, horizontal setup with the horn rotated

Altering the HF horn dispersion

By factory default, the HF horn is set to nominal horizontal dispersion when the cabinet is used in upright position.

Note: The horn orientation is detected by an electronic sensor. The factory default orientation is reported to R1 as «not rotated». If the horn has been rotated, this will be indicated in R1 accordingly.

NOTICE!**Potential risk of damage to components!**

The HF horn can be rotated in one direction only!
Clockwise through 90° (↻) and/or back - **Counter clockwise** (↺) - as shown in the graphic opposite.

The actually set dispersion is also indicated on the horn flange.

To rotate the horn, proceed as follows:

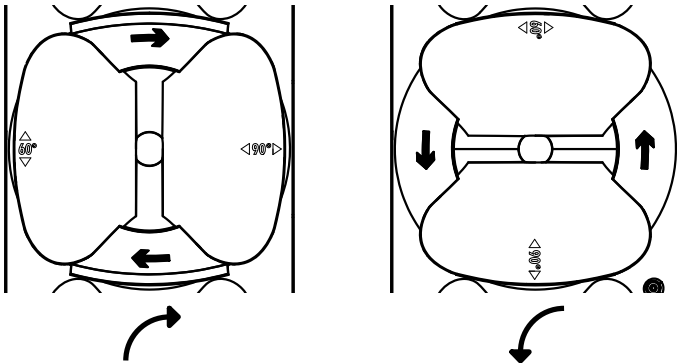
**CAUTION!****Potential risk of personal injury due to falling objects!**

- Set the desired horn orientation before mounting or suspending the cabinet.
- Do not remove the front grill while the cabinet is mounted or flown above the ground.

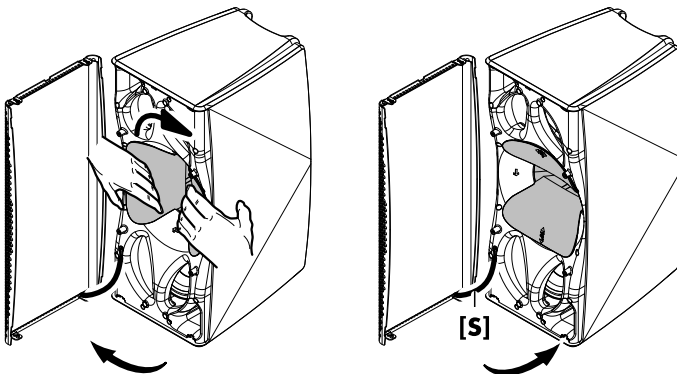
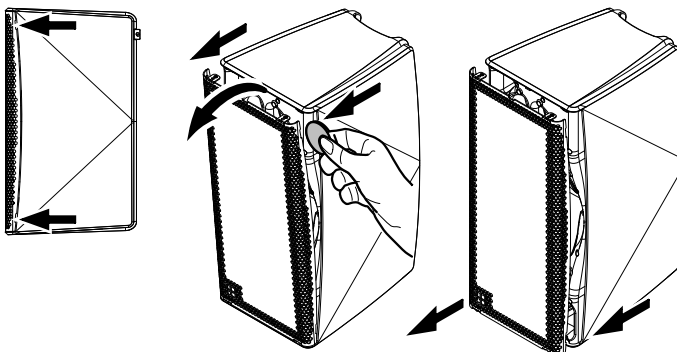
The grill is tightly fixed to the baffle by snap-in mechanisms at the top and bottom corners of the grill.

In addition, the grill is secured by a safety wire **[S]**.

1. Remove the grill using an appropriate coin, as shown in the graphic opposite.
2. Take the horn flange at its outer edges and turn it to the desired position (direction).
3. Relocate the front grill and let it snap in.
 - ↳ Make sure the safety wire **[S]** is located between the baffle and the cabinet grill.



Direction of possible rotation and set dispersion



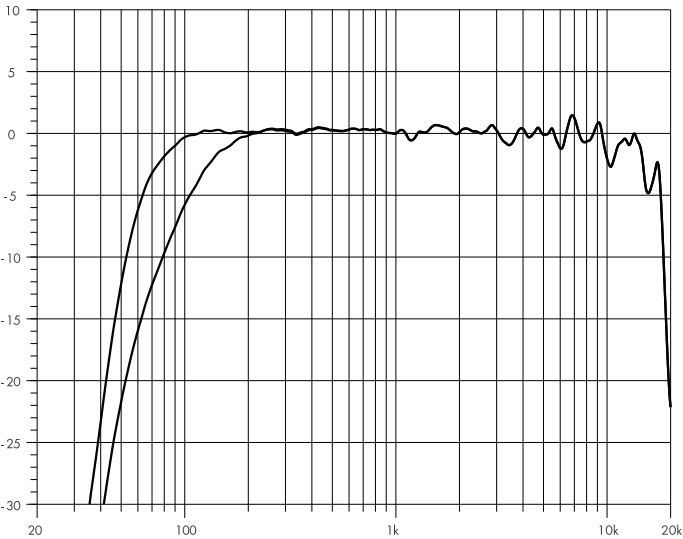
Rotating the horn

3.1.3 Technical specifications

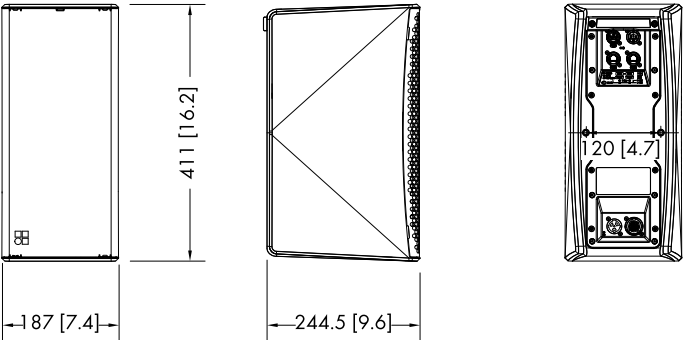
3.1.3.1 U3N

System data

Frequency response (-5 dB standard)	61 Hz - 18 kHz
Frequency response (-5 dB CUT mode)	105 Hz - 18 kHz
Frequency response (-10 dB standard, IEC60268)	52 Hz - 19 kHz
Frequency response (-10 dB CUT mode, IEC60268)	80 Hz - 19 kHz
Extended full-range mode (-5 dB @ CPL: +3 dB)	55 Hz - 18 kHz
Max. sound pressure (Peak, 1 m, free field)	128 dB



U3N frequency response, standard and CUT modes.



U3N cabinet dimensions in mm [inch]

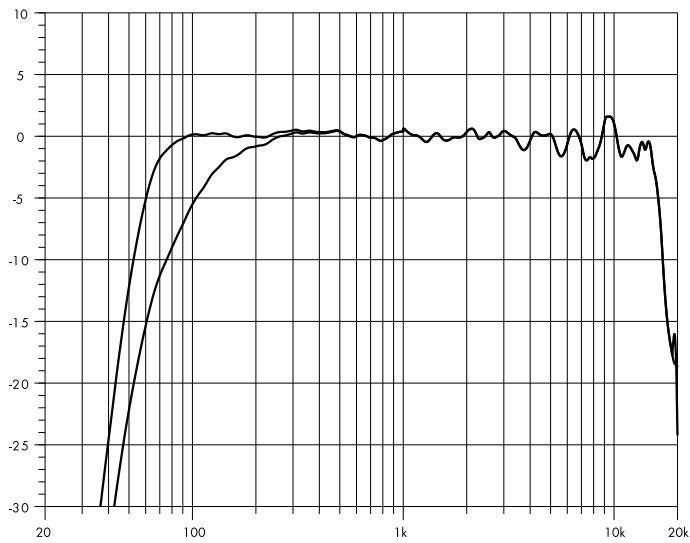
Loudspeaker data

Nominal dispersion angle (hor. x vert.)	100° x 65°
Components	2 x 5" driver with neodymium magnet
	1 x 0.75" exit HF compression driver with 1.4" coil
	Rotatable CD horn
Weight	7.5 kg (16.5 lb)

3.1.3.2 U5N

System data

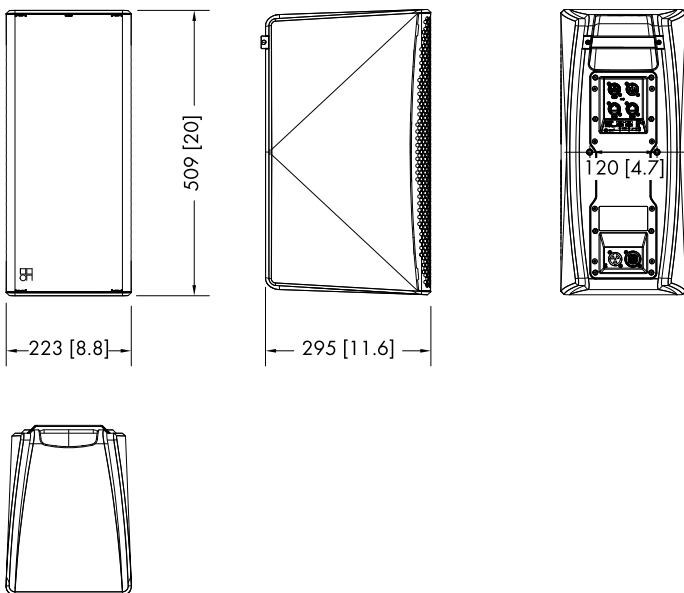
Frequency response (-5 dB standard)	58 Hz - 17 kHz
Frequency response (-5 dB CUT mode)	105 Hz - 17 kHz
Frequency response (-10 dB standard, IEC60268)	52 Hz - 18 kHz
Frequency response (-10 dB CUT mode, IEC60268)	75 Hz - 18 kHz
Extended full-range mode (-5 dB @ CPL: +2 dB)	55 Hz - 17 kHz
Max. sound pressure (Peak, 1 m, free field)	133 dB



U5N frequency response, standard and CUT modes.

Loudspeaker data

Nominal dispersion angle (hor. x vert.)	90° x 60°
Components	2 x 6.5" driver with neodymium magnet
	1 x 1" exit HF compression driver with 1.7" coil
	Rotatable CD horn
Weight	12 kg (26.5 lb)

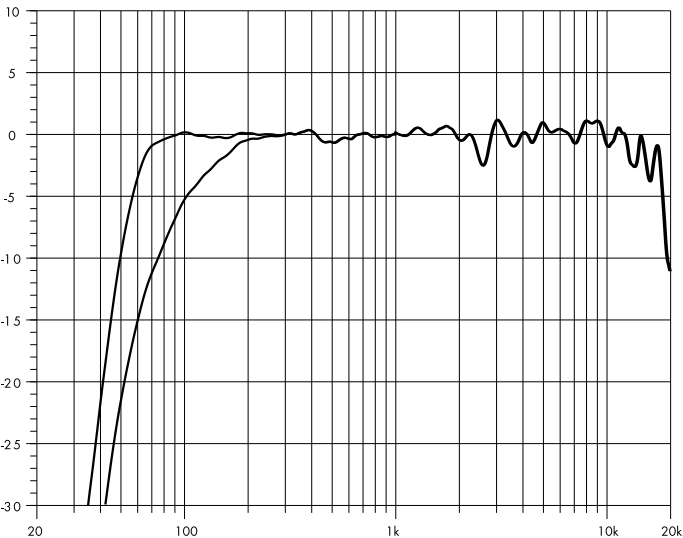


U5N cabinet dimensions in mm [inch]

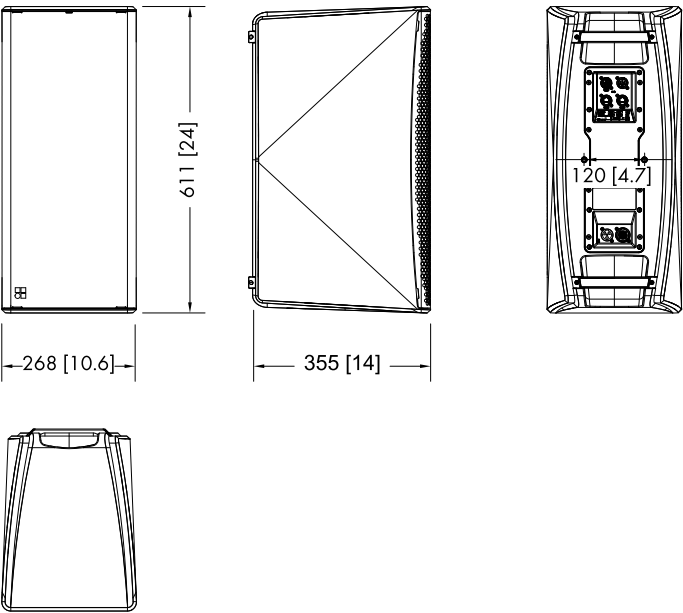
3.1.3.3 U7N

System data

Frequency response (-5 dB standard)	55 Hz - 18 kHz
Frequency response (-5 dB CUT mode)	105 Hz - 18 kHz
Frequency response (-10 dB standard, IEC60268)	50 Hz - 20 kHz
Frequency response (-10 dB CUT mode, IEC60268)	75 Hz - 20 kHz
Max. sound pressure (Peak, 1 m, free field)	136 dB



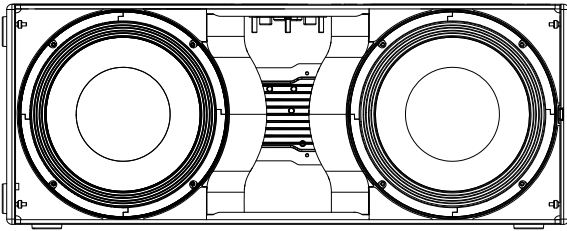
U7N frequency response, standard and CUT modes.



U7N cabinet dimensions in mm [inch]

Loudspeaker data

Nominal dispersion angle (hor. x vert.)	80° x 55°
Components	2 x 8" driver with neodymium magnet
	1 x 1.26" exit HF compression driver with 2.4" coil
	Rotatable CD horn
Weight	19.4 kg (42.8 lb)



3.2 B10N-/Bi10N-SUB loudspeaker

The B10N-SUB/Bi10N-SUB are compact, networked high performance subwoofer intended for either mobile (B10N-SUB) or fixed installation (Bi10N-SUB) applications.

The cabinets house two 10" long excursion neodymium drivers in a bass-reflex cabinet featuring a large port design.

The frequency response extends from 38 Hz to 130/100 Hz.

On the **B10N-SUB** an M20 threaded flange together with two threaded inserts M8 is incorporated in the top and on the right side panel to accept a corresponding pole for the deployment of TOP cabinets or to attach a dedicated flying adapter.

On the **Bi10N-SUB** each side panel incorporates two threaded inserts M10 for the attachment of dedicated mounting accessories.

3.2.1 Controller settings

Note: The following controller settings are accessible via the d&b R1 Remote control software or NFC via the d&b N.Control app.

100 Hz mode

For acoustic adjustment, the 100 Hz mode can be selected.

It can be used when the cabinets are used to supplement TOP cabinets operated in full range mode, for example in a distributed sound system. The 100 Hz mode can also be used to compensate for the effect of close coupling between the subwoofer and TOP cabinets operated in CUT mode.

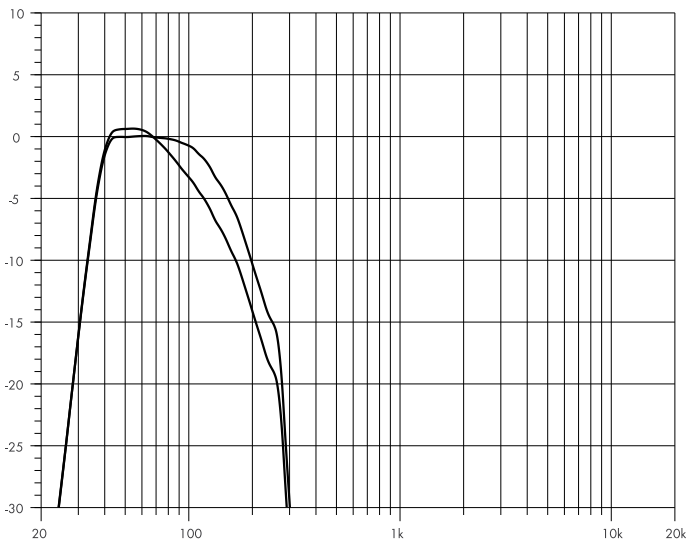
3.2.2 Technical specifications

System data

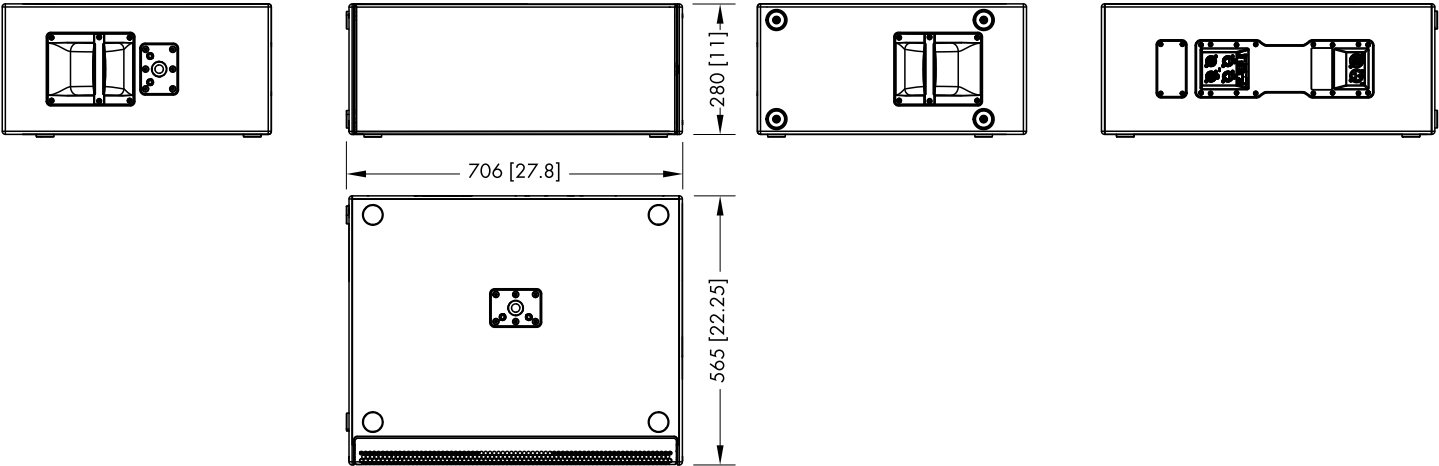
Frequency response (-5 dB Standard)	38 Hz - 130 Hz
Frequency response (-5 dB 100 Hz mode)	38 Hz - 100 Hz
Frequency response (-10 dB standard, IEC60268)	34 Hz - 170 Hz
Frequency response (-10 dB 100 Hz mode, IEC60268)	34 Hz - 140 Hz
Max. SPL (Peak, 1 m, free field, pink noise with crest factor 4)	129 dB

Loudspeaker data

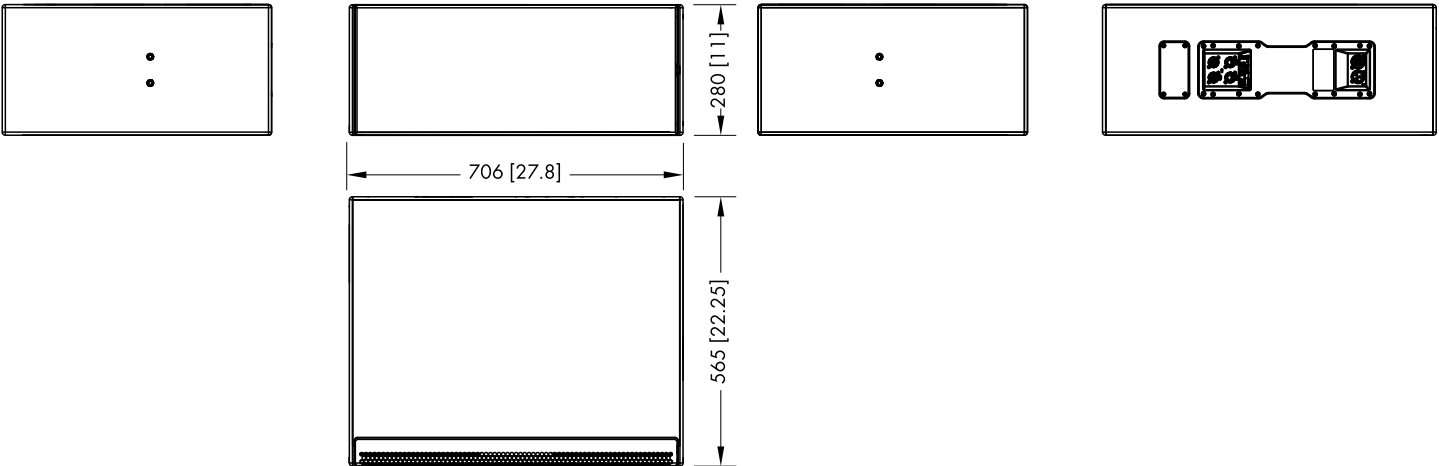
Components	2 x 10" driver
Weight B10N-SUB	28.5 kg (63 lb)
Weight Bi10N-SUB	28.5 kg (63 lb)



B10N-SUB/Bi10N-SUB frequency response, Standard and 100 Hz modes



B10N-SUB cabinet dimensions in mm [inch]



Bi10N-SUB cabinet dimensions in mm [inch]

4.1 Service

Do not open the device. No user serviceable parts inside. In case of any damage do not operate the device under any circumstances.

Refer servicing only to qualified service personnel authorized by d&b audiotechnik. In particular if:

- objects or liquids have entered the device.
- the device does not operate normally.
- the device was dropped or the housing is damaged.

4.2 Maintenance and care

During normal operation, the device provides maintenance-free service.

**5.1 Conformity of loudspeakers**

This declaration applies to:

- **d&b Z2005 U3N loudspeaker**
- **d&b Z2010 U5N loudspeaker**
- **d&b Z2015 U7N loudspeaker**
- **d&b Z2025 B10N-SUB loudspeaker**
- **d&b Z2026 Bi10N-SUB loudspeaker**

by d&b audiotechnik GmbH & Co. KG.

All product variants 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 directives including all applicable amendments.

Detailed and applicable declarations are available on request and can be ordered from d&b or downloaded from the d&b website at www.dbaudio.com.

**5.2 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.

WEEE-Reg.-Nr. DE: 13421928

