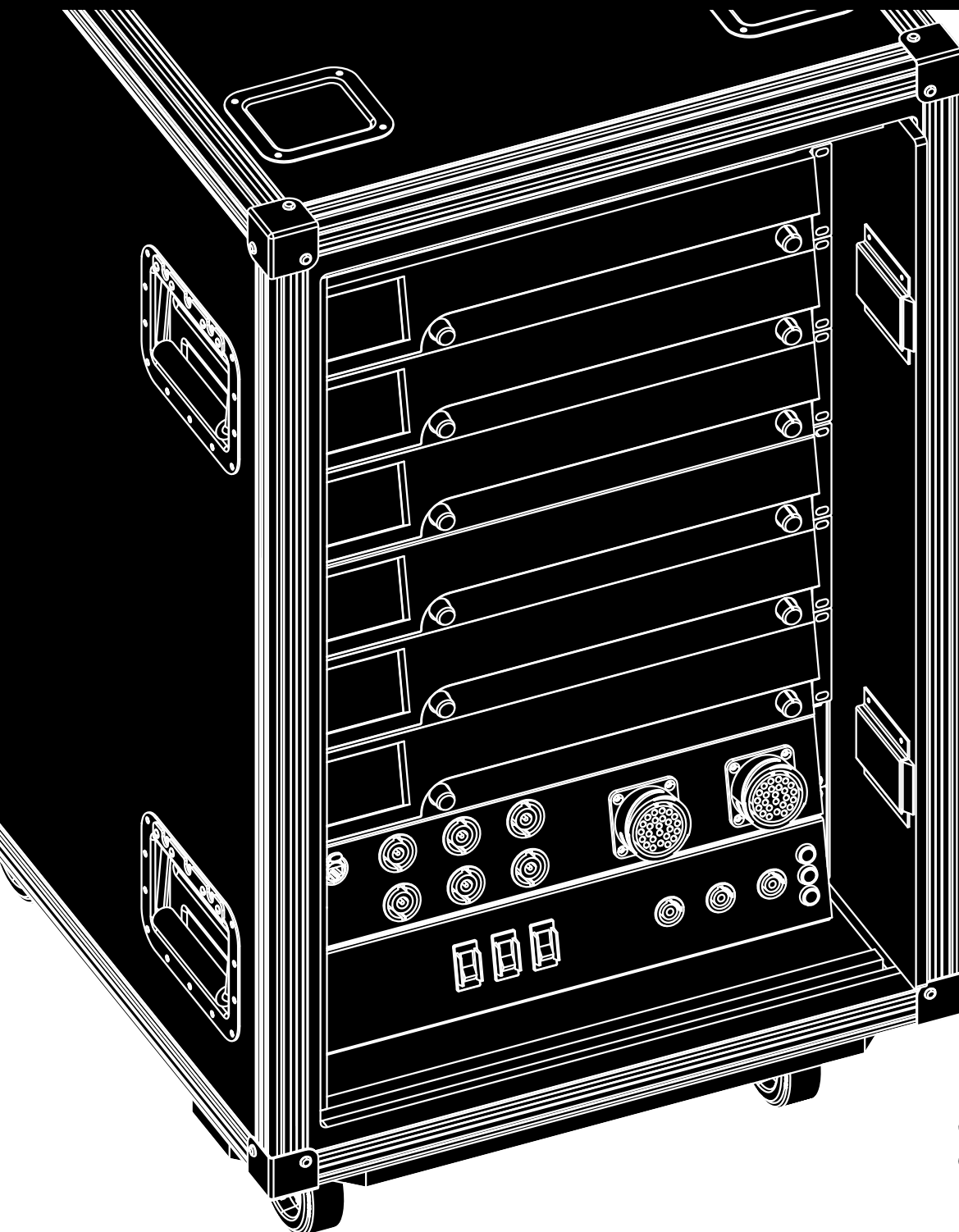


D

Z5576.000
Manual 1.1 en



General information

Z5576.000 Manual

Version: 1.1 en, 04/2018, D2029.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 manual.

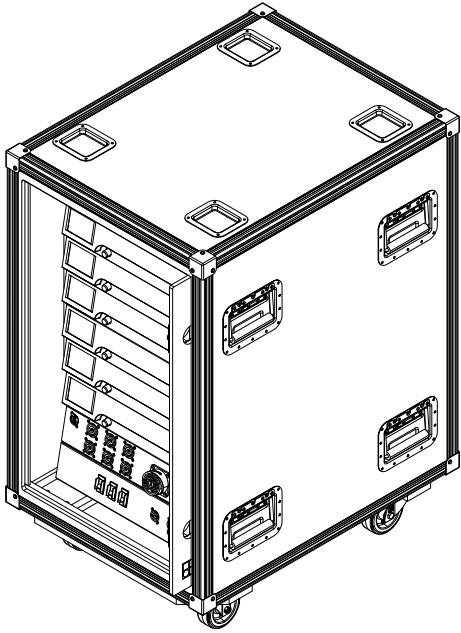
When reselling this product, hand over this manual to the new owner.

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. Z5576.000 D80 Touring rack assembly 18 RU - CEE



1.1. Intended use

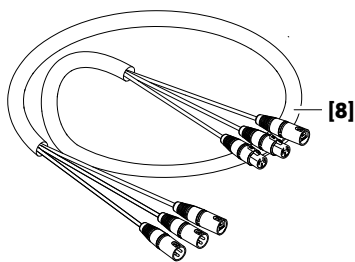
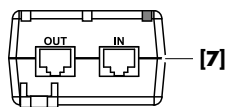
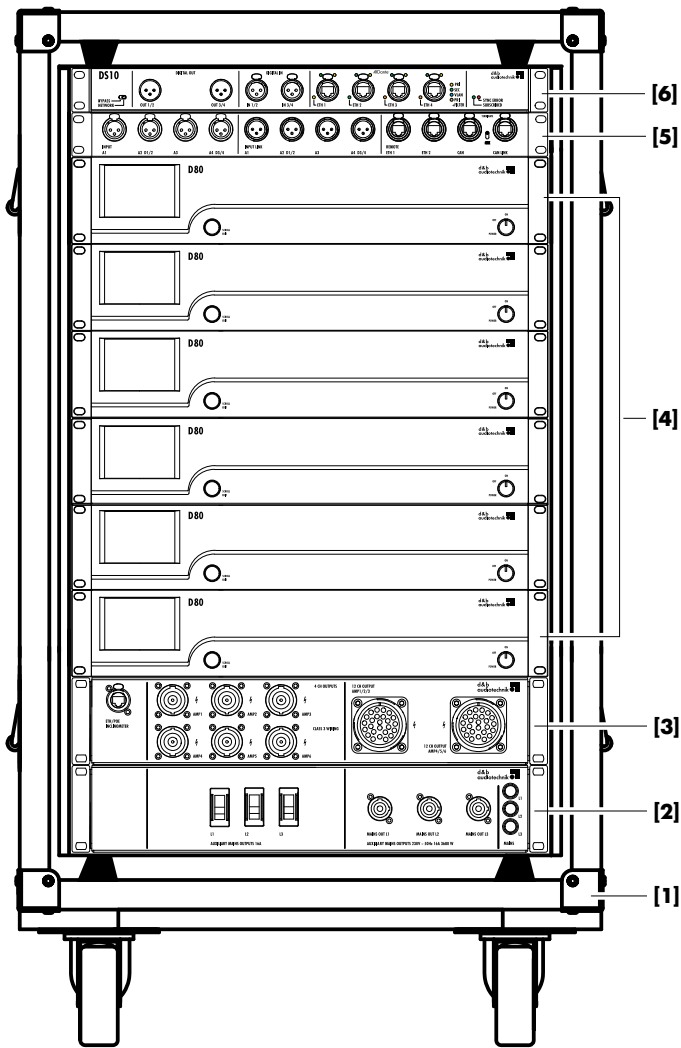
The d&b Z5576.000 D80 Touring rack assembly CEE is intended for large scale mobile sound reinforcement applications. It is designed as a closed and prewired 18 RU system rack, providing mains power distribution and connector interfaces for 6 x D80 amplifiers.

For this purpose, the touring rack is equipped with a 32 A CEE mains power distribution device (Z5577.000) as well as a loudspeaker connector panel (Z5578).

In addition the Z5578 loudspeaker connector panel incorporates a POE (**P**ower **O**ver **E**thernet) enabled etherCON® (RJ 45) connector for the direct connection of an inclinometer.

Also incorporated is an I/O panel (Z5338), which serves as a connector interface for both analog and digital audio signals as well as four network connectors for either Ethernet or CAN-Bus remote capabilities.

In addition, a d&b DS10 Audio Network Bridge (Z4010) is included to allow direct connection to the Dante audio network.



1.2. Scope of supply

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

If there is any sign of obvious damage, do not operate the rack assembly and contact your local dealer from whom you received the rack assembly.

| Pos. | Qty. | d&b Code | Description |
|------------|------|--------------|--|
| [1] | 1 | Z5576.000 | Touring rack assembly 18 RU CEE - with shock mounted 19" frame. |
| Including: | | | |
| [2] | 1 | Z5577.000 | Mains power distributor 32 A CEE. |
| [3] | 1 | Z5578.000 | LS Connector panel 2 x LKA 25 / 6 x NL8. |
| [4] | 6 | Z2710 | D80 Amplifier* . |
| [5] | 1 | Z5338 | I/O Panel. |
| [6] | 1 | Z4010 | DS10 Audio Network Bridge. |
| [7] | 1 | E8106 | POE (P ower O ver E thernet) injector device. (Mounted at the top left rear of the rack assembly). |
| [8] | 1 | Z5333 | Rack link cable [8]. |
| | | D2029.EN .01 | Z5576.000 Manual. |

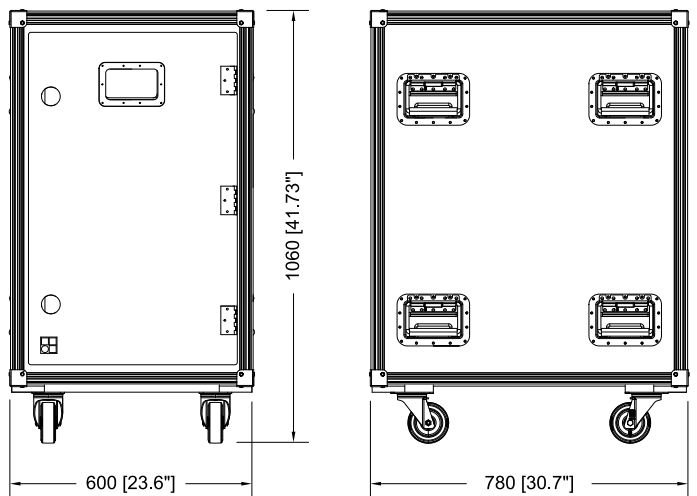
*To be ordered separately

Dimensions and weight

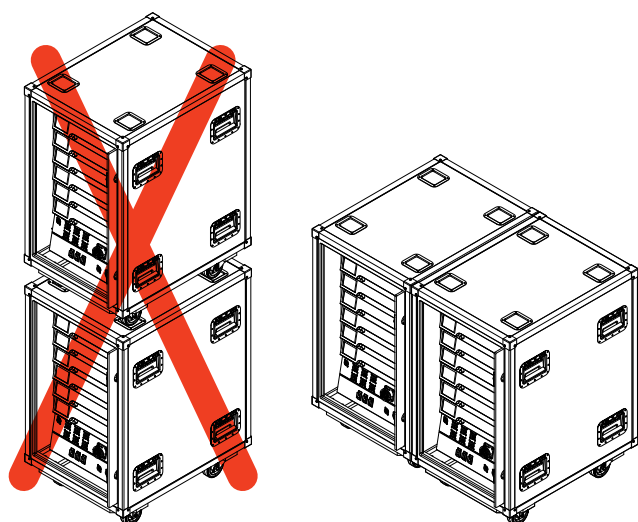
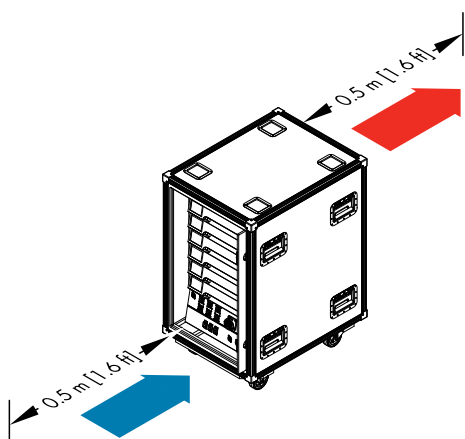
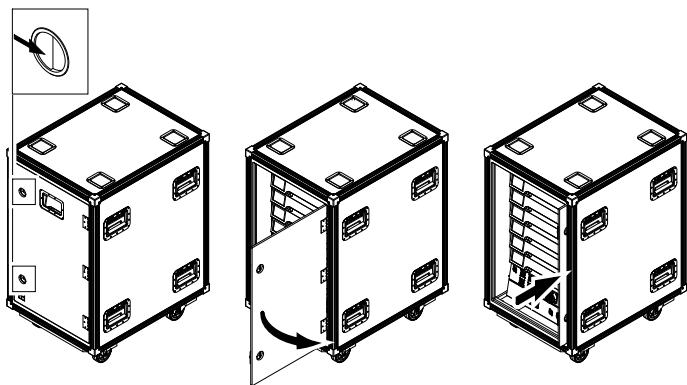
Height x width x depth 1060 x 600 x 780 mm

..... 41.73 x 23.6 x 30.7"

Total weight (incl. all amps) 210 kg / 463 lb



2. Handling, cooling and placement



2.1. Handling

The touring rack is equipped with two sliding doors allowing quick and easy access to the front and rear panels of the devices.

1. Unlock the both door lock mechanisms.
2. Open the door and ...
3. push the door into its park position.

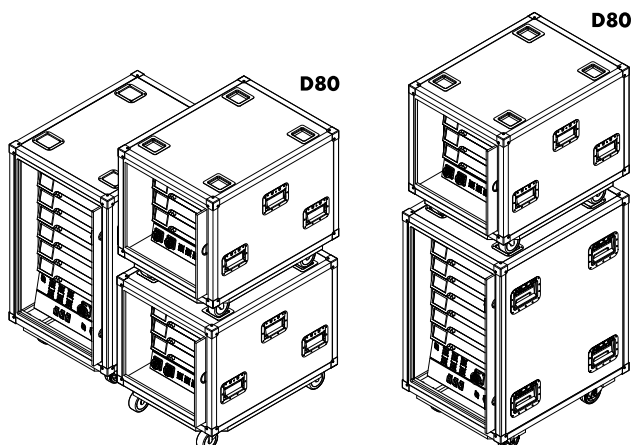
2.2. Cooling and placement

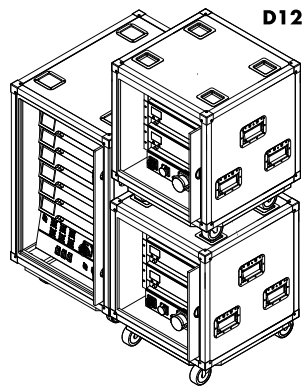
When using the d&b Z5576.000 Touring rack assembly, make sure to provide sufficient space of 0.5 m (1.6 ft) at the front and rear of the touring rack to ensure adequate cooling airflow.

Make sure both the front and rear doors are opened and pushed into their park position to provide sufficient cooling.

Do **not stack** Z5576.000 Touring rack assemblies. The rack assemblies can be positioned side by side.

They can also be combined with Z5330 D80, or Z5560 D20 Touring rack assemblies, either side by side or with a maximum of **one** of these Touring racks positioned on top, as shown in the graphic below (Shown with: Z5330 D80 Touring rack assembly. The same applies to Z5560 D20 Touring rack assembly.)

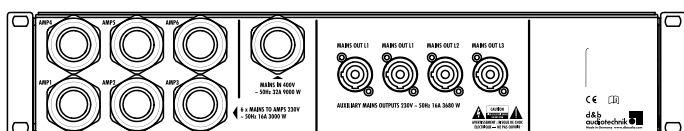




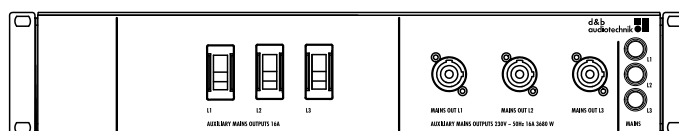
When combining Z5576.000 Touring rack assemblies with Z3010 D12 Touring rack assemblies or any other rack assembly that produces an opposing airflow, observe the following restrictions:

- Do **not stack** D12 Touring racks or any other rack assemblies with opposing airflow on top of the Z5576.000 Touring rack.
- Z5576.000 D12 Touring rack assemblies can be positioned side by side.

3. Z5577.000 Mains power distributor 32 A CEE



Z5577.000 Rear panel



Z5577.000 Front panel

3.1. Intended use

The Z5577.000 Mains power distributor is designed and dimensioned to provide and distribute the mains power supply necessary for **one** Z5576.000 Touring rack assembly.

It is a protective class 1 unit with IP class 20 (NOT rain-, drip-, or splash-proof!).

The Z5577.000 Mains power distributor must not be used for any other purpose or outside the system rack.

3.2. Rear panel

3.2.1. MAINS IN



WARNING!

Potential risk of electric shock.

The mains power distributor is a protective class 1 unit. A missing earth (ground) contact may cause dangerous voltages in the housing and controls and may lead to electric shock.

- Connect the unit to mains power supplies with protective earth only.
- If there is any sign of obvious damage to the power cord and/or CEE mains connector, do not use the unit and replace it before further use.
- Do not connect or disconnect the CEE mains connector under load or live.
- Please ensure the mains connector is accessible at any time to disconnect the unit in case of malfunction or danger.

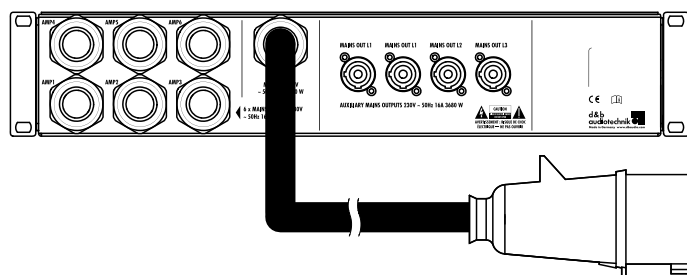
Apart from the six fixed single-phase mains power lines (6 x MAINS TO AMP 230 V) for the internal mains power supply of the amplifiers, the Z5577.000 Mains power distributor is supplied with a fixed 3-phase power cord equipped with a 32 A CEE (Cekon) mains connector.

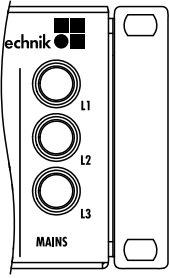
Required mains supply network configuration

3-phase 230/400 VAC - 50/60 Hz - 32 A_{max}. (3PNPE).

Connect only **one** rack assembly to the mains power outlet of the onsite sub-distribution.

The Z5577.000 Mains power distributor does not provide dedicated circuit-breakers for the amplifier's mains power lines. The respective circuit-breakers of the onsite mains distribution are used for this purpose.

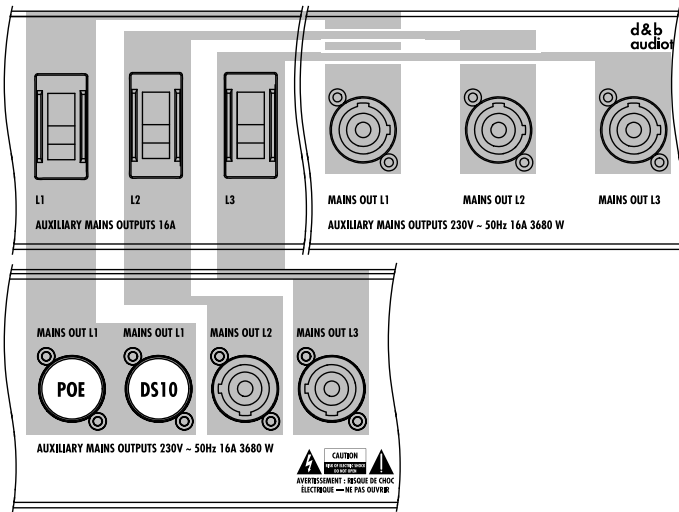




3.3. Front panel

3.3.1. MAINS

When the rack is connected to the onsite mains power supply, the three mains indicators display the presence of the onsite mains supply lines (phase conductor L1-L2-L3).



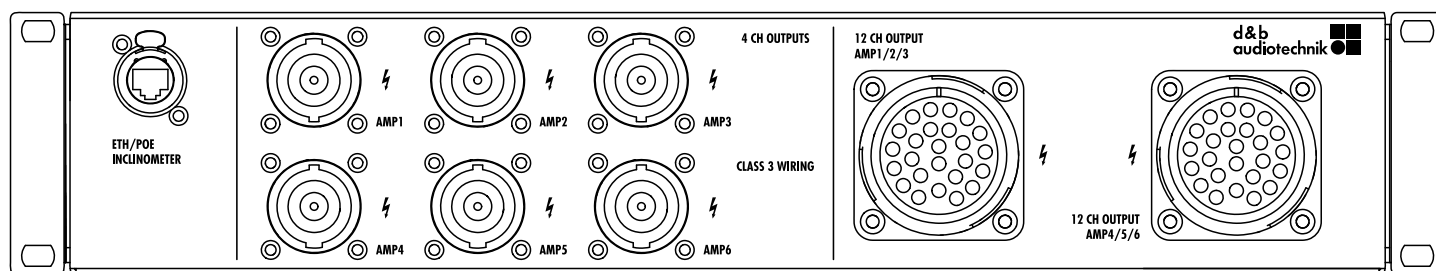
3.3.2. AUXILIARY MAINS OUTPUTS

Seven auxiliary mains outputs (powerCON® sockets) are available.

Three sockets are mounted on the front and four sockets on the rear panel. Two of the rear sockets are used to provide mains supply for the POE injector device and the DS10. The remaining sockets are intended for the connection of low current devices such as notebooks or additional Ethernet switches.

The sockets are equipped with dedicated circuit-breakers (16 A / C-type). Please refer to the assignment as shown in the graphic opposite.

4. Z5578 LS connector panel 6 x NL8 / 2 x LKA25



4.1. Intended use

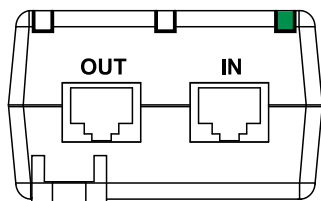
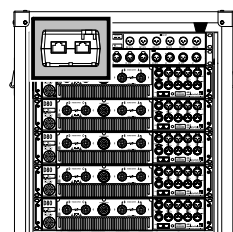
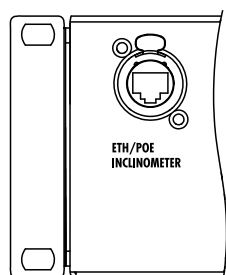
The Z5578 Loudspeaker connector panel acts as a connecting interface providing all output channels of each amplifier on its dedicated NL8 socket (4 channels) and two LKA25 connector sockets (12 channels each), which directly integrate into the d&b MC24 multicore system.

It is a class 3 wiring unit with IP class 20 (NOT rain-, drip-, or splash-proof!).

The Z5578 Loudspeaker connector panel must not be used for any other purpose or outside the system rack.





4.2. ETH/POE INCLINOMETER

A POE (Power Over Ethernet) enabled etherCON® (RJ 45) connector is available. It is intended to feed an inclinometer which is integrated in the flying frame for vertical aiming of the entire array.



E8106 POE Injector device

In connection with the ETH/POE INCLINOMETER socket, a corresponding IEEE802.3af compliant and prewired POE Injector device is mounted at the top left rear of the rack assembly. The device features an LED indicator providing the following status information:

-  **Solid green:** Valid IEEE802.3af load detected and connected "ON".
-  **Flashing green:** Power "ON" ready for connection.
-  **Flashing green/red:** Invalid load connected.
-  **Flashing red:** Error.

E8106 Technical specifications

| | |
|----------------------|------------------------|
| Output voltage | 56 VDC (±5%) |
| Minimum load | 10 mA |
| Maximum load | 350 mA |
| Pin assignment | Pin 3/6: + Pin 1/2:- |
| Compliance | IEEE802.3af |

4.3. 4 CH OUTPUTS

NOTICE!

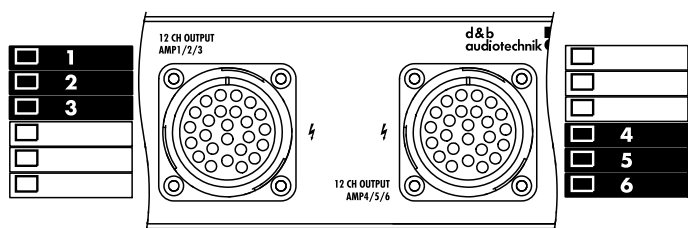
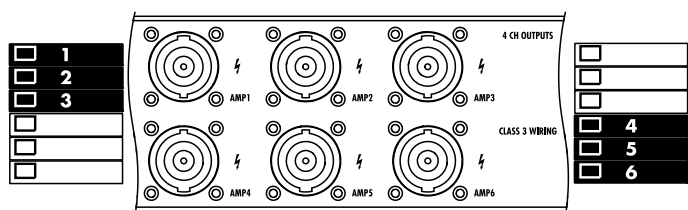
The 4 CH OUTPUTS connectors are only intended as an interface to loudspeaker multicores such as the d&b Z5343.xxx and breakout adapters such as d&b Z5347.xxx.

Do not connect any loudspeaker cabinets, neither passive nor active systems, to the 4 CH OUTPUTS connectors, otherwise there is a risk of damaging the loudspeaker components or the amplifier.

Each of the 4 CH OUTPUTS connectors represents the 4 CHANNEL OUTPUT of the respective D80 amplifier.

Each connector carries the output signals of all four channels of the amplifier with the following pin assignment.

| | |
|------------------------------|------------------------------|
| 1+/- = Channel A pos. / neg. | 2+/- = Channel B pos. / neg. |
| 3+/- = Channel C pos. / neg. | 4+/- = Channel D pos. / neg. |



4.4. 12 CH OUTPUT

Two 12 CH OUTPUT multipin connectors (LKA25) are provided to allow efficient system wiring using the d&b MC24 multicore system (Z5328.xxx MC24 LKA25 F/M Multicore, Z5325.000 Break-out adapter LKA25M to 6 x NLT4M, Z5327.000 Break-out adapter LKA25M to 12 x NLT4M and Z5326.000 Break-in adapter 3 x NLT8F to LKA25F).

The d&b MC24 Multicore System combines a 12 amplification channels (24 lines 4 mm²) cable with an LKA25 F/M connector

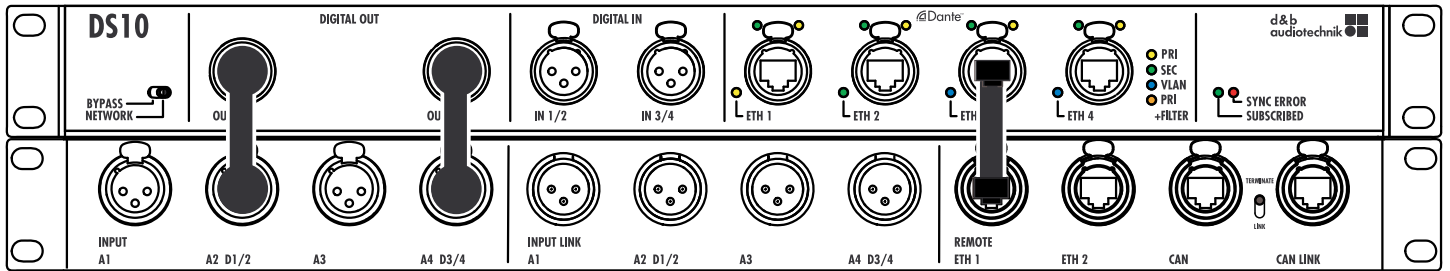
For this reason, each connector of the loudspeaker connector panel carries the output signal of twelve (12) amplifier channels.

The assignment of the respective amplifiers to the corresponding connector is shown in the graphic opposite.

Pin equivalents of the LKA25 connectors and the corresponding 4 CHANNEL OUTPUT (NL8) connector of the respective amplifier are listed in the following table:

| 12 CH OUTPUT AMP 1/2/3 | | | 12 CH OUTPUT AMP 4/5/6 | | |
|---------------------------|-----|---|---------------------------|-----|---|
| LKA25 | NL8 | Amplifier | LKA25 | NL8 | Amplifier |
| A | 1+ | AMP 1 <input checked="" type="checkbox"/> 1 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | A | 1+ | AMP 4 <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> 4 <input type="checkbox"/> <input type="checkbox"/> |
| B | 1- | | B | 1- | |
| C | 2+ | | C | 2+ | |
| D | 2- | | D | 2- | |
| E | 3+ | | E | 3+ | |
| F | 3- | | F | 3- | |
| G | 4+ | | G | 4+ | |
| H | 4- | | H | 4- | |
| I | 1+ | AMP 2 <input type="checkbox"/> <input checked="" type="checkbox"/> 2 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | I | 1+ | AMP 5 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> 5 <input type="checkbox"/> |
| J | 1- | | J | 1- | |
| K | 2+ | | K | 2+ | |
| L | 2- | | L | 2- | |
| M | 3+ | | M | 3+ | |
| N | 3- | | N | 3- | |
| O | 4+ | | O | 4+ | |
| P | 4- | | P | 4- | |
| Q | 1+ | AMP 3 <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> 3 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> | Q | 1+ | AMP 6 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> 6 |
| R | 1- | | R | 1- | |
| T | 2+ | | T | 2+ | |
| U | 2- | | U | 2- | |
| V | 3+ | | V | 3+ | |
| W | 3- | | W | 3- | |
| X | 4+ | | X | 4+ | |
| Y | 4- | | Y | 4- | |

5. DS10 and I/O panel



5.1. DS10 configurations

The DS10 in combination with the I/O panel is supplied in a pre-wired configuration.

The digital outputs (OUT 1/2 and OUT 3/4) are linked to the corresponding input sockets (A2 D1/2 and A4 D3/4) of the I/O panel to feed the digital audio signals to the amplifiers.

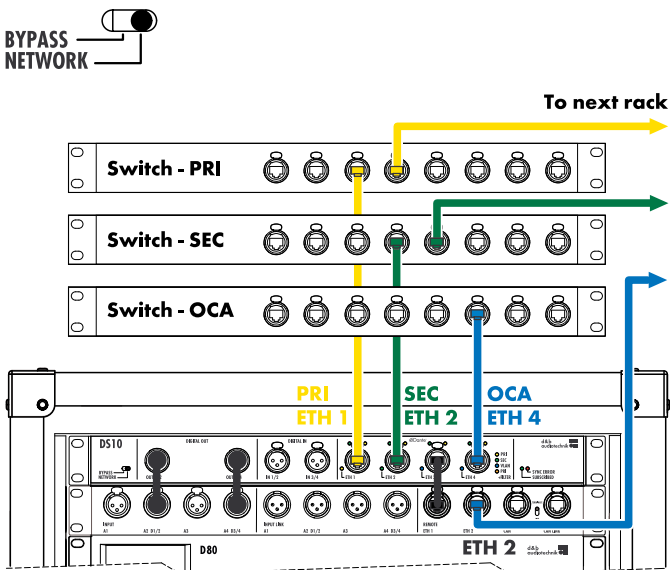
In addition, the ETH 3 connector of the DS10 is linked to the ETH 1 connector of the I/O panel to provide access to the amplifiers.

The DS10 in combination with the I/O panel allows various configurations. Two recommended configurations are detailed below.

Note: For detailed information on how to configure the DS10, please refer to the DS10 manual, which can be downloaded from the d&b product page at www.dbaudio.com.

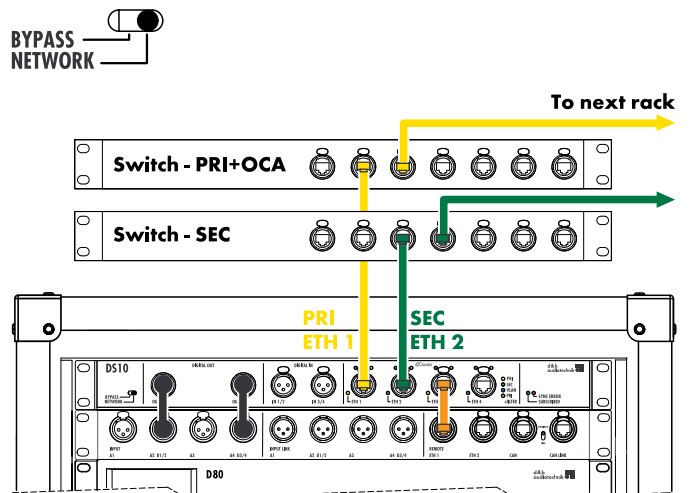
Ensure the BYPASS/NETWORK switch of the DS10 is set to NETWORK.

PRI + OCA on separate LANs DS10 mode*: Redundant + VLAN

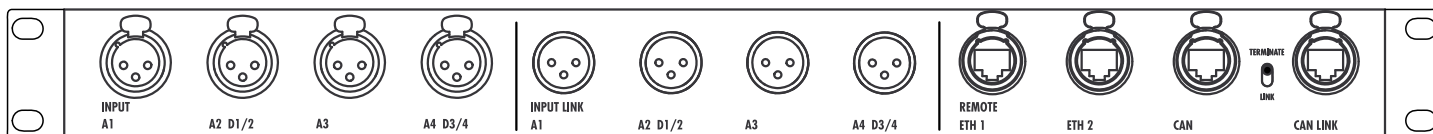


* DS10 factory default configuration

PRI + OCA on the same LAN DS10 mode: Redundant + Multicast Filter



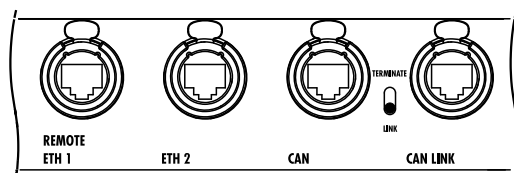
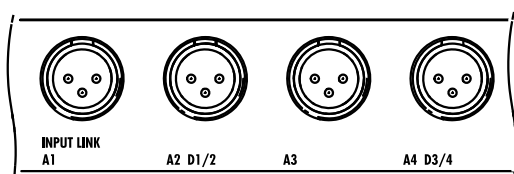
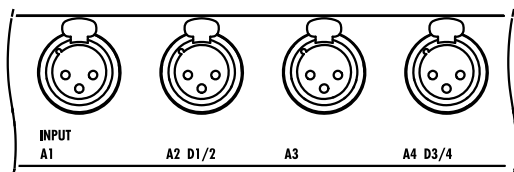
5.2. I/O panel



For systems not using Dante audio, inputs and input links can be directly connected to the I/O panel

5.2.1. INPUT section

The INPUT section represents the input connectors of the first amplifier while the other amplifiers are linked within the rack. The INPUT section allows both analog and digital audio signals to be fed to the amplifier.



5.2.2. INPUT LINK section

The INPUT LINK section represents the link output connectors of the last amplifier and allows the linking of further system racks using the enclosed rack link cable (Z5333 Rack link).

5.2.3. REMOTE section

The REMOTE section allows the daisy chaining of rack assemblies within a remote network using the enclosed rack link cable (Z5333 Rack Link).

For detailed specifications, please refer to the following sections:

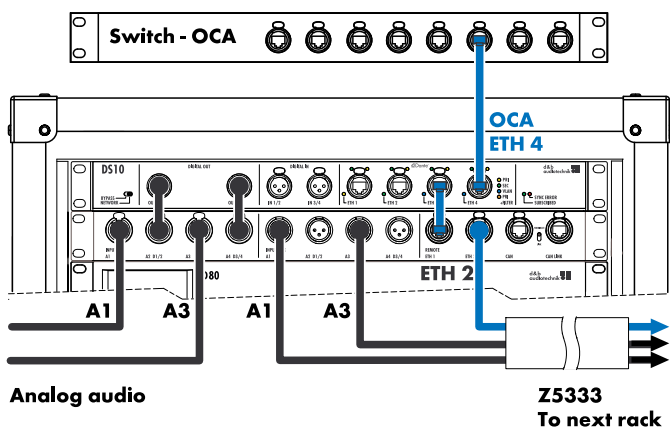
- ⇒ Ethernet network
- ⇒ CAN-Bus network

Ethernet network

For remote purposes via Ethernet/OCA, it is strongly recommended to use the prewired configuration in combination with the DS10 when linking entire rack assemblies, as shown in the graphic opposite.

It is recommended to link a maximum of up to 6 rack assemblies in this way.

Do not link/daisy chain entire rack assemblies using the ETH 1/ETH 2 connector sockets of the I/O panel.

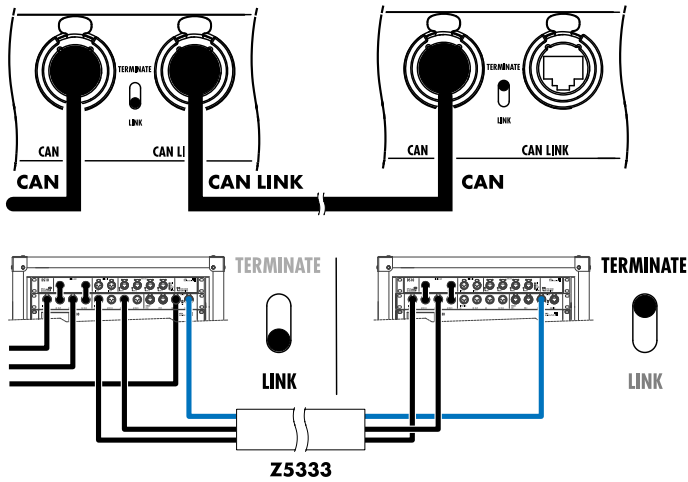


I/O panel, rack link example:

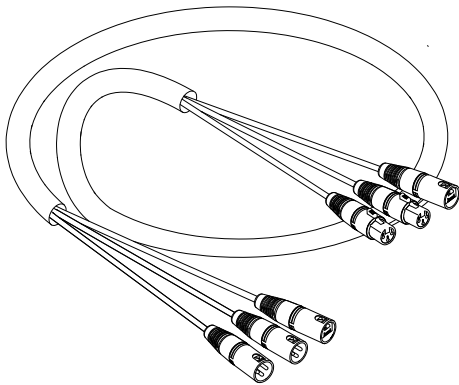
2ch Analog audio and Ethernet/OCA

DS10 mode: Redundant + VLAN

CAN-Bus



I/O panel, rack link example:
2ch Analog audio and CAN



CAN-Bus network

CAN

Represents the CAN input of the first amplifier while the other amplifiers are linked within the rack.

CAN LINK

Represents the CAN output of the last amplifier.

**TERMINATE/
LINK**

The built-in termination switch allows two settings:

1. **LINK:** In system racks, at the start of and within a CAN-Bus segment, set the switch to LINK.
2. **TERMINATE:** On the last system rack of a CAN-Bus segment, set the switch to TERMINATE

Note: A detailed description of remote control via the d&b Remote network (CAN-Bus) is given in the technical information TI 312 (d&b code D5312.EN) which can be downloaded from the d&b website at www.dbaudio.com.

5.3. Z5333 Rack Link

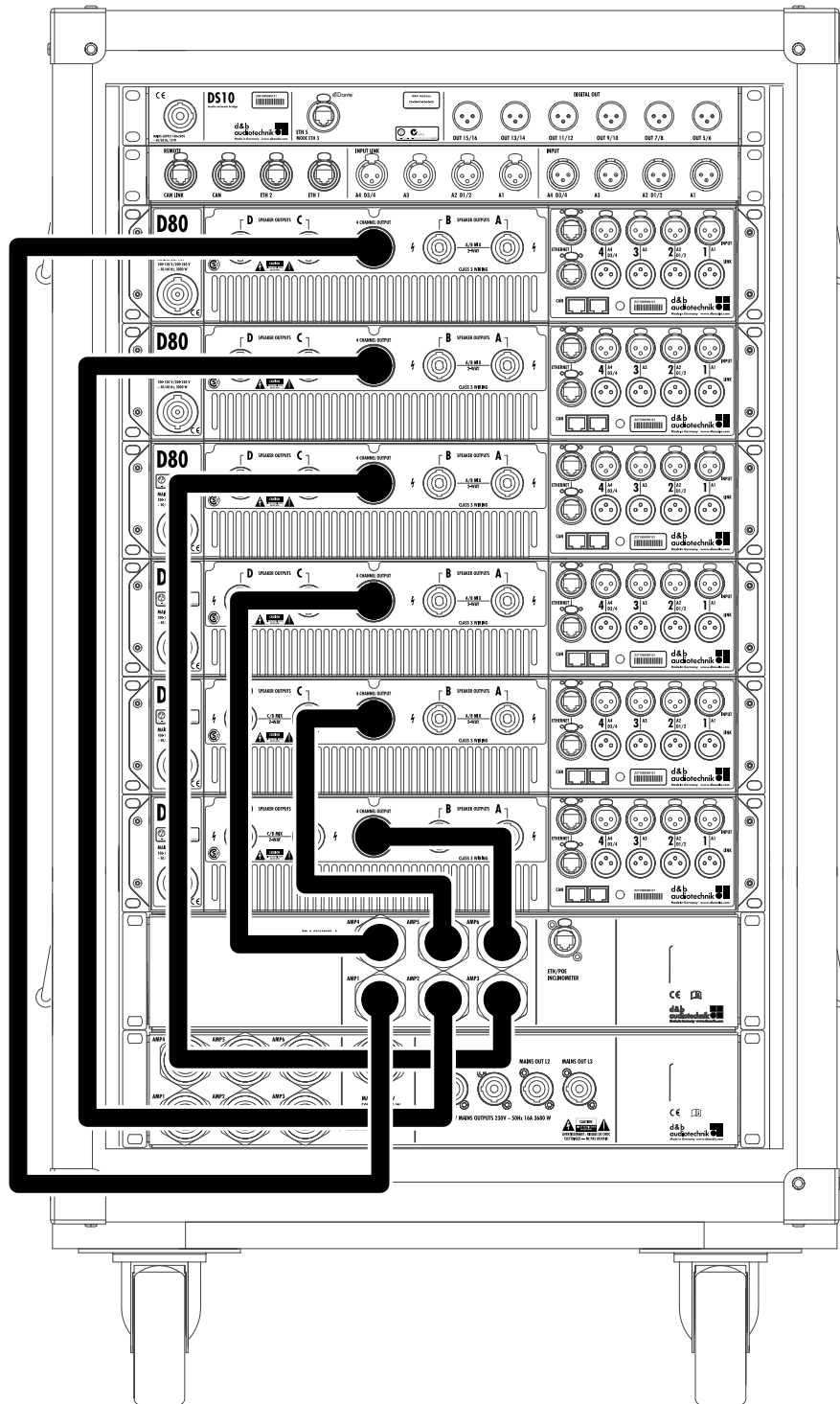
The rack link cable allows multiple system racks to be linked together.

It is suitable for both analog and digital audio signals as well as for network wiring (Ethernet or CAN-Bus networks).

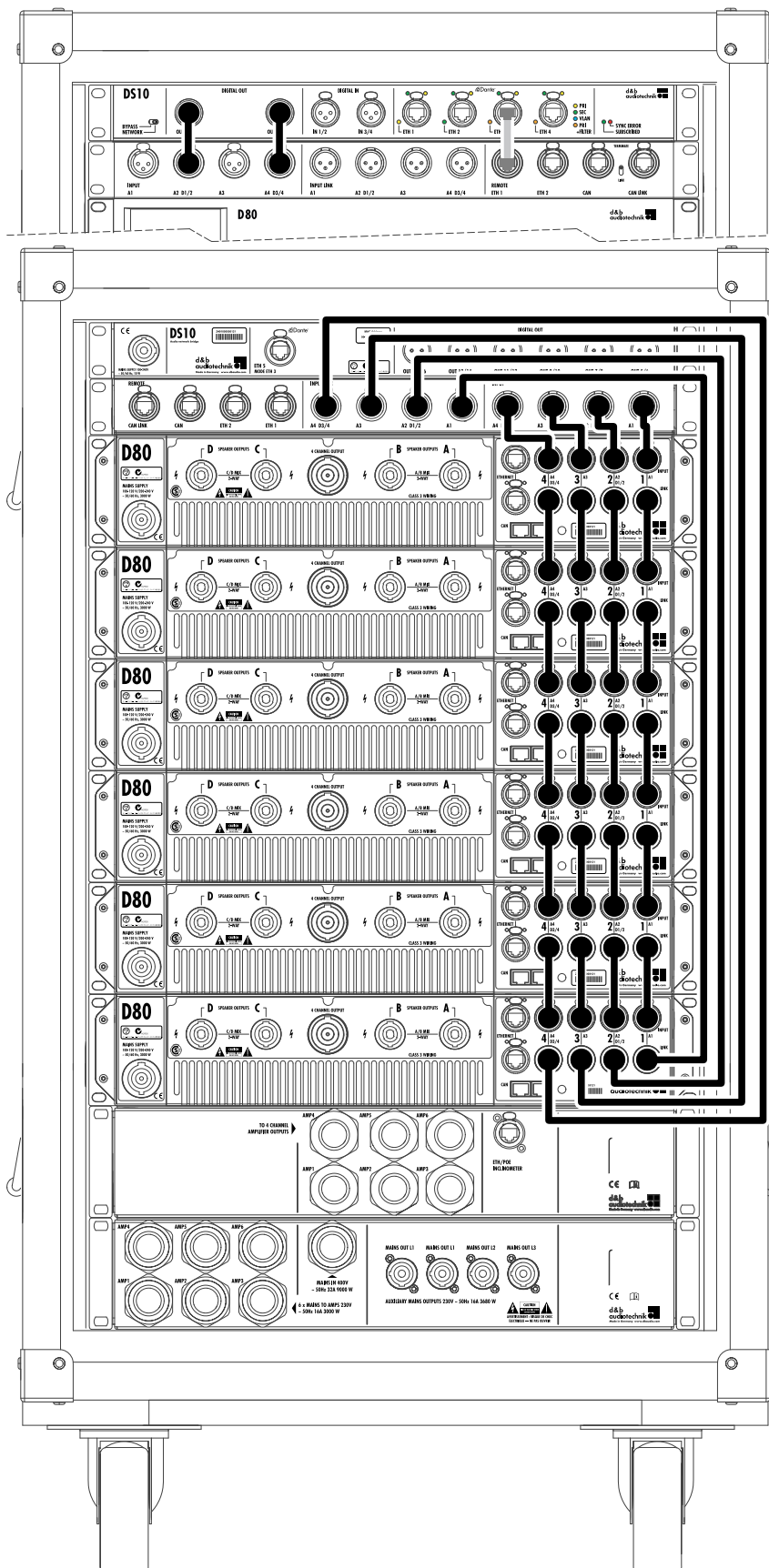
Technical specifications

| | |
|-------------------------------|--------------------------------|
| Audio connector | 2 x XLR female to 2 x XLR male |
| | with color markup |
| Audio signal capability | Analog |
| | Digital AES3 |
| Network connector | etherCON |
| Network cable | CAT 5E STP |
| Length | 2 m / 6.5 ft |

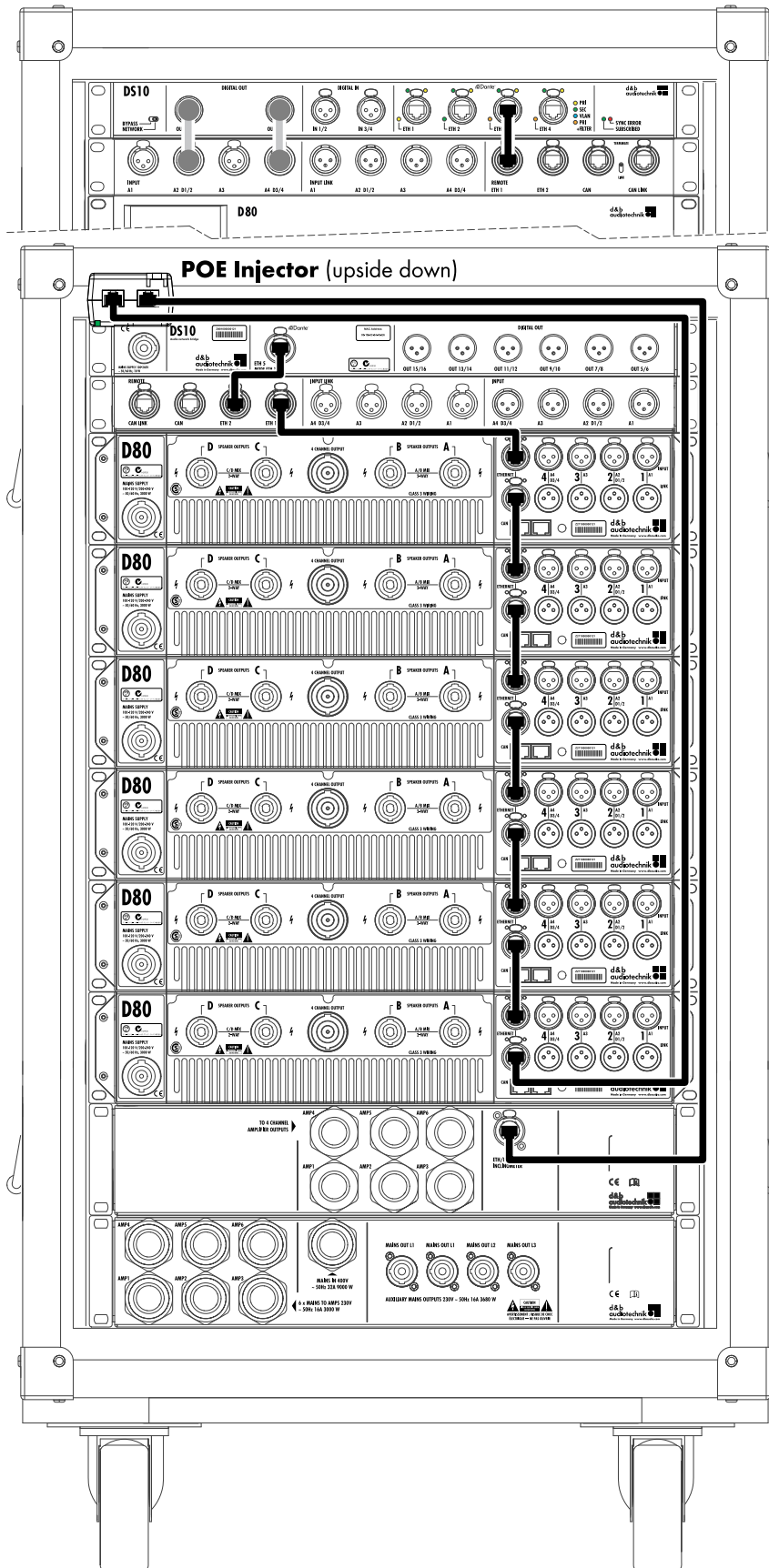
Internal 4 CHANNEL OUTPUT wiring



Internal audio INPUT and LINK wiring



Internal Ethernet wiring and POE injection



Internal CAN-Bus wiring

