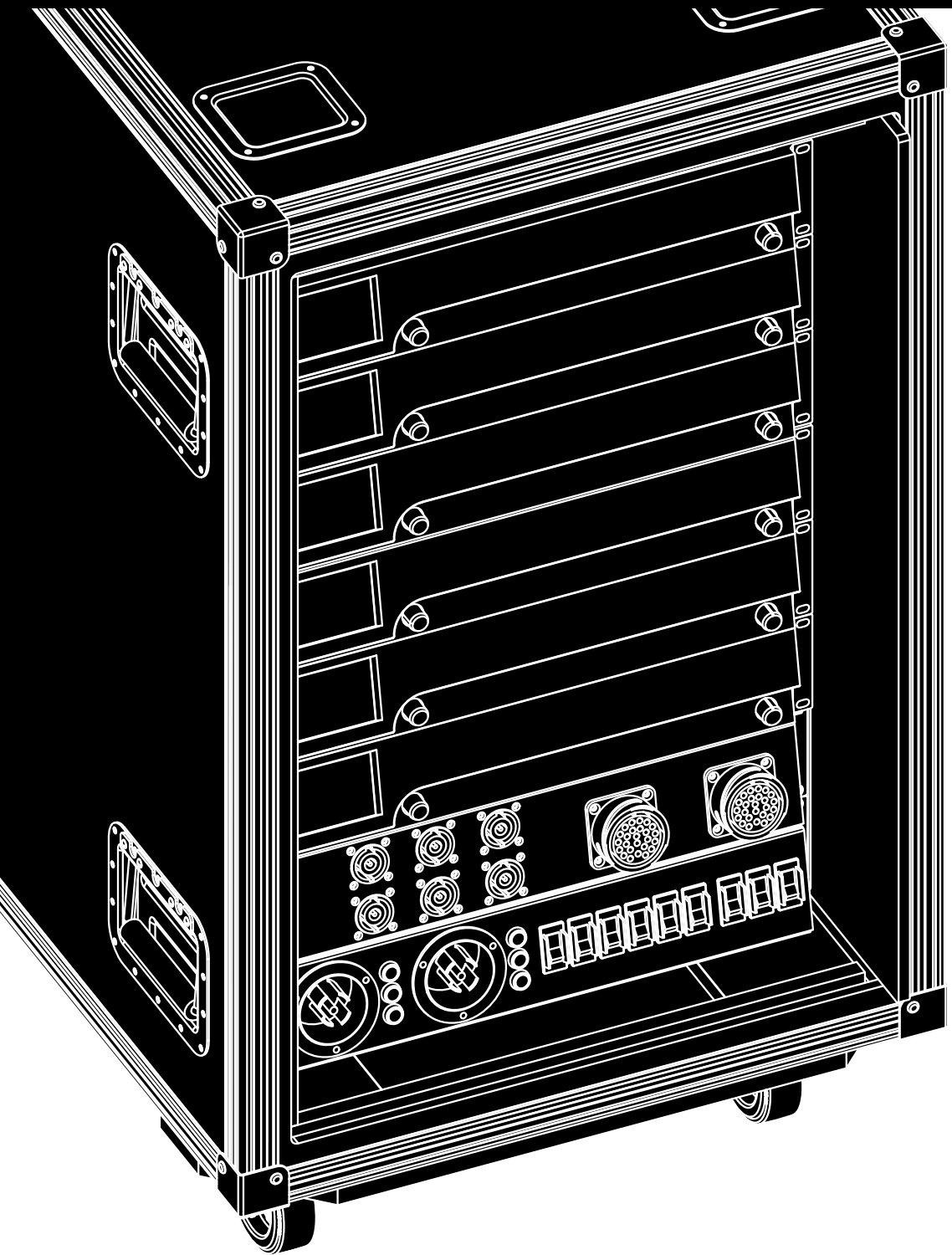
D

Z5601.552/Z5601.553
Manual 1.4 en



d&b audiotechnik

Notes on document version
All previous versions of this document are hereby no longer valid.

Version 1.4:
Auxiliary mains output connector socket type corrected.

Refer to:
⇒ Chapter 3.3.1 “AUXILIARY MAINS OUTPUTS” on page 11.

General information

Z5601.552/Z5601.553 Manual

Version: 1.4 en, 10/2025, D2761.US .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.



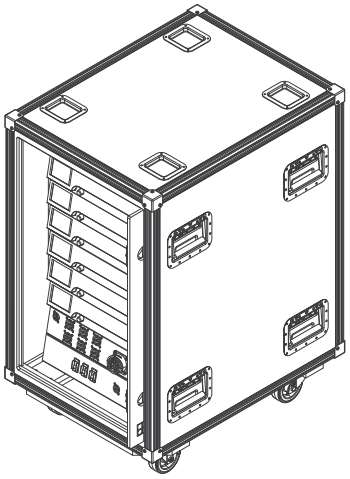
Before using this product, carefully read the applicable items of the following safety instructions.

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 rack assembly to rain or moisture.
   - Keep water or other liquids away.
   - Do not place liquid filled containers, for example beverages, on top of the rack assembly.
   - Do not operate the rack assembly while it is wet or standing in liquid.
6. Do not use the rack assembly if its mains 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 rack assembly.
7. Use the mains plug of the rack assembly as the disconnecting device and keep it readily accessible.
8. Lay all cables connected to the rack assembly 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.
9. Unplug the rack assembly during lightning storms or when unused for long periods of time.

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1 D40/D25 Touring rack assembly 18 RU - NEMA



1.1 Intended use

Z5601.553 D40 Touring rack
The d&b Z5601.552 D40 Touring rack assembly NEMA 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 D40 amplifiers.

For this purpose, the touring rack is equipped with a 2 x 30 A NEMA mains power distribution device (Z5606.001) as well as a loudspeaker connector panel (Z5578.001).

In addition, the Z4001 DN1 Ethernet network switch provides an AVB-enabled 11-port switch (3 x etherCON® / 8 x RJ45).

Also incorporated is an I/O panel (Z5604), which serves as a connector interface for both analog and digital audio signals.

Optional, the Z5607 DN1 upgrade kit is available to provide a second DN1 for redundant possible applications.

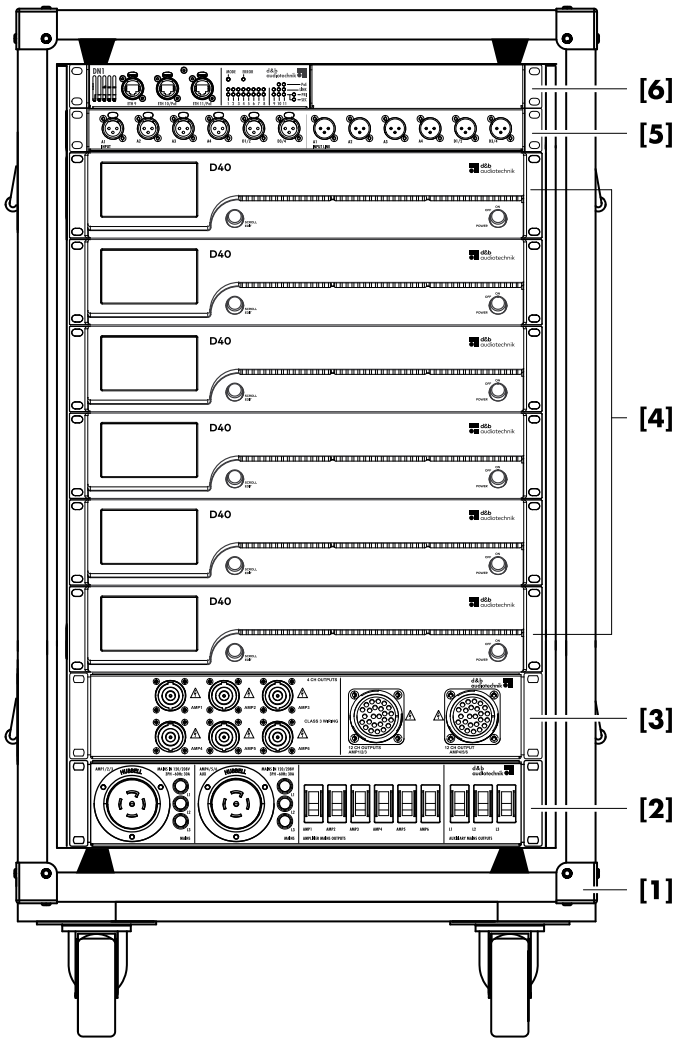
Z5601.553 D25/D40
The d&b Z5601.553 D25/D40 preassembled Touring rack assembly NEMA is intended for large scale mobile sound reinforcement applications. The touring rack is supplied without amplifiers and can then be individually equipped with D25/D40 amplifiers by the customer.

For this purpose, the touring rack is equipped with a 2 x 30 A NEMA mains power distribution device (Z5606.001) as well as a loudspeaker connector panel (Z5578.001).

In addition, the Z4001 DN1 Ethernet network switch provides an AVB-enabled 11-port switch (3 x etherCON®/8 x RJ45).

Also incorporated is an I/O panel (Z5604), which serves as a connector interface for both analog and digital audio signals.

Optional, the Z5607 DN1 upgrade kit is available to provide a second DN1 for redundant possible applications.

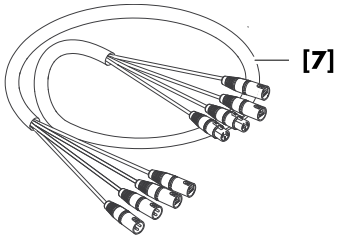


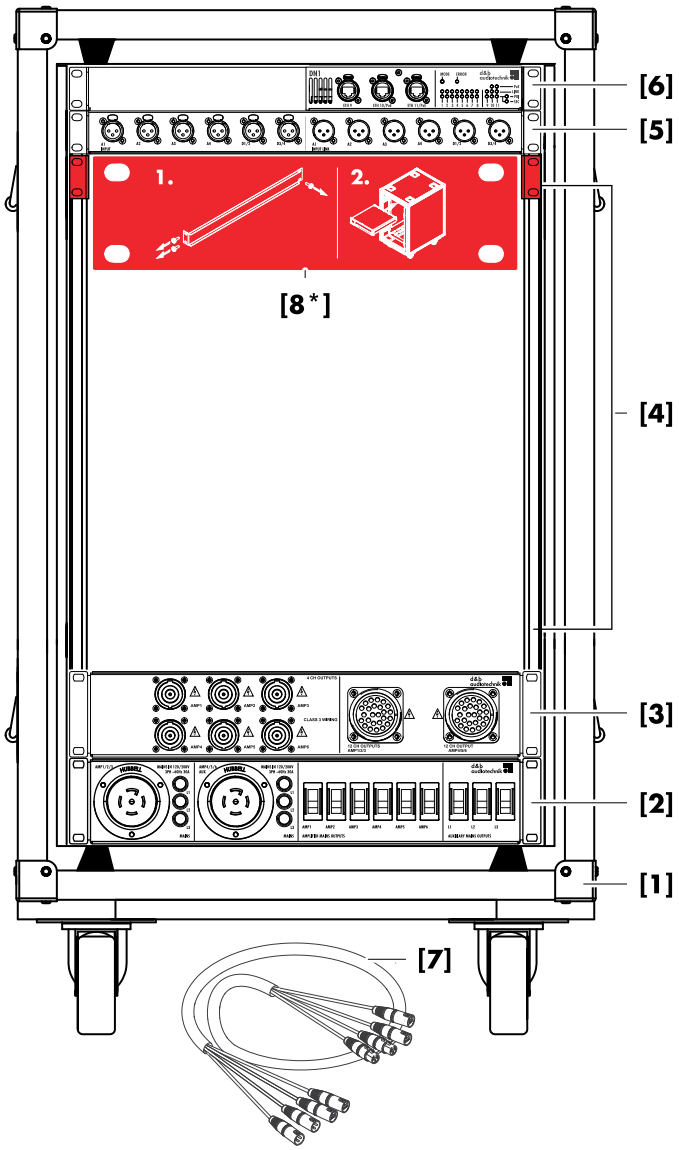
1.2 Scope of supply

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 it.

Pos.	Qty.	d&b Code	Description
[1]	1	Z5601.553	Touring rack assembly 18 RU NEMA - with shock mounted 19" frame.
Including:			
[2]	1	Z5606.001	Mains power distributor 2 x 30 A NEMA.
[3]	1	Z5578.001	LS Connector panel 2 x LKA 25 / 6 x NL8.
[4]	6	Z2850	D40 Amplifier
[5]	1	Z5604	I/O Panel.
[6]	1	Z4001	DN1 Ethernet switch.
[7]	1	Z5333.001	Rack link network
		D2761.US .01	Z5601.553 Manual.





[*8]: Remove the transport protection before mounting the amplifiers.

1.3 Z5601.553 Scope of supply

The D40/D25 Touring rack assembly is available as a preassembled rack without amplifiers.

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

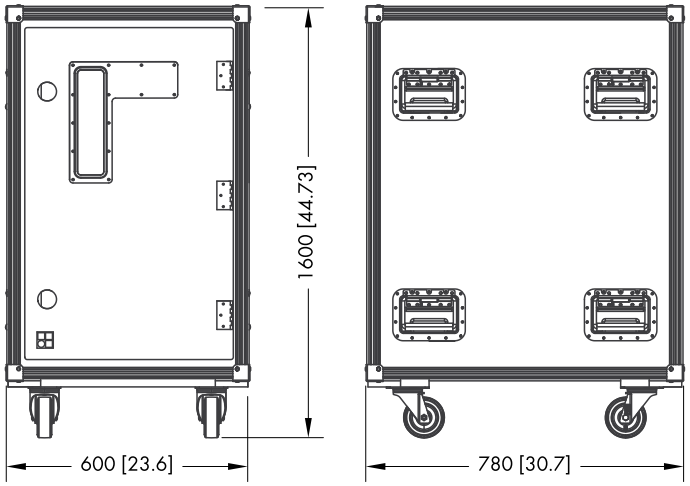
If there is any sign of obvious damage, do not operate the rack assembly and contact your local dealer from whom you received it.

When mounting the amplifiers yourself, observe the following recommendations:

CAUTION!
Risk of electric hazard and/or fire!

The Z5601.553 Preassembled touring rack assembly is designed and dimensioned for the safe operation of **six** d&b D40/D25 amplifiers and therefore **only d&b D40/D25 amplifiers** must be mounted into the rack.

Pos.	Qty.	d&b Code	Description
[1]	1	Z5601.553	Preassembled touring rack assembly 18 RU (NEMA) - with shock mounted 19" frame.
Including:			
[2]	1	Z5611.001	Mains power distributor 2 x 30 A (NEMA).
[3]	1	Z5578.001	LS Connector panel.
[4]	6	Rack space for six d&b D40/D25 amplifiers. **Note:** For the internal rack wiring, all necessary cables are enclosed with the shipment. For wiring details, please refer to ⇒ Chapter 7 “Rack wiring diagrams” on page 18.	
[5]	1	Z5604	I/O panel.
[6]	2	Z4001	DN1 Network switch.
[7]	1	Z5333.001	Rack link network.
		D2761.US .01	Z5601.553 Manual.
Optional:			
	1	Z5608	DN1 upgrade kit 18RU



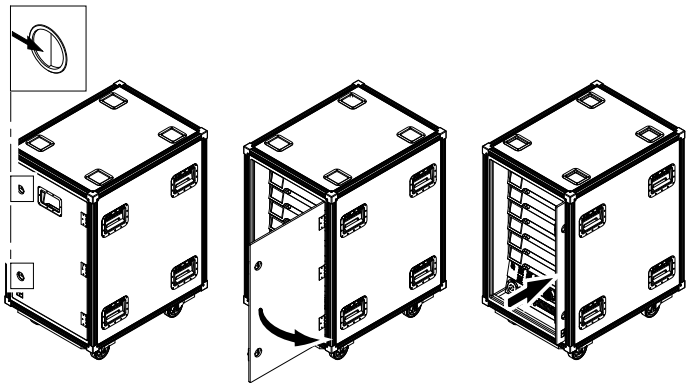
1.4 Dimensions and weight

Dimensions and weight

Height x width x depth.....1060 x 600 x 780 mm

.....41.73 x 23.6 x 30.7"

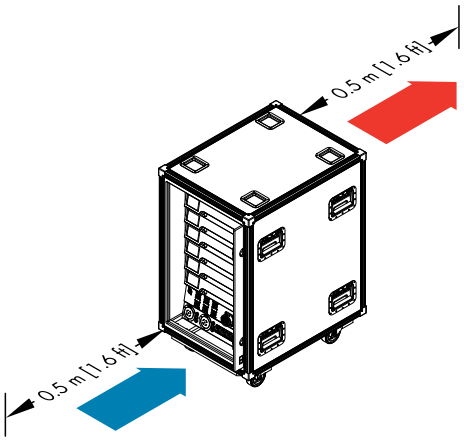
Total weight (1x DN1 included).....179 kg / 394 lb



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.
3. Push the door into its park position.

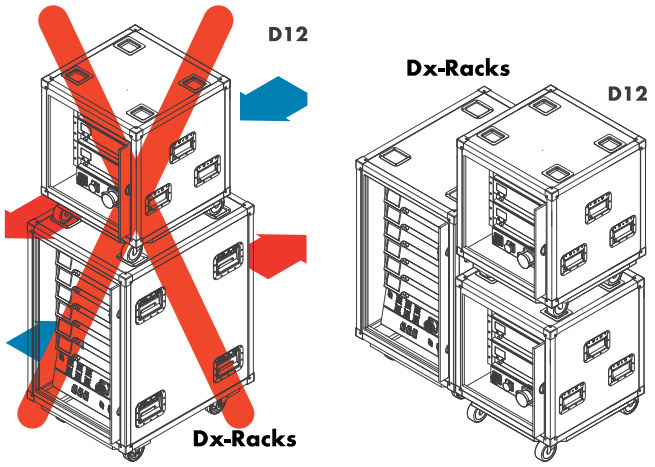


2.2 Cooling and placement

NOTICE!
Risk of malfunction due to overheating!

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

When using the d&b Z5601.553 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.



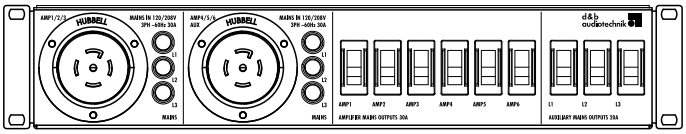
CAUTION!
Risk of personal injury and/or damage to material due to possible tipping over!

To avoid possible tipping over, do not move stacked touring racks.

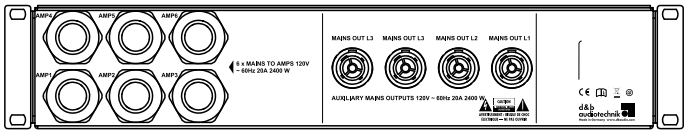
D40/D25 Touring rack assemblies as well as D80/D90/D20 Touring racks can be stacked or positioned side by side.

When combining D40/D25 Touring rack assemblies with Z3010 D12 Touring rack assemblies or any other rack assemblies that produce 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 D40/D25 Touring Rack.



Z5611.001 Front panel



Z5611.001 Rear panel

3.1 Intended use

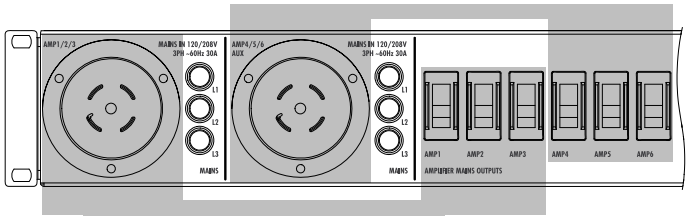
The Z5611.001 Mains power distributor is designed and dimensioned to provide and distribute the mains power supply necessary for **one** Z5601.552 Touring rack assembly.

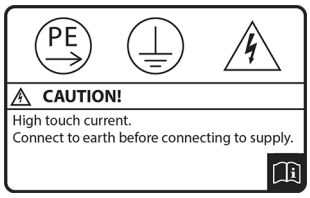
It is a protective class 1 unit with IP class 20 (NOT rain-, drip-, or splash-proof!).

The Z5611.001 Mains power distributor must not be used for any other purpose or outside the system rack.

3.2 Front panel

3.2.1 MAINS IN





WARNING!
Potential risk of electric shock.

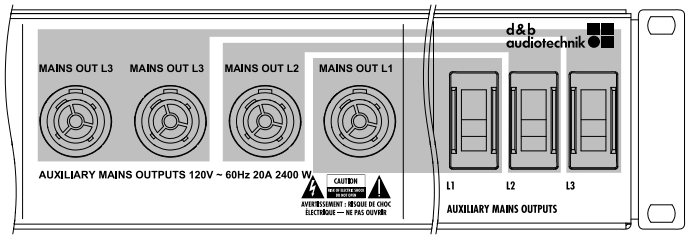
The Mains power distributor is a protective class 1 unit. A missing earth (ground) contact may cause dangerous voltages in the housing and controls and may lead to electric shock.

- 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 mains connector, do not use the unit and replace it before further use.
- Do not connect or disconnect the mains connector under load or live.
- Please ensure the mains connector is accessible at any time to disconnect the rack assembly in case of malfunction or danger.
- Please ensure the NEMA mains connector is properly connected and locked.
- The whole rack assembly generates a leakage current of approx. 16 mA. It is strongly recommended that the appliance is only operated on sockets with suitable earthing protection and a Residual Current protective Devices (RCD).

The Z5611.001 Mains power distributor is supplied with two NEMA 30 A 3ØY 120/208 VAC male connector sockets. They accept a corresponding NEMA female connector. Each connector socket provides mains power necessary for **three** D40 amplifiers.

Required mains supply network configuration
3-phase 120/208 VAC - 50/60 Hz - 30 $A_{max.}$, B or C-Frame type (3PNPE).

For each connector socket three corresponding mains indicators display the presence of the onsite mains supply lines (phase conductor L1-L2-L3) when connected to the onsite mains power supply. Each connector socket of the Z5611.001 Mains power distributor provides a dedicated circuit-breaker (20 A / B-Frame type). Please refer to the assignment as shown in the graphic opposite. The respective circuit-breakers of the onsite mains distribution are still necessary for this purpose.



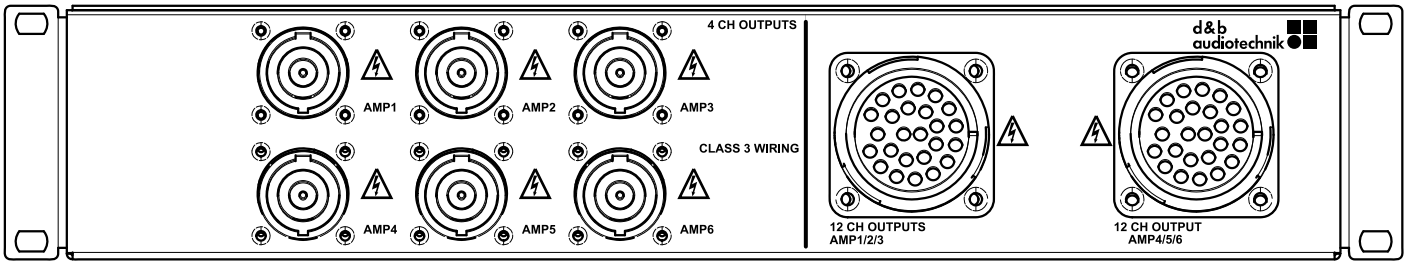
3.3 Rear panel

3.3.1 AUXILIARY MAINS OUTPUTS

Four auxiliary mains outputs (powerCON® TRUE1 TOP sockets) are provided. Mainly intended to apply mains supply for the DN1 devices.

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 on the front panel (20 A / C-Frame type).



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!).

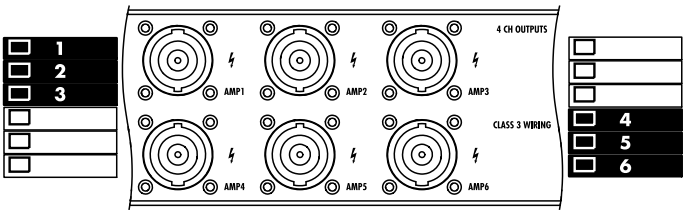
The Z5578 Loudspeaker connector panel must not be used for any other purpose or outside the system rack.

4.2 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 the d&b Z5347.xxx.

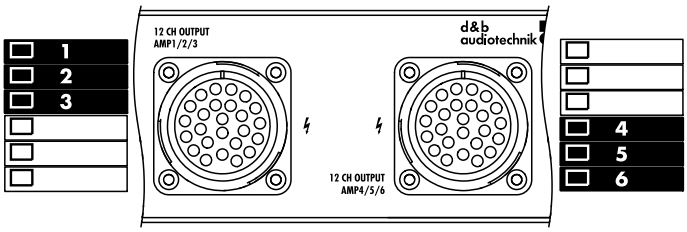
Do not connect any loudspeaker cabinets, neither passive nor active systems, to the 4 CH OUTPUTS connectors, otherwise there is a risk of damaging the loudspeaker components or the amplifier.



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.



4.3 12 CH OUTPUT

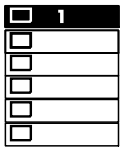
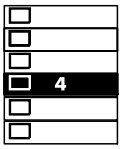
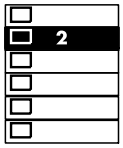
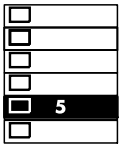
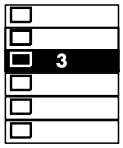
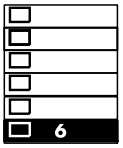
Two 12 CH OUTPUT multipin connectors (LKA25) are provided to allow efficient system wiring using the d&b MC24 multicore system (Z5328.xxx MC24 LKA25 F/M Multicore, Z5325.000 Break-out adapterLKA25M to 6 x NLT4M, Z5327.000 Break-out adapter LKA25M to 12 x NLT4M and Z5326.000 Break-in adapter 3 x NLT8F to LKA25F).

The d&b MC24 Multicore System combines a 12-amplification-channels (24 lines 4 mm^2) 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:

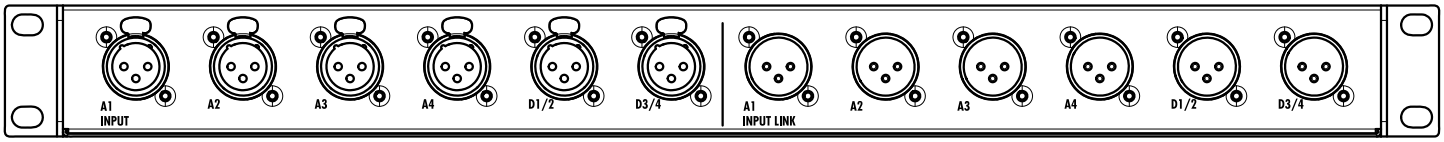
12 CH OUTPUT AMP 1/2/3				**12 CH OUTPUT AMP 4/5/6**		
LKA25	**NL8**	**Amplifier**		**LKA25**	**NL8**	**Amplifier**
A	1+	**AMP 1**		A	1+	**AMP 4**
B	1–			B	1–	
C	2+			C	2+	
D	2–			D	2–	
E	3+			E	3+	
F	3–			F	3–	
G	4+			G	4+	
H	4–			H	4–	
I	1+	**AMP 2**		I	1+	**AMP 5**
J	1–			J	1–	
K	2+			K	2+	
L	2–			L	2–	
M	3+			M	3+	
N	3–			N	3–	
O	4+			O	4+	
P	4–			P	4–	
Q	1+	**AMP 3**		Q	1+	**AMP 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–	

5.1 Intended use

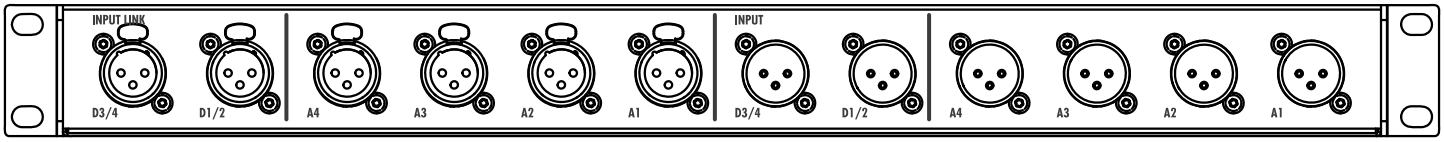
The D40 I/O Panel is intended for rack mounting only and must not be used stand-alone outside of a rack.

Within an amplifier system rack, it acts as connecting interface for both analog and digital audio INPUT and INPUT LINK connectors.

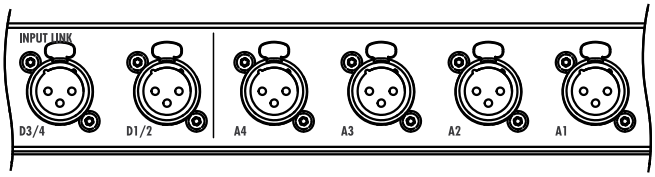
5.2 Overview

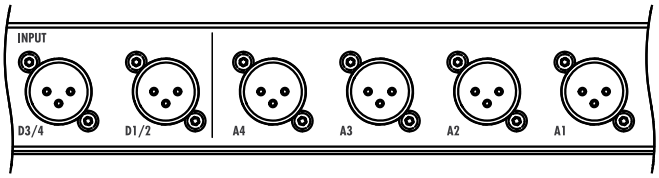


Z5604 Front view



Z5604 Rear view



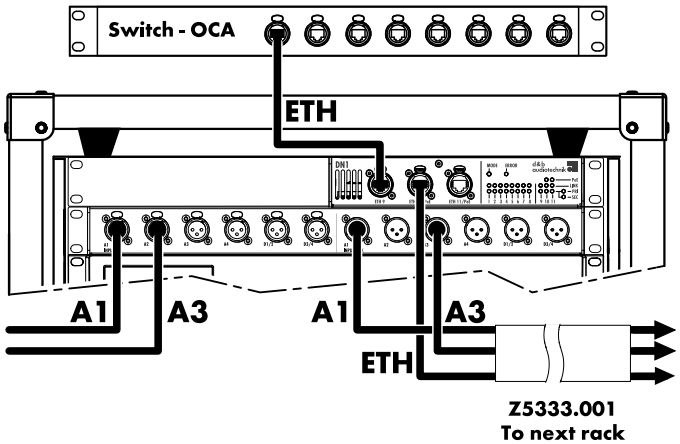


5.2.1 INPUT

The INPUT section represents the input connectors of the first amplifier while the remaining amplifiers are linked within the rack. The INPUT section allows both analog and digital (AES3) audio signals to be fed to the amplifier.

5.2.2 INPUT LINK

The INPUT LINK section represents the link output connectors of the last amplifier and allows the linking of further system racks.



I/O panel, rack link:
2ch Analog audio and Ethernet/OCA

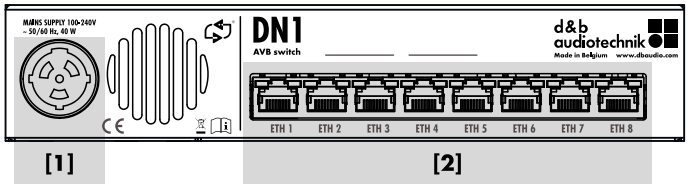
5.2.3 Remote network option

You can daisy chain the rack assemblies within a remote network using the enclosed rack link cable (Z5333.001).

For remote purposes via Ethernet/OCA, it is strongly recommended to use the prewired configuration in combination with the DN1 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.

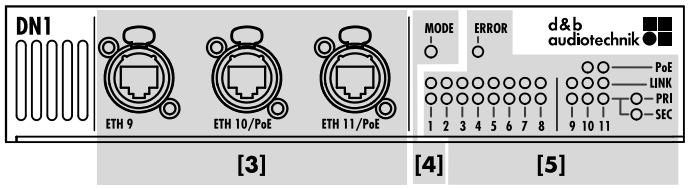
Rear panel connectors



Internally wired:

[1] powerCON TRUE1 TOP® mains connector socket.

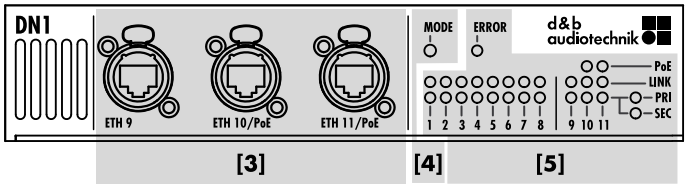
[2] 8 x RJ 45 ports (ETH 1 - ETH 8).



Note: Either of the «ETH 10/PoE» or «ETH 11/PoE» connector is also intended to feed an inclinometer such as the d&b ArraySight sender unit, which is integrated in the flying frame for vertical aiming of the entire array.

6.1 Overview

Front panel connectors, controls and indicators



[3] etherCON® switch ports ETH 9 - ETH 11.
Refer to ⇒ Chapter 6.2.1 “ETH 9 - ETH 11” on page 15.

[4] Mode button.
Refer to ⇒ Chapter 6.2.2 “Operating mode selection” on page 15.

[5] Multi-colored LED indicators.
Refer to ⇒ Chapter 6.2.3 “LED indicators” on page 17.

6.2 Front panel

6.2.1 ETH 9 - ETH 11

The device provides an 11-port Ethernet switch for different network topologies, redundancy (two devices) and advanced functionality with AVB. For this purpose, three connectors are provided on the front panel.

Power over Ethernet (PoE)

The « ETH 10/PoE» and «ETH 11/PoE» Ethernet connectors also provide Power over Ethernet based on IEEE standard 802.3af. Each port delivers a maximum of 15.4 W, both ports deliver a maximum total of 25 W. If the maximum power is exceeded, PoE supply will be shut off.

6.2.2 Operating mode selection

On the front panel, the device features a «MODE» button which is used for the following purposes:

- **Factory reset**
  Reset the device to factory defaults maintaining remote settings.
- **Configuration mode**
  Toggle between primary and secondary configurations.
- **Remote reset**
  Reset all remote settings to factory defaults.
- **Wink mode** (device identification)
  Visual identification of the device.

Factory reset

The factory reset function resets all device settings to factory defaults except for those affecting remote communication (dbRemoteID and IP configuration: Address, Gateway, Netmask and Mode).

To reset the device to factory defaults, proceed as follows:

1. Disconnect the device from the mains power supply.
2. Press and hold the «MODE» button, then reconnect the device to mains again.
   ↳ All AVB port status LEDs turn red for a short period. It takes up to 20 seconds until this pattern is shown. All other LEDs are off.

3. Release the «MODE» button.
4. Within two seconds, press the «MODE» button again.
   ↳ All AVB port status LEDs turn red for two seconds. The other LEDs are off and all settings are set to default values.

   If you do not press the «MODE» button again at this point, the reset will not be performed and the LEDs will return to their normal operating behavior.

6.2.3 LED indicators

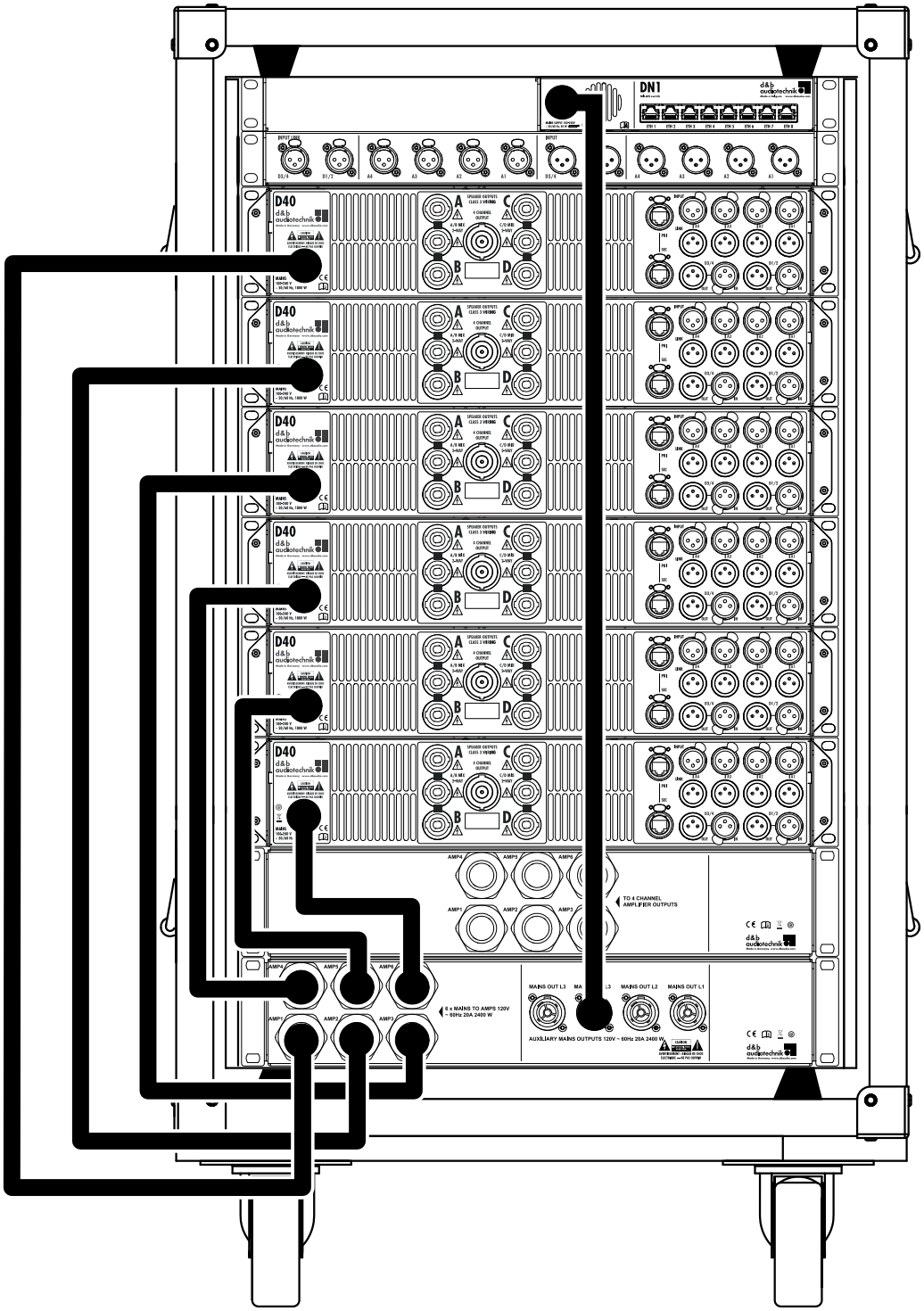
All device states and operating modes are indicated by dedicated multi-color LEDs.

> **Note:** In case of a device error, connect the device to R1 via OCA to obtain further information.

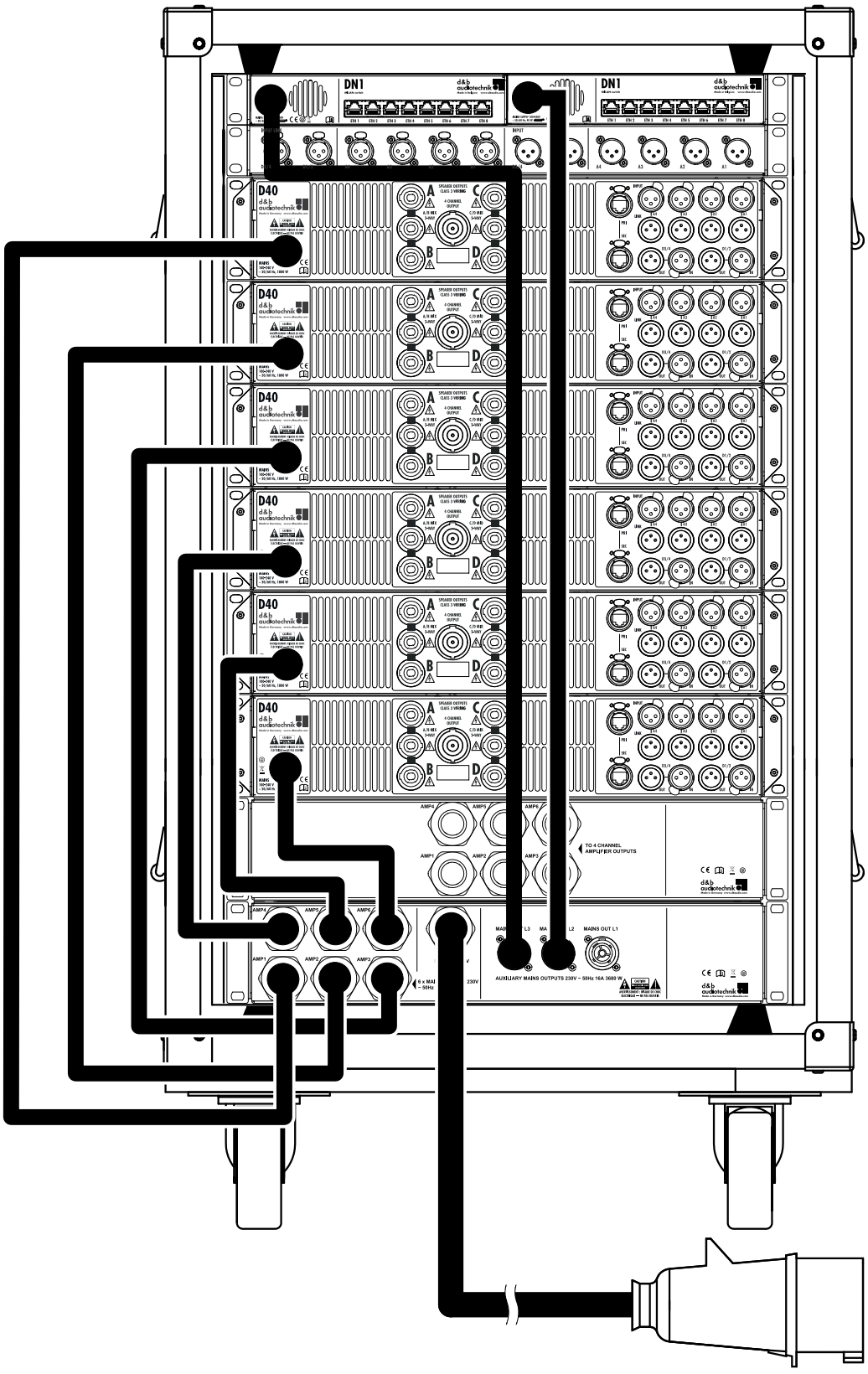
The LED color codes and the related device states and operating modes are detailed in the table below.

LED color	[1] Error	[2] LINK	[3] AVB	[4] PoE	[5] PRI/SEC
	Device error detected.	-	Detected AVB network does not match the device settings.	-	-
	-	Network activity, max. 1 Gbit.	-	-	-
	-	Network activity, max. 100 Mbit.	-	-	-
	-	-	Primary AVB network detected.	-	Device in PRI network mode.
	-	-	Secondary AVB network detected.	-	Device in SEC network mode.
	-	-	-	Active PoE supply.	-
LED off	Normal operation.	No active connection.	No AVB network information.	No PoE enabled device connected.	-
LED flashing	-	Data traffic.	-	PoE Error.	-

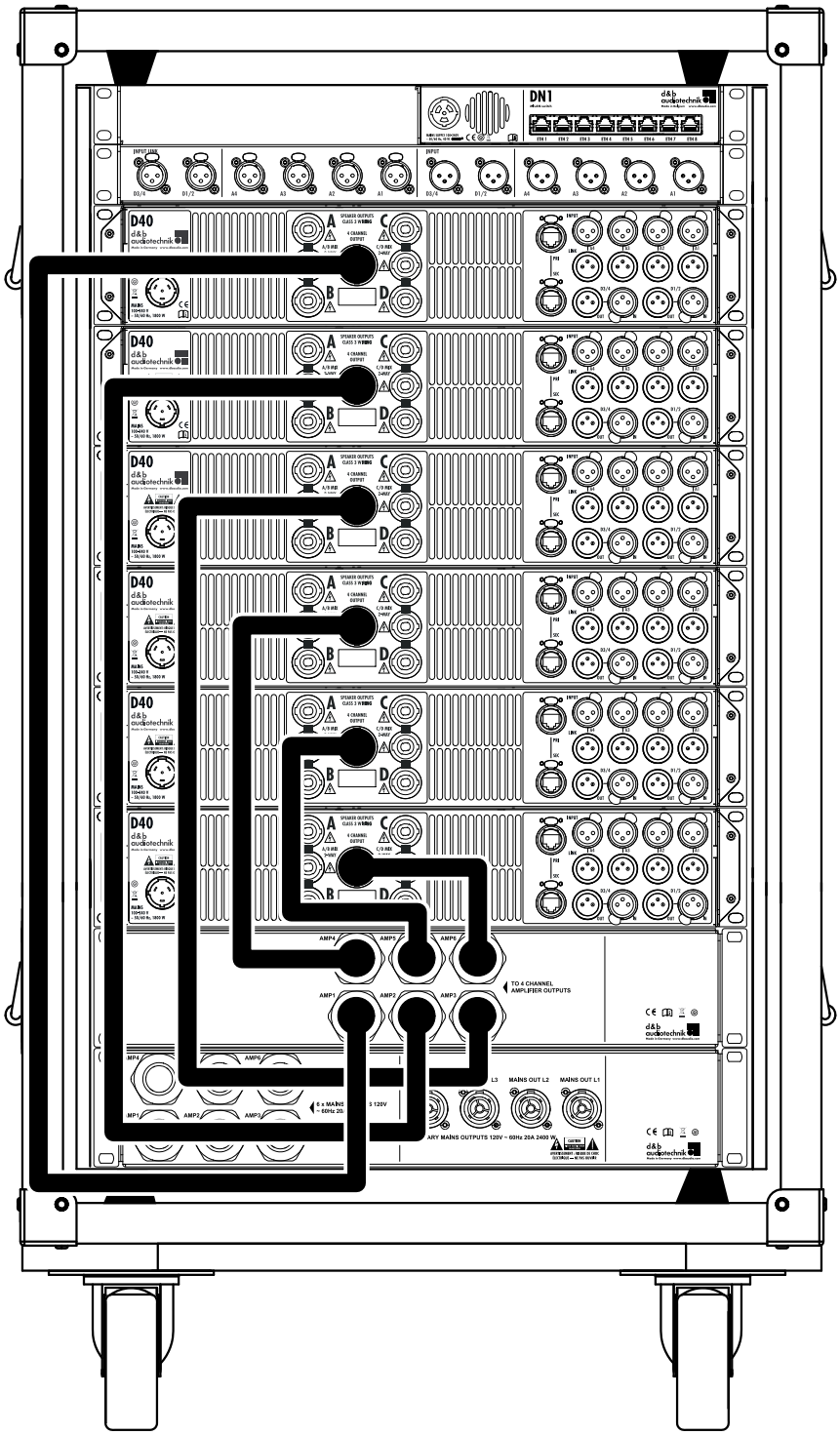
Mains power connection and internal mains supply distribution



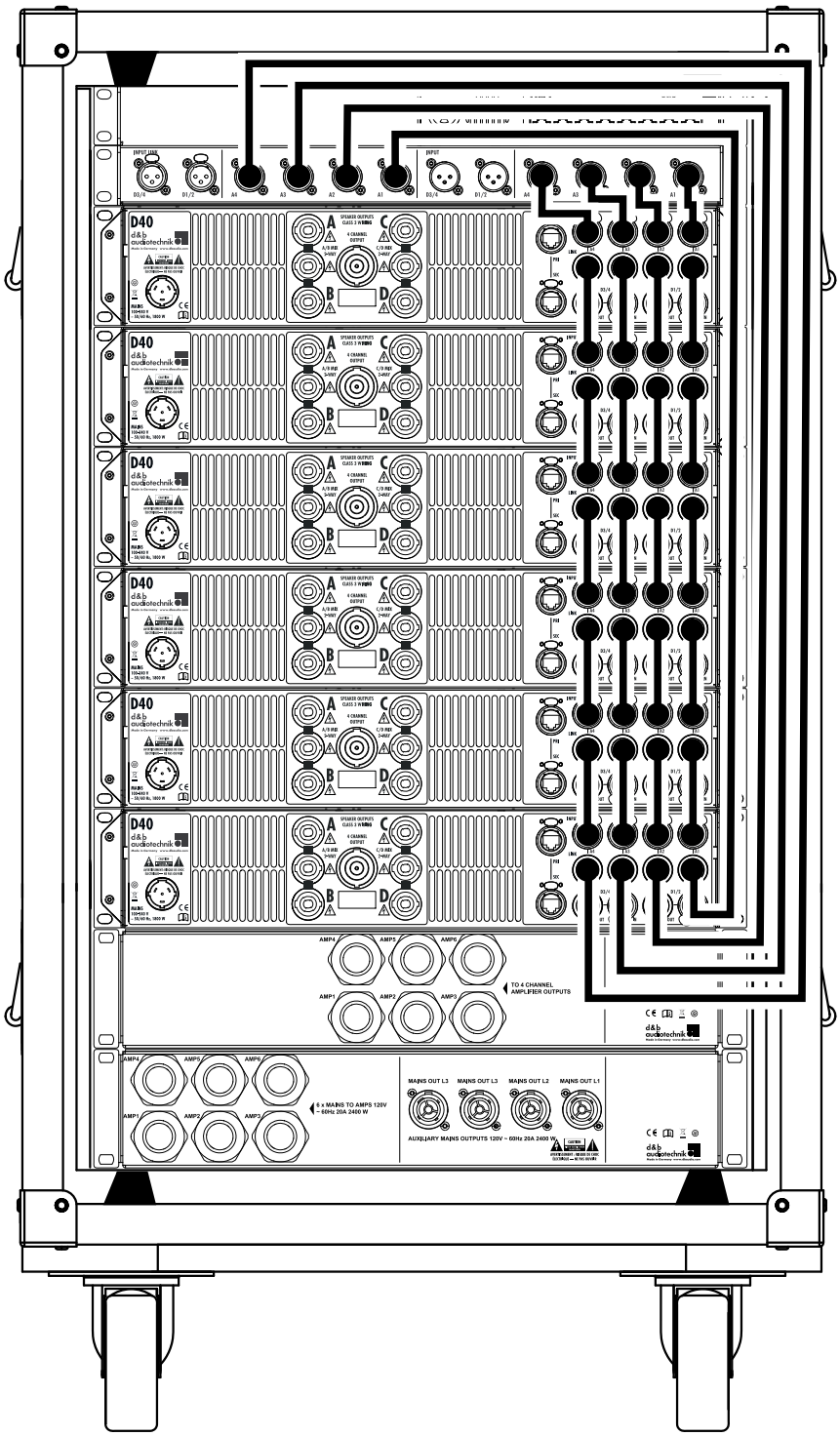
(Optional) Mains power connection and internal mains supply distribution with 2 x DN1



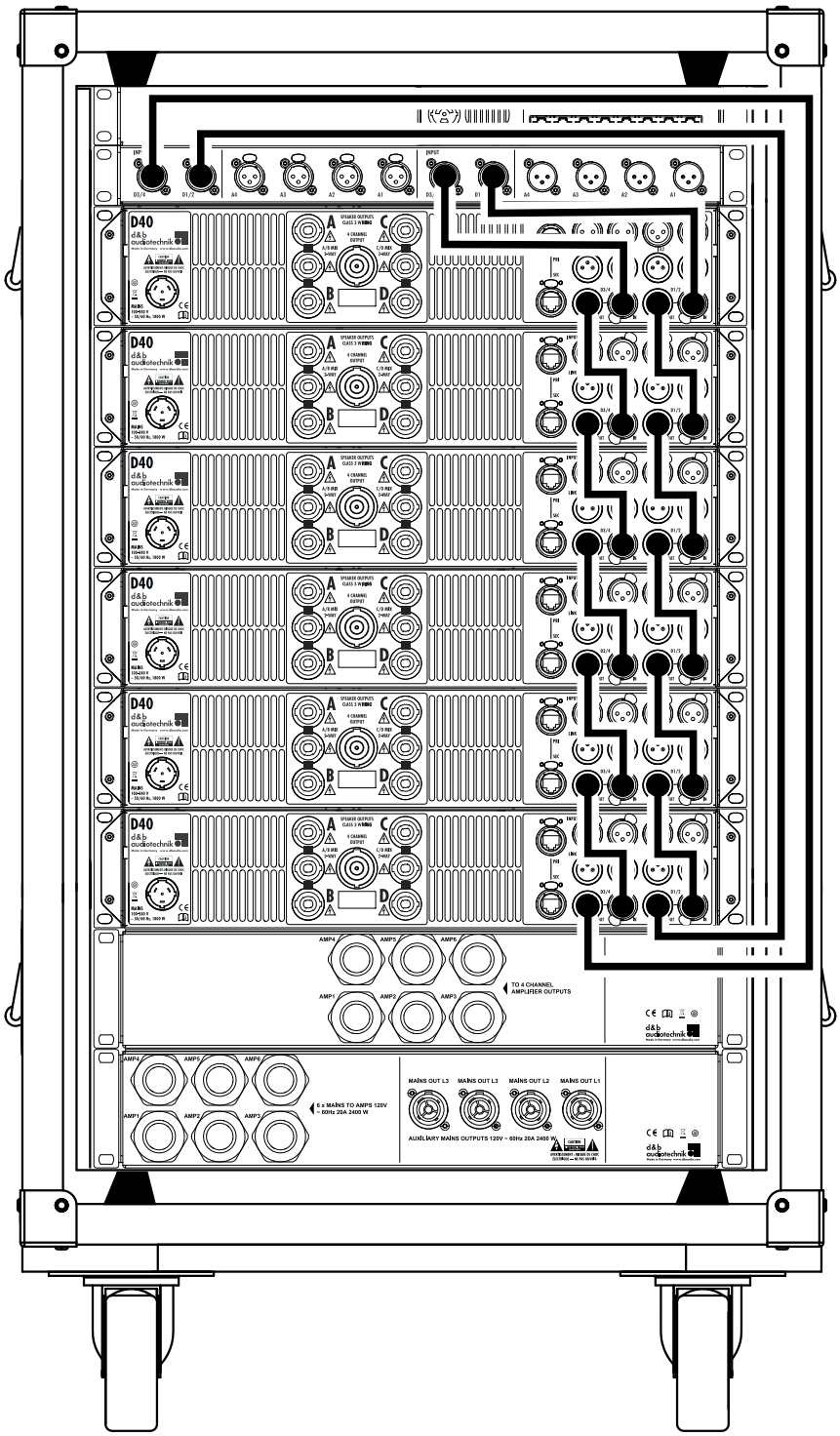
Internal 4 CHANNEL OUTPUT wiring



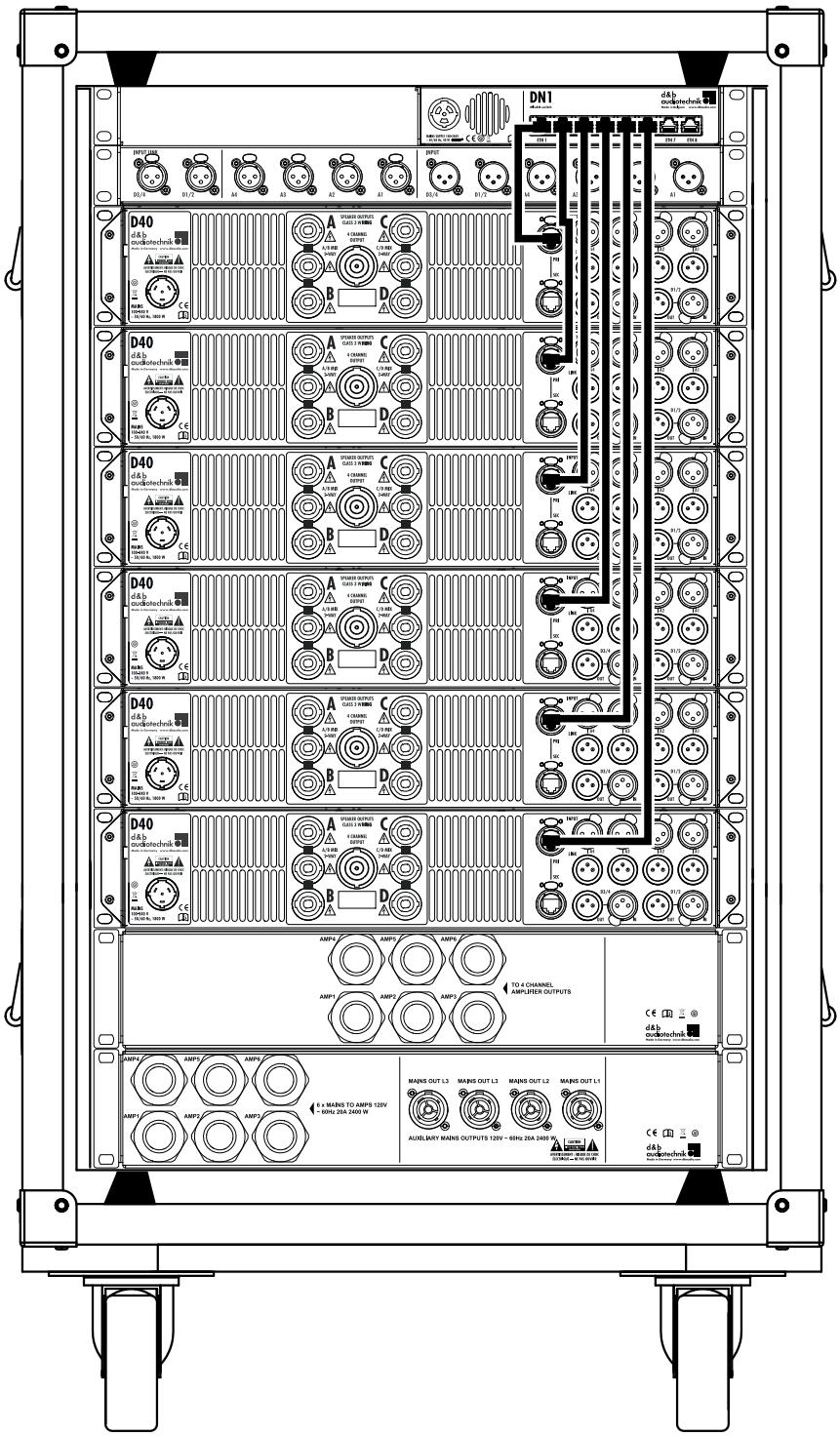
Internal analog audio INPUT and LINK wiring



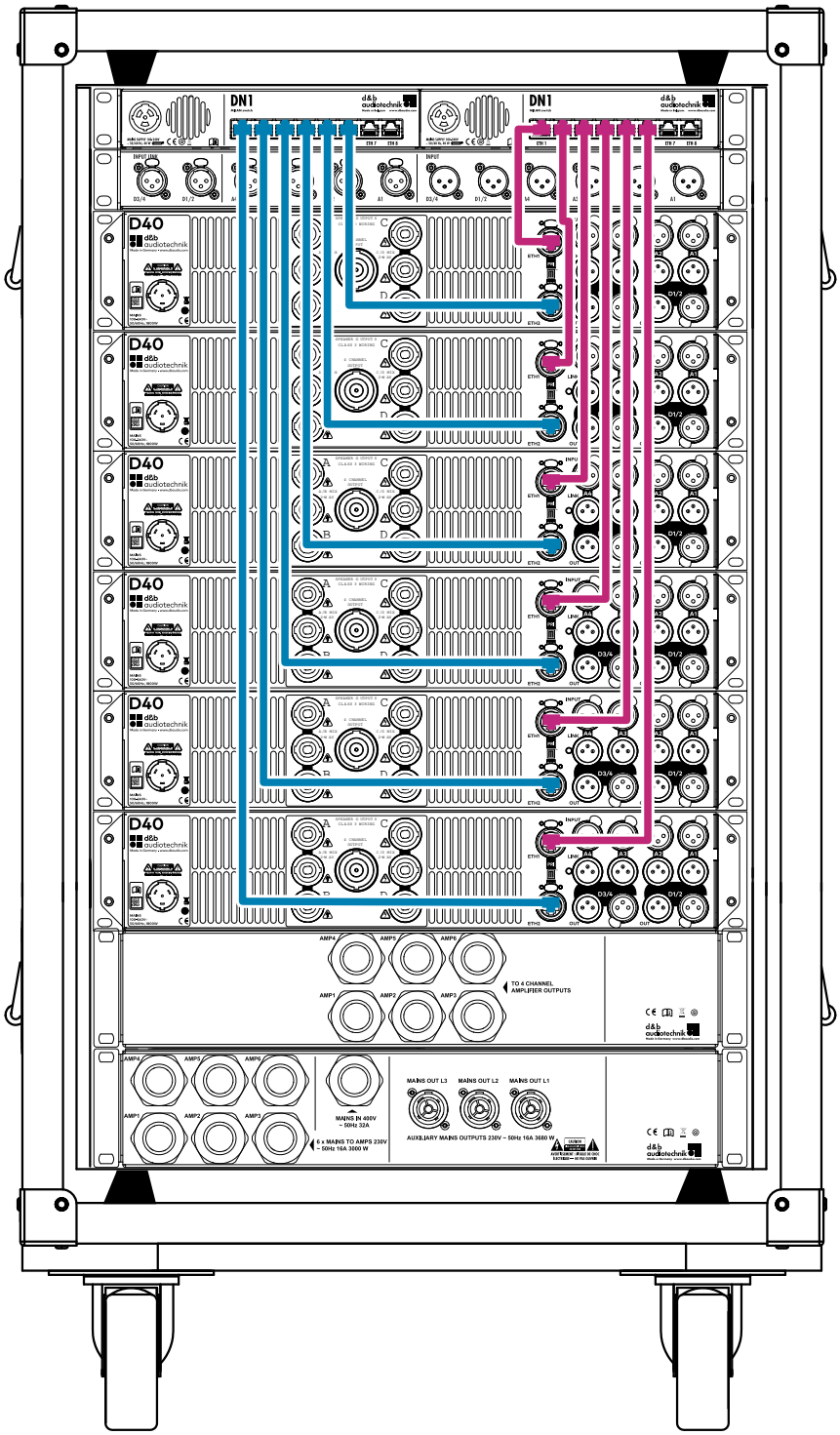
Internal digital audio INPUT and LINK wiring



Internal Ethernet network wiring



(Optional) Internal Ethernet network wiring with 2 x DN1



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