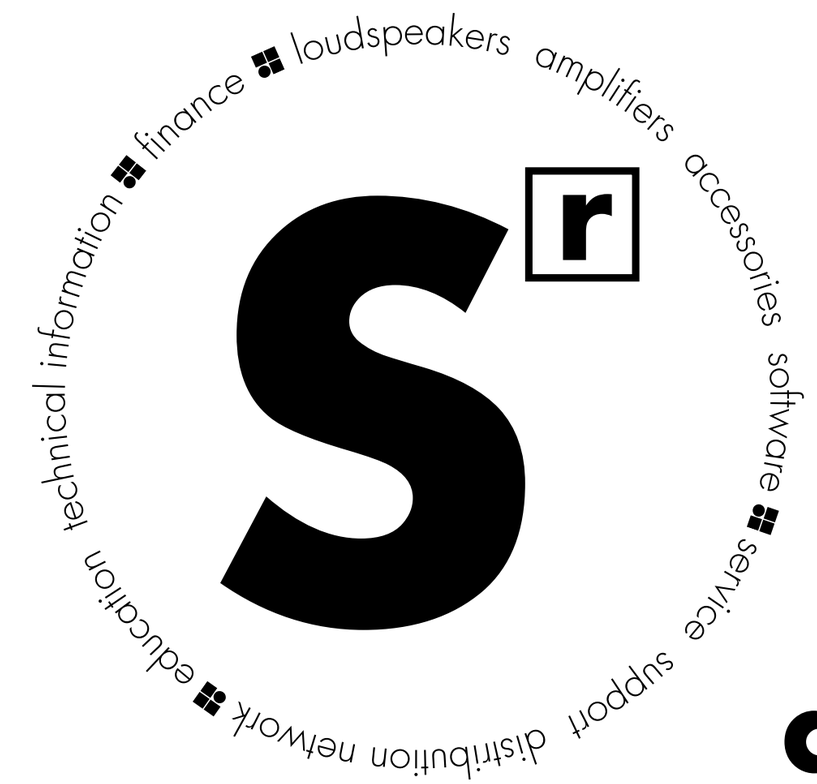
V

V-Series

Contents



d&b System reality

As the name implies a d&b audiotechnik system is not just a loudspeaker. Nor is it merely a sum of the components: loudspeakers, amplifiers, accessories and software. Right from the outset the d&b audiotechnik approach was to build integrated sound reinforcement systems that actually are more than the combination of parts: an entirety where each fits all. Every element is tightly specified, precisely aligned and carefully integrated to achieve maximum efficiency. For ease of use, all the user-definable parameters are integrated, allowing the possibility of adjustment, either via remote control surfaces or directly on the amplifiers. Neutral sound characteristics leave the user all the freedom needed to realise whatever the brief. At the same time d&b offers integrated finance, service and support, a knowledgeable distribution network, education and training as well as technical information, so the same optimal acoustic result is achieved consistently by every system anywhere, at any time. In reality: the d&b System reality.

The **V-Series** line array system with its crystal clear and detailed audio performance, smooth and even frequency response over distance, high dynamic bandwidth and power and headroom capabilities all make it a good choice for the medium to large sound reinforcement applications of any sound genre. Control of dispersion behaviour and minimal size and weight are both areas in which the V-Series convinces. All the components needed to suspend the loudspeakers within the bespoke three point V-Series flying system are integrated into the cabinets ensuring speedy deployment providing quick and easily configurable array solutions in all the intended applications. The V-Series is also the ideal complement to the J-Series in terms of sound character, headroom, dispersion and arrayability for outfills, as a centre cluster or delays. The **V loudspeakers** are designed for a wide range of applications with a clear perspective to provide mobile, flexible, configurable array solutions to the most arduous sound reinforcement situations. The **Vi loudspeakers** differ only slightly in cabinet construction and mounting hardware. They are intended for permanently installed performance spaces where the specification is rider driven by the artist or mix engineer's preferences. Both the Vi cabinets and mounting hardware can be properly colour matched to interior designs and are weather protected for climatically hostile environments.

The V-Series

The **V8** and **Vi8** line array loudspeakers produce an 80° constant directivity dispersion pattern in the horizontal plane. They utilize a passive 3-way design featuring two 10" neodymium LF drivers, one hornloaded 8" MF driver, two 1.4" exit HF compression drivers with 2.5" voicecoils mounted to a dedicated wave shaping device and a passive crossover network. The **V12** and **Vi12** line array modules, which are acoustically and mechanically compatible with the V8 and Vi8 respectively, differ only in the 120° horizontal coverage. All components are arranged symmetrically around the centre axis of the cabinet to produce a perfect symmetrical dispersion pattern. Due to the dipolar arrangement of the LF drivers, a broadband, horizontal dispersion control is maintained down to approximately 250 Hz.

V8, V12 loudspeaker

Vi8, Vi12 loudspeaker

The d&b software offering aides the entire system setup process, from the simulation and planning of the loudspeaker systems, to the remote control and monitoring of the system functions during the event, followed by service functionality to verify system performance prior to de-rigging. The **ArrayCalc** simulation software allows the virtual optimization of loudspeaker line arrays, point source and column loudspeakers as well as subwoofers and their adjustment to venue conditions. Using the R1 export function, a project file containing the simulation data, including the respective amplifier settings is generated for deployment in the **R1** Remote control software. R1 then feeds the settings to the amplifiers from a central location to allow rapid verification and fine adjustment on site. Service functions enable firmware updates of the amplifiers as and when these are available.

The **V** and **Vi-SUB** are compact high performance cardioid subwoofers powered by a single amplifier channel. They share the same width as the V8/Vi8 and V12/Vi12 loudspeakers and are equipped with compatible flying fittings. The V and Vi-SUB house two long excursion neodymium drivers in an integrated cardioid setup to avoid unwanted energy behind the system. All V-Series loudspeakers are finished with a PCP (Polyurea Cabinet Protection) coating that provides resistance for mobile systems to the adverse effects on cabinets in changing ambient outdoor conditions. A choice of transport solutions are available for the V loudspeakers.

V subwoofer

Vi subwoofer

The d&b **D12** dual channel and the **D80** four channel amplifiers realize the complete system and incorporate d&b loudspeaker specific configuration information. They provide different power ranges and have analog and digital signal inputs and links. These devices are specially designed and manufactured by d&b utilizing Digital Signal Processing and include switchable functions for precisely tailoring system response for a wide variety of applications. Delay capabilities and equalization on each channel of every amplifier reduce the need for external processing devices, with user definable 4-band parametric EQ for the D12 compared to the two 16-band equalizers incorporated into the D80.

D12 amplifier

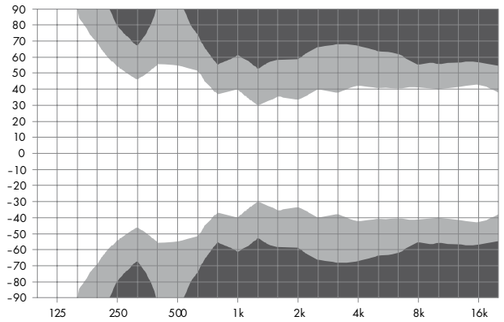
D80 amplifier

The V8 and Vi8 loudspeakers

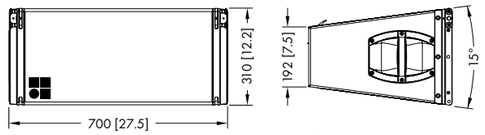
V8 and Vi8 loudspeakers
The V8 and Vi8 are line array loudspeakers, the Vi8 is the installation version of the V8 loudspeaker. They are 3-way passive designs featuring two 10" LF drivers, one hornloaded 8" MF driver and two 1.4" exit HF compression drivers with 2.5" voicecoils mounted to a dedicated waveshaping device. The symmetrical dipolar arrangement of the neodymium LF drivers around the centrally mounted coaxial MF and HF components allows a smooth overlap of the adjacent frequency bands in the crossover design. This results in an exceptional 80° horizontal constant directivity dispersion control nominally being maintained down to 250 Hz.
The mechanical and acoustical design enables flown vertical arrays of up to twenty four loudspeakers to be suspended using vertical splay angles between 0° to 14° with a 1° resolution. It can be used in columns of purely V8 or Vi8 loudspeakers or combined with V12/Vi12s and/or with V-SUB/Vi-SUBs.
The cabinet is constructed from marine plywood and has an impact and weather protected PCP (Polyurea Cabinet Protection) finish. The front of the loudspeaker cabinet is protected by a rigid metal grill backed by an acoustically transparent foam. Each side panel of the V8 cabinet incorporates a handle while two additional recessed grips are provided at the rear bottom of both the V8 and Vi8.

System data
Frequency response (–5 dB standard) ..... 67 Hz - 18 kHz
Frequency response (–5 dB CUT mode) ..... 100 Hz - 18 kHz
Max. sound pressure (1 m, free field)[1]
with D12 ..... 139 dB
with D80 ..... 142 dB

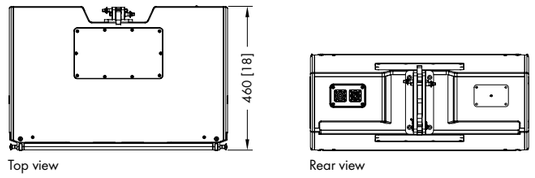
Loudspeaker data
Nominal impedance ..... 8 ohms
Power handling capacity (RMS/peak 10 msec) ..... 500/2000 W
Nominal dispersion angle (horizontal) ..... 80°
Splay angle settings ..... 0° - 14°
..... 1° increment
Components ..... 2 x 10" driver
..... 1 x 8" driver
..... 2 x 1.4" exit compression driver
..... passive crossover network
Connections V8 ..... 2 x NLT4 F/M
..... optional 2 x NL4 or 2 x EP5
Connections Vi8 ..... 2 x NL4
Weight ..... 34 kg (75 lb)



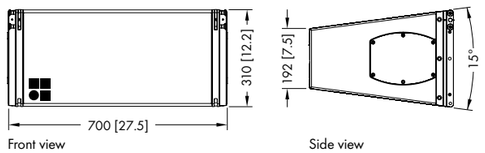
V8 and Vi8 horizontal dispersion characteristics[2]



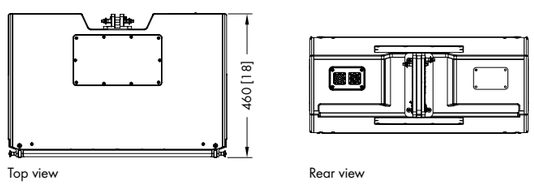
Front view
Side view



Top view
Rear view
V8 cabinet dimensions in mm [inch]



Front view
Side view



Top view
Rear view
Vi8 cabinet dimensions in mm [inch]

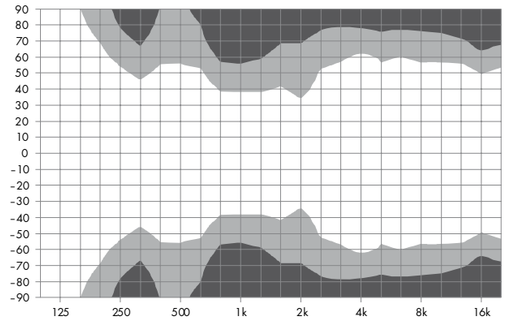
1 Broadband measurement, pink noise, crest factor 4, peak measurement, linear weighting
2 Dispersion angle vs frequency plotted using lines of equal sound pressure (isobars) at –6 dB and –12 dB

The V12 and Vi12 loudspeakers

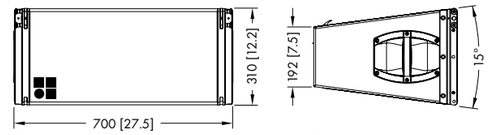
V12 and Vi12 loudspeakers
The V12 and Vi12 are line array loudspeakers, the Vi12 is the installation version of the V12 loudspeaker. They are 3-way passive designs featuring two 10" LF drivers, one hornloaded 8" MF driver and two 1.4" exit HF compression drivers with 2.5" voicecoils mounted to a dedicated waveshaping device. The symmetrical dipolar arrangement of the neodymium LF drivers around the centrally mounted coaxial MF and HF components allows a smooth overlap of the adjacent frequency bands in the crossover design. This results in an exceptional 120° horizontal constant directivity dispersion control nominally being maintained down to 250 Hz.
The mechanical and acoustical design enables flown vertical arrays of up to twenty four loudspeakers to be suspended using vertical splay angles between them of 0° to 14° with a 1° resolution. It can be used in columns of purely V12 or Vi12 loudspeakers or combined with V8/Vi8s and/or with V-SUB/Vi-SUBs.
The cabinet is constructed from marine plywood and has an impact and weather protected PCP (Polyurea Cabinet Protection) finish. The front of the loudspeaker cabinet is protected by a rigid metal grill backed by an acoustically transparent foam. Each side panel of the V12 cabinet incorporates a handle while two additional recessed grips are provided at the rear bottom of both the V12 and Vi12.

System data
Frequency response (–5 dB standard) ..... 67 Hz - 18 kHz
Frequency response (–5 dB CUT mode) ..... 100 Hz - 18 kHz
Max. sound pressure (1 m, free field)[1] .....
with D12 ..... 139 dB
with D80 ..... 142 dB

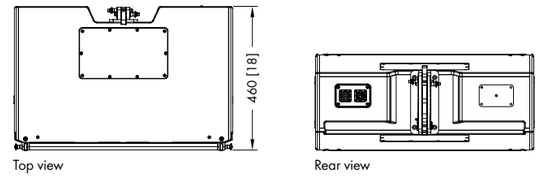
Loudspeaker data
Nominal impedance ..... 8 ohms
Power handling capacity (RMS/peak 10 msec) ..... 500/2000 W
Nominal dispersion angle (horizontal) ..... 120°
Splay angle settings ..... 0° - 14°
..... 1° increment
Components ..... 2 x 10" driver
..... 1 x 8" driver
..... 2 x 1.4" exit compression driver
..... passive crossover network
Connections V12 ..... 2 x NLT4 F/M
..... optional 2 x NL4 or 2 x EP5
Connections Vi12 ..... 2 x NL4
Weight ..... 34 kg (75 lb)



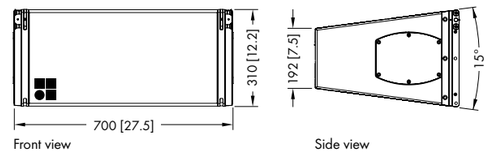
V12 and Vi12 horizontal dispersion characteristics[2]



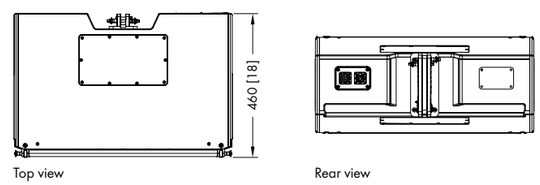
Front view
Side view



Top view
Rear view
V12 cabinet dimensions in mm [inch]



Front view
Side view



Top view
Rear view
Vi12 cabinet dimensions in mm [inch]

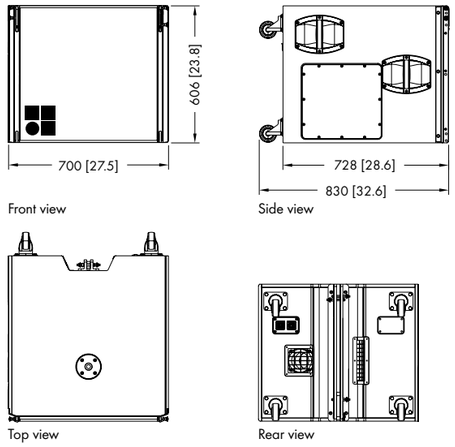
1 Broadband measurement, pink noise, crest factor 4, peak measurement, linear weighting
2 Dispersion angle vs frequency plotted using lines of equal sound pressure (isobars) at –6 dB and –12 dB

The V and Vi subwoofers

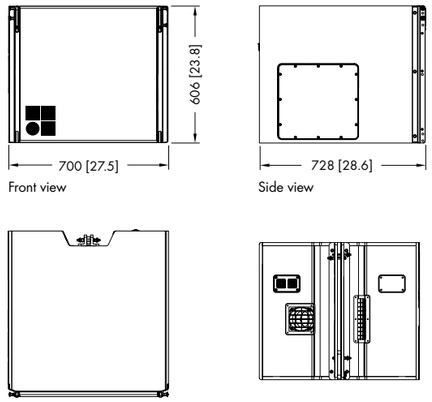
V and Vi subwoofers
The V-SUB and Vi-SUB are actively driven high performance cardioid subwoofers powered by a single amplifier channel. The Vi-SUB is the installation version of the V subwoofer. They house two long excursion neodymium drivers, an 18" driver in a bass-reflex design facing to the front and a 12" driver in a two chamber bandpass design radiating to the rear. The cardioid dispersion pattern resulting from this arrangement avoids unwanted energy behind the system that reduces the excitation of the reverberant field at low frequencies and provides the greatest accuracy of low frequency reproduction.
The V and Vi subwoofers can be used to supplement V8/Vi8 and V12/Vi12 loudspeakers in various combinations, ground stacked or flown, either integrated on top of a V8/V12 or Vi8/Vi12 array or as a separate column.
The cabinet is constructed from marine plywood and has an impact and weather protected PCP (Polyurea Cabinet Protection) finish. The front of the loudspeaker cabinet is protected by a rigid metal grill backed by an acoustically transparent foam. Each side of the V-SUB panel incorporates two handles whilst the top panel has an M20 high stand flange inserted.

System data
Frequency response (–5 dB standard).....37 - 120 Hz
Frequency response (–5 dB 100 Hz mode).....37 - 95 Hz
Max. sound pressure (1 m, free field)[1] .....
with D12 .....133 dB
with D80 .....137 dB

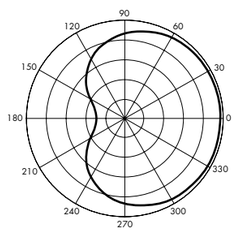
Loudspeaker data
Nominal impedance.....8 ohms
Power handling capacity (RMS/peak 10 msec) .....800/3200 W
Splay angle settings .....0° and 2.5°
Components.....1 x 18" driver
.....1 x 12" driver
Connections V-SUB .....2 x NLT4 F/M
..... optional 2 x NL4 or 2 x EP5
Connections Vi-SUB.....2 x NL4
Weight V-SUB/Vi-SUB.....64/62 kg (141/137 lb)



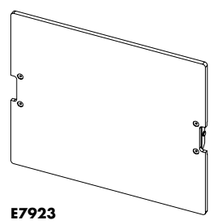
Front view
Side view
Top view
Rear view
V-SUB cabinet dimensions in mm [inch]



Front view
Side view
Top view
Rear view
Vi-SUB cabinet dimensions in mm [inch]



Cardioid polar pattern


E7923
V-SUB Wooden lid

[1] SPLmax peak, pink noise test signal with crest factor of 4

The Vi Weather Resistant and Special Colour options

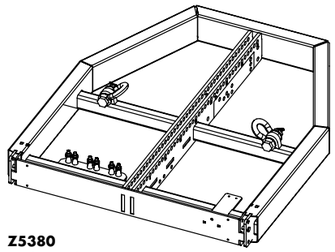
The Vi cabinets and appropriate accessories are also available with a Weather Resistant or Special Colour option. Both options can be combined.

Weather Resistant (WR) option
The WR option enables operation of loudspeakers in changing ambient conditions, however it is not intended to enable permanent, unprotected operation of loudspeakers outdoors. Cabinets being used outdoors even with the WR option should always be aimed either horizontally or with a downward tilt. An additional cover should be positioned over the loudspeakers. Vi loudspeakers with the Weather Resistant option are supplied with a fixed cable. PG cable type H-07-RN-F 2 x 2.5 mm^2/ AWG 13 with a length of 5.5 m (18 ft) as standard or length as required.

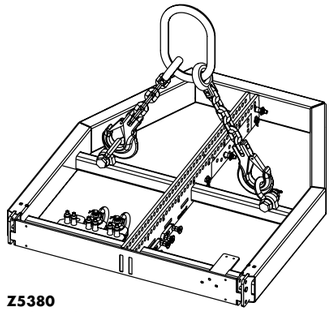
Special Colour (SC) option
The paint finish of all loudspeaker cabinets and most accessories can be executed in almost all RAL colours in accordance with the RAL colour table. All rigging fittings at the rear of the cabinet, Front links and Locking pins remain in black. Other paint finishes such as metallic are available on request. The acoustically transparent foam fitted behind the rigid metal grill is also painted with the requested RAL colour.

The V8, V12 and V-SUB rigging system

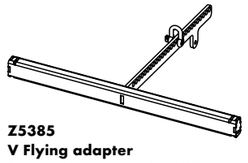
Safety approval
d&b loudspeakers and accessories are designed for setup and use within situations requiring compliance with the provisions and directives of BGV C1 Rule for the Prevention of Accidents.



Z5380
V Flying frame
For a maximum of twenty four V8/V12 loudspeakers or fourteen V subwoofers

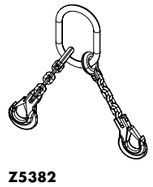


Z5380
V Flying frame
Supplied with
1 x 5382 V Safety chainset
2 x V Load adapter
1 x V Load adapter for Rota clamp
2 x Front links

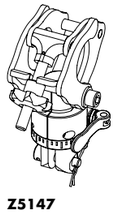


Z5385
V Flying adapter
For a maximum of four V8/V12 loudspeakers; supplied with 1t Shackle

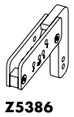
Z5381
V Hoist connector chain



Z5382
V Safety chainset



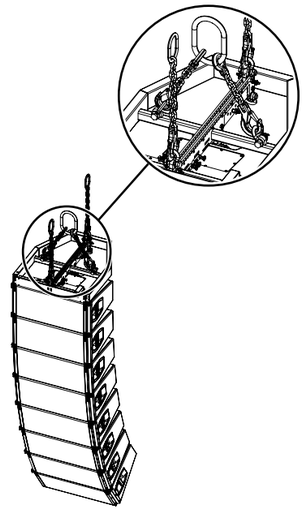
Z5147
Rota clamp
WLL: 500 kg/1100 lb;
for a tube diameter up to 51 mm/2″



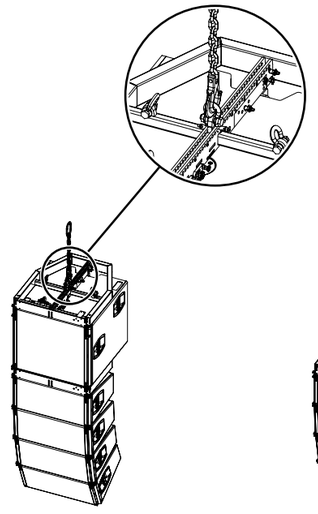
Z5386
V Stack adapter

The V8, V12 and V-SUB rigging examples

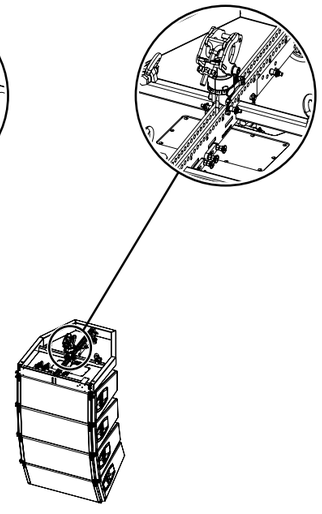
These rigging examples are for illustration only. For further information please refer to the TI 385 d&b Line array design as well as the V-Series Rigging manual, both of which are available for download at www.dbaudio.com.



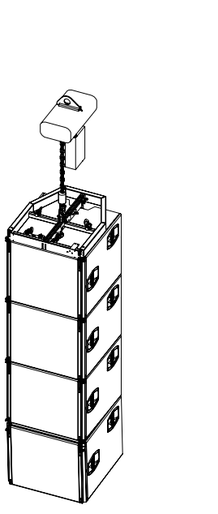
V8/V12 array with
Z5380 V Flying frame
2 x Z5381 V Hoist connector chains
Z5382 V Safety chainset



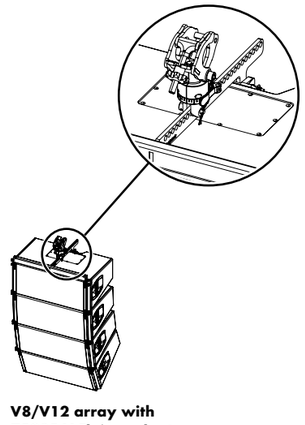
V-Series mixed array with
Z5380 V Flying frame
Z5381 V Hoist connector chain



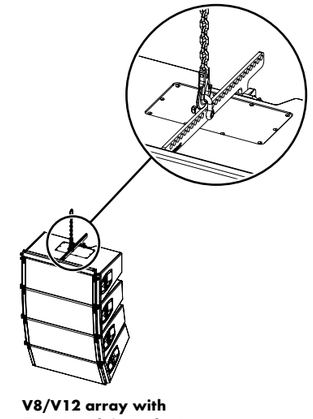
V8/V12 array with
Z5380 V Flying frame
Z5147 Rota clamp



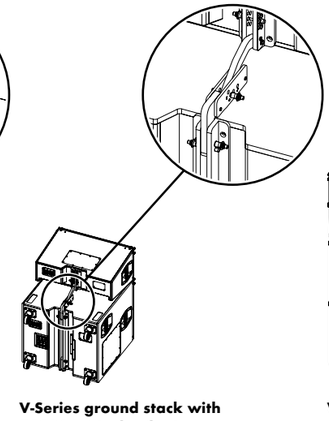
V-SUB column with
Z5380 V Flying frame



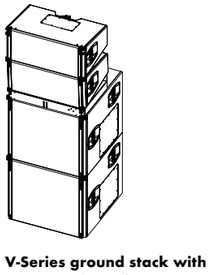
V8/V12 array with
Z5385 V Flying adapter
Z5147 Rota clamp



V8/V12 array with
Z5385 V Flying adapter
E6507 1t Shackle



V-Series ground stack with
Z5386 V Stack adapter



V-Series ground stack with
Z5380 V Flying frame

The Vi8, Vi12 and Vi-SUB rigging accessories and examples

Safety approval
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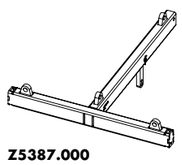
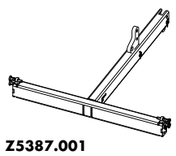
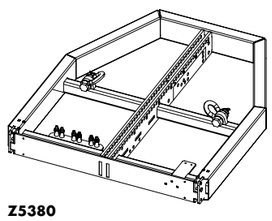


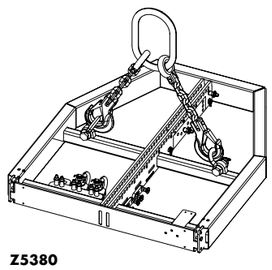
Z5387.000
Vi Mounting frame top
For a maximum load equivalent to four Vi8/Vi12 loudspeakers (136 kg/400 lbs)



Z5387.001
Vi Mounting frame bottom



Z5380
V Flying frame
For a maximum of twenty four V8/V12/ Vi8/Vi12 loudspeakers or fourteen V/Vi subwoofers

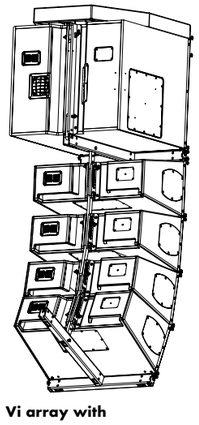


Z5380
V Flying frame
Supplied with
1 x 5382 V Safety chainset
2 x V Load adapter for Rota clamp
2 x Front links

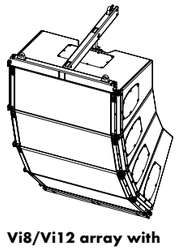
Z5381
V Hoist connector chain

Z5382
V Safety chainset

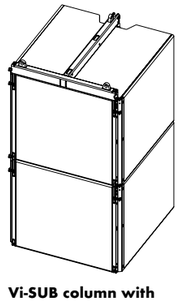
E6507
1t Shackle



Vi array with
Z5380
V Flying frame
Z5387.001
Vi Mounting frame bottom (2 pcs)

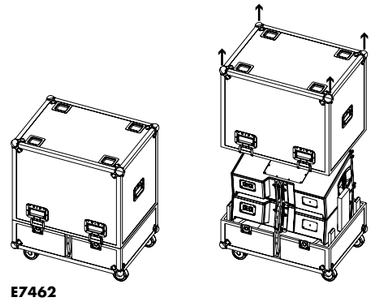


Vi8/Vi12 array with
Z5387.000
Vi Mounting frame top

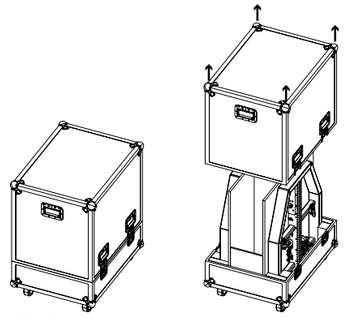


Vi-SUB column with
Z5387.000
Vi Mounting frame top

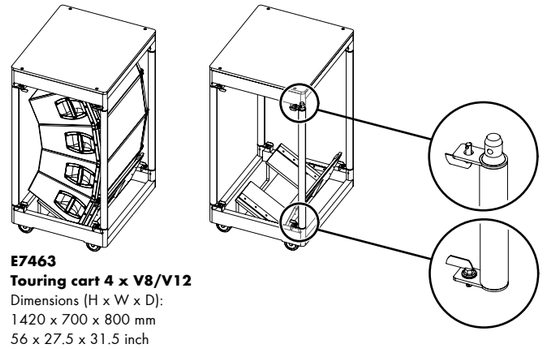
The V8, V12 and V Flying frame cases and carts



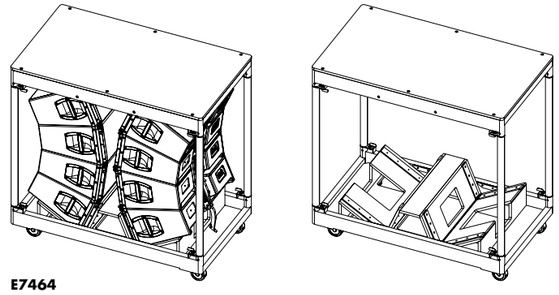
E7462
Touring case 2 x V8/V12
Dimensions (H x W x D):
900 x 800 x 600 mm
35.4 x 31.5 x 23.6 inch
Net weight: 40 kg (88 lb)



E7465
Touring case 2 x V Flying frame
Dimensions (H x W x D):
970 x 800 x 600 mm
38.2 x 31.5 x 23.6 inch
Net weight: 52 kg (120 lb)



E7463
Touring cart 4 x V8/V12
Dimensions (H x W x D):
1420 x 700 x 800 mm
56 x 27.5 x 31.5 inch
Total weight: 190 kg (420 lb)
Maximum top load: 100 kg (220 lb)



E7464
Touring cart 8 x V8/V12
Dimensions (H x W x D):
1420 x 1400 x 800 mm
56 x 55 x 31.5 inch
Total weight: 360 kg (800 lb)
Maximum top load: 200 kg (440 lb)

The d&b ArrayCalc simulation software

The d&b ArrayCalc simulation software is the simulation tool for d&b line arrays, column and point source loudspeakers as well as subwoofers. This is a comprehensive toolbox for all tasks associated with acoustic design, performance prediction, alignment, rigging and safety parameters. For safety reasons d&b line arrays must be designed using the d&b ArrayCalc simulation software.

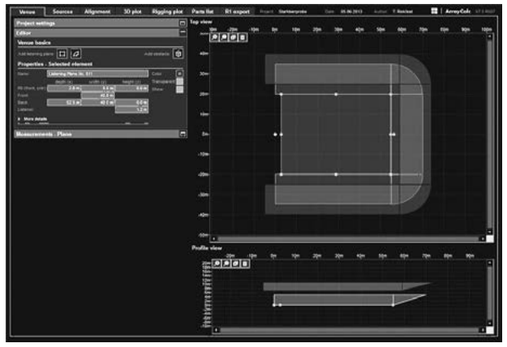
d&b ArrayCalc is available as a native stand-alone application for both Microsoft Windows[1] (Win7 or higher) and Mac OS X[2] (10.6 or higher) operating systems. In combination with the d&b Remote network, this can significantly reduce setup and tuning time in mobile applications, and allows for precise initial simulations when planning installations.

Listening planes in three dimensions can be defined, creating a representation of the audience areas in a given venue. This includes areas such as typical listening planes, arenas, balconies, side stalls, and in the round. Special functions assist in obtaining accurate dimensions with laser distance finders and inclinometers.

Acoustic obstacles, such as arena video score boards can be added to a model.

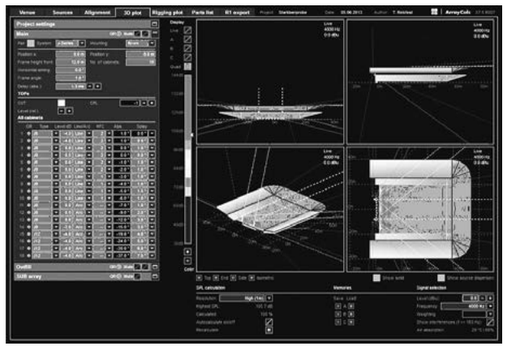
The ArrayCalc R1 export function produces a project file for the R1 Remote control software. Complete details of the system simulated in ArrayCalc are generated, including loudspeakers, amplifiers, remote IDs, groups and all configuration information. This workflow sequence removes the need to manually transfer data from one software program to the other. EASE and DXF data export capabilities are also available.

Further information is provided in the d&b Amplifier and Software brochure which is available for download at www.dbaudio.com.



Venue editor

Sources, array



3D Plot quad

The d&b Remote network

The remote control capability of the d&b Remote network enables central control and monitoring of a complete d&b loudspeaker system from anywhere in the network, be it from a computer in the control room, at the mix position, or on a wireless tablet in the auditorium. This central access to all functions through the d&b Remote network, to controls as well as detailed system and device diagnostics information, unlocks the full potential of the d&b system approach. In a typical user workflow, the d&b Remote network takes settings optimized in the ArrayCalc simulation software and applies these to all the amplifiers within the network. The importation of settings from ArrayCalc allows the system configuration to be quickly accomplished, providing more time for verification and fine tuning.

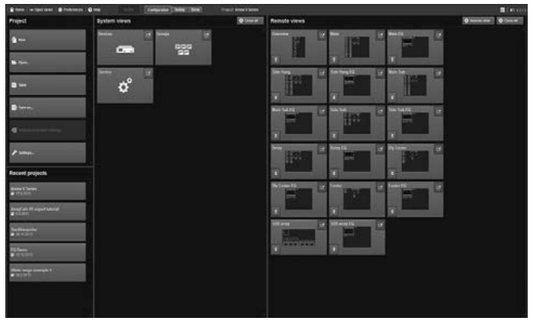
All features, functions and controls available on the front panel of d&b amplifiers may be remotely controlled and/or monitored using R1 Remote control software. This allows each channel of the amplifier to be controlled and enables the creation of groups of loudspeakers. When grouped together, a button or fader can control the overall system level, zone level, equalization and delay, power ON/OFF, MUTE, as well as loudspeaker specific function switches such as CUT/HFA/HFC and CPL. An offline mode is provided for preparation in advance of an event, without the amplifiers being present or connected.

For mobile applications, d&b System check verifies that the system performs within a predefined condition. Extensive facilities for storing and recalling system settings are provided allowing these to be repeated, as and when required. Project files can be easily adjusted for use with a different set of equipment at another location.

In installation projects system integrators can configure the d&b Remote network to offer access to different levels of control, tailored to the operational demands. For example, power ON/OFF for daily use, or more complex functionality for detailed control. Password protection is available to restrict access. Input and Load monitoring allow installation operators to ensure optimum performance at all times.

R1 Remote control software enables d&b amplifiers to be remotely controlled using both Ethernet and CAN-Bus in parallel. The software is optimized for use with touch screen, mouse and keyboard and runs on both Microsoft Windows[1] (Win7 or higher) and Mac OS X[2] (10.6 or higher) operating systems.

Further information is provided in the d&b Amplifier and Software brochure which is available for download at www.dbaudio.com.



Home

Remote in Configuration mode

Open views

[1] Microsoft Windows is a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries

[2] Mac OS is a trademark of Apple Inc., registered in the U.S. and other countries

The D12 and D80 amplifiers

Two decades have passed since d&b embarked on integrating Digital Signal Processing (DSP) into power amplifiers. It is over ten years since all d&b amplifiers used this technology and included analog and digital signal inputs, extensive loudspeaker control, configuration and protection functions, user definable equalization, delay and the all embracing remote control functionality as standard.

The d&b amplifiers sit right at the very heart of the d&b systems, providing sophisticated control capabilities as well as the power to efficiently drive d&b loudspeakers in whatever the particular application. The amplifiers are developed and manufactured by d&b and incorporate loudspeaker specific setups. Sophisticated protection circuits modelling thermal and mechanical driver behaviour are provided, resulting in the sustained reliability of d&b systems. Switchable functions for precisely tailoring system response in a wide variety of applications are also included, integrating complete loudspeaker system management into the amplifier. The digital elements are specified and constructed to achieve outstanding audio performance while maintaining a very low latency of 0.3 msec The amplifiers are designed specifically for use with d&b loudspeakers, have remote control, monitoring capabilities and switch mode power supplies. To simplify configuration, the output mode of the amplifier can be configured as Dual Channel, Mix TOP/SUB or 2-Way Active modes depending on the application. The user definable equalization and delay functions incorporated in each channel of all d&b amplifiers are intended for tuning in applications such as infills, frontfills or under balcony delays, without the need for external processors. A signal generator offering pink noise or a sine wave program is also incorporated for test and alignment purposes.

d&b amplifiers[1] contain functions to allow system status monitoring and protection features, increasing the longevity of d&b systems. They provide the d&b System check function, which is designed to verify the system performs within a predefined condition; this can be used to report the system condition after a show. Input monitoring can detect incoming pilot tones to verify the integrity of the signal path to the amplifier, while the Load monitoring function determines the status of the loudspeaker impedance. Both d&b System check and Load monitoring can determine the status of an LF or HF driver in systems with multiple elements, even if these are crossed over passively. Automatic and continuous impedance monitoring, along with Input monitoring are designed for incorporation in applications specified to the requirements of International Standard IEC 60849 'Sound Systems for Emergency Purposes'.

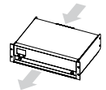
d&b amplifiers feature two control interfaces. Firstly, the front panel rotary encoder, combined with the display, provides full access to settings and functions. Secondly, by utilizing the d&b Remote network, the amplifiers can be remotely controlled and monitored from a virtual centre. Every amplifier channel can be assigned a unique channel and device name to simplify identification. The Wink function, which can be enabled remotely, flashes the display backlight to clearly identify specific amplifiers in a system. An integrated password protected LOCK function prevents unauthorized changes.

A powerCON[2] mains connector socket is fitted on the rear panel. The switch mode power supply of each amplifier incorporates mains overvoltage protection, inrush current limiting and loudspeaker protection at start up. Temperature and signal controlled fans cool the internal assemblies. d&b amplifiers offer analog and digital AES/EBU signal inputs, with link outputs for each channel. The AES/EBU link output carries a refreshed signal, while a power fail relay is incorporated to prevent interruption of the signal chain, in the event of a power failure.

The D12 amplifier incorporates d&b SenseDrive for accurate control of LF drivers in d&b loudspeakers driven 2-Way Active or in actively driven d&b subwoofers. When the D12 is fitted with EP5 connectors and appropriate 5-wire cabling, d&b SenseDrive can be used resulting in an extremely precise bass performance even at high levels. The LoadMatch function integrated within the D80 amplifier enables the electrical compensation of loudspeaker cable properties, without the need for an extra conductor. This results in an increased accuracy of audio reproduction over a bandwidth of up to 20 kHz preserving the tonal balance when cable lengths of up to 70 m (230 ft) are used.

Firmware updates containing new loudspeaker configurations or additional functions can be loaded to the amplifiers via the d&b Remote network.

Comparison of the D12 and D80 amplifiers

	D12	**D80**
User interface	Encoder/LC display	Encoder/colour TFT touchscreen
Output channels	2	4
Input channels	2 AES or analog	4 AES or analog
Latency	0.3 msec	0.3 msec
User equalizers (per channel)	4-band	2 x 16-band
Delay	340 msec/116.9 m	10 sec/3440 m
Rated output power	2 x 750 W into 8 ohms 2 x 1200 W into 4 ohms (THD+N < 0.1%)	4 x 2000 W into 8 ohms 4 x 4000 W into 4 ohms (THD+N < 0.5%, 12 dB crest factor)
Output routing	Dual Channel, Mix TOP/SUB 2-Way Active	Dual Channel, Mix TOP/SUB 2-Way Active
Output connectors	NL4/EP5/NL8	NL4/EP5 plus central NL8
Cable compensation	SenseDrive	LoadMatch
Mains voltage	100/200V or 120/230V	Wide range switch mode power supply
Weight (kg/lb)	13/28.7	19/42
Dimensions	3 RU x 19" x 353 mm	2 RU x 19" x 530 mm
Remote	CAN	OCA via Ethernet/CAN
Airflow		

1 At the time of print, certain functions required within applications specified to achieve compliance with IEC 60849 such as Input and Load monitoring are not implemented in the D80 amplifier, please contact your distributor for further information

2 powerCON® is a registered trademark of the Neutrik AG, Liechtenstein

The operation with D12 and D80 amplifier

Arc and Line mode
The Arc mode is intended for line array loudspeakers when used in curved array sections. The Line mode is used for long throw array sections with three or more consecutive splay settings of 0°, 1° or 2°. Compared to the Arc mode, the mid/high range is reduced to compensate for the extended near field.

CUT mode
Set to CUT, the cabinet low frequency level is reduced and it is now configured for use with the d&b V or J subwoofers.

HFC mode
Selecting the HFC (High Frequency Compensation) mode compensates for loss of high frequency energy due to absorption in air when loudspeakers are used to cover far field listening positions. HFC has two settings which should be used selectively, HFC1 for cabinets covering distances larger than 30 m (100 ft) and HFC2 for those covering distances larger than 60 m (200 ft). This can be used to achieve the correct sound balance between close and remote audience areas allowing all amplifiers driving the array to be fed from the same signal source. Thus the whole array performs with comparable headroom.

CPL function
The CPL (Coupling) function compensates for coupling effects between the cabinets of an array. CPL begins gradually around 2 kHz, with the maximum attenuation below 100 Hz. As coupling effects increase with the length of the line array, the CPL circuit can be set to dB attenuation values between 0 and –9.

100 Hz mode
The 100Hz mode limits the upper operating frequency of the subwoofer to 100Hz, complementing top cabinets in full range mode.

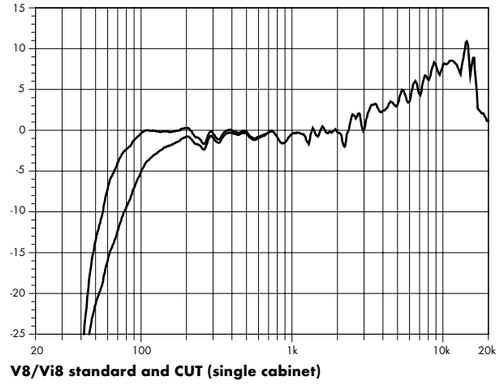
Maximum loudspeakers per D12 or D80 channel

	V8 Vi8	V12 Vi12	V-SUB Vi-SUB
	2	2	2

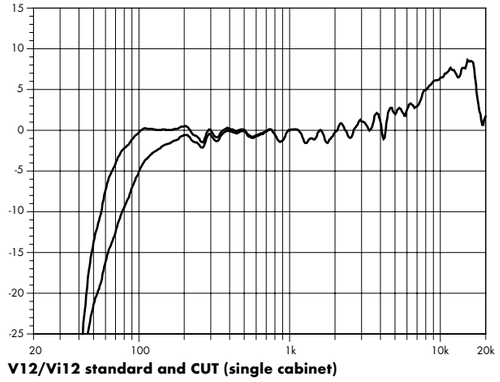
D12 and D80 controller settings

	V8 Vi8	V12 Vi12	V-SUB Vi-SUB
Arc/Line	x	x	
CUT	x	x	
HFC	x	x	
CPL	x	x	
100 Hz			x

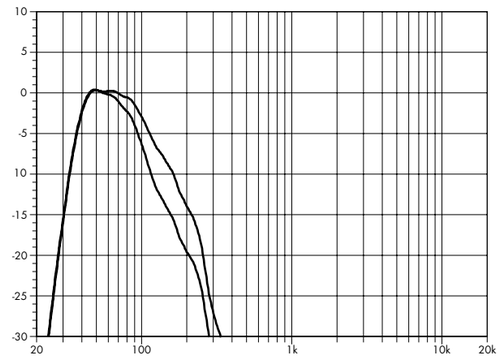
The V-Series frequency responses



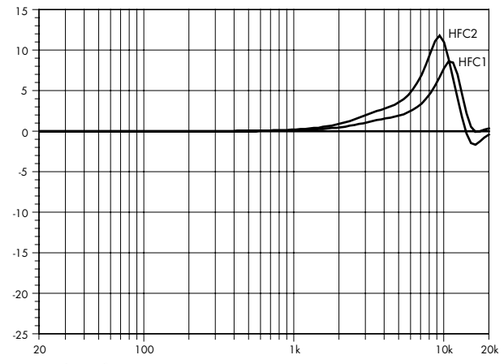
V8/Vi8 standard and CUT (single cabinet)



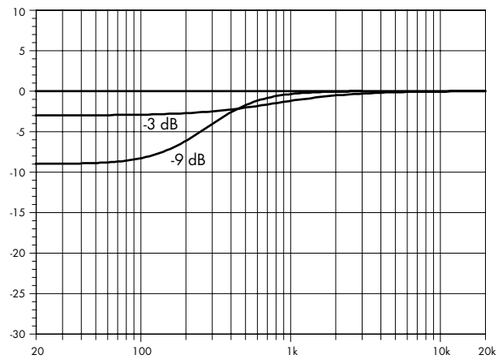
V12/Vi12 standard and CUT (single cabinet)



V-SUB/Vi-SUB standard and 100 Hz

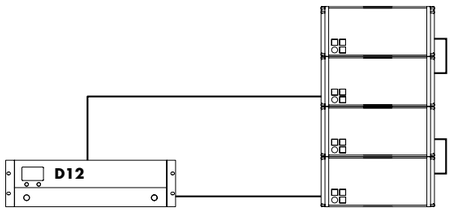


Correction of HFC

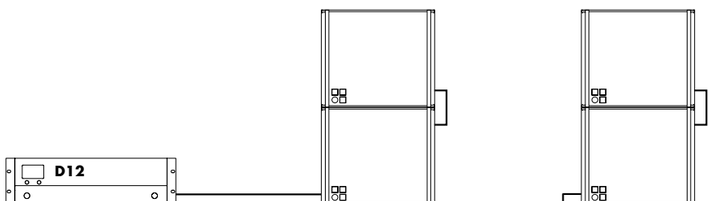


Correction of CPL

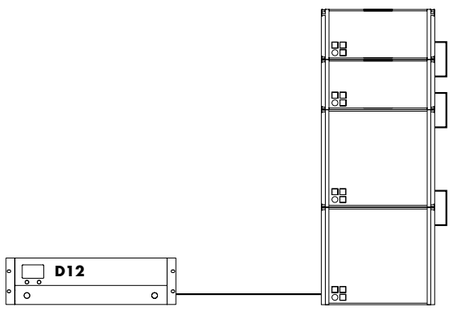
The d&b amplifier output modes



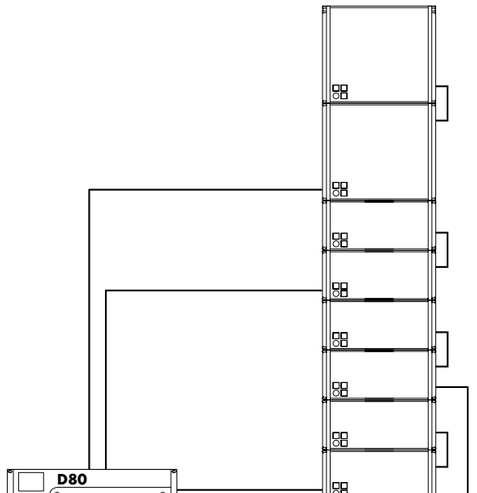
D12 amplifier in Dual Channel mode for V8, Vi8, V12 and/or Vi12



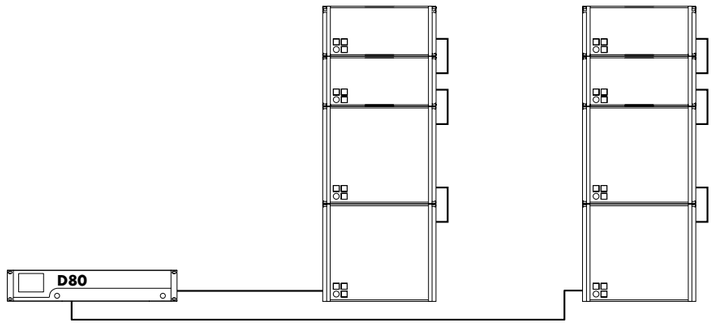
D12 amplifier in Dual Channel mode for V-SUB and/or Vi-SUB



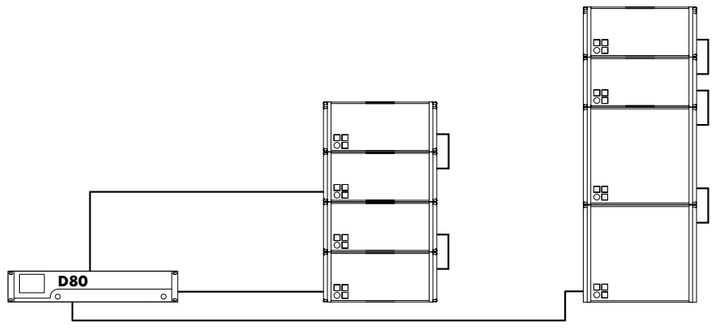
D12 amplifier in Mix TOP/SUB mode for V8, Vi8, V12 or Vi12 and V-SUB or Vi-SUB



D80 amplifier in Dual Channel mode for V8, Vi8, V12, Vi12, V-SUB and Vi-SUB



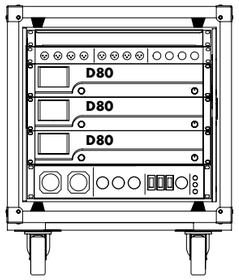
D80 amplifier in Mix TOP/SUB mode for V8, Vi8, V12, Vi12, V-SUB and Vi-SUB



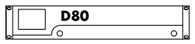
D80 amplifier in a mixed configuration of Dual Channel and Mix TOP/SUB modes for V8, Vi8, V12, Vi12, V-SUB and Vi-SUB

The V-Series cables and adapters

Amplifiers in Dual Channel mode



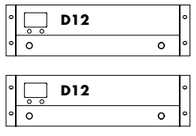
Z5330.xxx
D80 Touring rack assembly
OUT: 3 x NL8



1 x D80 amplifier
OUT: NL8

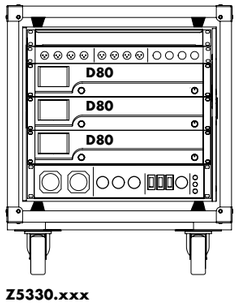
2 x D12 amplifier
OUT: EP5

Z5346.000
Adapter 4 x EP5M to NLT8M



2 x D12 amplifier
OUT: NL4

Z5345.001
Adapter 4 x NL4 to NLT8M

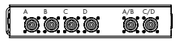


Z5330.xxx
D80 Touring rack assembly
OUT: 2 x LKS19

Z5343.xxx
MC8 Cable NLT8 F/M

Z5320.xxx
MC12SD Cable LKS19 F/M

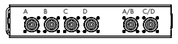
Z5344.002
Adapter NLT8F to 4 x NLT4M



Z5347.001
Breakoutbox NLT8F/M
to 6 x NL4

Z5344.001
Adapter NLT8F to 4 x NL4

Z5344.000
Adapter NLT8F to 4 x EP5



Z5347.000
Breakoutbox NLT8F/M
to 6 x EP5

Z5341.002
Adapter LKS19M to 6 x NLT4M

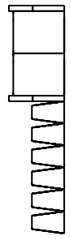
Z5341.001
Adapter LKS19M to 6 x NL4

Z5341.000
Adapter LKS19M to 6 x EP5F passive

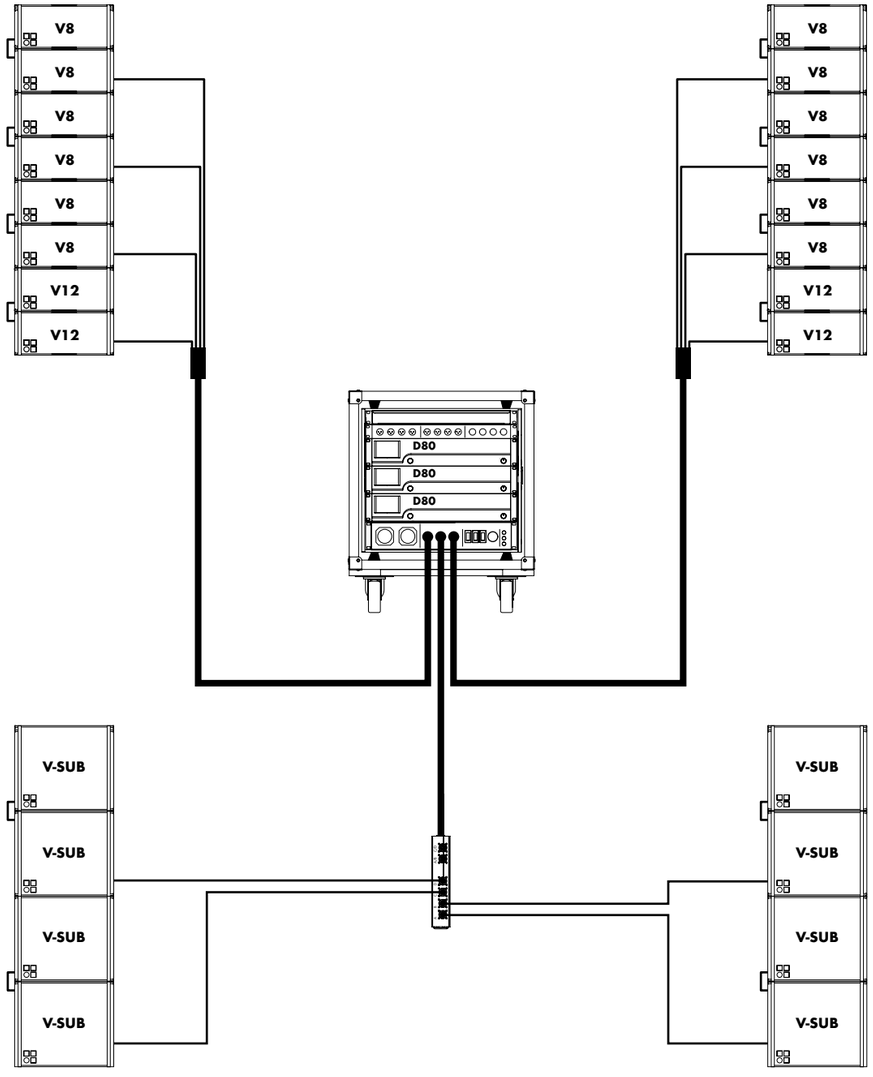
Z5340.xxx
MC4 Cable NLT4 F/M

Z2299.xxx
MC2.5 Cable NL4

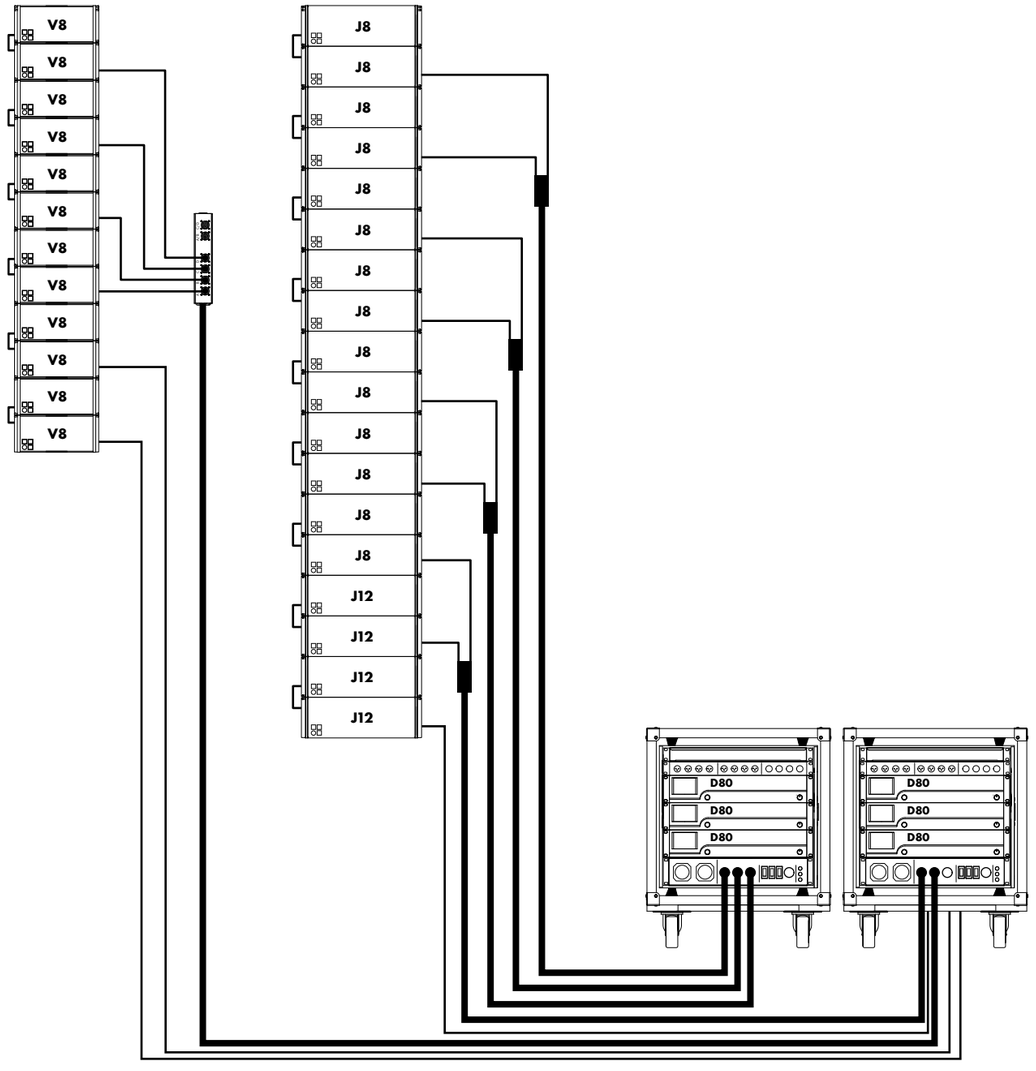
Z2297.xxx
MC4SD Cable EP5



The V-Series configuration examples



V-Series L/R configuration with V8/V12 flown line array and ground stacked V-SUBs with D80 Touring rack[1]

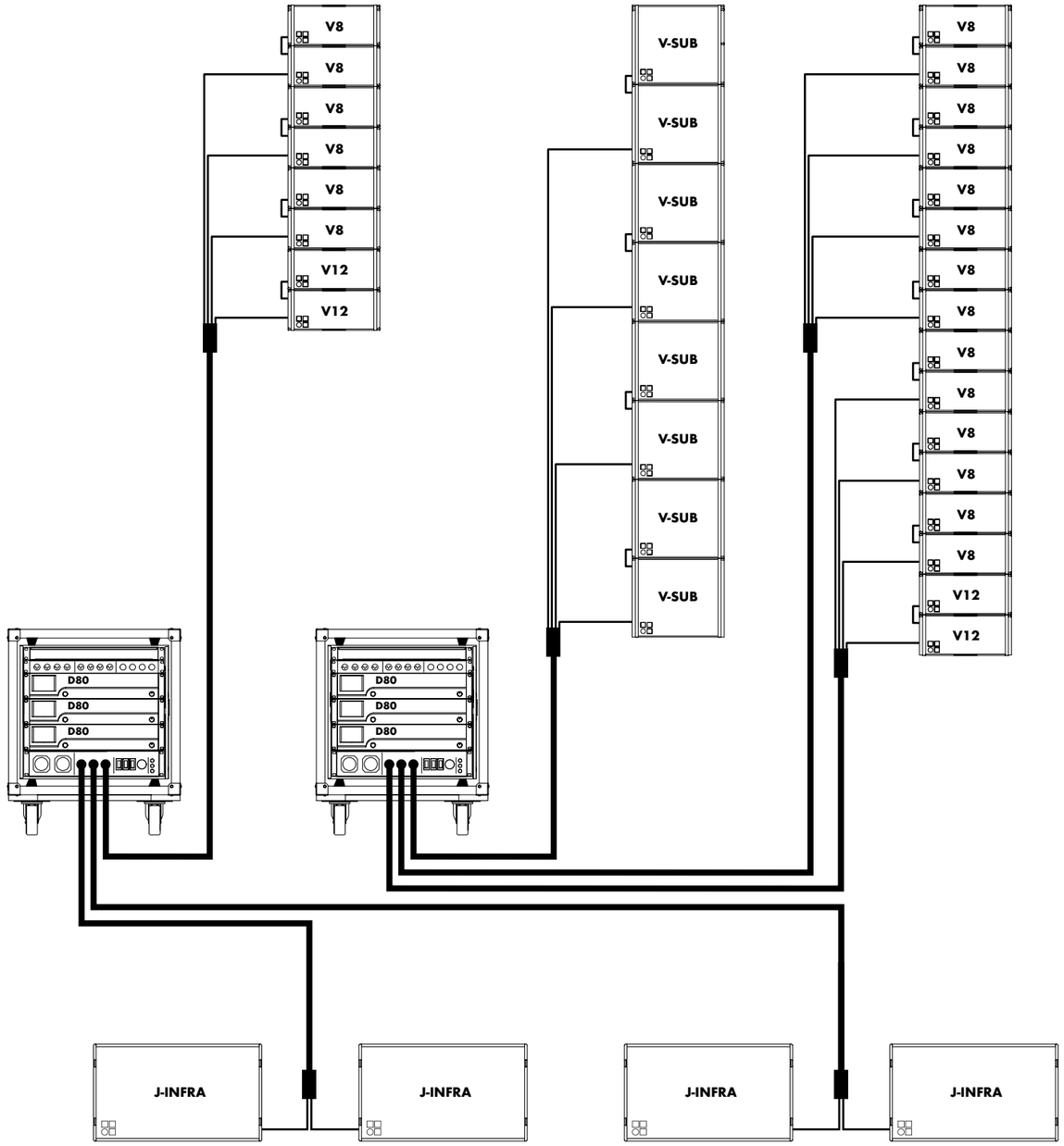


V-Series configuration comprising J8/J12 mains and V8 outfill arrays with D80 Touring racks[1]

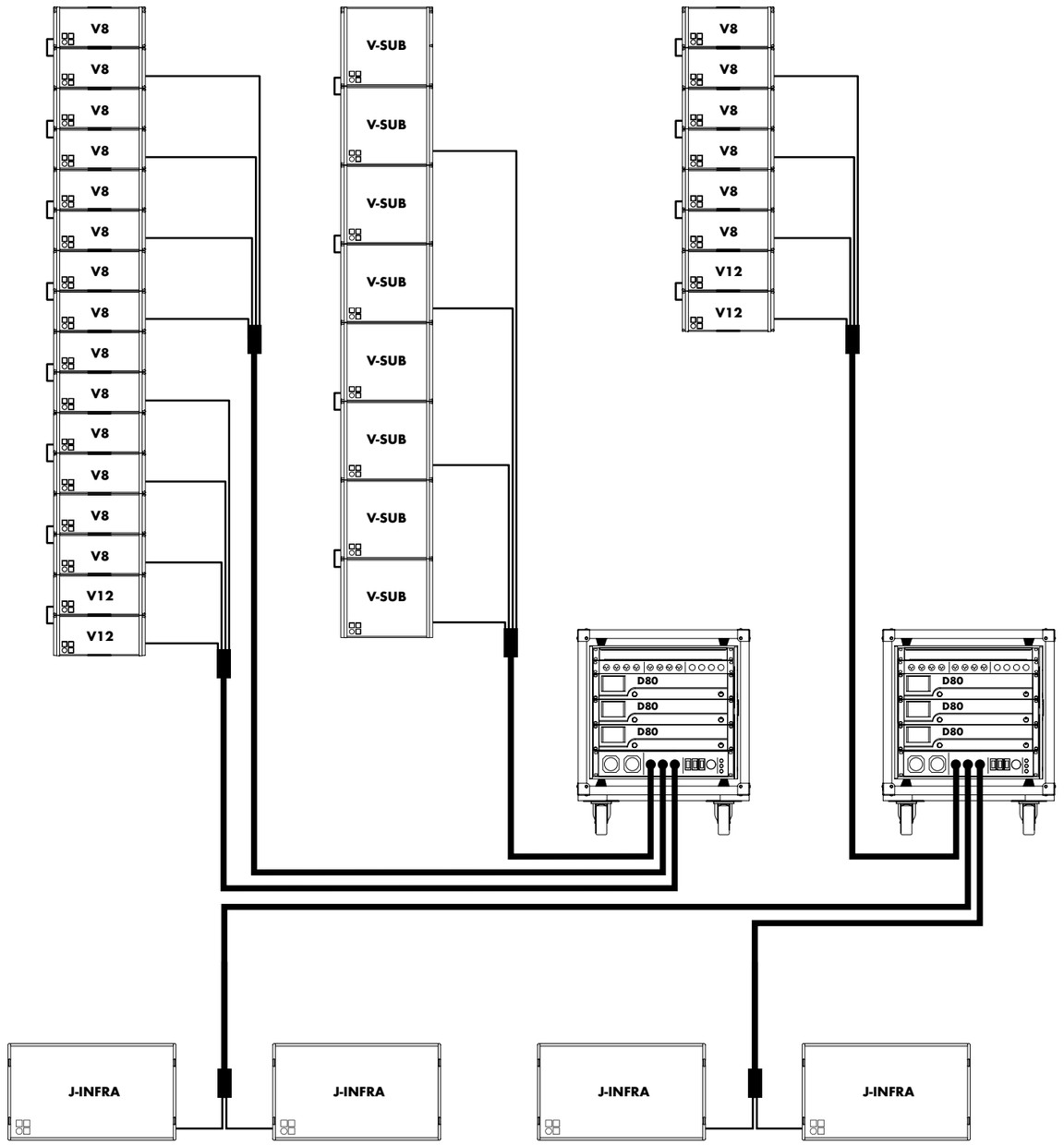
[1] These configuration examples are also valid for Vi loudspeakers

[1] These configuration examples are also valid for Vi loudspeakers

The V-Series configuration examples

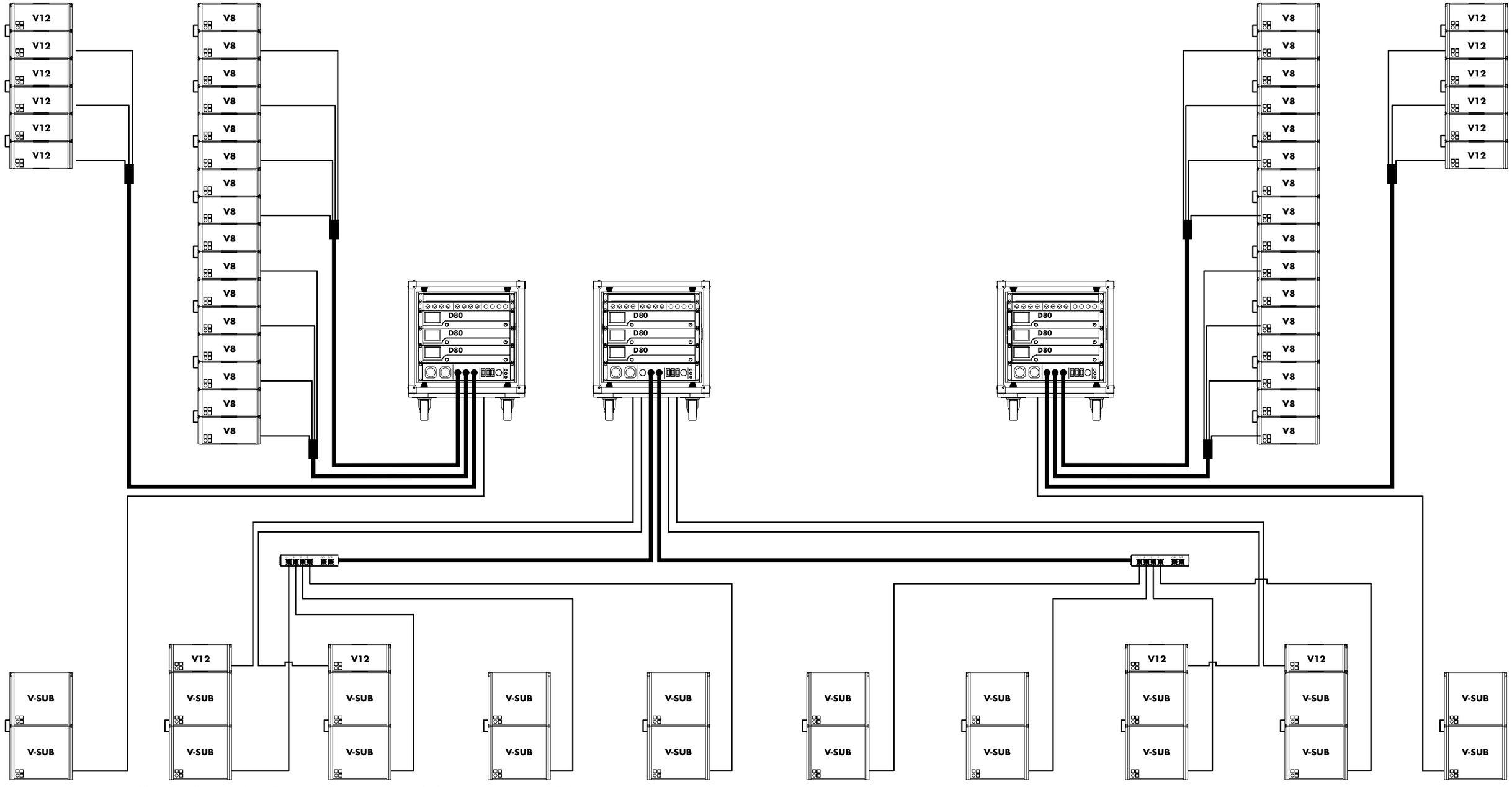


V8/V12 and V-SUB main arrays, V8/V12 outfills and ground stacked J-INFRAs with D80 Touring racks[1]



[1] These configuration examples are also valid for Vi loudspeakers

The V-Series configuration examples



V-Series configuration comprising V8 mains and V12 outfill arrays along with ground stacked V-SUBs and V12 as nearfills with D80 Touring racks[1]

[1] These configuration examples are also valid for Vi loudspeakers

The V-Series product overview

V loudspeakers	Z0515.xxx	**V8 Loudspeaker**
	Z0516.xxx	**V12 Loudspeaker**
	Z0518.xxx	**V Subwoofer**
Loudspeaker connector options	Zxxxx.000	**EP5** connector
	Zxxxx.001	**NL4** connector
	Zxxxx.002	**NLT4 F/M** connector
Vi loudspeakers	Z0535.001	**Vi8 Loudspeaker NL4** connector
	Z0536.001	**Vi12 Loudspeaker NL4** connector
	Z0538.001	**Vi Subwoofer NL4** connector
		WR Weather Resistant option[1]
		SC Special Colour option[2]
Cases	E7462.000	**Touring case 2 x V8/V12**
	E7465.000	**Touring case 2 x V Flying frame**
Carts	E7463.000	**Touring cart 4 x V8/V12**
	E7464.000	**Touring cart 8 x V8/V12**
Lids	E7923.000	**V-SUB Wooden lid**
V/Vi accessories	Z5380.000	**V Flying frame**[3] (supplied with Z5382 V Safety chainset)
	Z5381.000	**V Hoist connector chain**
	Z5382.000	**V Safety chainset**
V accessories	Z5385.000	**V Flying adapter**
	Z5386.000	**V Stack adapter**
	Z5147.000	**Rota clamp**
Vi accessories	Z5387.000	**Vi Mounting frame top**[3]
	Z5387.001	**Vi Mounting frame bottom**[3]
	E6507.000	**1t Shackle**
Remote network	Z3010.000	**R1 Remote control software**[4]
	Z6118.000	**R60 USB to CAN interface**
	Z6124.000	**R70 Ethernet to CAN interface**
	Z6116.000	**RJ 45 M Terminator**
	Z6122.000	**Bopla mounting clamp**
	Z6123.000	**Bopla mounting clamp upright**

Amplifiers	Z2600.xxx	**D12 Amplifier**[5]
	Z2710.xxx	**D80 Amplifier**[5]
Amplifier rack assemblies	Z5310.000	**D12 Touring rack assembly EP5**[6]
	Z5310.001	**D12 Touring rack assembly NL4**[6]
	Z5330.001	**D80 Touring rack assembly, CEE 32A 5P**[6]
	Z5330.xxx	**D80 Touring rack assembly, Nema L21-30 (120V devices)** on request[6]
Amplifier racks	E7468.000	**D80 Touring rack 2 RU, 19"** SD, shock mounted, handles, window
	E7419.000	**Touring rack 3 RU, 19"** DD, shock mounted, handles, window
	E7420.000	**Touring rack 6 RU, 19"** DD, shock mounted, handles, window, wheels
Cables and adapters	Z5343.xxx	**MC8 Cable NLT8 F/M**
	Z5346.000	**Adapter 4 x EP5M to NLT8M**
	Z5345.001	**Adapter 4 x NL4 to NLT8M**
	Z5320.xxx	**MC12SD Cable LKS19 F/M**
	Z5344.002	**Adapter NLT8F to 4 x NLT4M**
	Z5344.001	**Adapter NLT8F to 4 x NL4**
	Z5344.000	**Adapter NLT8F to 4 x EP5**
	Z5347.001	**Breakoutbox NLT8 F/M to 6 x NL4**
	Z5347.000	**Breakoutbox NLT8 F/M to 6 x EP5**
	Z5340.xxx	**MC4 Cable NLT4 F/M**
	Z2299.xxx	**MC2.5 Cable NL4**
	Z2297.xxx	**MC4SD Cable EP5**
	Z5341.002	**Adapter LKS19 M to 6 x NLT4M**
	Z5341.001	**Adapter LKS19 M to 6 x NL4**
	Z5341.000	**Adapter LKS19M to 6 x EP5**

1 WR only for Vi loudspeakers, on request
2 SC only for Vi loudspeakers, on request
3 SC on request
4 available as a download at www.dbaudio.com
5 the complete list of amplifier versions is available in the d&b Amplifier and Software brochure
6 further information is available in the d&b Amplifier and Software brochure

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