

Digital Vertical Array

T12



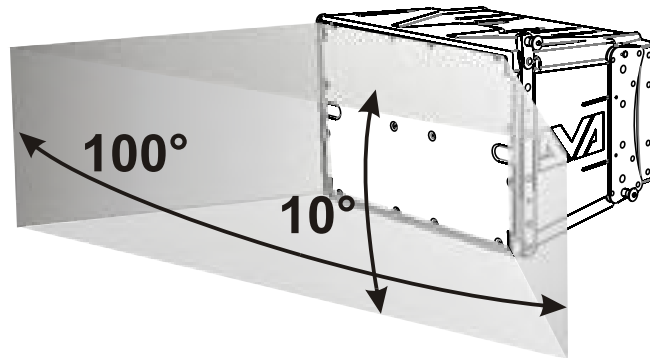
MANUALE d'USO - Sezione 1
USER MANUAL - Section 1
BEDIENUNGSANLEITUNG - Abschnitt 1
CARACTERISTIQUES TECHNIQUES - Section 1

COD. 420120184 Rev 3.0



Made in Italy

This specific design has made it possible to obtain a constant and precise 100° coverage in a horizontal direction and 10° coverage in a vertical director for each diffuser.



DVA Network

DVA T12 is equipped with proprietary network interface, called RDNET, for PC interface through a device (RDNET control).

For this purpose, a proprietary communication protocol has been developed for receiving and sending data; this connection permits real-time monitoring of the diffuser parameters, such as output power, amplifier temperature, limiter status, etc...

It is also possible to select various equalizations or create new ones, set the desired volume levels using the specific plug-in.



It is recommended to download DVA Network free software directly from dB Technologies (www.dbtechnologies.com) in the special section «Software & Controller»

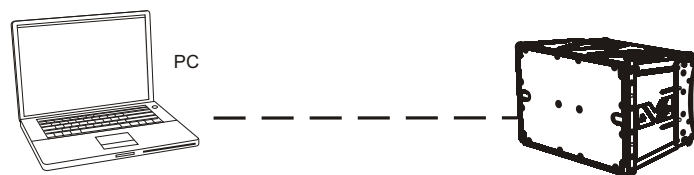
DVA USB Manager

The firmware of the amplifier module can be updated via the USB port.

To make this update possible and simple, a dedicated program has been developed.



It is recommended to download DVA USB Manager free software directly from dB Technologies (www.dbtechnologies.com) in the special section «Software & Controller»



DVA Composer Acoustical Simulation and aiming for DVA Systems

DVA Composer is a 2D software for aiming and simulating acoustical response of all line arrays and Subwoofers from DVA Series.

The software allows you to set up a stereo system composed by tops and subs, and simulates separately the acoustical response of both

DVA Composer also gives to the user all the information about phase alignment between flown systems and ground stacked subwoofers, as well as it suggests an optimized aiming of the line arrays modules and their suggested EQ presets, in order to guarantee maximum performances even for non-expert customers.



It is recommended to download DVA_Composer free software directly from dB Technologies (www.dbtechnologies.com) in the special section «Software & Controller»


CONTROLS AND FUNCTIONS

"Balanced Audio" section

- 1) **" INPUT" INPUT CONNECTOR**
Balanced input at line level. It is able to accept "XLR" sockets.
- 2) **"LINK" OUTPUT CONNECTOR**
The "XLR" connector connected in parallel with input (1) can be used to send the input audio signal to another amplified speaker.

"Status" section

- 3) **"LIMITER" INDICATOR LIGHT**
This indicator comes on red to indicate that the internal limiter circuit has tripped. This prevents amplifier distortion and protects the speakers against overloads.

 Always avoid operating conditions where the system works for long periods of time with LED flashes or it is always ON
- 4) **"SIGNAL" INDICATOR LIGHT**
This indicator comes on green to indicate the presence of an input signal to a level higher than -20dBu.
- 5) **"MUTE/PROT" INDICATOR LIGHT**
This yellow indicator indicates amplifier status. In normal operating conditions, the LED is off; if it flashes or is always on, refer to the diagnostics table to check amplifier status.
- 6) **"READY" INDICATOR LIGHT**
This indicator comes on green to indicate that the main power voltage is correct. In normal operating conditions, the LED is on; if it flashes or is off, refer to the diagnostics table to check amplifier status.

"Input control " section

- 7) **"INPUT SENS" INPUT SENSITIVITY CONTROL**
This control regulates the sensitivity of the signal amplifier input.
This control does not affect the "BALANCED LINK/OUT" output level

"RDNET " section

- 8) **INPUT CONNECTOR "DATA INPUT"**
RJ45 connector 'data input.
- 9) **OUTPUT CONNECTOR "DATA INPUT"**
RJ45 connector 'data output for cascading connections.
- 10) **"LINK" INDICATION LIGHT**
This green indicator turns on only when the amplifier has recognized and is connected with the main RDNET unit via the computer.
- 11) **"ACTIVE" INDICATOR LIGHT**
This yellow indicator flashes when there is an active data transmission between RDNET and the amplifier module.

"DSP configuration" section

12) "Remote Preset Active" INDICATION LIGHT

This yellow indicator indicates the exclusion of the Volume control and the "DSP Preset" rotary switch (13) when the amplifier is remotely controlled by a computer via RDNET.

The indicator flashes slowly if the rotary switch is set to 9 and a previously saved user equalization has been stored.

13) "DSP Preset" 10-position ROTARY SWITCH

This 10-position rotary switch makes it possible to select the nine preset equalization curves (selector 0-8) or to select the equalization previously saved by the user via RDNET (selector 9).

If this option is not used, curve 9 will be equal to curve 0

Refer to the table for the correspondence of the equalization curve.

14) "Service Data USB" Connector

Via this USB connector, it is possible to update the firmware of the DVA T12 amplifier module using the computer and a dedicated program.

15) "Optional device" Connector

This 8-pole connector is used for future optional connections.

16) "MAINS INPUT" POWER SOCKET

For connecting the power cable.

The connector used for mains connection is a POWER CON® (blue)

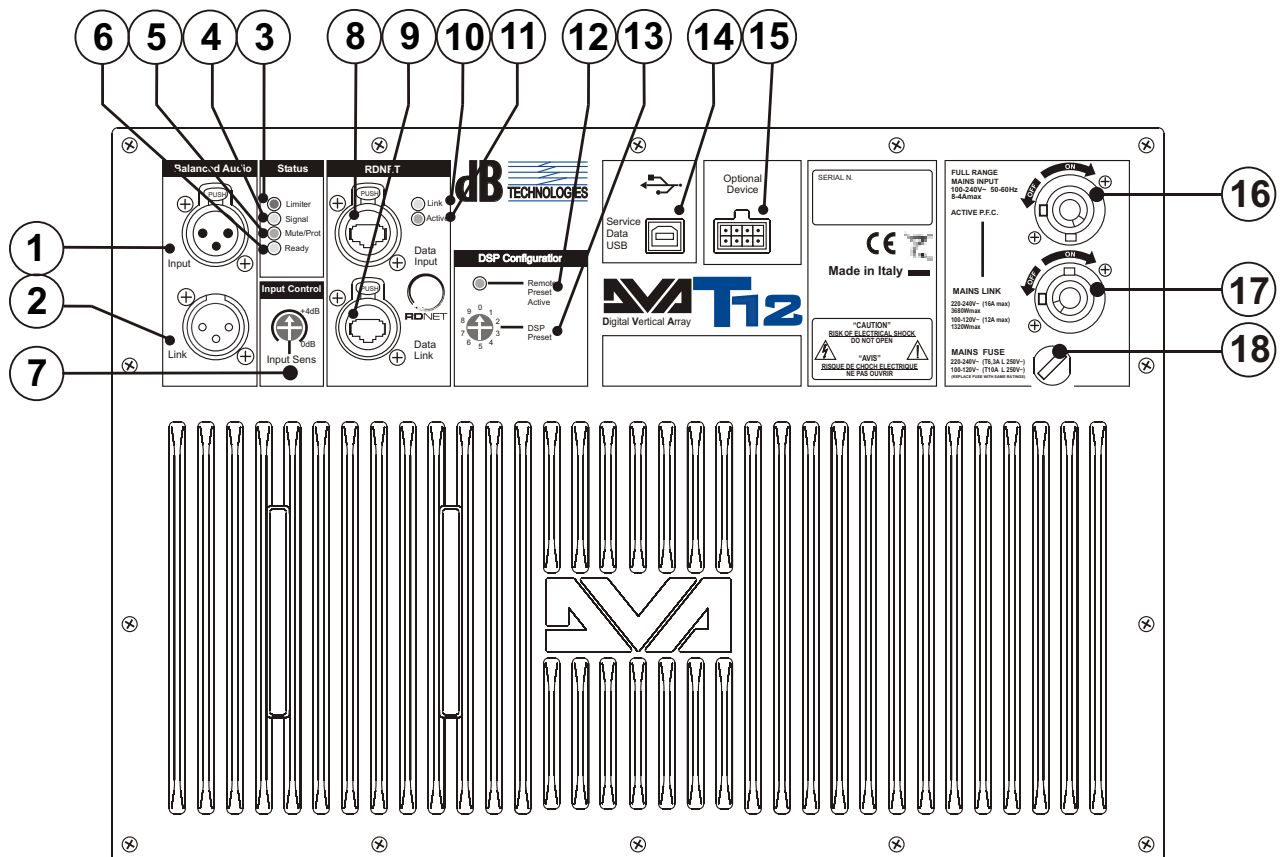
17) "MAINS OUTPUT LINK" RELAUNCH POWER SOCKET

For relaunching the mains power. The output is connected in parallel with input (16) and can be used to power another amplified speaker.

The connector uses a POWER CON® (grey)

18) "MAINS FUSE" FUSE CARRIER

Mains fuse housing.



CHARACTERISTICS AND PROTECTION

Front Grille

The speakers's components in the box are protected by 1.2mm metal steel grille covered by foam on backside.

Cooling

Thermal control is managed by the main microprocessor that interacts with the local microprocessors (amplifiers and power supply) and communicates the data to the DSP for any corrections.

If the amplifier module heats up excessively, the volume is gradually reduced step wise to 0.1dB until the module is thermally stabilised.

The volume is automatically restored when the normal operating temperature is reached.

Power on

The diffusor is powered up normally by an initialization process during which the module is powered by the auxiliary power supply.

When all of the amplifier peripherals are correctly detected, the main power supply is activated.

The technology (RANDOM POWER ON) introduces a random and differentiated delay for each module prior to the power on of the main PSU (Power Supply Unit).

This prevents the breakaway starting currents of the various modules from accumulating, overloading the AC power supply line.

At the end of the power on procedure, only the green "READY" LED will remain on fixed on the amplifier module.

Failure indications and safeties

The microprocessor is able to signal three different kinds of failure by flashing the "LIMTER" red LED on the amplifier panel before the lighting up of the "READY" green LED. The three types of failure are:

- 1) **WARNING:** a non severe error or auto-ripristinate malfunction is detected and the performance of the speaker is not limited
- 2) **LIMITATION:** an error is detected and diffuser performance is limited. The sound level is reduced or one or more amplifiers are disabled.
This state partially influences the correct functioning of the diffuser.
If the problem persists the next time the module is turned on, contact the support centre for assistance.
- 3) **FAILURE:** a severe malfunction is detected. The speaker switches to "mute".

If the case of a malfunction, before contacting the support centre, try to turn the module off and on to check if the problem still exists.

Connecting to the mains supply

Each active speaker features its own power cable. Connection is done by a Neutrik POWER CON® (blue) model which permits easy and fast connection to the speaker as well as being an excellent locking system.

The same connector serves as a switch to turn ON and OFF the active loudspeaker by turning the connector to the left (OFF) or right (ON).

The active speaker must be connected to a power supply able to deliver the maximum required power.

Main power supply linking

On the rear of the speaker, a Neutrik POWER CON® connector (grey) offers linking the mains power supply.

This socket links the power supply to another speaker, thereby reducing the direct connections to the mains. Maximum amplifier input power is shown on the amplifier panel.

The maximum number of speakers connected together varies of max input power and of the maximum allowed current of the first power socket.

DIAGNOSTICS TABLE

MODULE STATUS	LED «READY»	LED «MUTE/PROT»	LED «SIGNAL»	LED «LIMIT»	MODULE FUNCTIONS
Power ON	OFF	ON for 5 sec.	OFF	OFF	Audio MUTED Initialization of the amplifier module
Normal use	ON	OFF	Normal operation	Normal operation	Audio ACTIVE Module initialization complete and correct
Partial fault	ON	Cyclic flashing (3 or more quick flashes)	Normal operation	Normal operation	Audio ACTIVE The module has detected a partial anomaly and remains active with limited functions
Total fault	OFF	ON	OFF	Cyclic flashing	Audio MUTED The module has detected a serious anomaly and is in protected mode
Amplifier temperature management:					
First thermal threshold	ON	Cyclic flashing (1 slow flashes)	Normal operation	Normal operation	Audio ACTIVE The amplifier module begins a gradual decrease of the volume in 0.1dBm steps to compensate temperature increase up to a maximum reduction of 3dBm.
Second thermal threshold	ON	Cyclic flashing (2 quick flashes)	Normal operation	Normal operation	Audio ACTIVE The amplifier module reduces the volume further 3dBm always in 0.1dBm steps up to a maximum reduction of 6dBm respect original volume.
NB The temperatures shown on the plug-in RDnet software refer to the internal temperature of the power semiconductors. These temperatures are not displayed the temperatures of accessible parts user					
MODULE STATUS	LED «Remote Preset Active»	LED «LINK»	LED «ACTIVE»	MODULE FUNCTIONS	
RDNET not active	OFF	OFF	OFF	The module is functioning normally. The volume (INPUT SENS) and the rotary switch (DSP Preset) are active	
RDNET connect	ON	ON	Cyclic flashing	The amplifier module is remotely controlled by RDNET. The volume (INPUT SENS) and the rotary switch (DSP Preset) are bypassed	
Equalization «USER Eq» (rotary switch «DSP Preset» set to 9)	Cyclic flashing	OFF	OFF	The module functions normally. The equalization saved by means of RDNET is being used.	

TECHNICAL SPECIFICATION

System	Active 3-Amps
Type of amplifier	Digital - Class D DIGIPRO G2 technology
RMS power	1410W
High (HF) RMS	350W
Mide (MF) RMS	350W
Low (LF) RMS	710W
Musical power	2820W
Frequency response (-6dB)	60-19.000Hz
Crossover MF-HF (Mid-High)	1900Hz 24dB/Oct
Crossover LF-MF (Low-Mid)	420Hz 24dB/Oct
Sound pressure (SPL)	136dB max
Component parts	1 woofer 12" - VC 3" - Neodymium 2 midrange 6,5" - VC 2" - Neodymium 3 compression driver 1" - VC 1.5" - Neodymium
Input sensitivity nominal	0dBu
Input impedance	
Balanced	20Kohm
Unbalanced	10Kohm
Power supply	Full-range with PFC and SMPS 100-240V~ 50-60Hz
Inrush current	14,9A
Dimension (WxHxD)	580x386x430mm
Weight	29,9Kg

DSP PROCESSOR

DSP	Analog Device 56 bits
Audio conversion	24 bit / 96kHz S/N=116dB
Volume control	Digital
Equalization	9 preset EQU


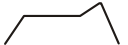
MECHANICAL PARTS


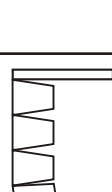

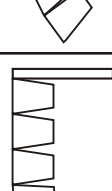
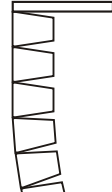


Box material	Polipropilene (PP)
Box internal reinforcement	Aluminium
Flying support material	Steel
Stirrup angle	0° - 1,5° - 3° - 4,5° - 6° - 8° - 10°
Housing shape	Trapezoidal - angle 10°
Handle	1 x side

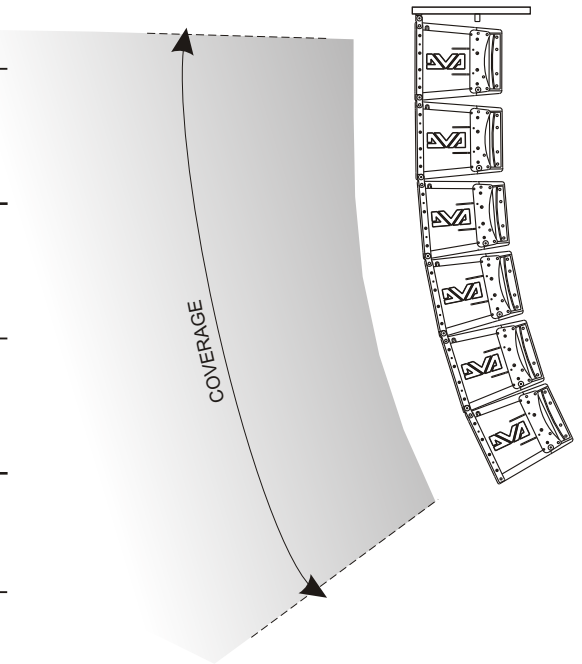
EMI CLASSIFICATION

According to the standards EN 55103 this equipment is designed and suitable to operate in E3 (or lower E2, E1) Electromagnetic environments.

DVA T12 QUICK CONFIGURATIONS

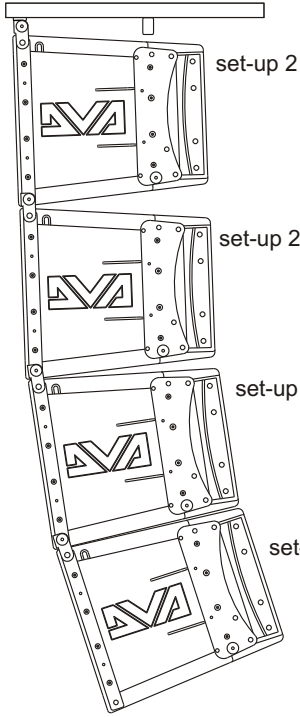
RESPONSE CURVE	NAME	EQU SET
	Flat Response	0
	Front Field	1

NUMBER OF BOXES	SHAPE	ANGLES	EQU SET	
FROM 4 TO 5		STRAIGHT	from 0° to 1,5°	2
		CURVED	from 3° to 10°	3
FROM 6 TO 8		STRAIGHT	from 0° to 1,5°	4
		CURVED	from 3° to 10°	5
FROM 9 TO 12		STRAIGHT	from 0° to 1,5°	6
		MID CURVED	from 3° to 6°	7
		CURVED	from 8° to 10°	8



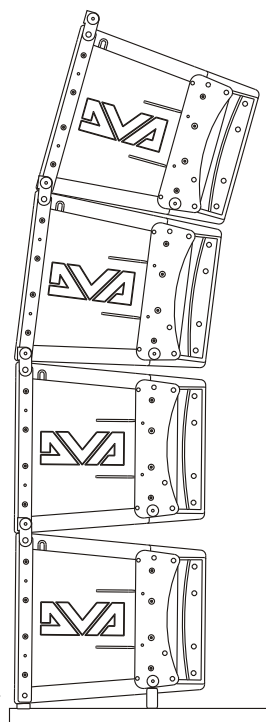
N°OF BOXES: 4

STRAIGHT
from 0° to 1,5°



CURVED
from 3° to 10°

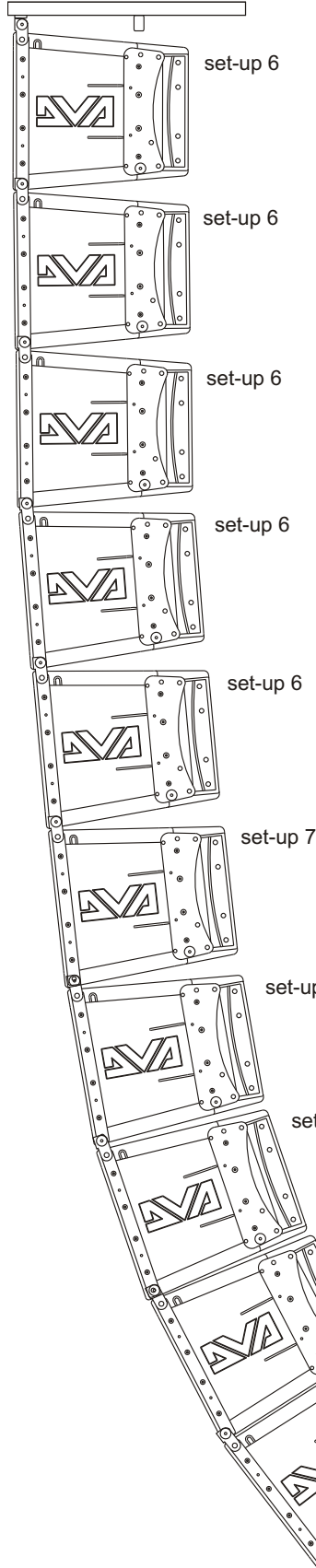
CURVED
from 3° to 10°



STRAIGHT
from 0° to 1,5°

N°OF BOXES: 10

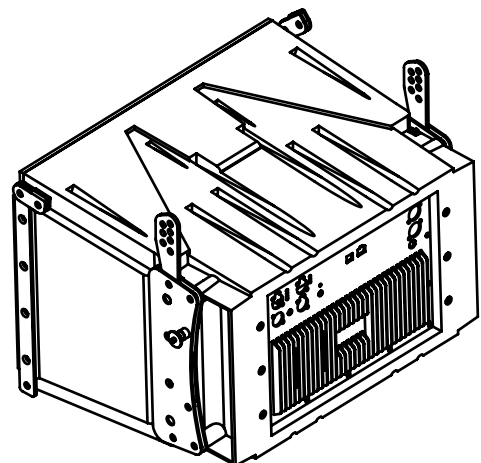
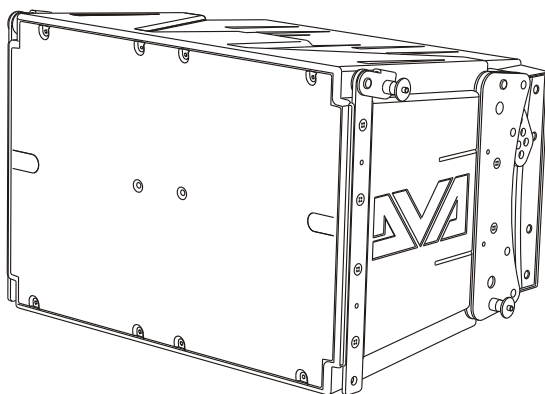
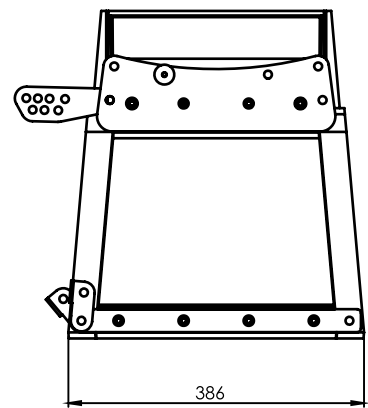
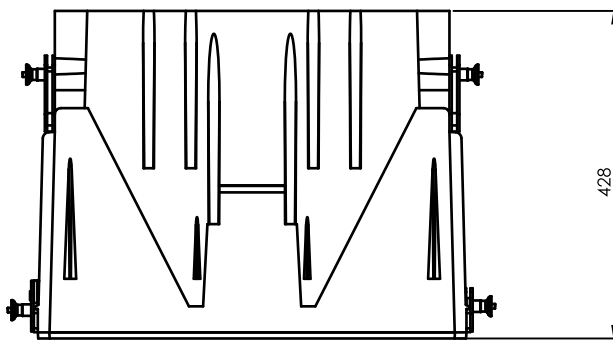
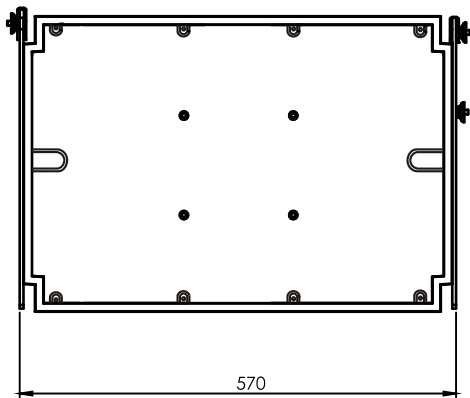
STRAIGHT
from 0° to 1,5°



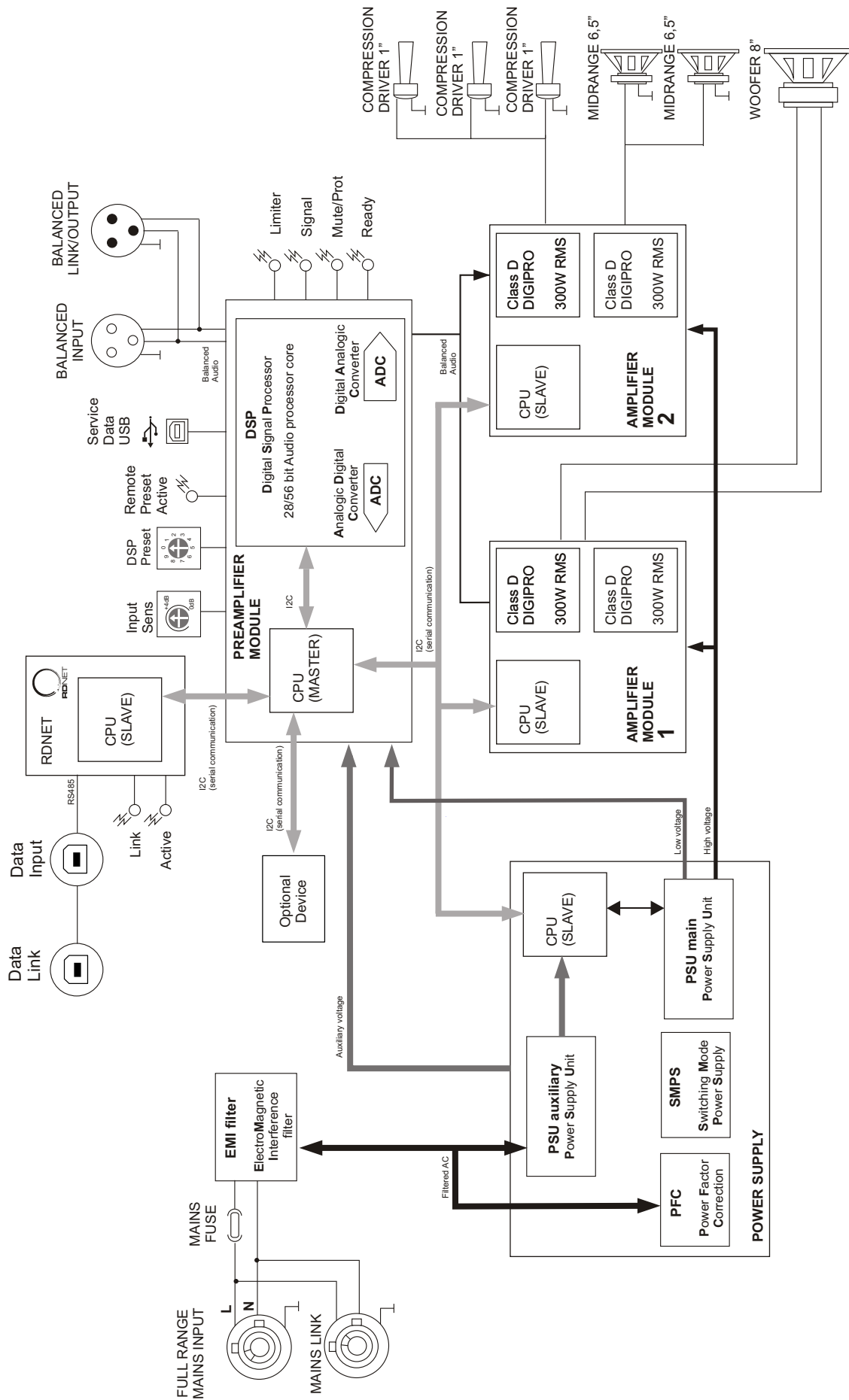
MID CURVED
from 3° to 6°

CURVED
from 8° to 10°

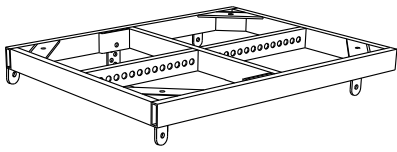
DIMENSIONI / DIMENSIONS
ABMESSUNGEN / DIMENSIONS



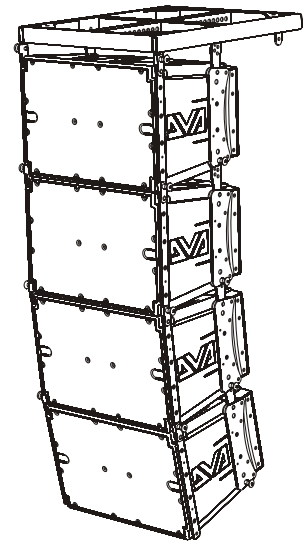
SCHEMA A BLOCCHI - BLOCK DIAGRAM BLOCKSCHALTBILD - SCHEMAS FONCTIONNELLS



**DRK 10 accessorio
Accessory DRK 10**



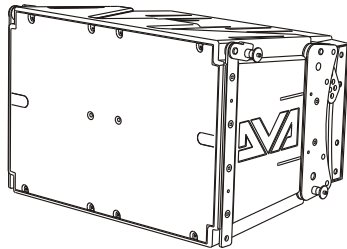
Appeso
Hanging on



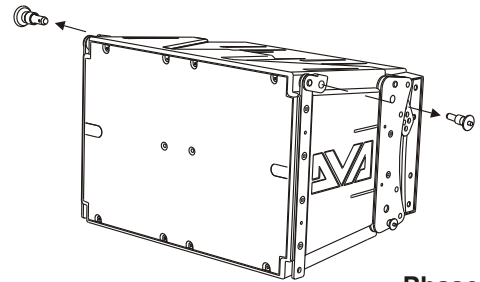
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**INSTALLAZIONE
INSTALLATIONEN**

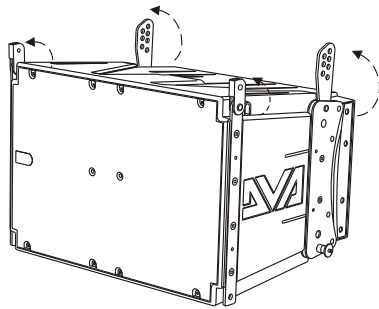
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INSTALLATIONS**



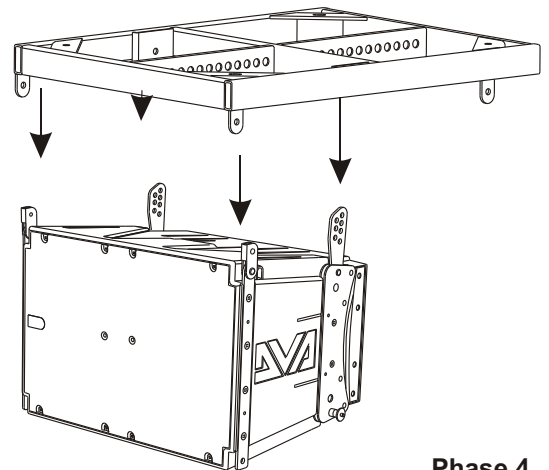
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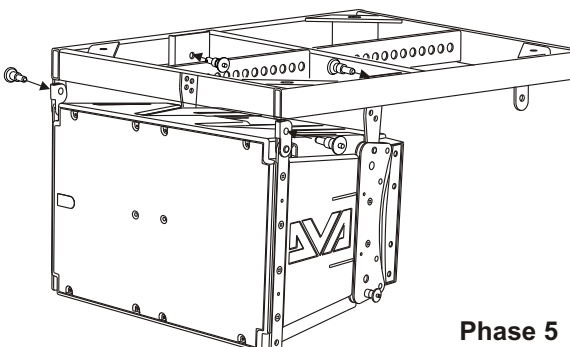
Phase 2



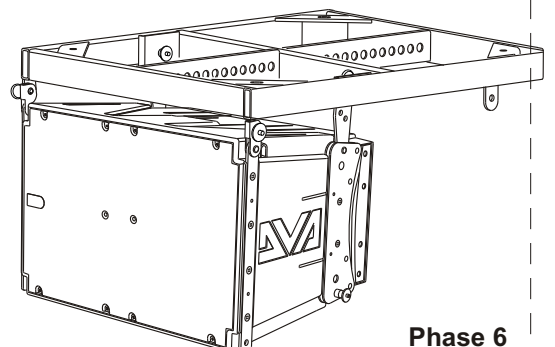
Phase 3



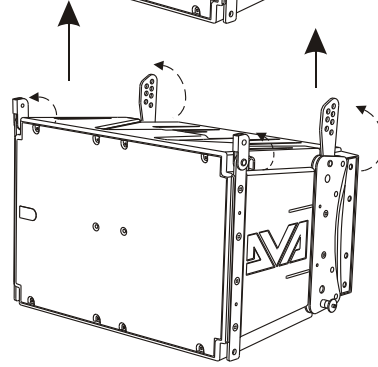
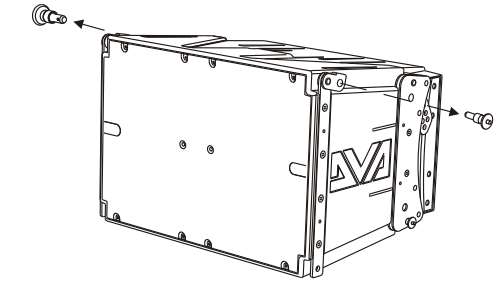
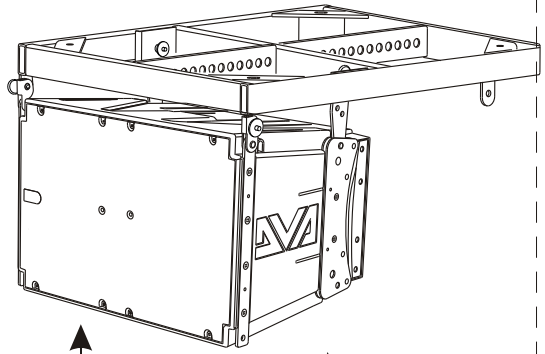
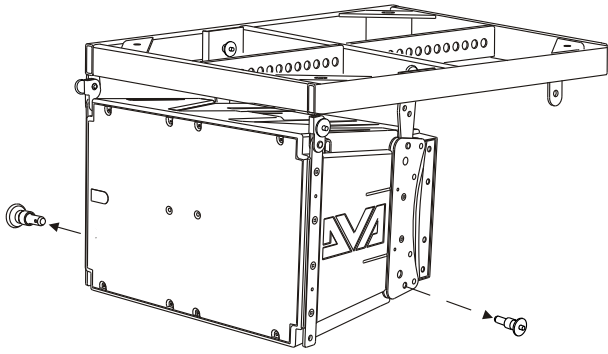
Phase 4



Phase 5

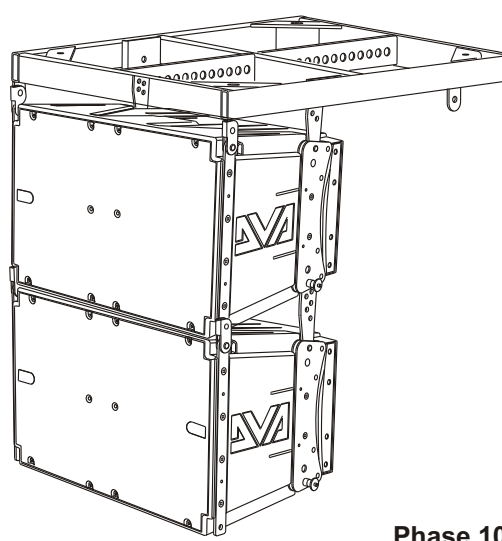
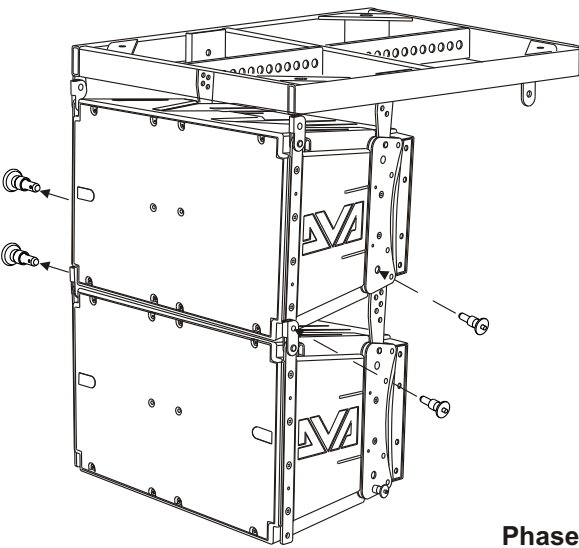


Phase 6



Phase 7

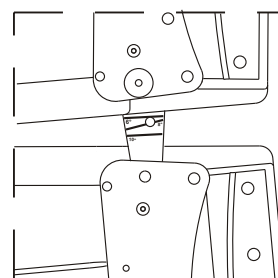
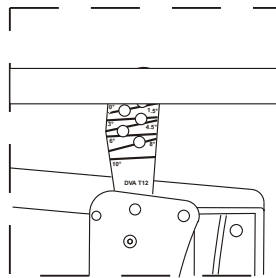
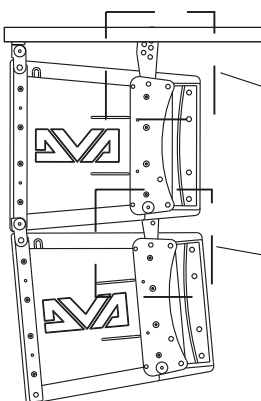
Phase 8



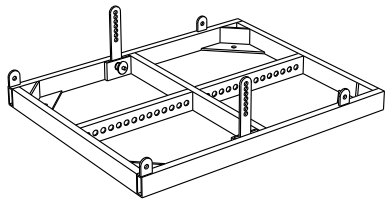
Phase 9

Phase 10

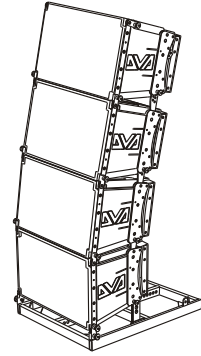
**INCLINAZIONE INCLINATION
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Accessory DRK 10**

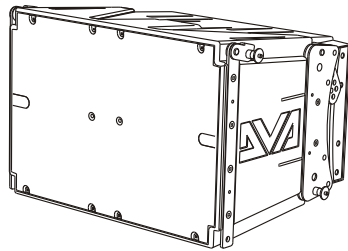


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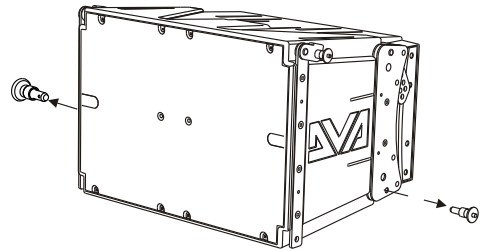


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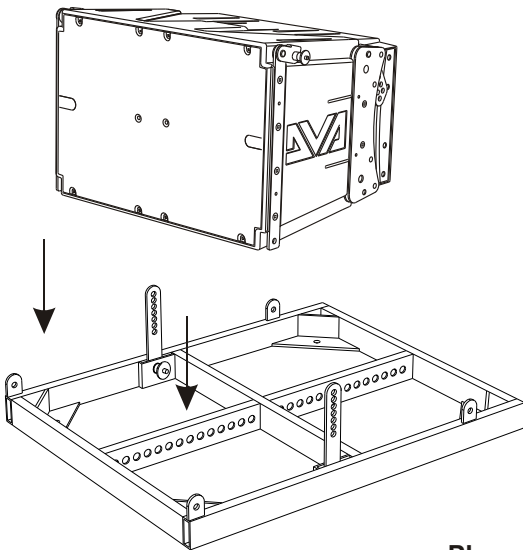
**INSTALLAZIONE
INSTALLATIONEN** **INSTALLATION
INSTALLATIONS**



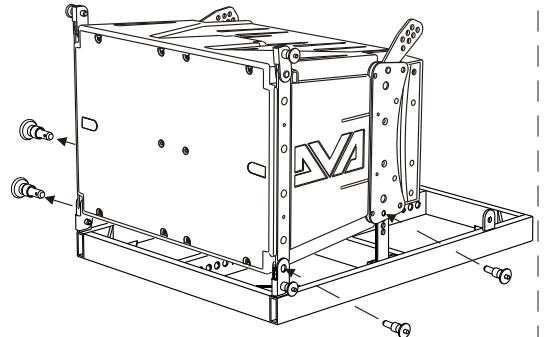
Phase 1



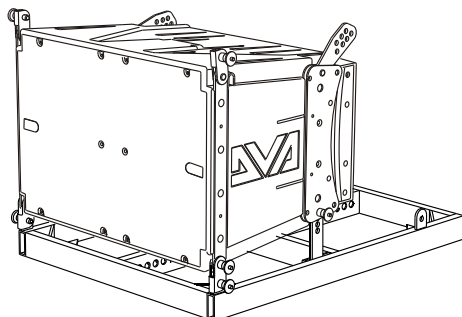
Phase 2



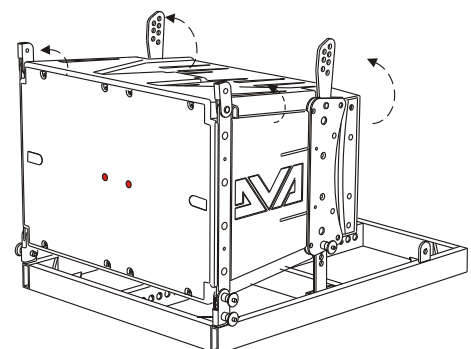
Phase 3



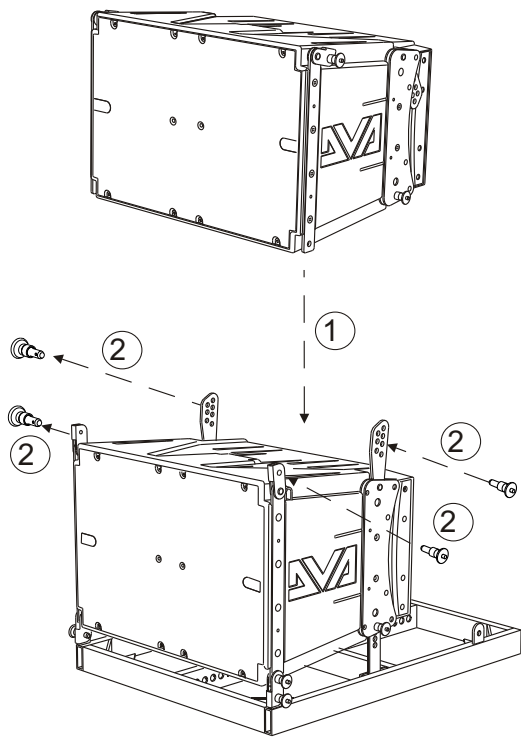
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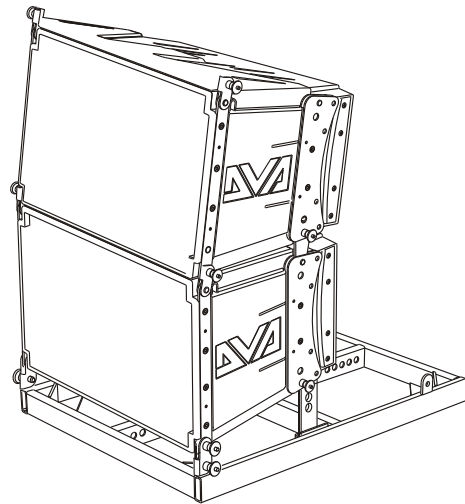
Phase 5



Phase 6

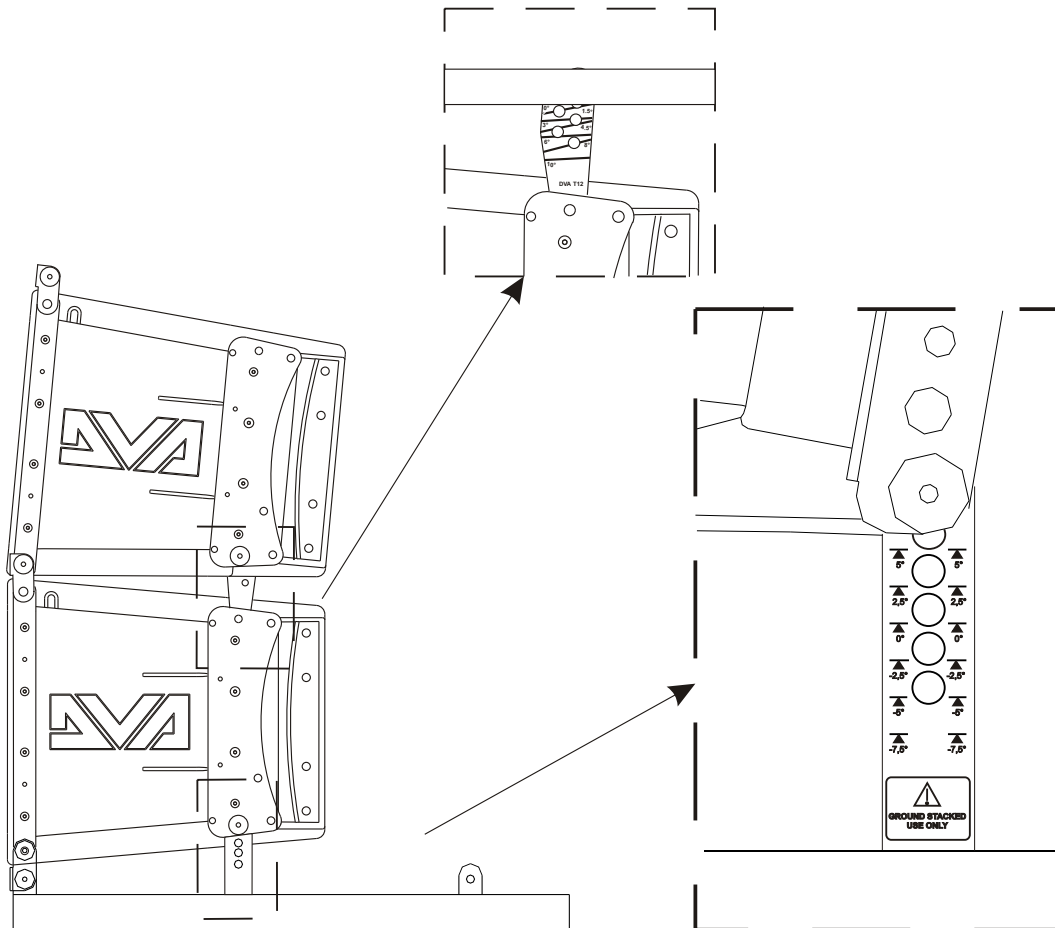


Phase 5

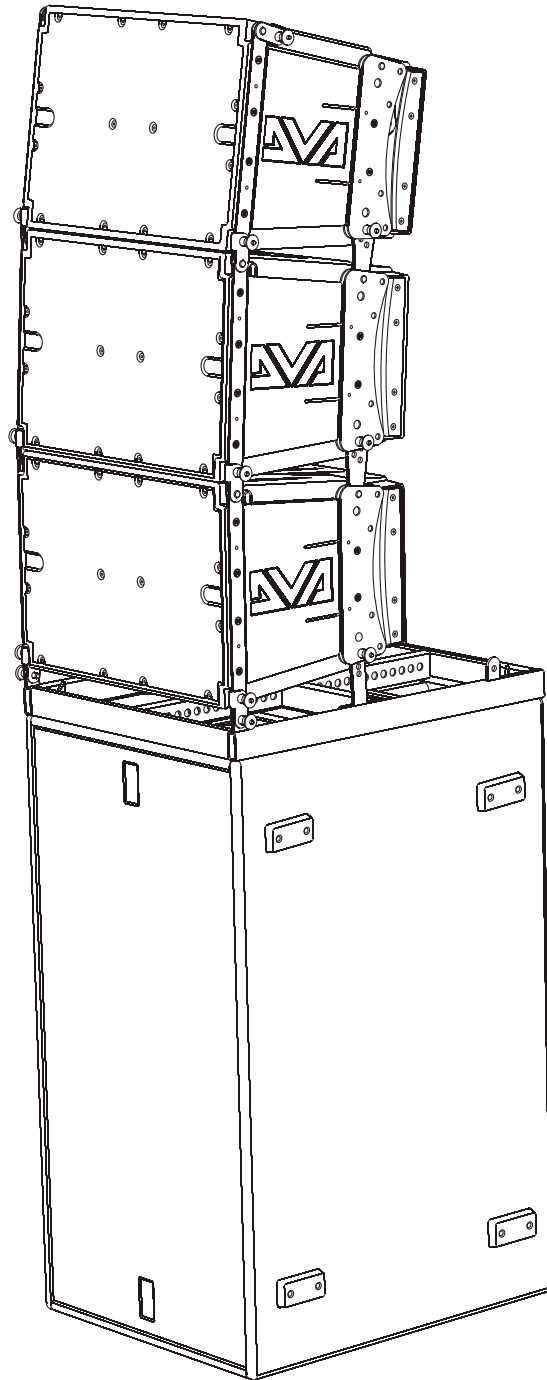


Phase 6

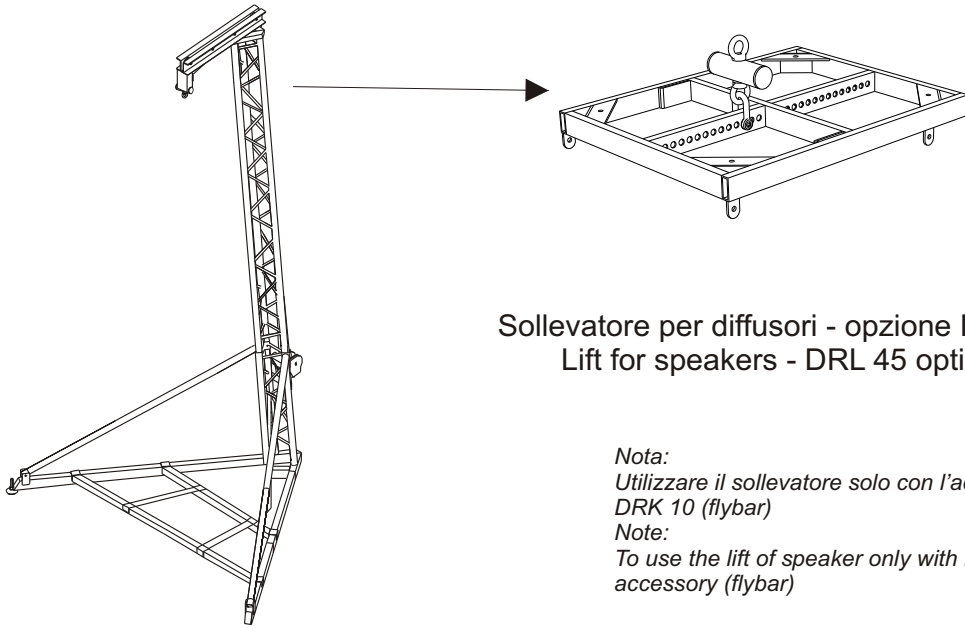
**INCLINAZIONE INCLINATION
NEIGUNG INCLINAISON**



**DVA T12 + DVA S30
(DRK-10 support)**

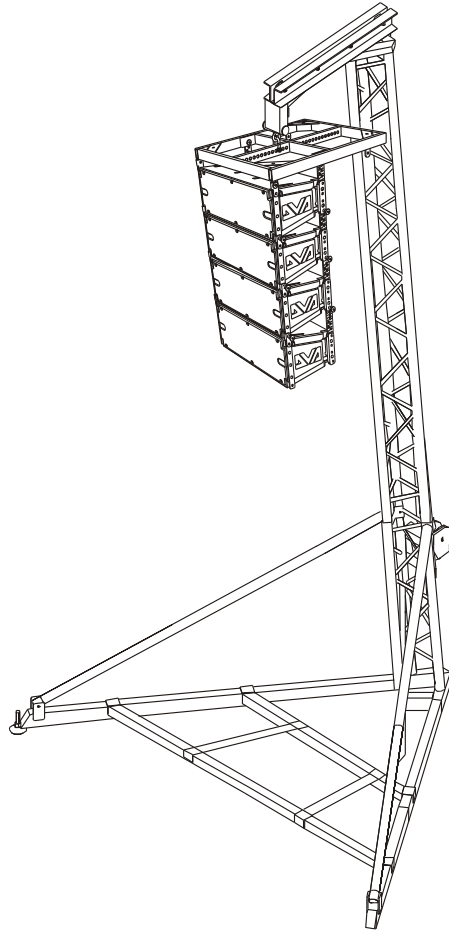


Utilizzo in appoggio verticale (DVA T4 montaggio "Ground stacking")
Supported use (DVA T4 "Ground stacking" assembling)



Sollevatore per diffusori - opzione DRL 45
Lift for speakers - DRL 45 option

*Nota:
Utilizzare il sollevatore solo con l'accessorio
DRK 10 (flybar)*
*Note:
To use the lift of speaker only with DRK 10
accessory (flybar)*



**ISTRUZIONI DI SICUREZZA PER ACCESSORI / SAFETY INSTRUCTIONS FOR ACCESSORIES
ZUBEHÖR SICHERHEITSHINWEISE / INSTRUCTIONS DE SÉCURITÉ POUR LES ACCESSOIRES**



Contattare dB Technologies per gli accessori da utilizzare a corredo.
Si declina ogni responsabilità da un utilizzo inappropriato degli accessori o di dispositivi aggiuntivi non idonei allo scopo.

Contact dB Technologies for accessories to be used with speakers.
Will not accept any responsibility when inappropriate accessories or not suitable additional devices are used.

Kontaktieren sie dB Technologies für passendes Lautsprecherzubehör.
Falls unpassendes Zubehör verwendet wird, wird jegliche Haftung ausgeschlossen.

Contact dB Technologies pour les accessoires à utiliser avec la machine.
N'accepterons pas toutes les responsabilités lorsque des accessoires inappropriés ou ne conviennent pas à des dispositifs supplémentaires sont utilisés.



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