



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





COD. 420120203 Rev 2.0

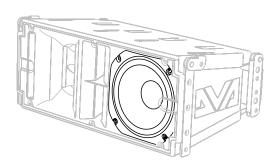
DESCRIPTION

The DVA T8 is equipped with three class D amplifiers of DIGIPRO® G2 series, high efficiency, which delivers high output power in a compact size and low weight. Thanks to its high efficiency the cooling of the amplifier module is obtained statically, thus avoiding the use of a fan.

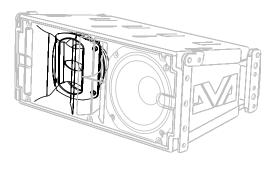
The power supply circuits of the DIGIPRO® G2 amplifier has been conceived to work in full-range mode; thanks to the SMPS (Switched-Mode Power Supplies) technology with PFC (Power Factor Correction) the operation with supply voltages between 100 Vac and 240Vac is guaranteed by ensuring the same sound performances even with floating and non-stabilized power supply systems.

The amplifier module is able to deliver 350W (RMS) for the bass section, 175W (RMS) for the mid-section and 175W (RMS) for the treble section.

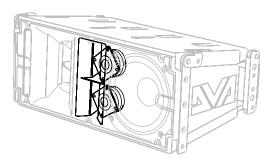
The bass section controls a 8" neodymium woofer (2.5" voice coil) guarantees a high SPL and the obtainment of frequencies of up to 70Hz.



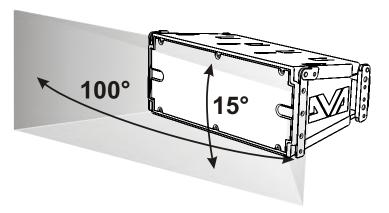
The mid-section controls one 6.5" neodymium midranges (2" voice coil), enclosed in its own acoustic chamber and horn loaded with a power factor corrector. The plug phases located in front of the cones prevent the vertical phases from overlapping, creating in fact a local array with 3 output slot that increases directivity. The horn design was specifically created to couple it correctly with the DVA T4 and DVA T12 modules.



The treble section controls two 1" neodymium drivers (1.4" voice coil) positioned vertically and spaced to optimize the vertical cover. The horn design was specifically created to couple it correctly with the DVA T4 and DVA T12 modules.



This specific design has made it possible to obtain a constant and precise 100° coverage in a horizontal direction and 15° coverage in a vertical director for each diffuser.



DVA Network

DVA T8 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 T8 amplifier module using the computer and a dedicated program.

15) "MAINS INPUT" POWER SOCKET

For connecting the power cable.

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

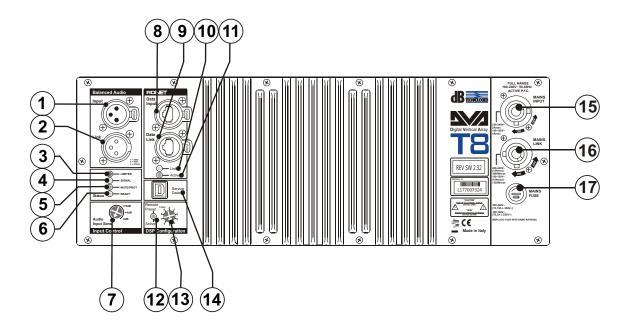
16) "MAINS OUTPUT LINK" RELAUNCH POWER SOCKET

For relaunching the mains power. The output is connected in parallel with input (15) and can be used to power another amplified speaker.

The connector uses a POWER CON® (grey)

17) "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 IPOS technology (Intelligent Power-On Sequence) 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 "READY", "MUTE/PROT" and "LIMIT" LED as reported in the table of diagnostic. 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 FUNCTIONS	Audio MUTED Initialization of the amplifier module	Audio ACTIVE Module initialization complete and correct	Audio ACTIVE The module has detected a partial anomaly and remains active with limited functions	Audio MUTED The module has detected a serious anomaly and is in protected mode	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.	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.
LED «LIMIT»	OFF	Normal operation	Normal operation	Cyclic flashing	Normal operation	Normal operation
LED «SIGNAL»	OFF	Normal operation	Normal operation	OFF	Normal operation	Normal operation
LED «MUTE/PROT»	ON for 5 sec.	OFF	Cyclic flashing (3 or more quick flashes)	NO	Cyclic flashing (1 slow flashes)	Cyclic flashing (2 quick flashes)
LED «READY»	OFF	NO	N O	OFF	re management: ON	ON Cyclic fla
MODULE STATUS	Power ON	Normal use	Partial fault	Total fault	Amplifier temperature management: First thermal ON threshold	Second thermal threshold

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 R

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	NO	NO	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
 700W

 High (HF) RMS
 175W

 Mide (MF) RMS
 175W

 Low (LF) RMS
 300W

Musical power 1400W

Frequency response (-6dB) 66-18.000Hz Frequency response (-10dB) 61-19.900Hz

Crossover MF-HF (Mid-High) 1900Hz 24dB/Oct

Crossover LF-MF (Low-Mid) 400Hz 24dB/Oct

Sound pressure (SPL) 132dB max

Component parts 1 woofer 8" - VC 2.5" - Neodymium

1 midrange 6,5" - VC 2" - Neodymium 2 compression driver 1" - VC 1.4" -

Neodymium

Input sensitivity nominal 0dBu

Input impendence

Balanced 20Kohm Unbalanced 10Kohm

Power supply Full-range with PFC and SMPS

100-240V~ 50-60Hz

Inrush current 3,3A

Dimension (WxHxD) 580x386x327mm

(23,2x9,6x13,08 inch.)

Weight 14,2Kg

(31,3 lbs)

DSP PROCESSOR

DSP Analog Device 56 bits
Audio conversion 24 bit / 96kHz S/N=114dB

Volume control Digital

Equalization 9 preset EQU

MECHANICAL PARTS

Box material Polipropilene (PP)

Box internal reinforcement Steel Flying support material Steel

Stirrup angle $0^{\circ} - 1,5^{\circ} - 3^{\circ} - 4,5^{\circ} - 6^{\circ} - 8^{\circ} - 10^{\circ} - 12,5^{\circ} - 15^{\circ}$

Housing shape Trapezoidal - angle 15°

Handle 1 x side

Rear grille Performed sheet 1.2mm with internal foam

EMICLASSIFICATION

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

INSTALLATION



WARNING

Make sure that the loudspeaker is securely installed in a stable position to avoid any injuries or damages to persons or property.

Before hanging the loudspeaker check all the components for damages, deformations, missing or damaged parts that may compromise safety during installation.



ATTENTION

The installation of the speaker on speaker stand must be carried out exclusively by professionally qualified staff, being careful to place a speaker stand foot in the direction of the output side of the sound (front side of the speaker) so as to maximize stability in relation to the centre of gravity of the speaker (ref. page 58).



ATTENTION

When using the speaker with a pole mount for subwoofer (ref. page 59), in order to avoid the danger of overturning and damage to people, animals and properties, before proceeding with the installation of the system, check the allowed configurations, the indications and the related requirements on the site of dBTechnologies. However, make sure that the subwoofer which supports the speaker is placed on a horizontal surface without inclinations.



CAUTION

TO REDUCE THE RISK OF ELECTRICAL SHOCK, GROUNDING OF THE CENTER PIN OF THIS PLUG (POWERCON AC MAINS CONNECTOR) MUST BE MAINTAINED

DRK 10

DVA system has obtained the TÜV certification for suspension of DVA T4, DVA T8, DVA T12, DVA S09dp, DVA S10dp, DVA S1518N and DVA S2585N speakers through flybar stirrup DRK 10 for maximum weight applying is 250Kg.



WARNING! Observe with particular attention the maximum load allowed. Failure to comply with all warnings may cause danger of structure and content falling with potential damage to people, things and animals.

DVAT8 configuration

The DRK 10 flybar attests that the maximum number of DVAT8 is 16. Refer to table 1 to determine the total weight borne by flybar according to the different DVAT8 configurations.

Quantità	Pe	eso
	[kg]	[lbs.]
1	15	33
3	30	66
3	45	99
4	60	132
5	75	165
6	90	198
7	105	231
8	120	264
9	135	297
10	150	330
11	165	363
12	180	396
13	195	429
14	210	462
15	225	495

240

528

16

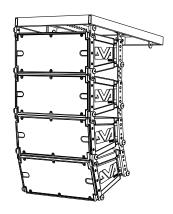


Table 1

DVA S10dp configuration

The DRK 10 flybar attests that the maximum number of DVA S10dp with Neodymium woofer is 4 and DVA S10dp with Ceramic woofer is 5.

Refer to table 2 to determine the total weight borne by flybar according to the different configurations.

Quantity	We	eight
DVA S10dp	[kg]	[lbs]
(Neodymium woofer)		
1	48	106
2	96	212
3	144	317
4	192	423
5	240	528

Quantità	We	eight
DVA S10dp	[kg]	[lbs]
(Ceramic woofer)	. 51	
1	54	119
2	108	238
3	162	357
4	216	476



Table 2

DVA S1518N configuration (Neodimium woofer)

The DRK 10 flybar attests that the maximum number of DVA S1518N is 5. Refer to table 3 to determine the total weight borne by flybar according to the different configurations.

Quantity	Weight		
(Neodymium woofer)	[kg]	[lbs.]	
1	46	102	
2	92	203	
3	138	304	
4	184	405	
5	230	506	

Table 3

Mixed configuration

The modular structure of DVA system permits mixed suspension configuration between speakers.

For this reason it is necessary to calculate the total weight according to the different configurations.

Examples:

	Quantity	Weight x qty	Configuration weight
DVA T8	8	120Kg	216Kg
DVA S10dp (Neodymium woofer)	2	96Kg	

	Quantity	Weight x qty	Configuration weight
DVA T8 DVA S1518N (Neodymium woofer)	12 1	180Kg 46Kg	226Kg

DRK 20

The DRK 20 flybar system and its rigging systems used for DVA T4, DVA T8, DVA T12, DVA S09dp, DVA S10dp, DVA S1518N e DVA S2585N speakers is designed and verified by tests in accordance with safety requirements documents, Italian Ministerial Decree DM of 14.01.2008 "New technical standards for construction" and "Eurocode 1" and Eurocode 3 " with regard to steel structures.

The system are technically tested and certified to comply with the maximum load declared by Certificate of Compliance issued by CERMET n.reg. PA 68913 V 00001 2011.



The DRK 20 must be used only by qualified persons!

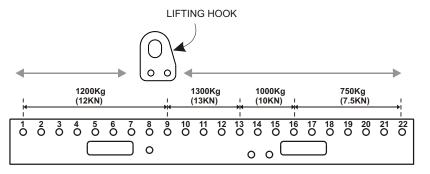
The structural calculations certify that maximum weight applicable to the flybar DRK20 depends on the attachment point of the lifting hook.

Refer to the dedicated manual for details



WARNING! Observe with particular attention the maximum load of point of attachment of the lifting hook.

Failure to comply with all warnings may cause danger of structure and content falling with potential damage to people, things and animals.



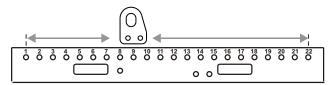
Lifting hook position	Maximun load
1 - 9	1200kg
9 - 13	1300kg
13 - 16	1000kg
16 - 22	750kg

Mixed configuration with DVA T8 and DVA T12

The modular structure of DVA System permits mixed suspension configuration between DVAT8 and DVAT12.

For this reason, it is necessary to calculate the total weight. Example:

	Quantity	Weight x qty	Configuration weight
DVA T12	10	300Kg	390Kg
DVA T8	6	90Kg	Journal



Mixed configuration with DVA T8 and DVA S10dp (Neodimium woofer)

The modular structure of DVA System permits mixed suspension configuration between DVAT8 and DVAS10dp (Neodymium woofer).

For this reason, it is necessary to calculate the total weight.

Example:

	Quantity	Weight x qty	Configuration weight
DVA T8	14	210Kg	402Kg
DVA S10dp (Neodymium woofer)	4	192Kg	

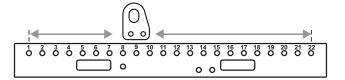
Mixed configuration with DVA T8 and DVA S1518N (Neodimium woofer)

The modular structure of DVA System permits mixed suspension configuration between DVAT8 and DVAS1518N (Neodimium woofer).

For this reason, it is necessary to calculate the total weight.

Example:

	Quantity	Weight x qty	Configuration weight
DVA T8	20	300Kg	484Kg
DVA S1518N (Neodymium woofer)	4	184Kg	3



Structural modification of flybar

It is prohibited to make any changes to the structure of the flybar and on the stirrups assembling of the speakers.

Tampering and/or modify the structure or the accessories may be causes risk of failure or breakage.

Original parts dB Technologies

It is forbidden to use parts and accessories other than those supplied.

Use only dB Technologies original parts.

Always install parts in accordance with these installation instruction!

Compile and store all DVA system documents in a safe place!



Warning

dB Technologies is not responsible for any possible damage to people, things and animals if the security norms and total weight calculations are not observed!

Note

During installation ensure that carrying structure of the system has added in the total weight also the flybar weight, chain hoists, motors, cables and further weights.

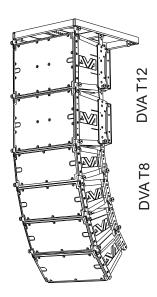
Initiation and Operation

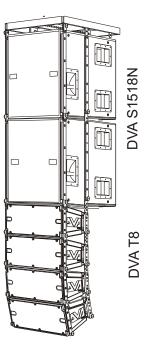
- § 39, VBG 9a of the German employers' liability insurance association's accident prevention regulations requires that load-carrying equipment be inspected by a qualified expert and possible defects be eliminated prior to initial commissioning by the recipient.
- § 41 VBG 9a requires that load-carrying equipment be subjected to a non-routine inspection following damage, repair work and other incidents that can affect load-carrying capacity.



Warning

The safety regulations might be different in other countries. Please check with your national safety authority the valid regulations!



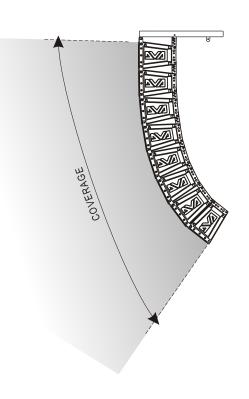


DVA T8 QUICK CONFIGURATIONS

SINGLE MODUL	EQUs SET	
	FLAT	0
/	HF BOOST	1

FLYBAR at 0°

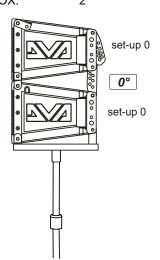
	UMBER MODULES	SHAPE	ANGLES	EQUs SET
FROM 4 TO 6	*	STRAIGHT	from 0° to 4,5°	2
		CURVED	from 6° to 15°	3
FROM 7 TO 10		STRAIGHT	from 0° to 4,5°	4
		CURVED	from 6° to 15°	5
MORE THAN 10		STRAIGHT	from 0° to 3°	6
		MID CURVED	from 4,5° to 6°	7
		CURVED	from 8° to 15°	8



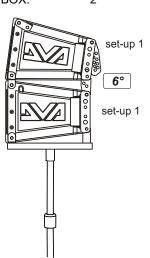
* APPLY "STRAIGHT" SHAPE EQ ON THIS BOX

SET-UP EXAMPLES

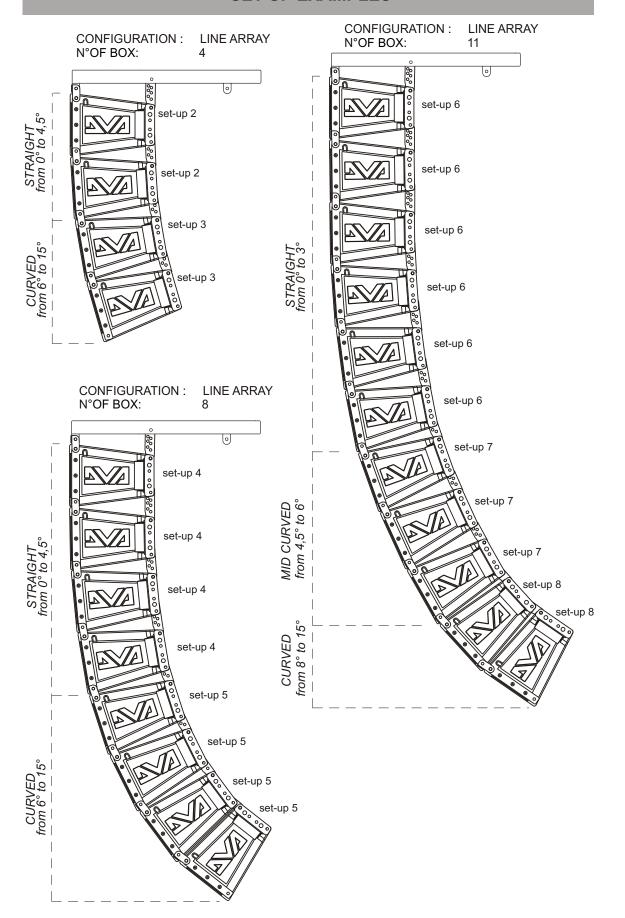
CONFIGURATION: FRONT FIELD N°OF BOX: 2

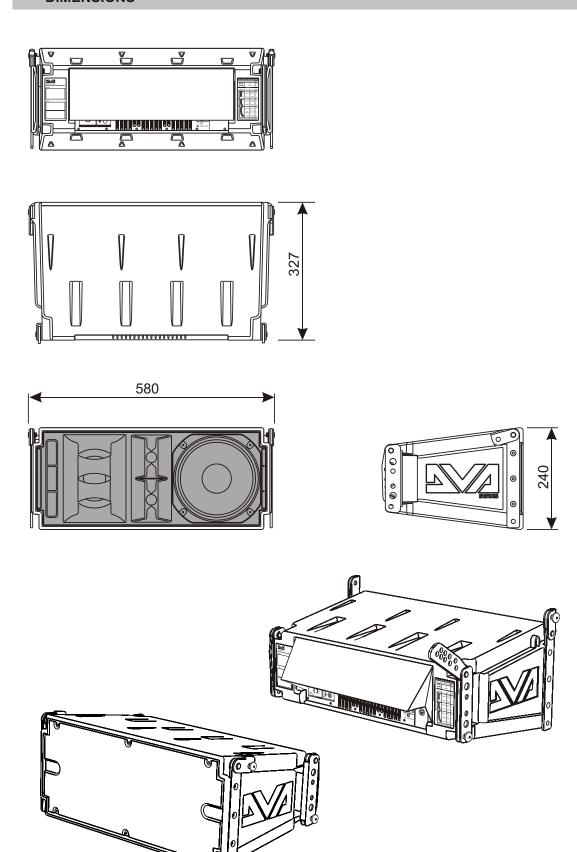


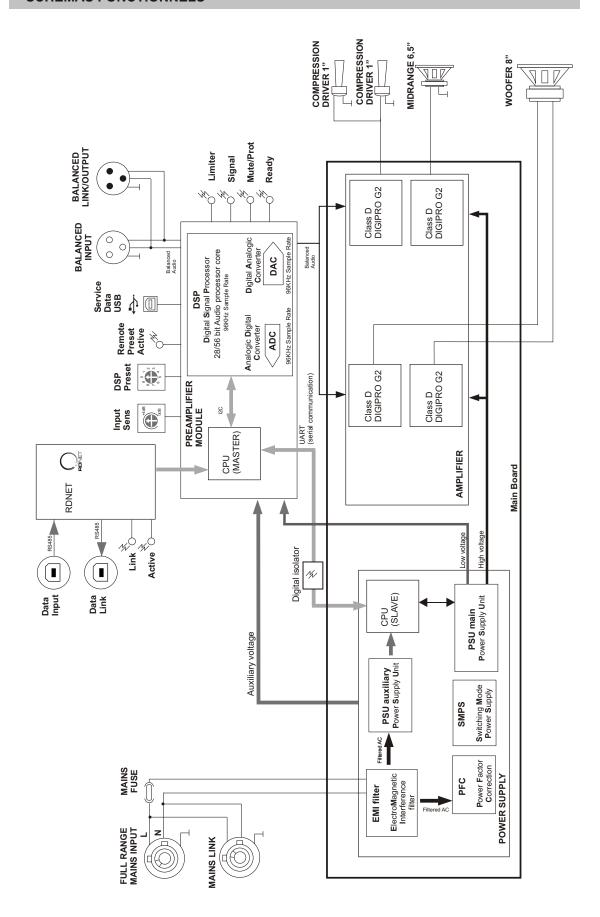
CONFIGURATION: FRONT FIELD N°OF BOX: 2

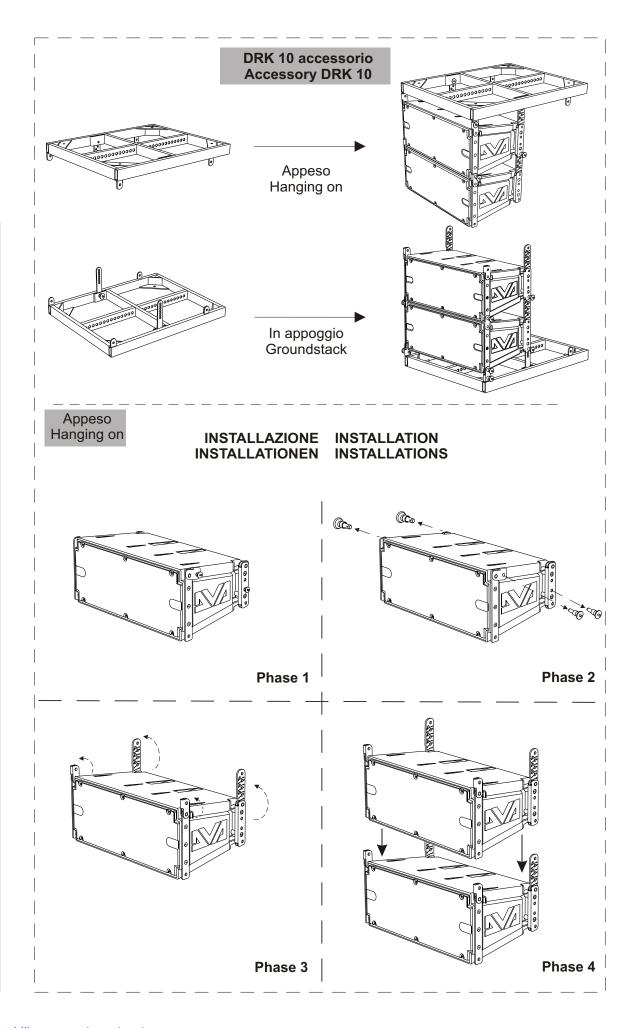


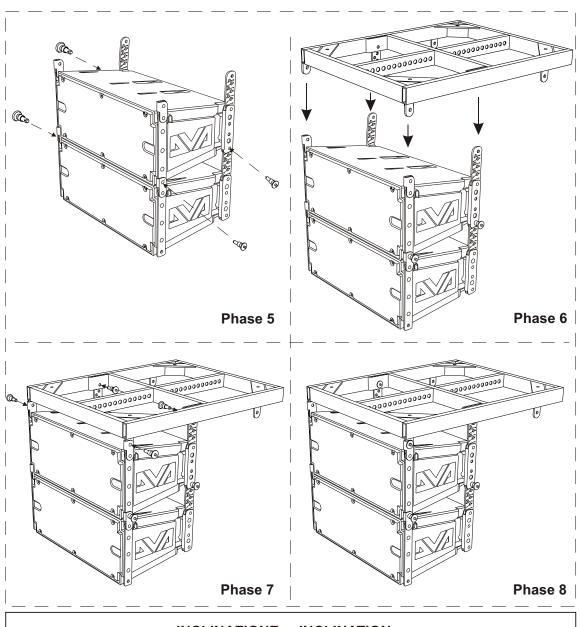
SET-UP EXAMPLES

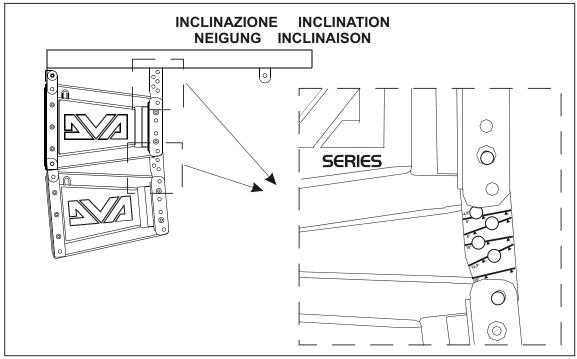


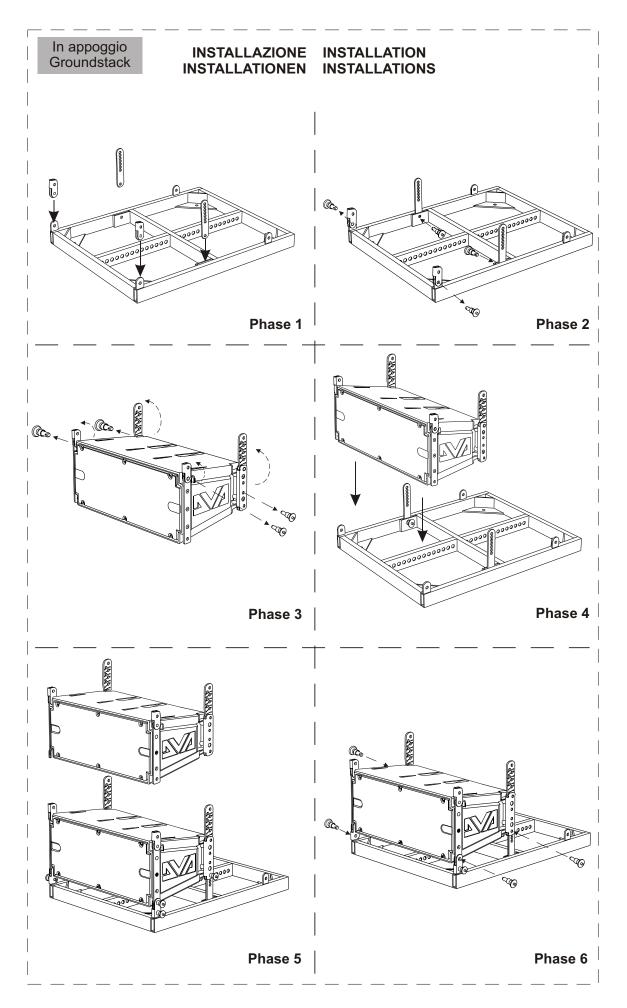




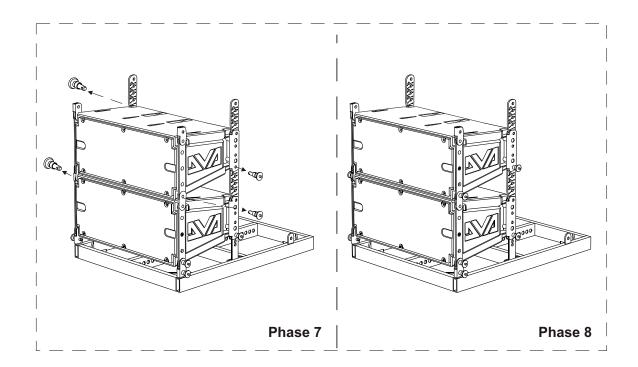


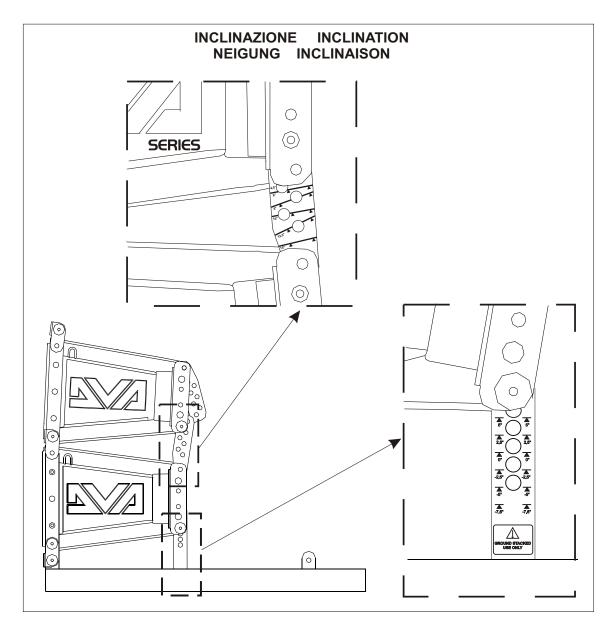


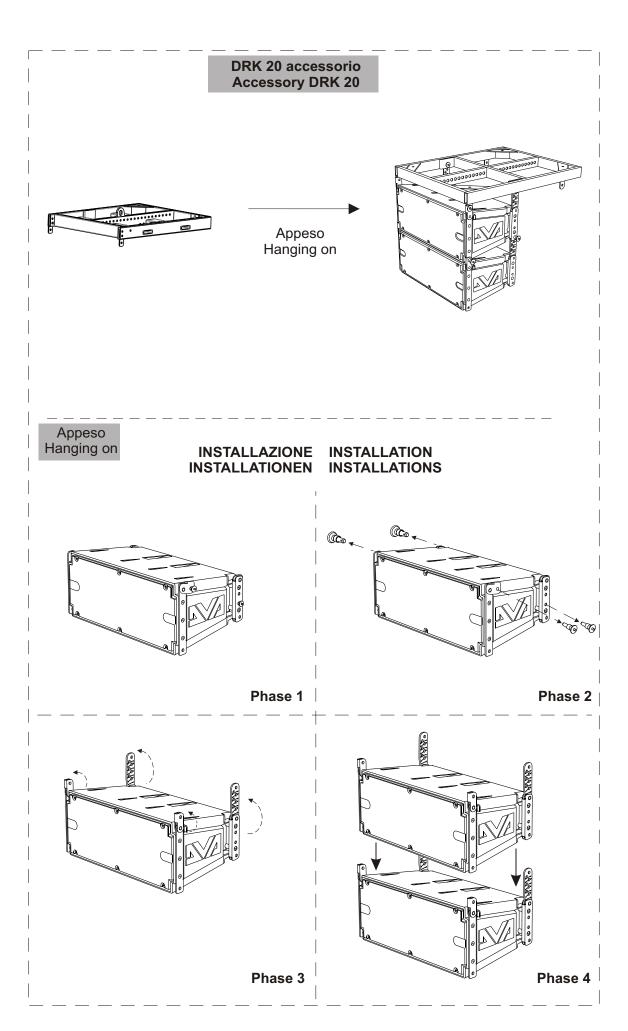


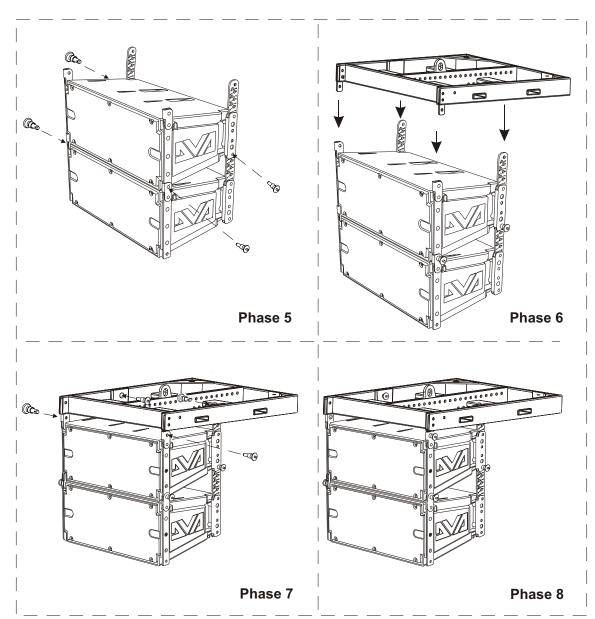


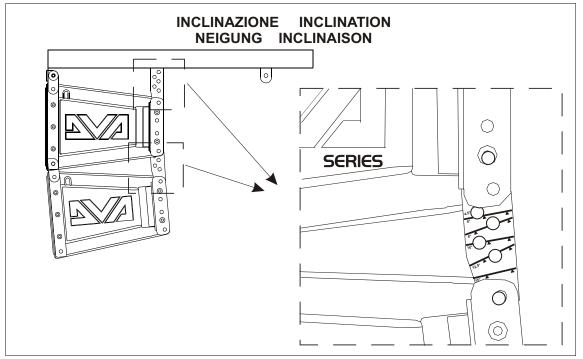
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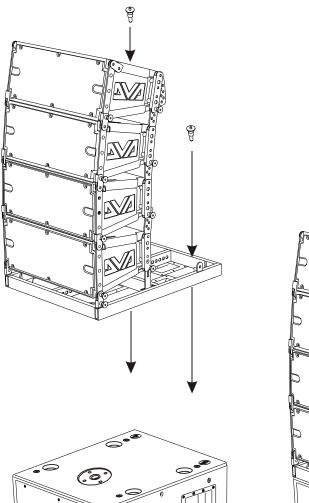


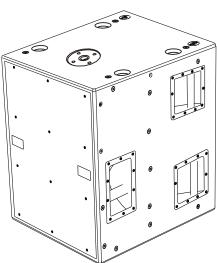


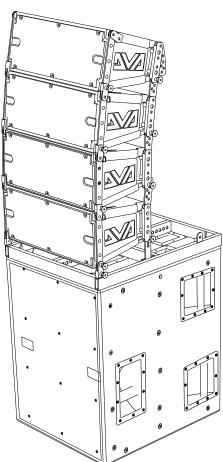




DVA T8 + DVA S1518N

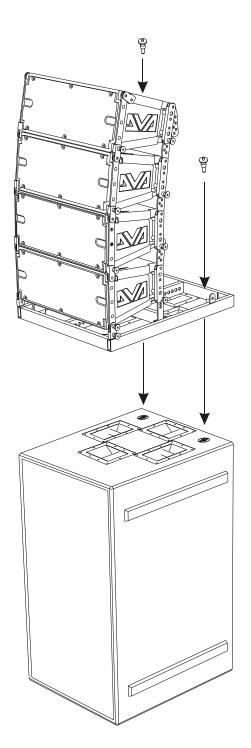


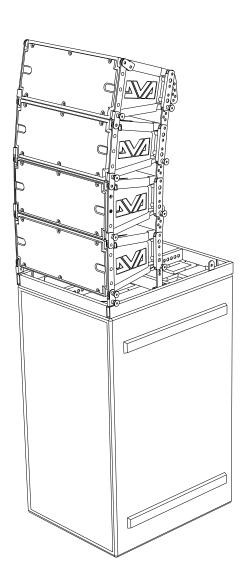




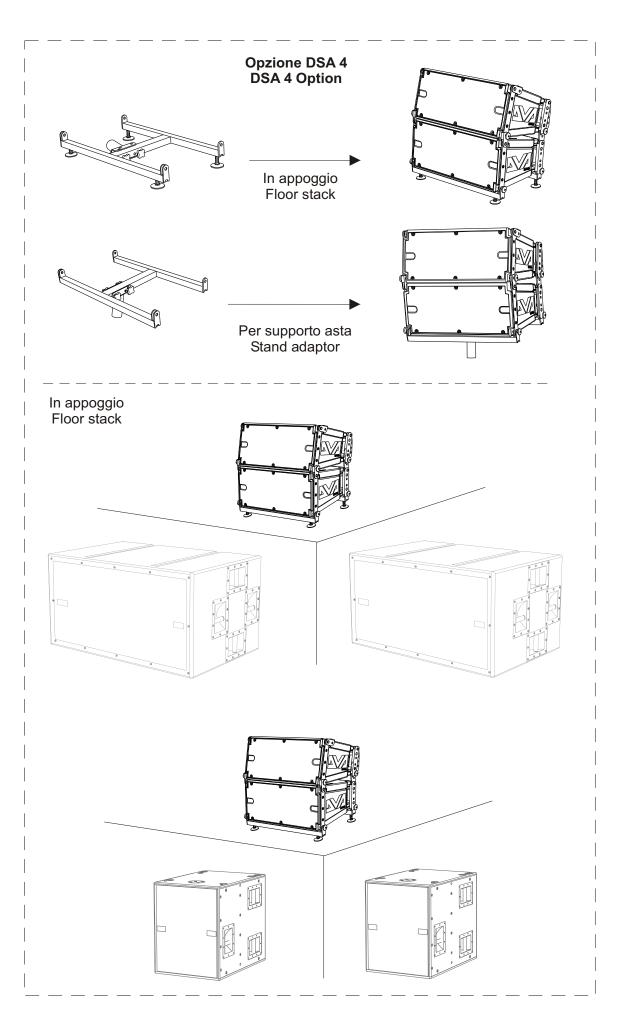
Utilizzo in appoggio verticale (DVA T8 montaggio "Ground stacking") Supported use (DVA T8 "Ground stacking" assembling)

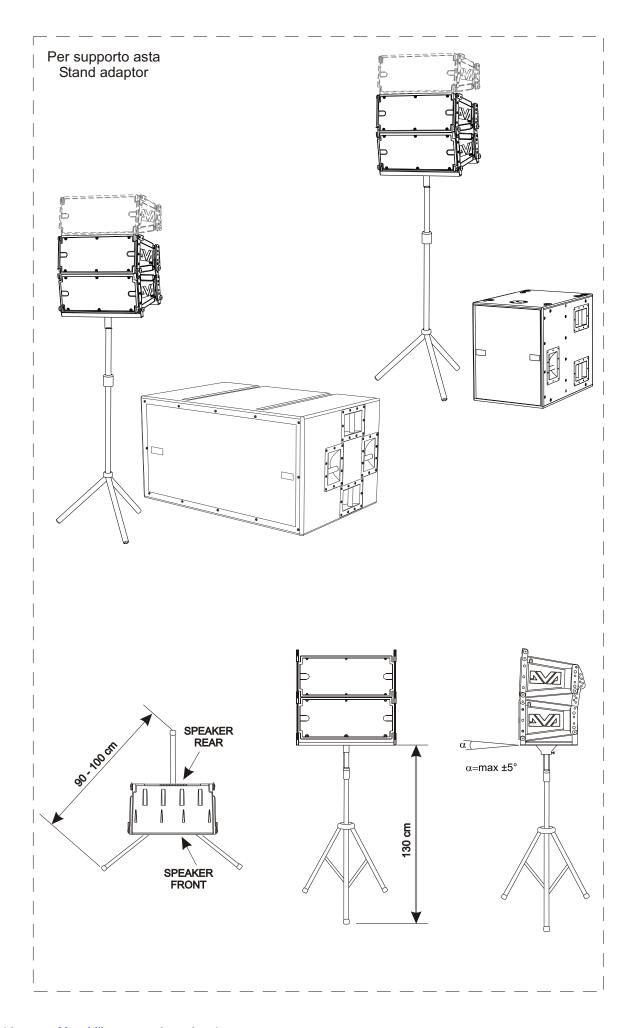
DVA T8 + DVA S30N

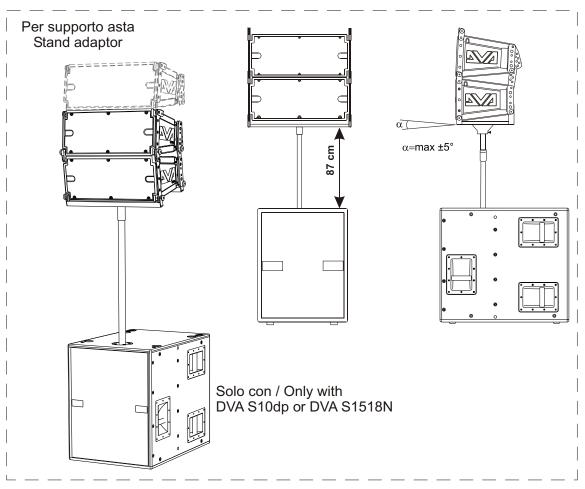


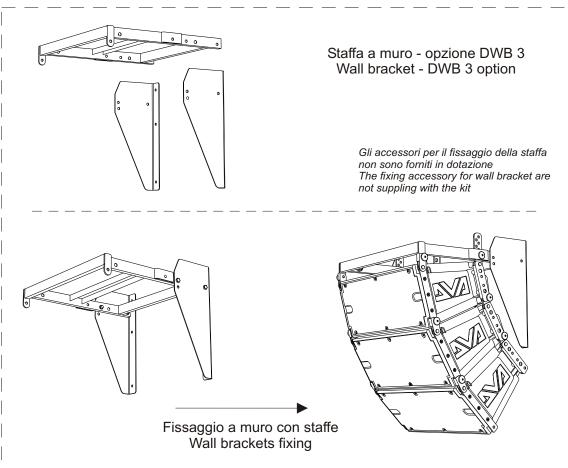


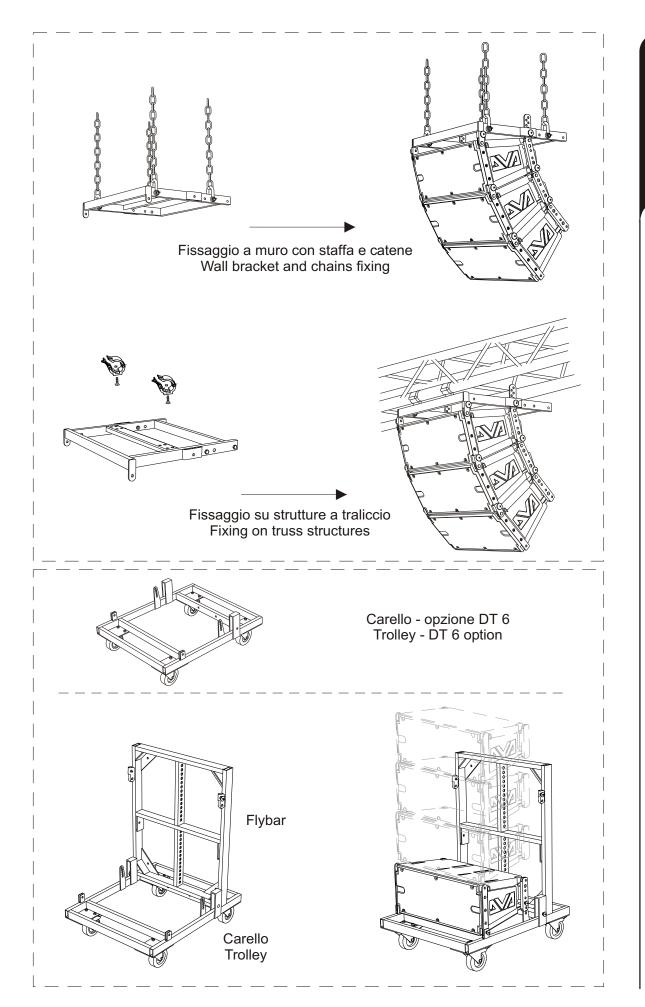
Utilizzo in appoggio verticale (DVA T8 montaggio "Ground stacking") Supported use (DVA T8 "Ground stacking" assembling)

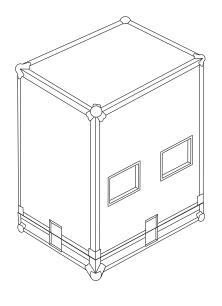




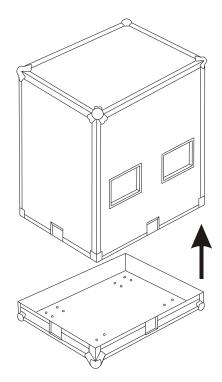


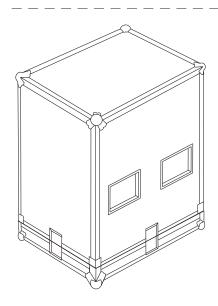


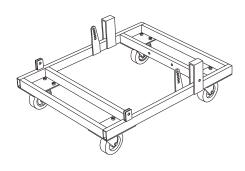




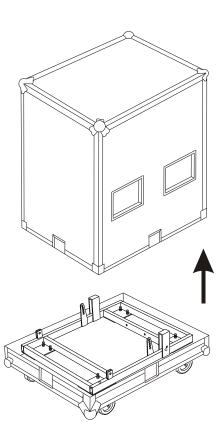




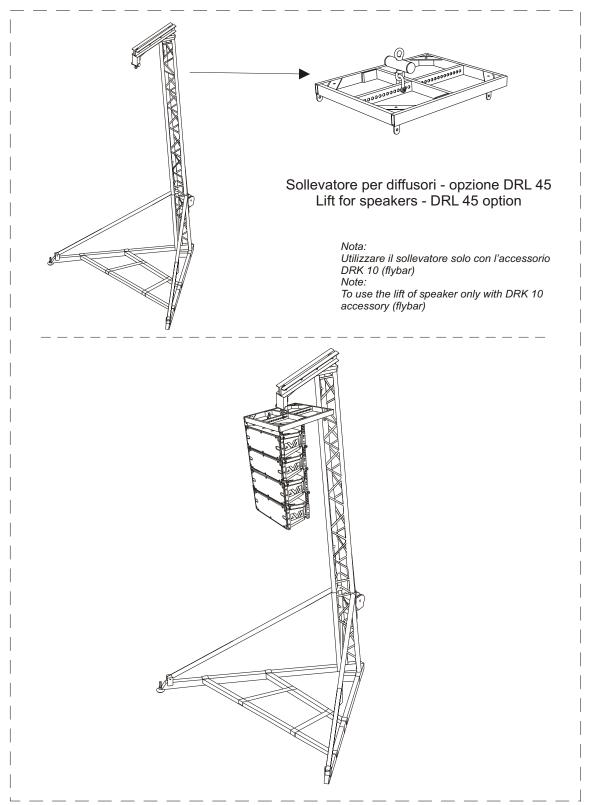




Opzione DTF 4 DTF 4 Option



DTF 4 = DT 6 + DF 4





Quando viene utilizzato un carrello, usare cautela durante lo spostamento dell'apparecchio per evitare infortuni a causa di capovolgimenti.

When a cart is used, use caution when moving the cart-apparatus combination to avoid injury from tip-over.

Beim Verfahren des Geräts auf einem Wagen darauf achten, dass es nicht zu Unfällen kommt, weil das Gerät umkippt.

Quand on utilise un chariot, déplacer l'appareil avec précaution afin d'éviter des accidents à cause de renversements.



A.E.B. INDUSTRIALE s.r.l.

Via Brodolini, 8 - 40056 Crespellano (Bo) - ITALIA Tel. + 39 051 969870 - Fax. + 39 051 969725 Internet: www.dbtechnologies.com E-mail: info@dbtechnologies-aeb.com