



User's Manual

VANTEC SERIES

VANTEC-20A / VANTEC-118A



Antes de utilizar el equipo, lea la sección "Precauciones de seguridad" de este manual. Conserve este manual para futuras consultas.

Before operating the device, please read the "Safety precautions" section of this manual. Retain this manual for future reference.

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Cajas acústicas activas / Self-powered loudspeaker enclosures (VANTEC-20A, VANTEC-118A)

El signo de exclamación dentro de un triángulo indica la existencia de importantes instrucciones de operación y mantenimiento en la documentación que acompaña al producto.

Conserve y lea todas estas instrucciones. Siga las advertencias.
ATENCIÓN: Es un producto clase A, por lo que en entornos domésticos puede causar radio-interferencias, en cuyo caso el usuario tendrá que tomar las medidas oportunas.
De acuerdo con EN55103-2, usar el equipo sólo en entornos E1, E2, E3 ó E4.



The exclamation point inside an equilateral triangle is intended to alert the users to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product. Heed all warnings. Follow all instructions. Keep these instructions.

WARNING: This is a class A product. In a domestic environment this product may cause radio interferences in which case the user may be required to take adequate measures.
Use this product only in E1, E2, E3 or E4 environments according to EN55103-2.

No desconecte la tierra en el conector de alimentación pues es peligroso e ilegal. Equipo de Clase I. El producto debe ser conectado a un enchufe con toma de tierra. Sólo use este equipo con el cable de red de alimentación adecuado para su país.

El signo del rayo con la punta de flecha, alerta contra la presencia de voltajes peligrosos no aislados. Para reducir el riesgo de choque eléctrico, no retire la cubierta.



Do not remove mains connector ground, it is dangerous and illegal. Class I device. The product must be connected to a mains socket outlet with protective earth connection. Only use this equipment with an appropriate mains cord for your country.

The lightning and arrowhead symbol warns about the presence of uninsulated dangerous voltage. To reduce the risk of electric shock, do not remove the cover.

Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus that produce heat. The circulation of air through the heatsink must not be blocked.

No instale el aparato cerca de ninguna fuente de calor como radiadores, estufas u otros aparatos que produzcan calor. Debe instalarse siempre sin bloquear la libre circulación de aire por las aletas del radiador.

No exponga este equipo a la lluvia o humedad. No use este aparato cerca del agua (piscinas y fuentes, por ejemplo). No exponga el equipo a salpicaduras ni coloque sobre él objetos que contengan líquidos, tales como vasos y botellas. Equipo IP-20.

Este símbolo indica que el presente producto no puede ser tratado como residuo doméstico normal, sino que debe entregarse en el correspondiente punto de recogida de equipos eléctricos y electrónicos.

Equipo diseñado para funcionar entre 15°C y 45°C con una humedad relativa máxima del 95%, con un rango de $\pm 10\%$ de la tensión nominal de alimentación indicada en la etiqueta trasera (según IEC 60065). Si debe sustituir el fusible preste atención al tipo y rango.



Do not expose this device to rain or moisture. Do not use this apparatus near water (for example, swimming pools and fountains). Do not place any objects containing liquids, such as bottles or glasses, on the top of the unit. Do not splash liquids on the unit. IP-20 equipment.

This symbol on the product indicates that this product should not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment.

Working temperature ranges from 15°C to 45°C with a relative humidity of 95%, with $\pm 10\%$ of the rated main voltage value indicated on the rear label (according to IEC 60065). If the fuse needs to be replaced, please pay attention to correct type and ratings.

El cableado exterior conectado al equipo requiere de su instalación por una persona instruida o el uso de cables flexibles ya preparados.

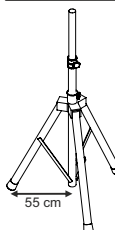
Si el aparato es conectado permanentemente, la instalación eléctrica del edificio debe incorporar un interruptor multipolar con separación de contacto de al menos 3mm en cada polo.

Para desconectar el dispositivo debe usar el enchufe. Desconecte este aparato durante tormentas eléctricas, terremotos o cuando no se vaya a emplear durante largos periodos.

No emplace altavoces en proximidad a equipos sensibles a campos magnéticos, tales como monitores de televisión o material magnético de almacenamiento de datos.

Para las cajas con vaso para trípode, la altura máxima de seguridad desde el suelo a la base de la caja montada sobre trípode modelo TRD-2, con pies a 55 cm del eje del trípode, es:

VANTEC-20A ----->150 cm



The outer wiring connected to the device requires installation by an instructed person or the use of a flexible cable already prepared.

If the apparatus is connected permanently, the electrical system of the building must incorporate a multipolar switch with a separation of contact of at least 3mm in each pole.

To disconnect the device, you should use the mains plug. Unplug this apparatus during lightning storms, earthquakes or when unused for long periods of time.

Do not place loudspeakers in proximity to devices sensitive to magnetic fields such as television monitors or data storage magnetic material.

For enclosures with tripod socket, the maximum safety height from floor to bottom of enclosure when mounting on a TRD-2 tripod, with legs spread 55cm from the central pole, is:

VANTEC-20A ----->150 cm

El colgado del equipo sólo debe realizarse utilizando los herrajes de colgado recomendados y por personal cualificado. No cuelgue la caja de las asas.

No existen partes ajustables por el usuario en el interior de este equipo. Cualquier operación de mantenimiento o reparación debe ser realizada por personal cualificado. Es necesario el servicio técnico cuando el equipo se haya dañado de alguna forma, como que haya caído líquido o algún objeto en el interior del aparato, haya sido expuesto a lluvia o humedad, no funcione correctamente, haya recibido un golpe o su cable de red esté dañado.

Limpie con un paño seco. No use limpiadores con disolventes.

The appliance should be flown only from the rigging points and by qualified personnel. Do not suspend the box from the handles.

No user serviceable parts inside. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.

Clean only with a dry cloth. Do not use any solvent based cleaners.

GARANTÍA

Todos nuestros productos están garantizados por un periodo de 24 meses desde la fecha de compra.

Las garantías sólo serán válidas si son por un defecto de fabricación y en ningún caso por un uso incorrecto del producto.

Las reparaciones en garantía pueden ser realizadas, exclusivamente, por el fabricante o el servicio de asistencia técnica autorizado.

Otros cargos como portes y seguros, son a cargo del comprador en todos los casos.

Para solicitar reparación en garantía es imprescindible que el producto no haya sido previamente manipulado e incluir una fotocopia de la factura de compra.

WARRANTY

All our products are warrantied against any manufacturing defect for a period of 2 years from date of purchase.

The warranty excludes damage from incorrect use of the product.

All warranty repairs must be exclusively undertaken by the factory or any of its authorised service centers.

To claim a warranty repair, do not open or intend to repair the product.

Return the damaged unit, at shippers risk and freight prepaid, to the nearest service center with a copy of the purchase invoice.



DECLARACIÓN DE CONFORMIDAD DECLARATION OF CONFORMITY

DAS Audio Group, S.L.

C/ Islas Baleares, 24 - 46988 - Pol. Fuente del Jarro - Valencia. España (Spain).

Nota: Los textos completos de la declaración de conformidad para *VANTEC-12A*, *VANTEC-15A*, *VANTEC-20A* y *VANTEC-215A* están disponibles en <http://d.dasaudio.com/vK2D4>.

Note: The full text of the declaration of conformity for *VANTEC-12A*, *VANTEC-15A*, *VANTEC-20A* and *VANTEC-215A* is available at <http://d.dasaudio.com/vK2D4>.

Declara que *VANTEC-118A*:

Declares that *VANTEC-118A*:

Cumple con los objetivos esenciales de las Directivas:

Abide by essential objectives relating Directives:

- Directiva de Baja Tensión (Low Voltage Directive) 2014/35/UE
- Directiva de Compatibilidad Electromagnética (EMC) 2014/30/UE
- Directiva RoHS 2011/65/UE
- Directiva RAEE (WEEE) 2012/19/UE

Y es conforme a las siguientes Normas Armonizadas Europeas:

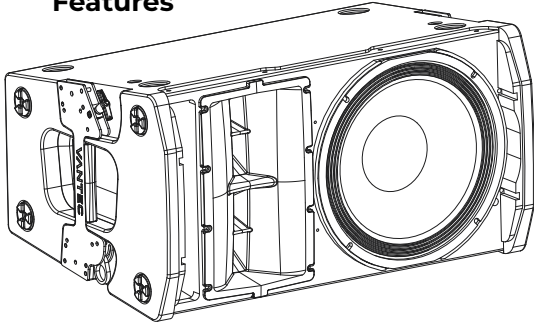
In accordance with Harmonized European Norms:

- EN 60065:2014.- Audio, video and similar electronic apparatus. Safety requirements.
- EN 55032:2012.- Electromagnetic compatibility of multimedia equipment. Emission requirements.
- EN 55103-2:2009.- Electromagnetic compatibility. Product family standard for audio, video, audio-visual and entertainment lighting control apparatus for professional use. Part 2:Immunity.
- EN 50581:2012.- Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

INTRODUCTION

The **VANTEC-20A** and **VANTEC-118A**, powered multifunction systems combine DAS' s reputation for performance and reliability with the latest technological innovations offering users an unmatched level of versatility. The exceptional characteristics of the onboard amplification, complex waveguide design and digital signal processing provide the output and control required, allowing the vante series to be deployed as a main system or in any number of support applications. The easy-to-use rigging hardware and range of mounting accessories expand the possible applications of the vante series.

Features



VANTEC-20A

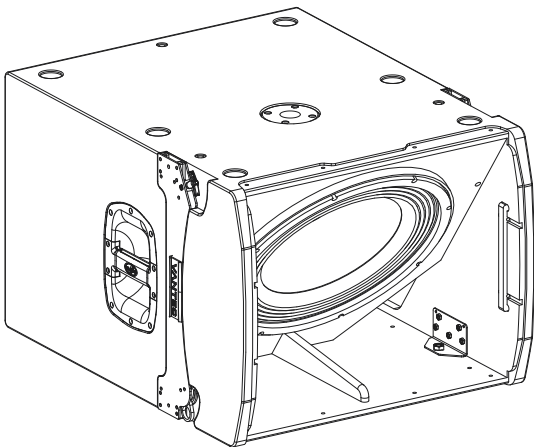
- Active Curved Source Line Array
- Class D Bi-amplified 1500 W_{peak}
- FIR filters for linear phase response
- 1 x DAS **12F4C** + 2 x **M-60** compression drivers
- Compact design with high output capabilities
- **DAScontrol™** with presets and configurations
- **DASlink™** wireless streaming and remote control
- +/- 13.5° variable tilt pole mount

The **VANTEC-20A** is an active curved source line array that incorporates an arsenal of hi-tech solutions designed to provide the versatility needed by today's sound hire professionals. Whether it be stacked on the **VANTEC-118A** companion subwoofer, flown in a compact array, or used alone on a speaker stand, the **VANTEC-20A** can be used effectively in an incredible number of applications that include corporate A/V, mid-size sound reinforcement, and permanent installation.

Designed for use in arrays of up to 5 units, the **VANTEC-20A** is ideal for applications where the power and long-throw characteristics of large line arrays are not needed. Individual units can be mounted on tripods with precise aiming possible thanks to the variable angle pole mount which allows for 13.5° up or down tilt.

The **DAScontrol™** interface allows users to easily configure the **VANTEC-20A** systems for use individually or in combination with other units. Selectable high pass filter presets facilitate alignment with the **VANTEC-18A** and **VANTEC-118A** active bass systems without external processing. Throw compensation settings and array size selection can all be handled simply via the **DAScontrol™** interface. When the **VANTEC-20A** is used individually, the **DASlink™** APP can be used to stream music in high definition stereo and remotely control the systems functions.

The enclosure is manufactured using Baltic birch plywood and finished with the DAS ISO-flex coating. Power is supplied by a cutting-edge 1500 W_{peak} Class D amplifier in a bi-amplified configuration driving a single DAS **12F4C** loudspeaker and twin **M-60** compression drivers.



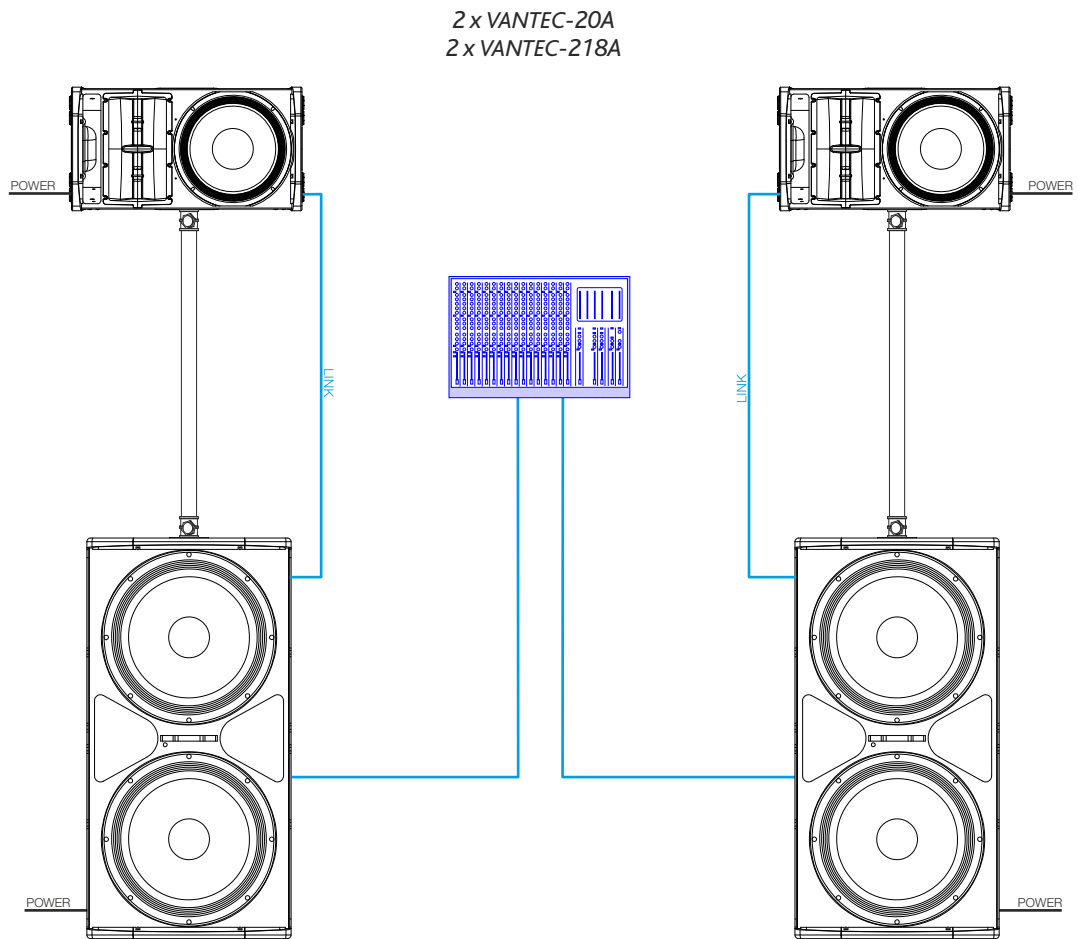
VANTEC-118A

- Active front-loaded subwoofer system
- 1 x 18" DAS **18FW** loudspeaker
- Class D amplifier 2000 W_{peak}
- Digital signal processing (DSP)
- Unique "Deep-Loud" bass EQ switch
- Variable low-pass filter 80 Hz-125 Hz
- LED ON/OFF switch on backplate
- Top located pole mount socket

The **VANTEC-118A** is an active front loaded bass system which has been designed specifically for use with the **VANTEC-20A** curved source line array. Compact in size, the unit can be flown in arrays or linked together in ground stacks thanks to the rigging system which is compatible with the **VANTEC-20A**.

The electronics package includes a 2000 W_{peak} Class D amplifier and 24-bit high-end DSP for exceptional audio reproduction. A unique "Deep-Loud" EQ switch allows users to tailor the bass output to provide a low subwoofer type response using the "Deep" setting or a louder hard hitting performance in the "Loud" setting. On the rear panel, controls can be found for gain, polarity and a continually variable low-pass filter which ranges from 80 Hz to 125 Hz. The **VANTEC-118A** is phase response coherent with the other Vante series active tops such as the **VANTEC-20A** offering precise alignment without the need of an external DSP.

CONFIGURATIONS



Speaker cabling

Units

SC-2 2m XLR microphone signal balanced cable

2

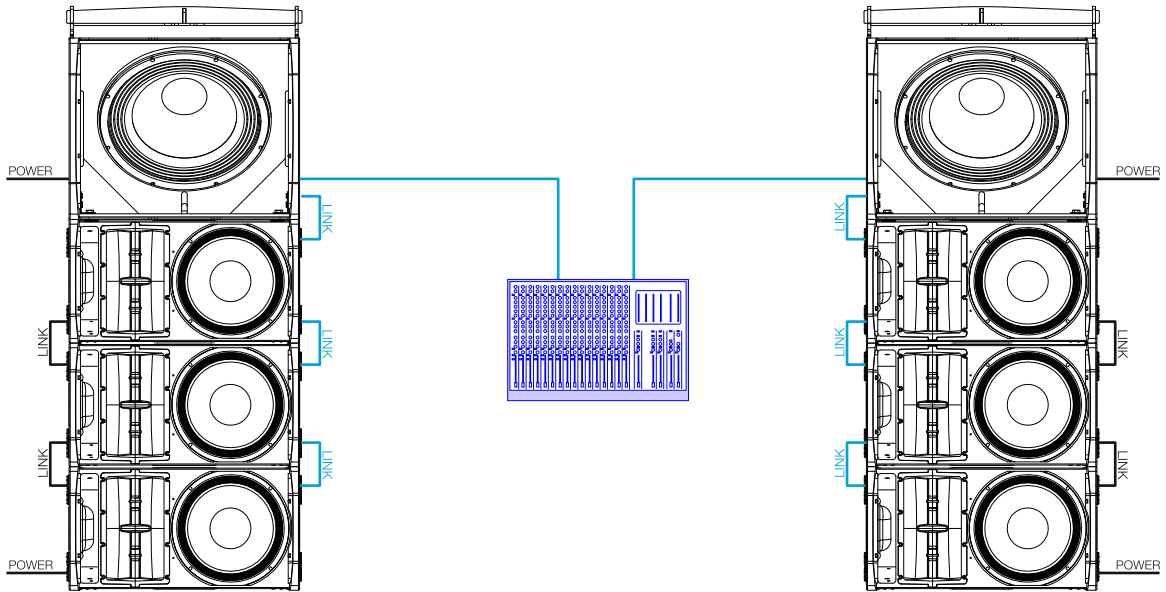
Accessories

TRD-6 Ring lock pole mount for use between satellite and sub system, black

2

CONFIGURATIONS (cont'd)

6 x VANTEC-20A
2 x VANTEC-118A



Speaker cabling

SC-1 1m XLR microphone signal balanced cable

Units

6

PWCONLINK-09 0.9m powerCON "jumper" NAC3FCB cable

4

Accessories

AX-VT20 Rigging bumper for VANTEC-20A (max 5 u.), black

2

PL-VT20S Steel transport dolly for VANTEC-20A (max 4 u.), black

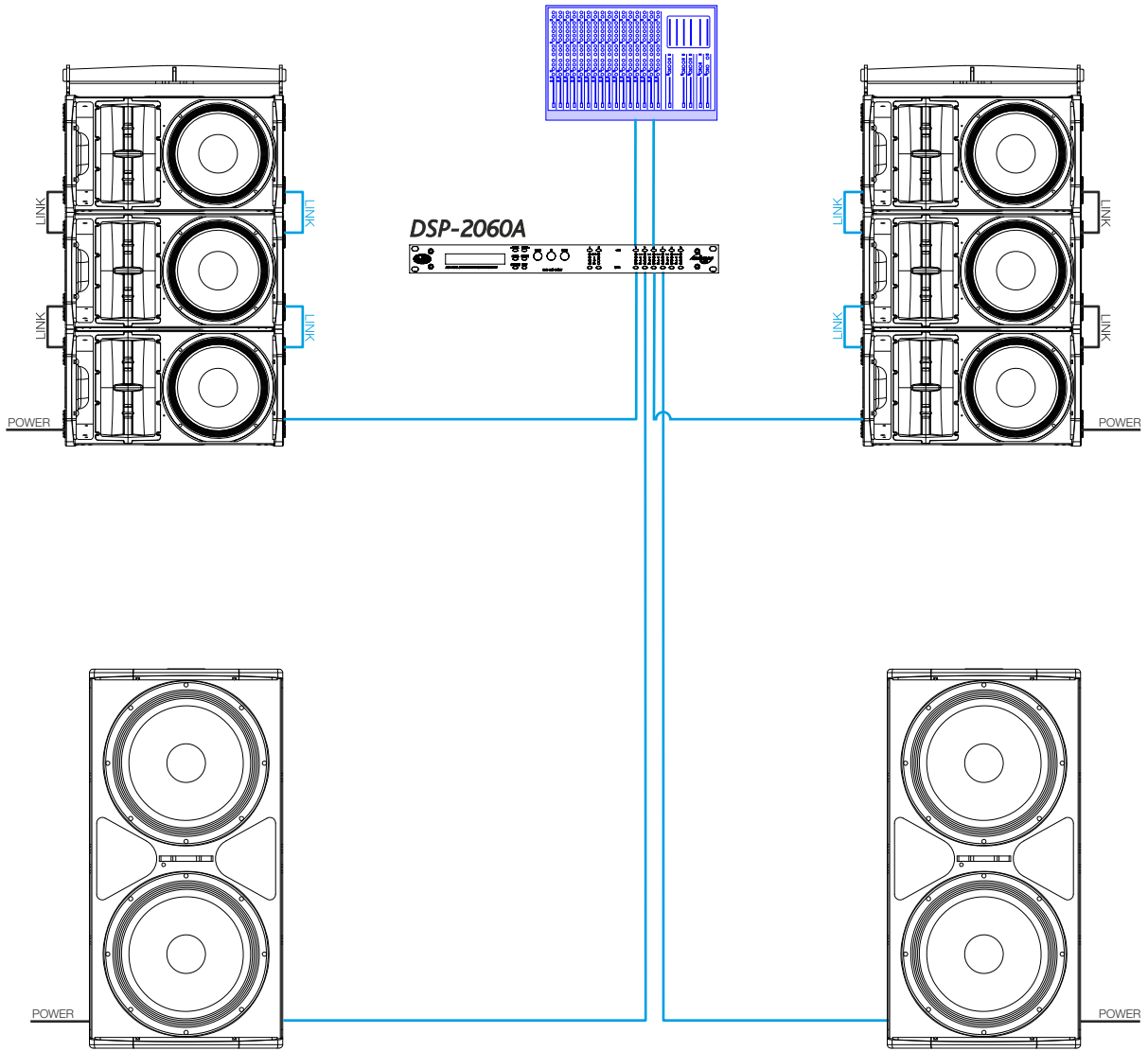
2

PL-VT118S Wooden transport dolly for VANTEC-118A (max 2 u.), black

1

CONFIGURATIONS (cont'd)

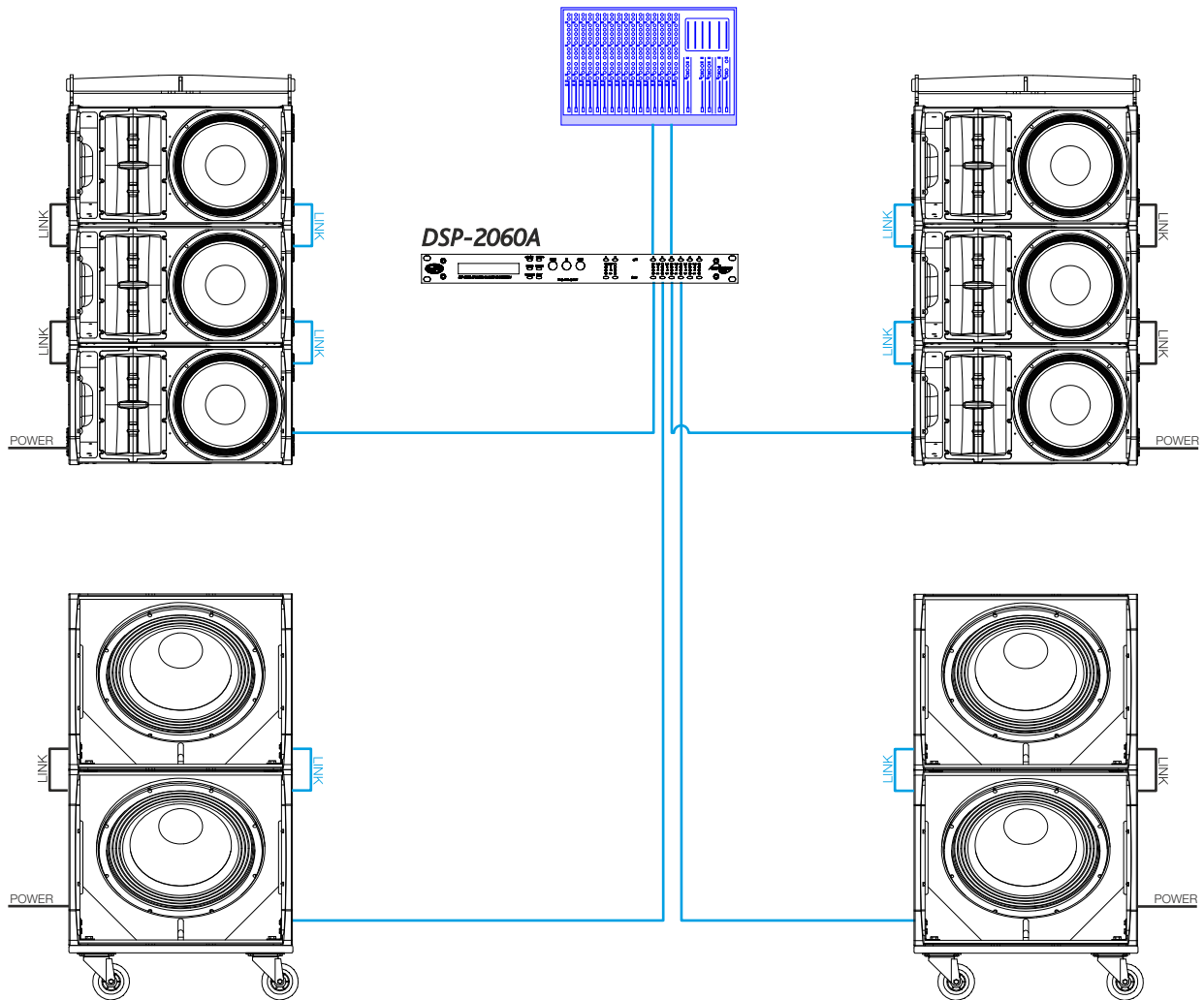
6 x VANTEC-20A
2 x VANTEC-218A



Processors	Units
DSP-2060A 2 In/6 Out fully configurable DSP, 9 full bandwidth parametric band EQ on each channel, AudioCore/DASnet equipped	1
Speaker cabling	
SC-1 1m XLR microphone signal balanced cable	4
PWCONLINK-09 0.9m powerCON "jumper" NAC3FCB cable	4
Accessories	
AX-VT20 Rigging bumper for VANTEC-20A (max 5 u.), black	2
PL-VT20S	2

CONFIGURATIONS (cont'd)

6 x VANTEC-20A
4 x VANTEC-118A



Processors

Units

DSP-2060A 2 In/6 Out fully configurable DSP, 9 full bandwidth parametric band EQ on each channel, AudioCore/DASnet equipped

1

Speaker cabling

SC-1 1m XLR microphone signal balanced cable

6

PWCONLINK-09 0.9m powerCON "jumper" NAC3FCB cable

6

Accessories

AX-VT20 Rigging bumper for VANTEC-20A (max 5 u.), black

2

PL-VT20S

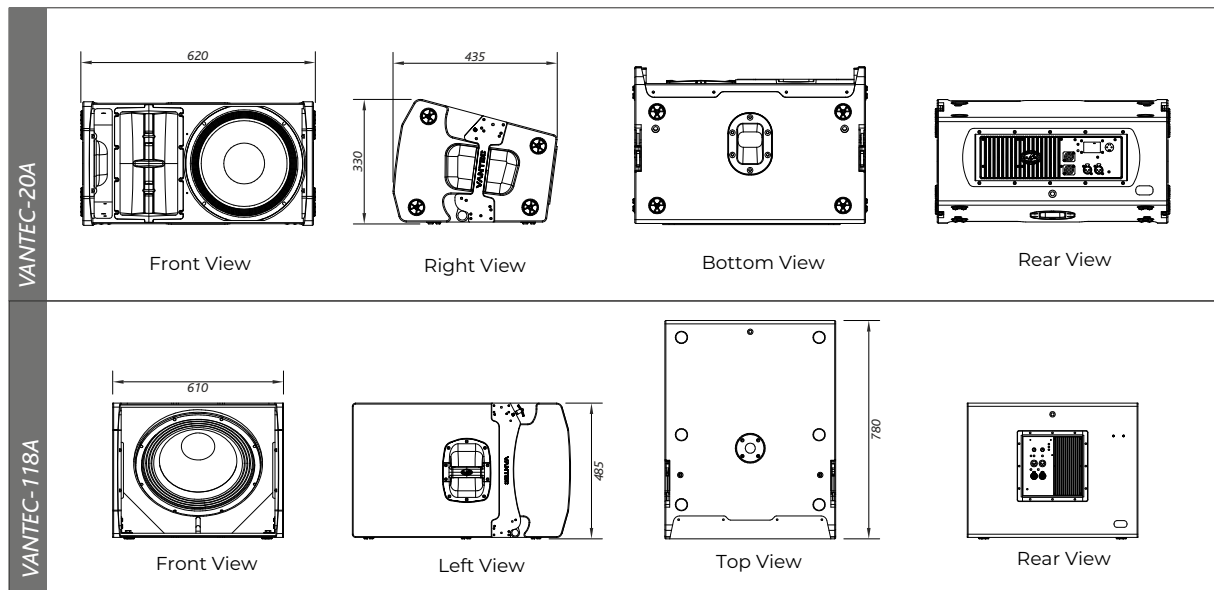
2

PL-VT118S

2

LINE DRAWINGS

ALL DIMENSIONS IN MILLIMETERS



SPECIFICATIONS

MODEL	VANTEC-20A	VANTEC-118A
Nominal Amplifier Power	1500 W _{peak} (Class D Bi-amp)	2000 W _{peak}
Input Type	Balanced Differential Line	Balanced Differential Line
Input Impedance	Line: 20kOhms	Line: 20kOhms
Sensitivity	Line: 3 V (+12dBu)	Line: 3 V (+12dBu)
Frequency Range (-10dB)	63 Hz - 20 kHz	35 Hz - 125 Hz
Horizontal Coverage (-6dB)	90° Nominal	-
Vertical Coverage	15° Nominal	-
Maximum Peak SPL at 1m	135 dB	134 dB
Transducer/Replacement Parts	LF: 1 x 12F4C/GM-12F4 HF: 2 x M-60/GM-M60N	LF: 1 x 18FW/GM-18FW -
Enclosure Geometry	Trapezoidal 7.5°	Rectangular
Enclosure Material	Birch Plywood	Birch Plywood
Color/Finish	Black / ISO-flex Paint	Black / ISO-flex Paint
Rigging System	Integrated in box design	Integrated in box design
Connectors	INPUT: 1 x Female XLR LOOP THRU: 1 x Male XLR AC INPUT: 1 x PowerCon AC OUTPUT: 1 x PowerCon	INPUT: 2 x Female XLR LOOP THRU: 2 x Male XLR AC INPUT: 1 x PowerCon AC OUTPUT: 1 x PowerCon
AC Power Requirements	3.0A, 115V, 50 Hz/60 Hz 1.5A, 230V, 50 Hz/60 Hz	4.4A, 115V, 50 Hz/60 Hz 2.2A, 230V, 50 Hz/60 Hz
Dimensions (H x W x D)	330 x 620 x 435 mm 13 x 24.4 x 17.1 in	485 x 610 x 780 mm 19.1 x 24 x 30.7 in
Weight	28.6 kg (62.9 lb)	45.2 kg (99.4 lb)
Accessories	ANL-2 AX-VT20 TRD-2 TRD-6 PL-VT20S FUN-3-VT20	ANL-2 AX-VT20 TRD-6 PL-VT118S FUN-2-VT118

DAS Audio Group, S.L. continuously strives to enhance its products through investigation and development. All specifications are subject to change without prior notice.

AMPLIFIERS

Description: VANTEC-118A

1) INPUT connectors :

1/4" Jack+XLR combined socket-type input signal connectors. This is a balanced connector just like the LOOP THRU connector with the following pin assignments:

- 1 or S =GND (ground).
- 2 or T=(+) Non inverted input.
- 3 or R=(-) Inverted input.

2) SATELLITE OUTPUT

A and B, XLR-type output signal connectors for connecting several units together and sending them all the same input signal or filtered signal (by using THRU/HPF).

3) LIMIT:

Red LED indicates amplifier saturation. Amplifier limiter indicator lights.

4) SIGNAL:

Green LED indicates signal presence.

5) ON:

Green LED indicates that the unit is ON.

6) SUB LEVEL:

Potentiometer for adjusting the unit level.

7) AC INPUT:

Standard PowerCon NAC3FCA mains connector (inserted, rotated and locked for ON). Only use this equipment with an appropriate mains cord.

8) THRU/HPF:

'SATELLITE OUTPUT' selector to switch between full range signal or pass filter with cut-off frequency of 100 Hz.

9) LOW-PASS CROSSOVER:

Button for adjusting the upper cut-off frequency for the subwoofer unit. We recommend a cut-off frequency of 100 Hz for vanteC series use.

10) PHASE:

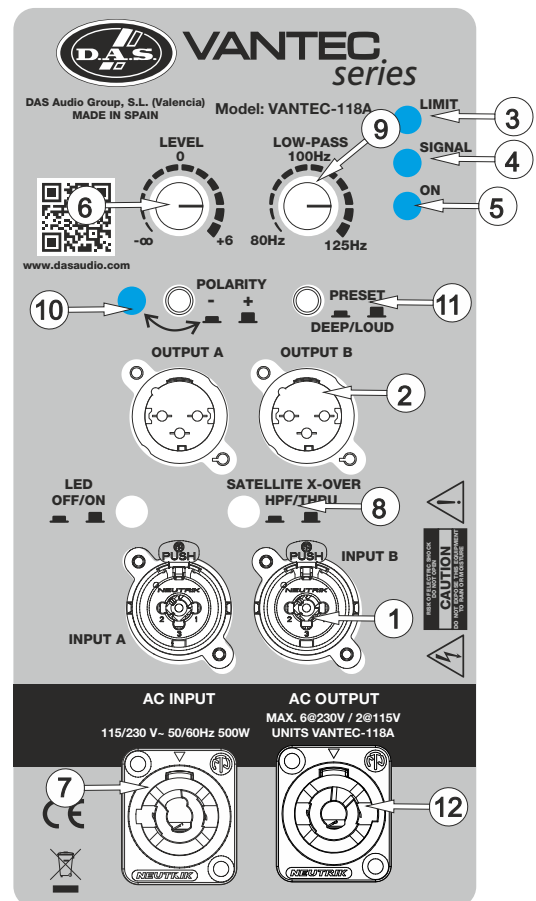
Switch for inverting the phase of the unit.

11) PRESET DEEP/LOUD

Button for switching between two types of frequency response, DEEP or LOUD.

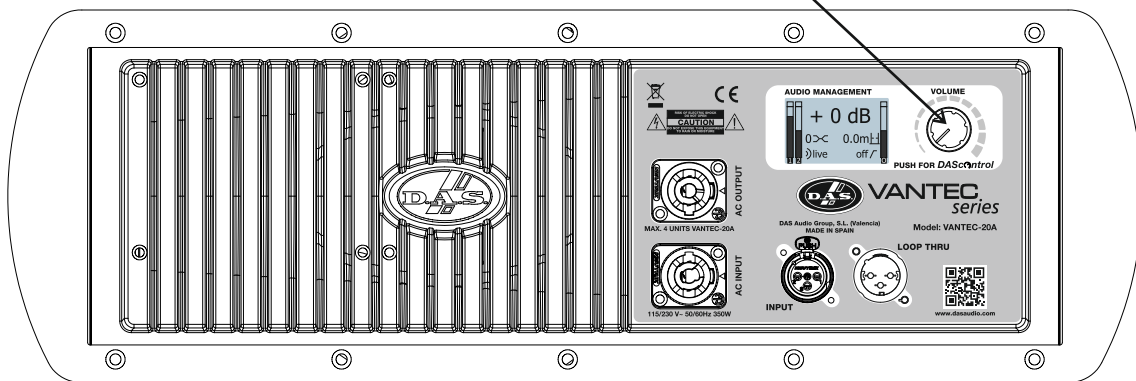
12) AC OUTPUT:

PowerCon NAC3FCB connector for AC loop thru allows up to 6 units when using a 230V version (see unit's label)). Only use this equipment with an appropriate mains cord.



Description: VANTEC-20A

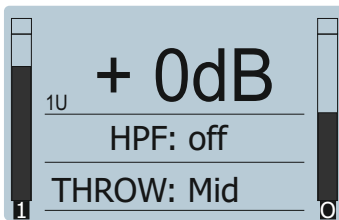
Press the encoder to start navigation



Note: The INPUT and LOOP THRU are type XLR balanced connectors.

By default the state of the parameters shown is the following. Keep in mind that any parameter changed in the DSP will remain with the same value until someone changes it again.

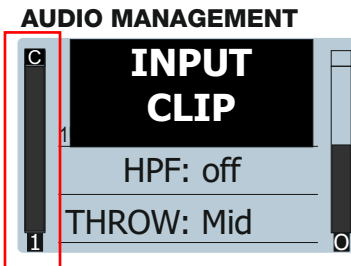
AUDIO MANAGEMENT



ADJUSTING THE LEVELS

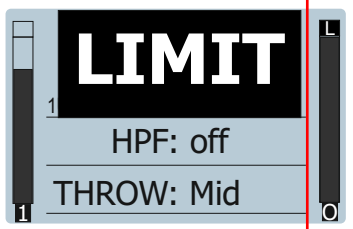
Once the input source has been connected to the amplifier's cabinet, the user has to check the gain structure of the system. Adjust level output from your processor and/or mixing console in order to prevent INPUT CLIP (left signal meter):

Exceeding the limits may cause damage in the system



As well, try to avoid excessive volume at the amplifier's output (right signal meter). Be sure that your gain structure is adequate and not causing amplifier LIMIT:

AUDIO MANAGEMENT

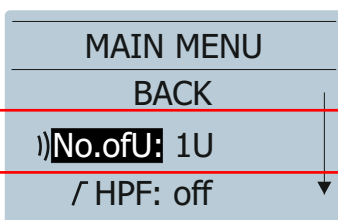


Exceeding the limits may cause damage in the system

"N.ofU" (NUMBER OF UNITS)

The DAS array correction named Number Of Units is a parameter that compensates the amount of energy in the low-mid frequency range in the array:

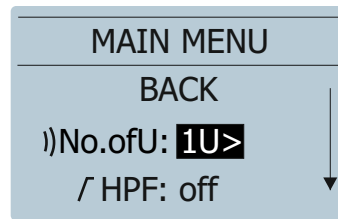
AUDIO MANAGEMENT



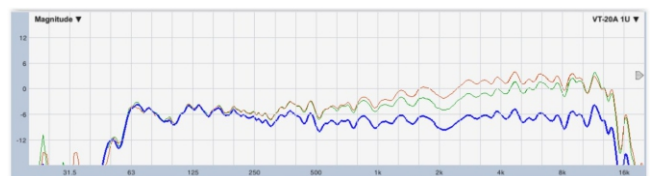
By pressing the encoder (DAScontrol) the user can have access to the menu:

Rotate the encoder to the desired choice, in this case "No.ofU" and press to access all the options:

AUDIO MANAGEMENT



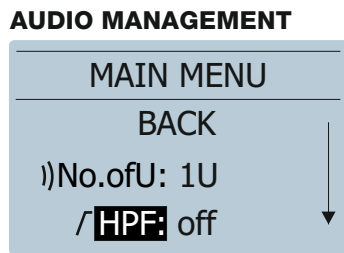
The available options for "No.ofU" are: 1, 2, 3, 4, 5 depending on the size of the array. Rotate the encoder to select the option needed and press again to confirm.



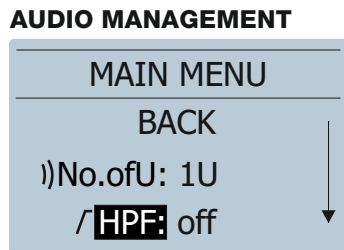
Use the same "Number Of Units" IN ALL the cabinets of your system!

HPF (High Pass Filter)

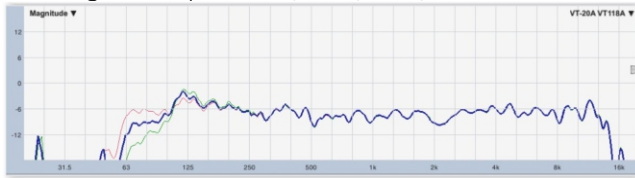
By pressing the encoder (DAScontrol) the user can have access to the menu; rotate to navigate until selecting HPF:



Press the encoder:



Rotate the encoder and press to confirm one of the following "HPF" options: off, 63Hz, V118A, 100Hz.

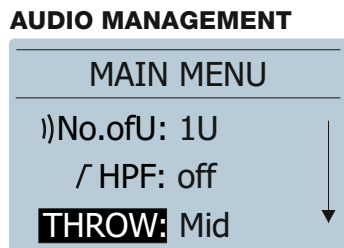


User **MUST** enable the **SAME** HPF in **ALL** cabinets forming the array!

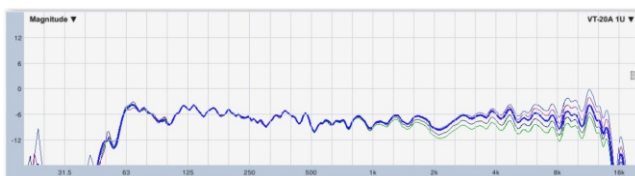
In order to have more dynamic headroom in the system, when used with subs, HPF at V118A position (with Vantec subwoofers) or 100Hz is highly recommended.

THROW

Press the encoder and rotate it until "THROW" is shown in the display:

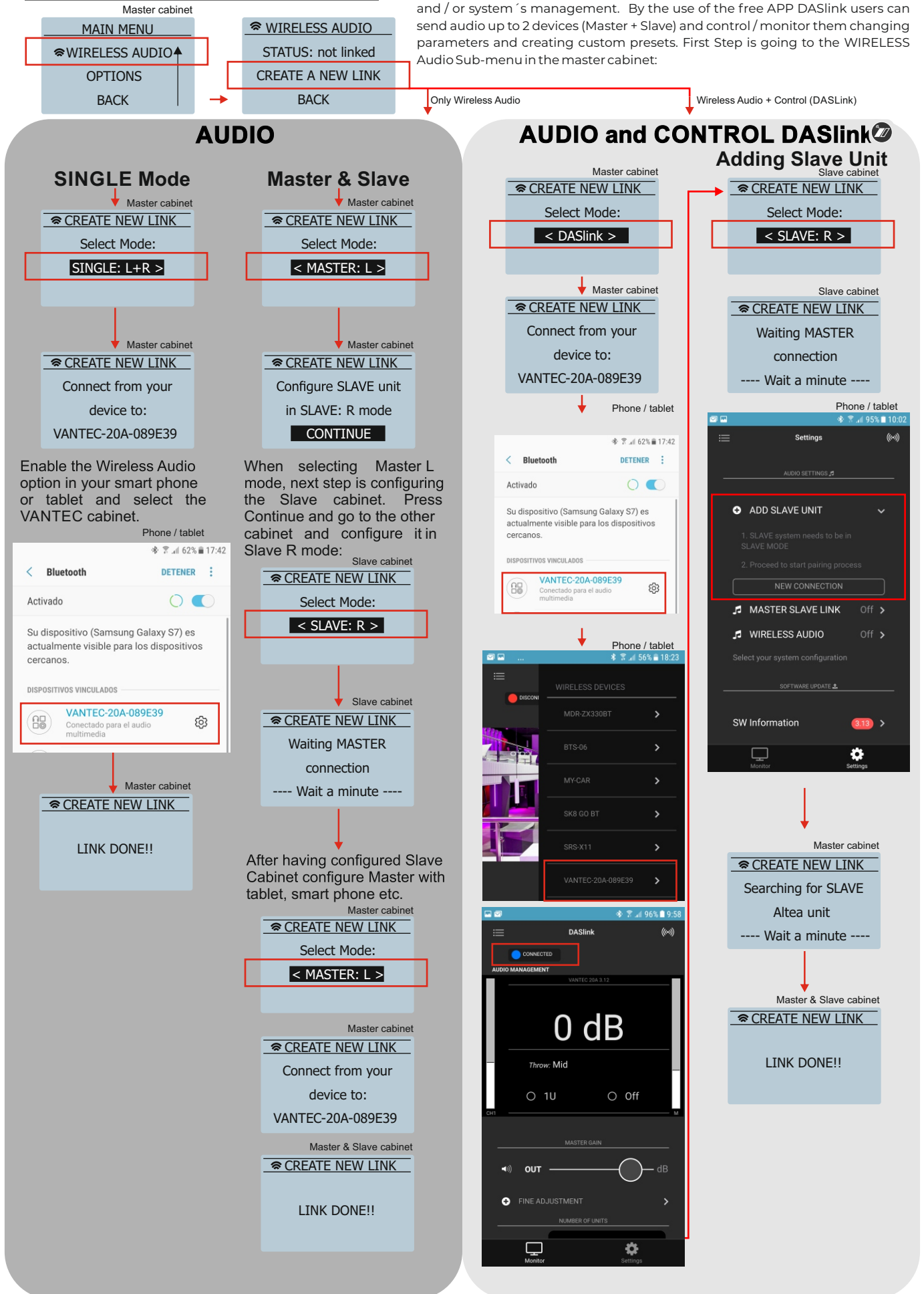


Press the encoder to enter into this field. There are 5 options available, "Long, L-Mid, Mid, Mid-S, Short".



WIRELESS CONNECTIVITY

The VANTEC series systems include wireless connectivity for streaming audio and / or system's management. By the use of the free APP DASlink users can send audio up to 2 devices (Master + Slave) and control / monitor them changing parameters and creating custom presets. First Step is going to the WIRELESS Audio Sub-menu in the master cabinet:



Enable the Wireless Audio option in your smart phone or tablet and select the VANTEC cabinet.

When selecting Master L mode, next step is configuring the Slave cabinet. Press Continue and go to the other cabinet and configure it in Slave R mode:

After having configured Slave Cabinet configure Master with tablet, smart phone etc.

ON/OFF

A sound system should be switched on sequentially. Switch on the self-powered units last in your sound system (switch on the subwoofer before the mid-high system). Switch on the sound sources such as CD players or turntables, then the mixer, then the processors, and finally the self-powered unit. If you have several units, it is recommended that you switch them on sequentially one at a time.

Follow the inverse order when switching off, turning self-powered units off before any other element in the sound system.

Disconnect the device by removing the mains connector from the mains socket. The mains connector and mains socket must always be freely accessible and never covered or blocked in any way. The mains cable can be detached from the device by disconnecting the standard PowerCon NC3FCA connector. Always disconnect the device by removing the mains connector from the mains socket before detaching the mains cable at the PowerCon NC3FCA connector.

Power can be daisy chained via the NC3FCB output connector (see details on product label).

IMPORTANT: Do not disconnect the unit while in use.

Ensure that the device is disconnected from the mains by observing that the ON LED is turned off. Please note that the ON LED can stay on for several seconds after the mains power has been disconnected.

Overload LED indicator (VANTEC-118A)

This device has an indicator (LIMIT LED) that lights when the signal is excessive.

The indicator should not be lit continuously. This distorts the signal (quickly fatiguing your ears) and may damage the speakers. Therefore, it is recommended that you never work with this LED on; at most it should blink only occasionally.

Overload Screen indicators (VANTEC-20A)

In the main screen when input signal levels are too high on the left side the meters will display "input clip".

If the input levels are in between the limits but the output level gain is too much the right meter will display "limit".

Equalisation

The unit does not need extreme settings of equalisation to produce quality sound. Avoid high levels of gain on the equalisers. Gain values above +3 dB on a console's EQ are not recommended.

Overheating

This equipment does not normally overheat during normal conditions of use. When overheating occurs, the unit protects itself. You should then find out why and if necessary contact an authorised dealer for technical assistance.

Normally it is enough just to let the unit cool down after you have corrected the problem so that the system functions properly again.

Low mains voltage

If mains voltage falls below the shutdown voltage for the unit, it will stop playing. When acceptable levels are regained, the unit will switch back on automatically.

Therefore the current consumed by a 115V version is double the 230V version to achieve the same acoustic power level.

<u>Pink Noise</u> <u>Mains 230 Vrms</u>	1/3 Power
VANTEC-20A	1.5A
VANTEC-118A	2.2A

Troubleshooting

PROBLEM	CAUSE	SOLUTION
No sound from the unit. The input meters in the screen do not show any signal presence.	<ol style="list-style-type: none"> 1- The signal source is sending no signal. 2 - Input gain controls are at minimum position. 3 - Defective cable. 4 - If Wireless Audio is connected input 1 which controls audio is at minimum position or Volume of the source is muted. 	<ol style="list-style-type: none"> 1 - Check that the source is not muted and is sending signal to the unit. 2 - Check input gain controls. Put them at 0dB. 3 - Check that the cable from the source to the unit is connected correctly. Replace the cable if defective. 4 - Adjust Volume of input gain control number one.
Full power cannot be obtained. LIMIT message never appears in the screen.	<ol style="list-style-type: none"> 1 - The signal source does not have enough output level. 2 - Input gain controls are at very low volume. 3 - Master Volume is very low. 	<ol style="list-style-type: none"> 1 - Use balanced outputs of a mixer. Rise master output volume of the source. 2 - Set up input gain controls at higher positions. 3 - Increase Volume by turning up the Master Volume control.
Sound is distorted. INPUT CLIP message is shown.	<ol style="list-style-type: none"> 1-The mixer or signal source is distorting. 2 - The output level from the mixer is too high. 3 - Input gain controls are set too high. 	<ol style="list-style-type: none"> 1-Turn down the mixer's output and check no channels are distorting. 2-Turn down the mixer's output. 3 - Turn down input gain controls.
Sound is distorted. LIMIT message is displayed.	The system is overloaded and has reached maximum power.	<ol style="list-style-type: none"> 1 - Turn down the mixer's output. 2 - Turn down the master output volume in the unit.
Hum or buzz when a mixer is connected to the unit.	<ol style="list-style-type: none"> 1-The console probably has unbalanced outputs. You may be using an incorrect unbalanced to balanced cable. 2 - The mixer and the powered speaker are not plugged into the same mains outlet. 3 - The audio signal cable is too long or too close to an AC cable. 	<ol style="list-style-type: none"> 1-Read the appendix of this manual to make a correct unbalanced to balanced cable. 2 - Connect the mixer and the unit to the same mains outlet. 3 - Use a cable that is as short as possible and/or move the audio signal cable away from mains cables.
Hum or buzz when using lighting controls in the same building.	<ol style="list-style-type: none"> 1-The audio signal cable is too long or too close to the lighting cable. 2 - On a sound system with three phase AC, the lighting equipment and the unit are connected to the same phase. 	<ol style="list-style-type: none"> 1- Move the audio signal cable away from lighting cables. Try to find out at what point the noise is leaking into the system. 2 - Connect the sound system to a different phase than the lights. You may need the help of an electrician.
The screen does not light up when the mains connector is connected and the power switch ON.	<ol style="list-style-type: none"> 1 - Bad or loose AC connection to the unit or the mains outlet. 2 - Faulty AC cable. 3 - Blown Fuse. 4 - The mains voltage is out of range. 5 - Damaged amplifier. 	<ol style="list-style-type: none"> 1 - Check your connections. 2 - Check the cables, connectors and AC power with a suitable mains tester. 3 - Replace the blown fuse with another of the same type and size. 4 - If the multimeter determines that the mains voltage is out of the range you may need the assistance of an electrician to find an appropriate solution. 5 - Contact a qualified tech service center.

Warning

To perform any operations related to flying the system, read the present document first, and act on the warnings and advice given. The goal is to allow the user to become familiar with the mechanical elements required to fly the acoustic system, as well as the safety measures to be taken during set-up and teardown.

Only experienced installers with adequate knowledge of the equipment and local safety regulations should fly speaker boxes. It is the user's responsibility to ensure that the systems to be flown (including flying accessories) comply with state and local regulations.

The working load limits in this manual are the results of tests by independent laboratories. It is the user's responsibility to stay within safe limits. It is the user's responsibility to follow and comply with safety factors, resistance values, periodical supervisions and warnings given in this manual. Product improvement by means of research and development is on going at DAS. Specifications are subject to change without notice.

It is common practice to apply 5:1 safety factors for enclosures and static elements. For slings and elements exposed to material fatigue due to friction and load variation the following ratios must be met; 5:1 for steel cable slings, 4:1 for steel chain slings and 7:1 polyester slings. Thus, an element with a breaking load limit of 1000 kg may be statically loaded with 200 kg (5:1 safety factor) and dynamically loaded with 142 kg (7:1 safety factor).

When flying a system, the working load must be lower than the resistance of each individual flying point in the enclosure, as well as each box. Hanging hardware should be regularly inspected and suspect units replaced if in doubt. This is important to avoid injury and absolutely no risks should be taken in this respect. It is highly recommended that you implement an inspection and maintenance program on flying elements, including reports to be filled out by the personnel that will carry out the inspections. Local regulations may exist that, in case of accident, may require you to present evidence of inspection reports and corrective actions after defects were found.

Absolutely no risks should be taken with regards to public safety. When flying enclosures from ceiling support structures, extreme care should be taken to assure the load bearing capabilities of the structures so that the installation is absolutely safe. Do not fly enclosures from unsafe structures. Consult a certified professional if needed. All flying accessories that are not supplied by DAS Audio are the user's responsibility. Use at your own risk.

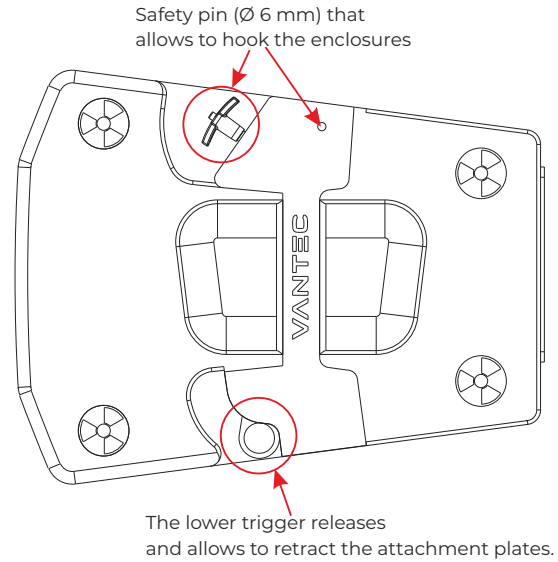
The DAS *VANTEC-20A* incorporates structures in each side of the enclosure. These ironworks are made of steel and aluminum and are fixed with special screws in the wood side of the two systems. On each one of these structures there is a steel rod with a special axis screw which allows to stack or rig the enclosures. The angles vary from 15° to 15° with each *VANTEC-20A*. This system allows for easy and safe rigging or stacking, with safety pins.

Flyable vantec series models feature internal steel angles, so that flying points are available. Eyebolt flying points are factory sealed with M10 screws, which are replaced with eyebolts on the flying points as required. Flying with eyebolts is very economical and safe, and is specially recommended for installations where the boxes are permanently fixed.

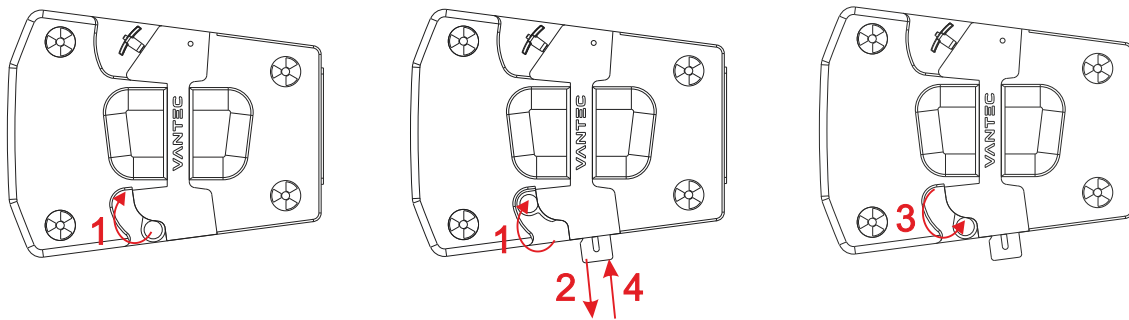
Please follow the process to attach one box to another. First, let's look at the sides of the enclosure that we can see in the figure.

In the figure we can see the safety pin and the lower trigger. The safety pin is housed in a holder and the sliding attachment plate is hidden. By placing the pin in the indicated hole, the enclosure can be joined with the box directly above by passing the pin through the orifice in the sliding attachment plate of the upper box.

This rigging system is compatible with the *VANTEC-118A*, making suspension from the *VANTEC-118A* easy.



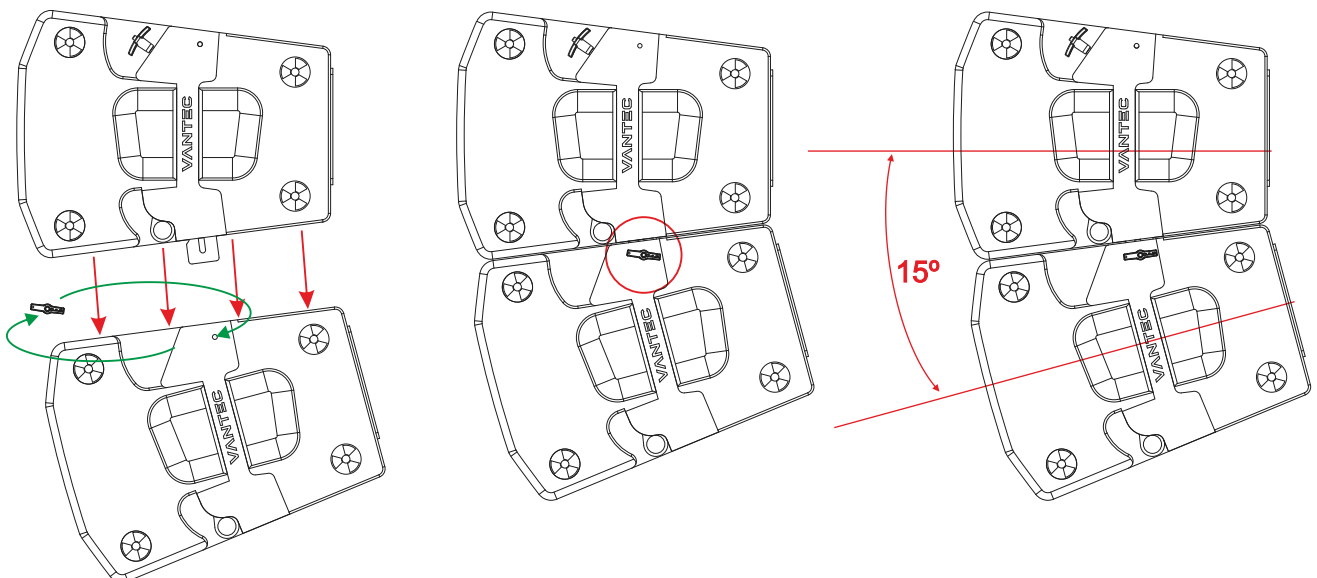
Moving the lower trigger up (1), releases the sliding attachment plate that will fall by its own weight (2). When the trigger is released, it will return to its original position and the slide will remain fixed (3).



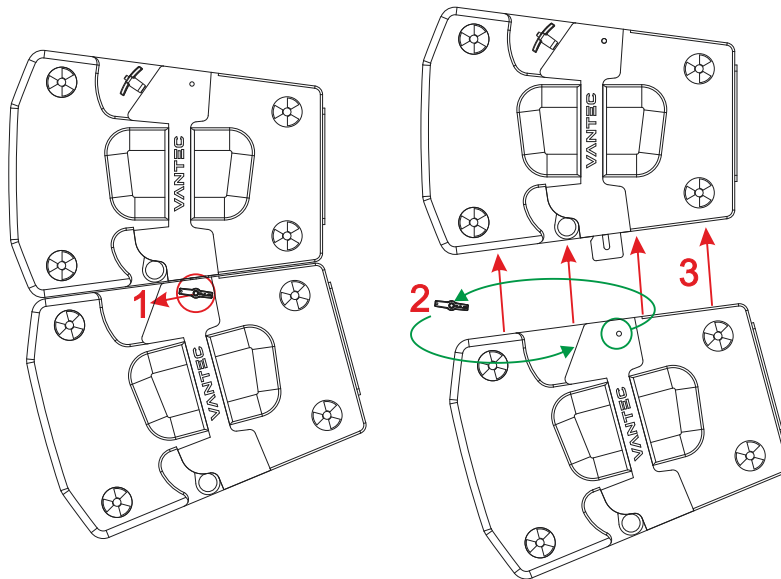
Similarly, to retract the slide we must act on the trigger as in (1) push the slide up (4), and release the trigger (3).

To attach enclosures, place a *VANTEC-20A* enclosure with the attachment plates extended upon another *VANTEC-20A*. Next, insert the safety pins in the hole and through the orifice of the attachment plates so that the boxes are joined. The angle between both enclosures will be 15°.

Attention: Make sure the correct insertion of the safety pin.



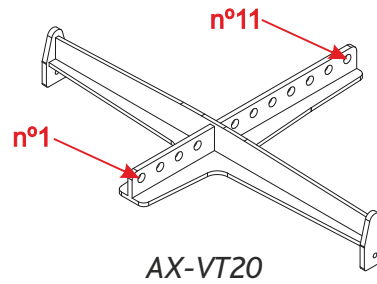
To unhook the enclosures we will act on the upper pins of the lower box as indicated below:



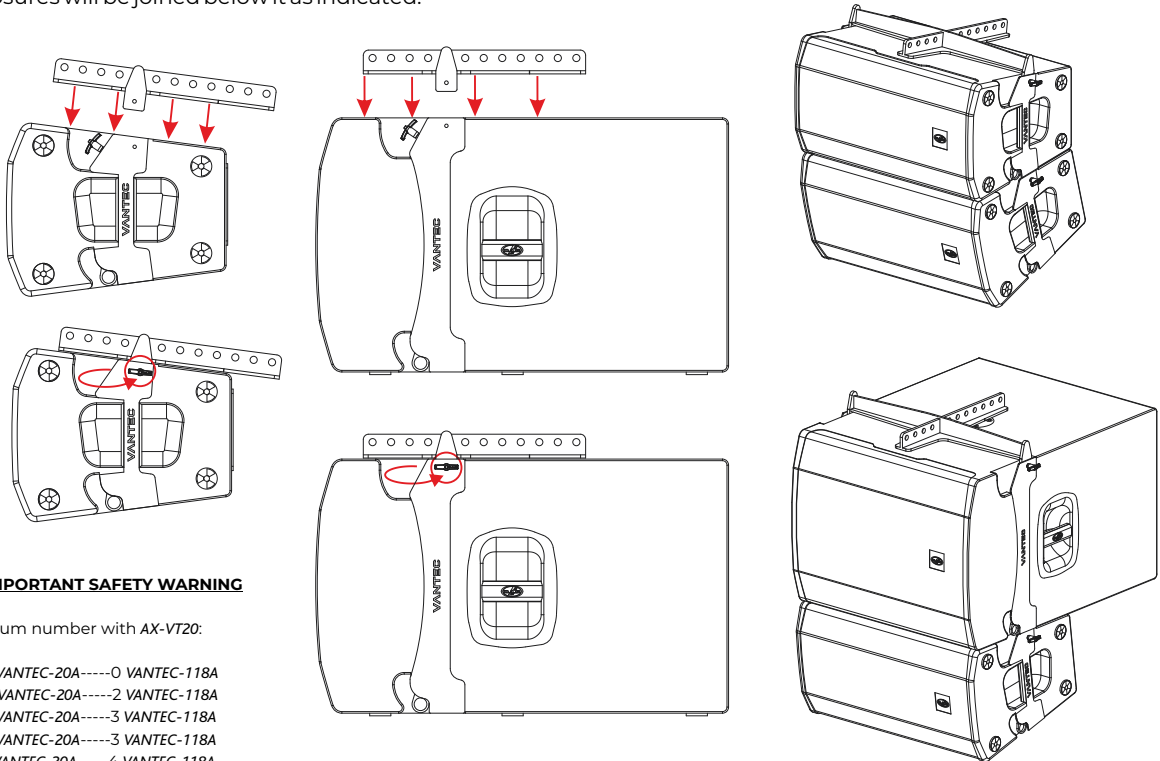
First we remove the pins (1) on each side. Now, we reposition the pins in the holders (2). We can now separate the enclosures (3). Finally, we retract the attachment plates as indicated on the previous page.

AX-VT20

The rigging frame AX-VT20 is suitable for hanging a maximum of 5 units of VANTEC-20A. It has 11 pick-up points for the lifting slings, numbered from front to back (see attached figure). To assure the vertical inclination of the entire column use the Ease Focus software, which will indicate which holes have to be used. This frame will be joined to the first box of the column as if it were another enclosure and will be locked with safety pins. The other enclosures will be joined below it as indicated.



AX-VT20



IMPORTANT SAFETY WARNING

Maximum number with AX-VT20:

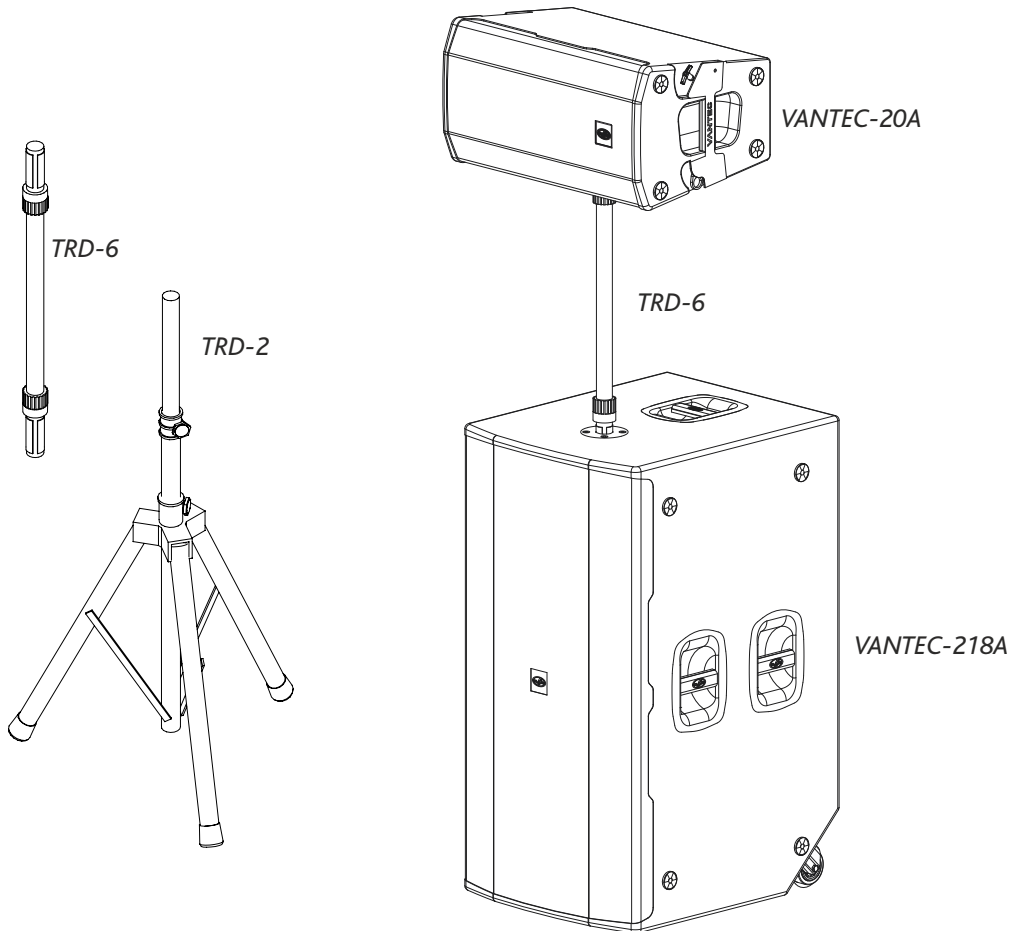
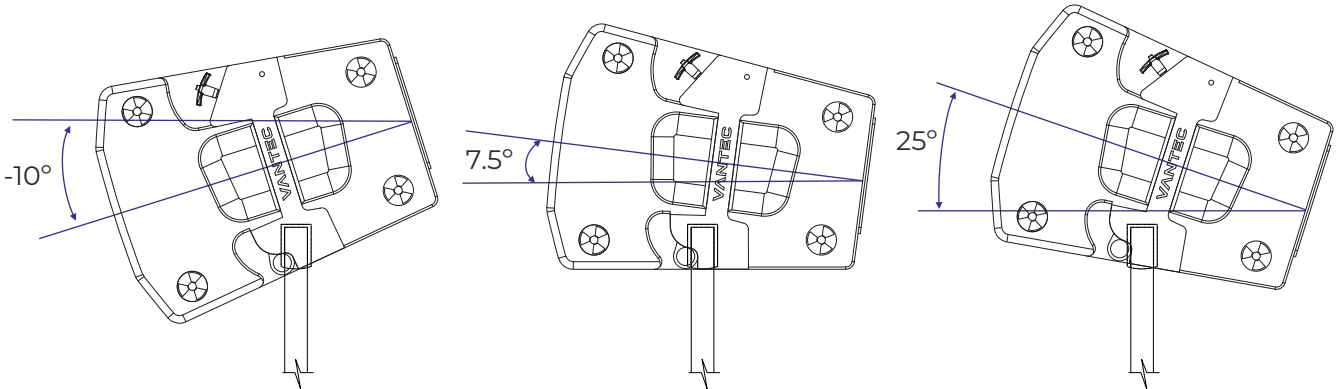
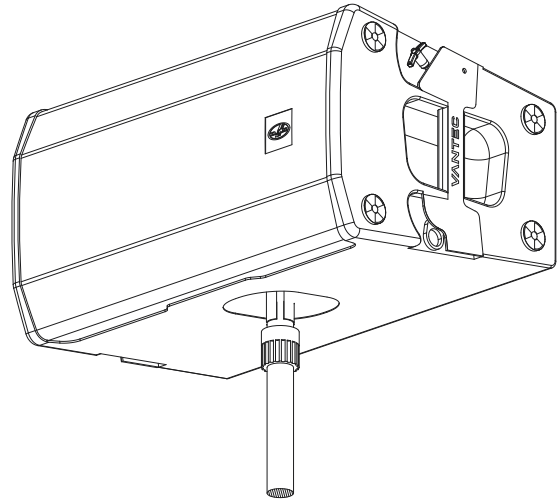
- 5 VANTEC-20A-----0 VANTEC-118A
- 4 VANTEC-20A-----2 VANTEC-118A
- 3 VANTEC-20A-----3 VANTEC-118A
- 2 VANTEC-20A-----3 VANTEC-118A
- 1 VANTEC-20A-----4 VANTEC-118A
- 0 VANTEC-20A-----4 VANTEC-118A



TRD-2 and TRD-6

The **VANTEC-20A** unit has a tripod socket on its underside that allows a box angle between + 25° and -10° when placed on a **TRD-2** tripod or on a **TRD-6** pole. It is only possible to use one unit in this way.

The **VANTEC-118A** and **VANTEC-218A** enclosures have a socket for a **TRD-6** pole.

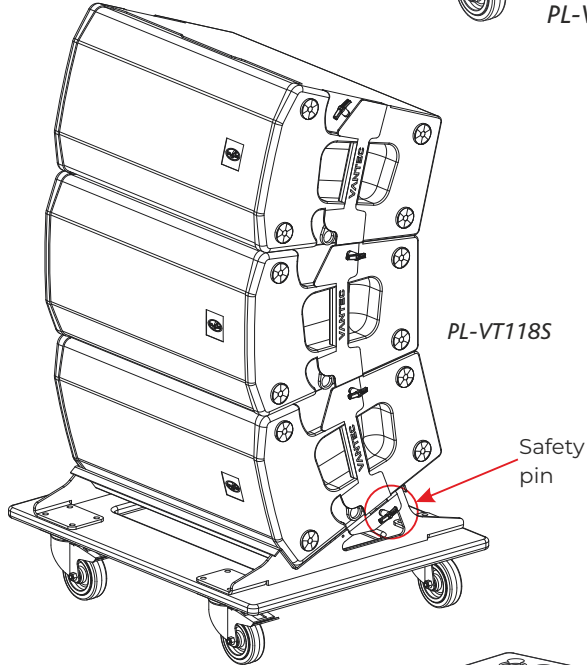
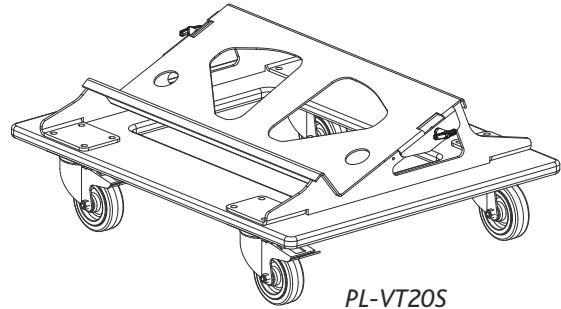


Example of **VANTEC-20A** on **VANTEC-218A** with **TRD-6**

PL-VT20S

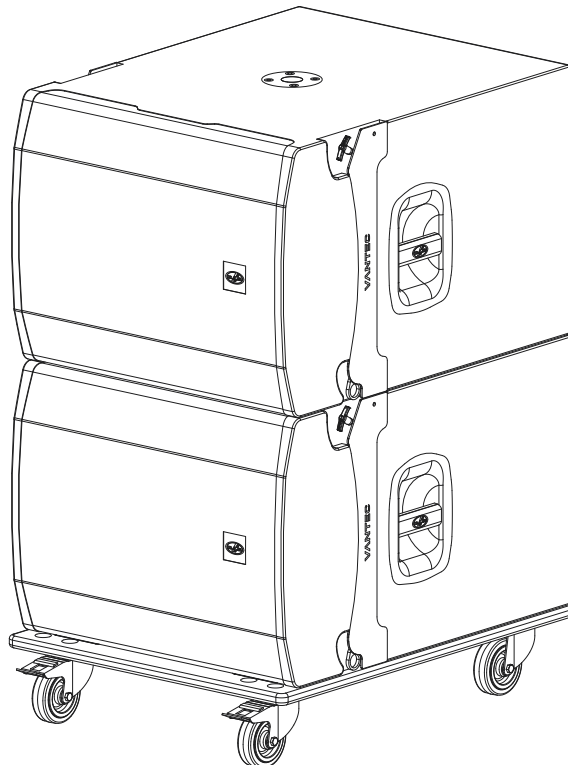
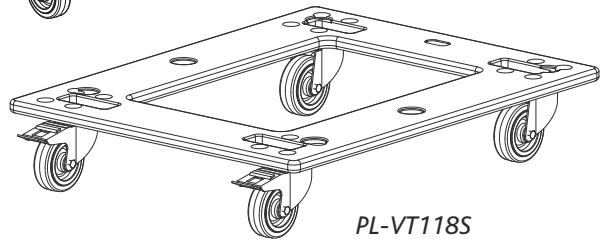
The *PL-VT20S* platform with WLL = 90 kgf allows transport of up to 3 stacked units of *VANTEC-20A*.

Its stacked configuration requires that the lower enclosure be secured by safety pins by inserting the sliding attachment plates into the slots on the platform. The other boxes will be joined by using the rigging system.



PL-VT118S

The *PL-VT118S* platform with WLL = 150 kgf allows transport of up to 3 stacked units of *VANTEC-118A*. It is necessary to be very careful when moving the assembly since the enclosures are not attached to the platform by pins. One *VANTEC-118A* can be attached to another.



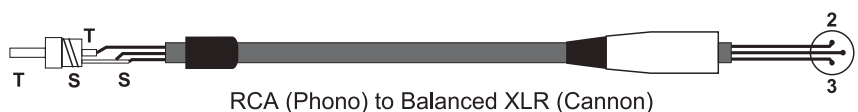
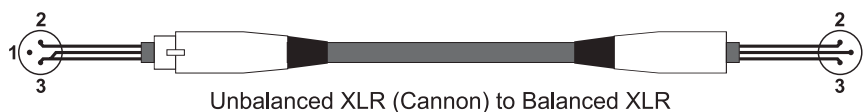
ANNEX : Line connections: unbalanced and balanced

There are two basic ways to transport an audio signal with microphone or line level:

Unbalanced line: Utilising a two conductor cable, it transports the signal as the voltage between them. Electromagnetic interference can get added to the signal as undesired noise. Connectors that carry unbalanced signals have two pins, such as RCA (Phono) and ¼" (6.35mm, often referred to as jack) mono. 3 pin connector such as XLR (Cannon) may also carry unbalanced signals if one of the pins is unused.

Balanced line: Utilising a three conductor cable, one of them acts as a shield against electromagnetic noise and is the ground conductor. The other two have the same voltage with respect to the ground conductor but with opposite signs. The noise that cannot be rejected by the shield affects both signal conductors in the same way. At the device's input the two signals get summed with opposite sign, so that noise is cancelled out while the programme signal doubles in level. Most professional audio devices use balanced inputs and outputs. Connectors that can carry balanced signal have three pins, such as XLR (Cannon) and ¼" (6.35mm) stereo.

The graphs that follow show the recommended connection with different types of connectors to balanced processor or amplifier inputs. The connectors on the left-hand side come from a signal source, and the ones on the right hand side go to the inputs of the processor or amplifier. Note that on the unbalanced connectors on the left-hand side, two terminals are joined inside the connector. If hum occurs with balanced to balanced connections, try disconnecting the sleeve (ground) on the input connector. Note that the illustrations show what should be connected to what, but that pin locations on an actual XLR connector are different. Also, pin 2 hot is assumed on XLR connectors.





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UM_VT3_02_EN

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