LINE CLA 604A - Column Active Line Array **ARRAY** CLA 208SA - Processed Active Subwoofer **SYSTEMS 的社会的现在分词 ENGLISH**

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TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER (OR BACK) NO USER SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE



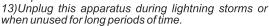
WHERE MARKED, THIS SYMBOL INDICATES A DANGEROUS NON-ISOLATED VOLTAGE INSIDE THE LOUDSPEAKER: SUCH VOLTAGE COULD BE SUFFICIENT TO RESULT IN THE RISK OF ELECTRIC SHOCK.



WHERE MARKED, THIS SYMBOL INDICATES IMPORTANT USAGE AND MAINTENANCE INSTRUCTIONS IN THE ENCLOSED DOCUMENTS. PLEASE REFER TO THE MANUAL.

IMPORTANT SAFETY INSTRUCTIONS

- 1) Read these instructions
- 2) Keep these instructions
- 3) Heed all warnings
- 4) Follow all instructions
- 5) Do not use this apparatus near water
- 6) Clean only with dry cloth
- 7) Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8) Do not install near any heat sources, such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat
- 9) Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11) Only use attachments/accessories specified by the manufacturer.
- 12) Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.



14) 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.

THE DEVICE MUST BE CONNECTED TO THE MAINS THROUGH A POWER OUTLET WITH A PROTECTIVE EARTH CONNECTION.

This device features a power outlet; install the device so that the outlet for the power cord is easily accessible.

PRECAUTIONS

- ° For proper air ventilation please make sure to leave sufficient clearance (min 11 inc.) on all sides of the device.
- ° Please do not cover the ventilation slots with papers, table cloths, curtains, etc. in order not to prevent ventilation of the device.
- ° Please do not place any naked flame source, such as lighted candles, on the device
- ° Please keep the device away from water springs and splashes and please do not place any objects containing liquids, such as vases, on the device.

GENERAL FEATURES











PWM AMPLIFIER

SWITCH MODE POWER SUPPLY

DIGITAL PROCESSOR

HARDWARE FOR PERMANENT INSTALLATIONS

LIGHTWEIGHT

VERTUS CLA was created with the thought of integrating professional line array technology in an extremely compact and elegant speaker column, with a refined and functional design, with uncompromised quality able to satisfy the requirements of the most demanding musicians and architectural installers. In respect to traditional two-way speakers, sound is distributed much more evenly throughout the audience, both in outdoor and in indoor environments acoustically difficult or reverberating as well. The CLA cylindrical wave front boasts the pleasant effect of present and precise forwardly projected sound, without reverberation typical of traditional speaker systems that often excite the ambient reflection, directing unnecessary acoustic energy, namely in ceilings and floor. Even acoustic feedback towards microphones is reduced, allowing a much higher gain margin. The very thin and long form allows for the integration of the speaker column in any environment in a discrete and non-invasive way.

The qualities of the CLA system can be summed up in the following:

- High-level sound quality from 50Hz to 20kHz expressly developed for live performance
- Long distance sound projection and better SPL distribution towards the audience
- Great and dynamic power performance thanks to triamplification system
- Lightweight and easy to carry
- Design and elegance for an easy integration even in the most demanding installations
- Very compact dimensions enable the listener to concentrate on sound and not on speakers
- High horizontal dispersion

VERTUS CLA comprised by two products:

- CLA 604A: bi-amp two-way active column speakers 400W + 100W
- CLA 208SA: active subwoofer 600W

CLA 604A is an extruded aluminum column speaker with a very appealing design, fitted with 6 x 4" custom woofers and 4 neodymium dome tweeters, each coupled to a wave guide. This configuration respects all the acoustic criteria of a real full-range line array up to 15kHz. The internal Class D amplification, 400W for woofers and 100W for tweeters with switch mode power supply and DSP processor with 4 equalization presets, allows for appropriate sound in any condition and provides unexpected dynamics in a system of these dimensions. The adopted rapid latching system with pins allows for the expansion of the system, doubling-up CLA604A modules to form a unified column with an absolute and coherent source integration and increase of SPL and low frequency directivity control.

CLA 208SA is a 2 x 8" active subwoofer in bass-reflex design and birch ply enclosure. The internal Class D amplifier delivers 600W and is matched with a switch mode power supply and a DSP processor with filtering functions, equalization and speaker protection. Created with the idea of extending the CLA 604A's low frequency performance in live applications, the CLA 208SA serves as the base support for the CLA 604A column speaker which can either be frontally mounted to the sub, as well as fixed upon the optional stand through the M20 socket on the upside of the sub. The CLA 208SA subwoofers are modular as well, and they can be stacked to enlarge and increase the maximum SPL.

The internal XLR signal link system and Neutrik Powercon power supply on both the sub and the satellite, allows for hiding wires and cables from open sight, preserving the system's clean aesthetics.

GENERAL FEATURES

VERTUS CLA 604A

- -2-way bi-amplified line array column -6 x 4" custom woofer with 1" voice coil
- -4 x 1" neodymium dome tweeter on waveguide
- -130Hz to 20kHz frequency response
- -Class D 400W RMS amplifier for LF and 100W RMS for HF with switch mode power supply
- -DSP processor with 4 available equalization presets
- -Control panel with Volume, Preset, HP filter, Mic-Line, Status led
- -XLR input and Neutrik Powercon supply input at the lower part of the column; XLR link and Neutrik Powercon loop output at the higher part, in order to hide each connection cable
- -100°H x 20°V dispersion
- -Extruded-aluminum powder-coated cabinets; superior as well as inferior latching system, enables the extension of the lenght of the line array adding CLA 604A modules for a greater modularity of the system
- -Possibility to angle the columns of ±30° on a horizontal plane
- -Ideal for both live applications, assisted by the CLA 208SA active subwoofer, as well as for fixed installation
- -Easily expandable for a total power of 6600W (stereo system composed of 3x CLA 604A e 3x CLA 208SA)
- -Very light and easy to carry



VERTUS CLA 208SA

- -Active subwoofer in bass-reflex design
- -2 x 8" custom neodymium high excursion woofer with 2" voice coil
- -50Hz to 150Hz frequency response -Class D 600W RMS amplifier with switch mode power supply -DSP processor with 4 available presets
- -Control panel with combo XLR/Jack stereo input and linkXLR Hi pass out stereo, Volume, Preset, 0°-180° phase switch, Status led
- -Neutrik Powercon input & link
- -0,59 inch birch plywood enclosure with anti-scratch paint finish
- -M20 stand adapter, 2 integrated handles, front hardware to sustain CLA 604A
- -Suitable for low frequency extension and reinforcement on the CLA 604A array, especially for live performance



220 - 230V~

For its power supply, the whole CLA series features two NEUTRIK powercon three-pole outlets with locking connectors. Use the grey outlet for connecting several speakers with one another, and the blue one for supplying power to the system through the connector supplied.

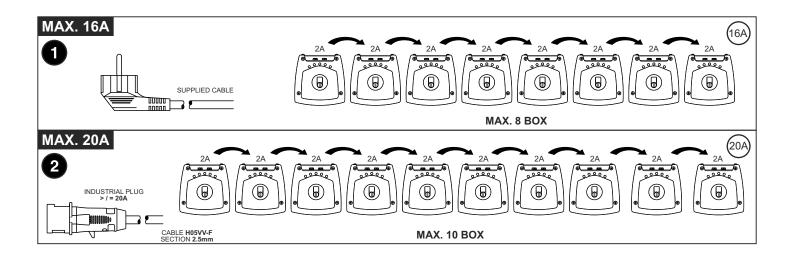
CAUTION: the cable supplied can be used alone, and only if the total current absorption is lower than 16A (see example 1)

CAUTION: never replace the plug of the power cord supplied since the power cord can only support a maximum current of 16A (see example 1)

CAUTION: if the absorbed current exceeds 16A and is lower than 20A, a power cord has to be manufactured by specialized staff using a H05VV-F cable with 2.5 sq.mm section and plug with rated current >=20A, where 20A is the maximum rated current of the powercon connector (see example 2).

- The power cord has to be assembled by specialized staff complying with national plant-engineering regulations
- Protect the mains cable when it is not used
- In case of «chain connection», connect the cable to the grey outlet of the first speaker and to the blue outlet of the second one, and so on, making sure the maximum current indicated on the «AC LOOP OUTPUT» is not exceeded.

CAUTION: TO SWITCH OFF THE SYSTEM DISCONNECT THE MAINS SUPPLY PLUG FIRST AND THEN THE POWERCON CONNECTOR



120V~

For its power supply the whole CLA series features two NEUTRIK powercon three-pole outlets with locking connectors. Use the grey outlet for connecting several speakers with one another, and the blue one for supplying power to the system through the connector supplied.

CAUTION: If the total current demand does not exceed 12A, use the power cable supplied (see pic.1).

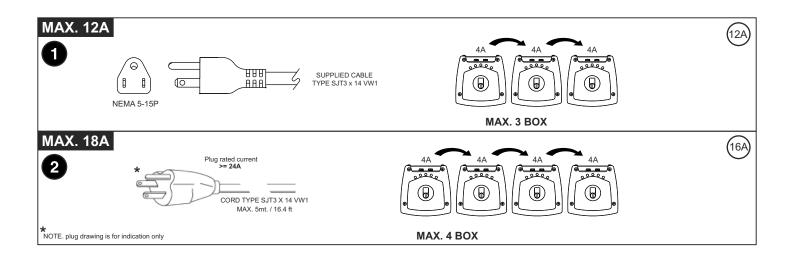
If the total current demand is between 12A and 18A, use the power cable AWG14SJT VW1 with plug rated current equal to 24A or lower (see pict. 2).

In both cases **NEVER** exceed the maximum current values shown in picture

THE CABLE AND THE PLUG MUST HOLD THE UL OR CSA CERTIFICATION.

- The power cord has to be assembled by specialized staff complying with national plant-engineering regulations.
- Protect the mains cable when it is not used.
- In case of "chain connection" connect the cable to the grey outlet of the first speaker and to the blue outlet of the second one, and so on, making sure the maximum current indicated on the "AC LOOP OUTPUT" is not exceeded.

CAUTION: TO SWITCH OFF THE SYSTEM DISCONNECT THE MAINS SUPPLY PLUG FIRST AND THEN THE POWERCON CONNECTOR

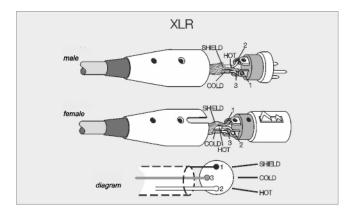


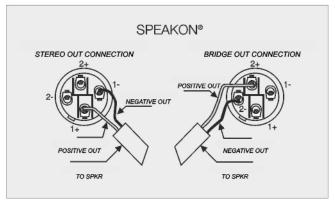
CONNECTORS

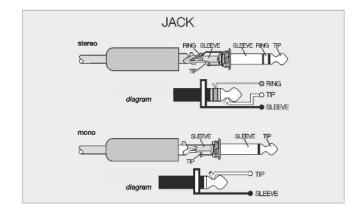
The 3-pole XLR connectors are almost always used for conducting mono-balanced signals; the three poles correspond respectively to ground (1), the positive signal (2) and the negative signal (3).

SPEAKON is a connector which is specially adapted for connecting power terminals to loudspeakers; when inserted in an appropriate socket it locks so as to prevent accidental disconnection; moreover, it is equipped with protection against electrical shocks and guarantees the correct polarisation.

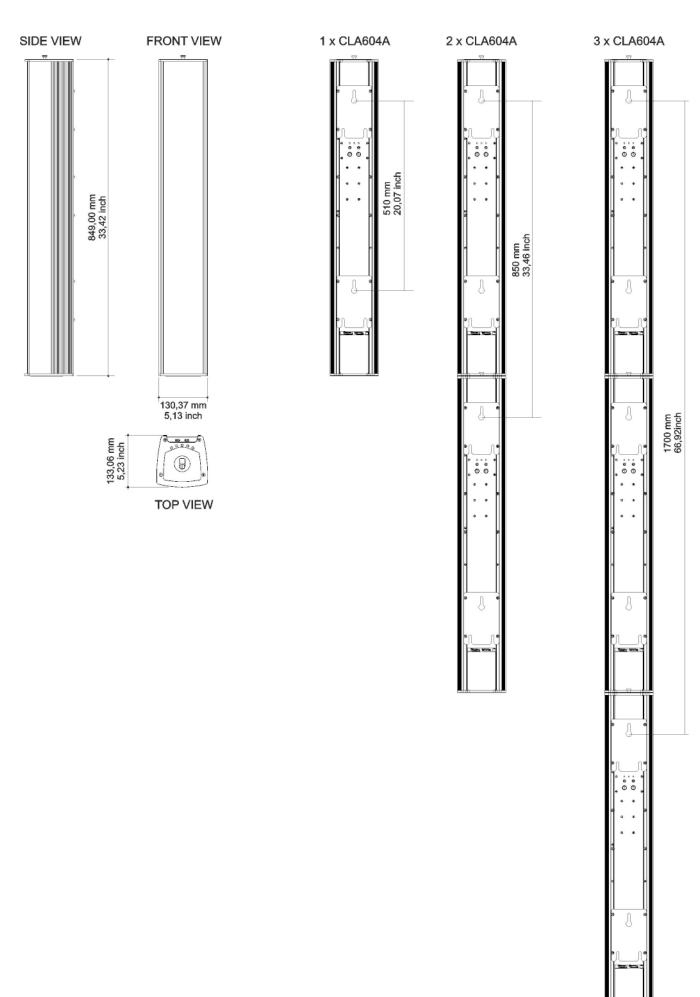
The JACKS are typical connectors for the transporting of two separate signals through two channels, left and right, using a single connector and therefore they can be either mono or stereo. Mono jacks (TS) also known as unbalanced jacks, are recognisable from stereo or balanced jacks (TRS) by their composition. The point of the mono jacks is divided into two parts, tip and ground Tip and Slave) to which the two poles are connected; the stereo or balanced jacks are divided in three parts, as they have a central ring (Ring) which is connected to a second wire, the third (negative) pole.



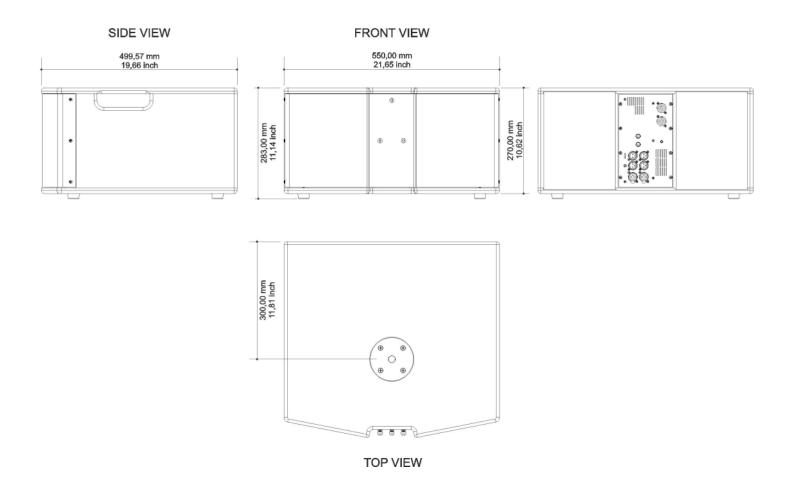




DIMENSIONS

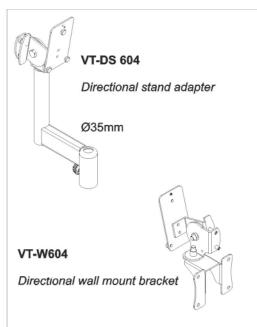


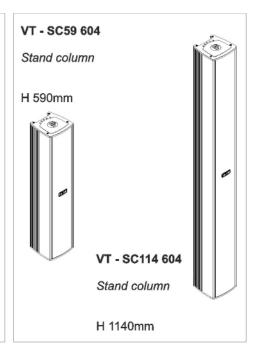
DIMENSIONS

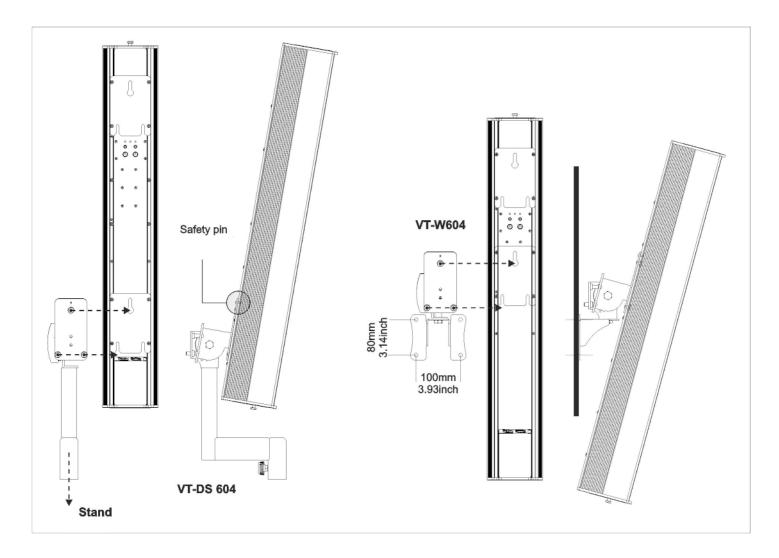


ACCESSORIES

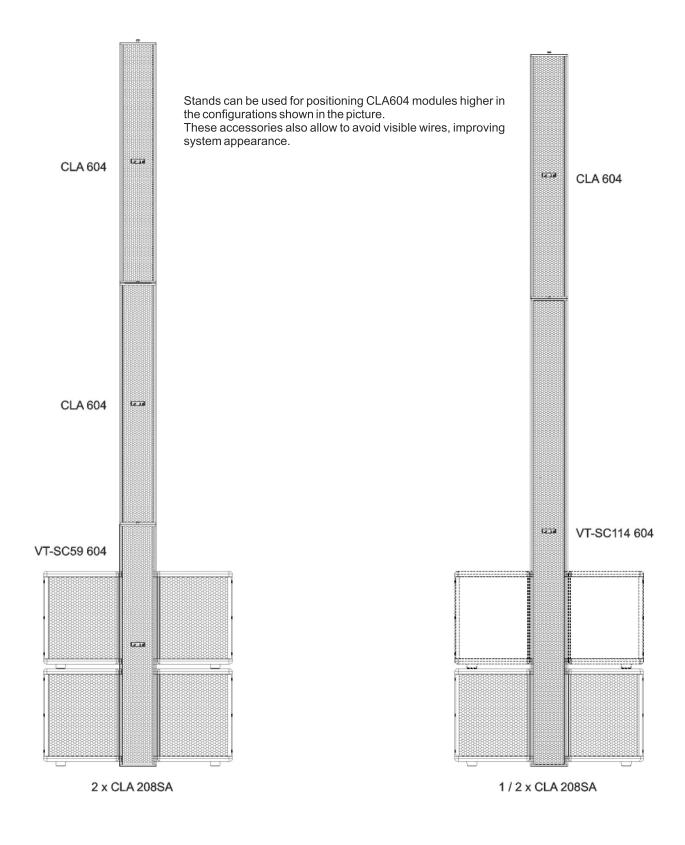








USE OF VT-SC59 604 / VT-SC114 604 STANDS



INSTALLATION MODE

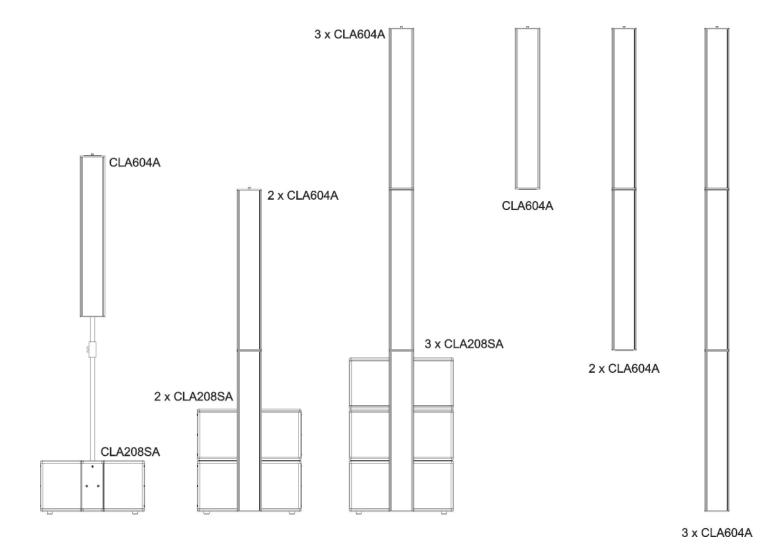


The speakers included in VERTUS series can be installed in the following ways: wall-mounted

- simply stacked with subwoofer on the ground and relevant satellite positioned through a stand
- c) satellite connected to the subwoofer using the adequate coupling pin

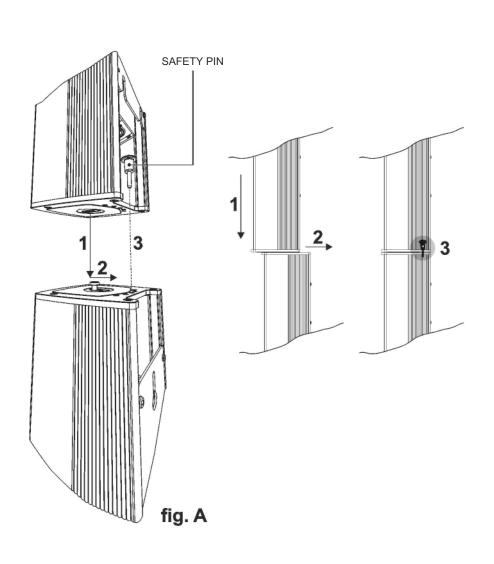
WARNING: carefully select the area where to install the speakers and make sure that the structure is adequate to support the weight of boxes. When the subwoofer is installed on the ground position the system on a flat and non-slip surface.

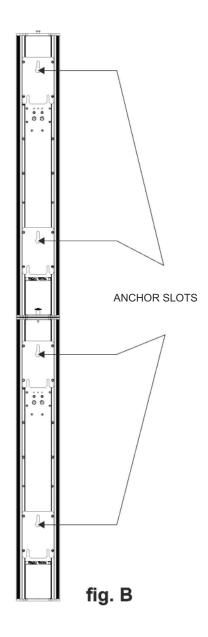
FBT will not be held responsible for any damage to persons or property in case of failure to comply with these instructions or failure to check the safety factor of all components involved in the installation system.



INSTALLATION MODE

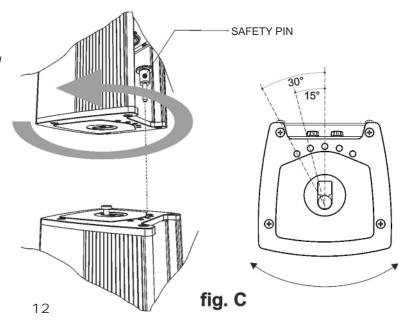
CONNECTION OF TWO COLUMNS





Connect the two satellites to one another as shown in picture «A», making sure to insert the safety pin (3).
For wall mounting use adequate anchor slots (picture «B»).

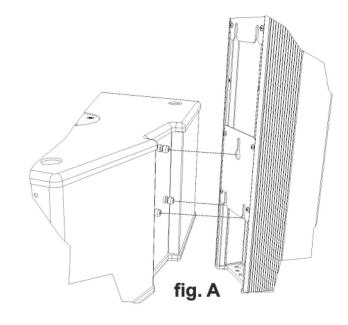
Use the same safety pin to rotate the speaker by $\pm 30^\circ$ to the horizontal plane (picture «C»).



INSTALLATION MODE

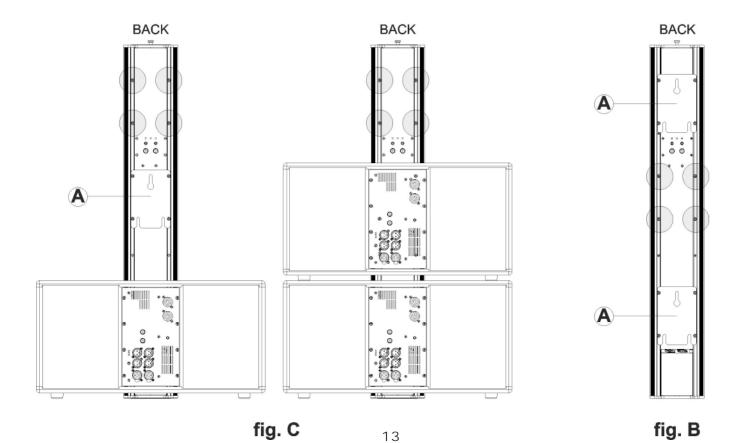
CONNECTION TO THE SUBWOOFER

Connect to one another the CLA 208SA subwoofer and CLA 604A satellite, as shown in picture «A».





The two fixing brackets with slot (A) are used both for the ceiling mounting (pict. B) and the coupling of the subwoofer/s (pict. C). In both cases the holes left free from the brackets must be **ABSOLUTELY** closed with the relevant screws.



VERTUS

CLA 604A

ON: Indicates the system is turned on.

PEAK: The lighting of this LED indicates that the signal level is close to saturation.

PRT/LMT: The lighting of this LED indicates a system malfunctioning due to faulty internal amplifier or to limiting circuits activation to prevent thermal overload.

SOURCES: Turn the switch to "MIC" if a microphone is connected; to "LINE" to connect high-level signal sources. Avoid sending a line signal (through mixer, etc.) while the SOURCES switch is positioned in MIC; failure to comply with this warning may cause damage or complete failure of speakers, woofer, high-frequency driver and internal power amplifiers. The SOURCES switch must be set to MIC only to connect a low impedance microphone.

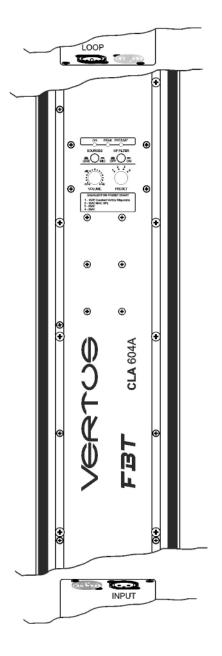
HP FILTER: Switch to activate the "low cut" filter device,

Which lets out only frequencies higher than the cut-off one (ALWAYS TO BE ACTIVATED WHEN CONFIGURATION INVOLVES A SUBWOOFER IN ORDER TO OBTAIN GREATER SPL, MORE UNIFORM RESPONSE, LOWER LEVEL DISTORSION OF MIDFREQUENCIES AND GREATER MECHANICAL PROTECTION OF SATELLITE SPEAKERS).

VOLUME: Used to adjust the overall signal level.

PRESET: Select 4 presets, setting each to its corresponding and different equalization, according to personal preferences and the acoustics of listening area (see the relevant description in PRESETS section)

INPUT - LOOP: Balanced input/output plugs; "INPUT" allows connection of a pre-amplified signal such as, for example, the output one of a mixer. "LOOP" allows the connection of several speakers with the same signal.



VERTUS

CLA 208SA

ON: Indicates the system is turned on.

PEAK: The lighting of this LED indicates that the signal level is close to saturation.

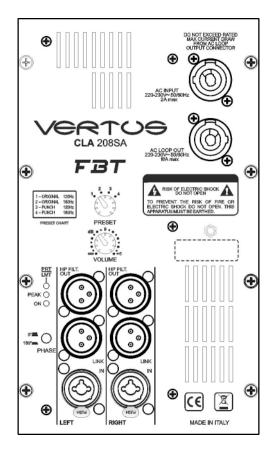
PRT/LMT: The lighting of this LED indicates a system malfunctioning due to faulty internal amplifier or to limiting circuits activation to prevent thermal overload.

PHASE: The Phase switch allows optimization of the alignment phase, which is to obtain a uniform frequency response in the area in which sub and satellite cross. When set to 0° the sub sound emission is in phase with the input signal; when set to 180° the sound emission is in anti-phase with the input signal; this switch allows getting additional flexibility in subwoofer tuning, while optimizing its performance.

HP FILT. OUT: Output to collect the filtered signal to be sent to an amplified satellite not fitted with HP filter (Please Note TO CONNECT "CLA" SERIES SATELLITES USE THE LINK OUTPUT); this prevents the two connected speakers from operating for a while at the same frequency range, thus obtaining a totally interference-free overall response.

IN - LINK: Balanced input/output plugs; "IN" allows connection of a pre-amplified signal such as, for example, the output one of a mixer. "LINK" allows the connection of several speakers with the same signal.

VOLUME: Used to adjust the overall signal level. **PRESET:** Select 4 presets, setting each to its corresponding, different speaker configuration according to personal preferences and the acoustics of listening area (see the relevant description in PRESETS section)



The presence of presets managed by DSP allows modifying the response and vertical dispersion characteristics of the speaker, to suit it to the configuration used. Presets can be chosen through the "PRESET" switch.

> ORIGINAL: corresponds to typical FTB sound; it is the default preset when the system is used while on "general purpose", therefore suitable for most applications.

CLA 208SA

1 - ORIGINAL 120Hz 2 - ORIGINAL 180Hz 3 - PUNCH 120Hz 4 - PUNCH 180Hz

CLA 604A

EQUALIZATION PRESET CHART

1 - 1SAT Constant Vertical Dispersion

2 - 1SAT MAX. SPL

3 - 2SAT

4 - 3SAT

PUNCH: the sub emits a "drier" sound, less low frequency extension, but more energy; suitable for rock and high SPL applications.

These presets have different cut-off frequencies; this allows the sub to be configured even with any other speaker.

Please Note FOR USE OF CLA 208SA SUBWOOFER WITH CLA 604A SATELLITE IT IS RECOMMENDED TO USE A PRESET WITH 180Hz CUT-OFF FREQUENCY.

1SAT VERTICAL CONSTANT RELEASE: preset to be used with the system consisting of a single column; the 3-way configured

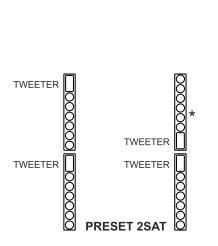
internal DSP exerts a sequential filtering on 3 of 6 woofers, to obtain a very uniform vertical dispersion angle, slightly affecting the higher

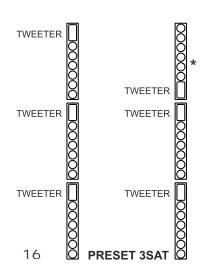
work with the same signal to get the highest SPL value possible, at the expense of vertical

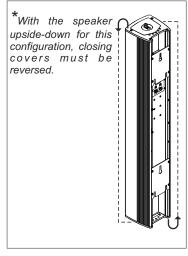
SPL level at mid-frequencies. 1SAT MAX. SPL: preset to be used with the system consisting of a single column; the internal DSP is 2-way configured, all woofers

dispersion uniformity at mid-frequencies.

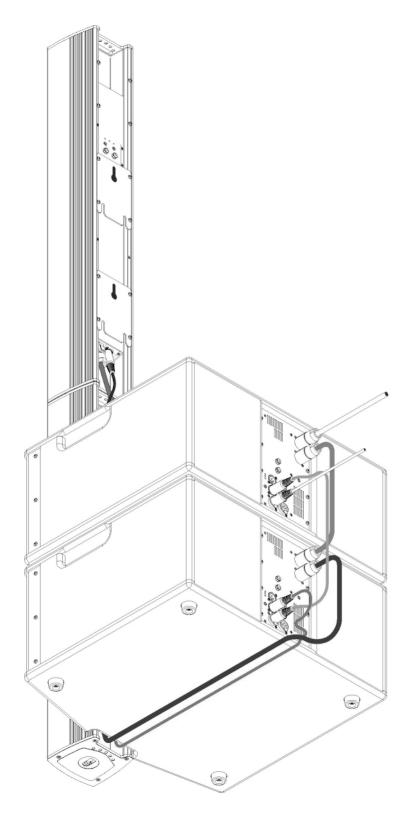
2SAT: preset to be used with the system consisting of 2 overlapping columns; two different configurations are possible, with both trumpets addressed upwards or adjacent. The first configuration is preferable for "near-field" applications or in general when a widespread, instead of too directive, dispersion of high frequencies is required. The second one instead is preferred for "far-field" applications, where sound is meant to be projected at greater distance and with a very narrow vertical dispersion angle. 3SAT: preset to be used with the system consisting of 3 overlapping columns; two different configurations are possible, with all trumpets addressed upwards or with the trumpets of the two upper columns adjacent. The first configuration is preferable for "near-field" applications or in general when a widespread, instead of too directive, dispersion of high frequencies is required; the second one instead is preferred for "far-field" applications, where sound is meant to be projected at greater distance and with a very narrow vertical dispersion angle.

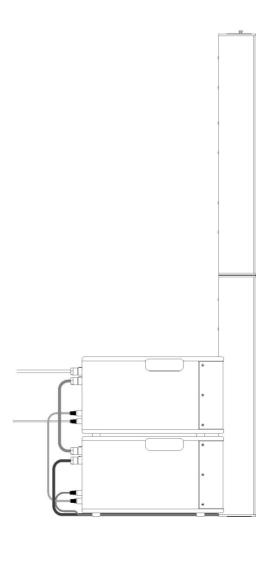




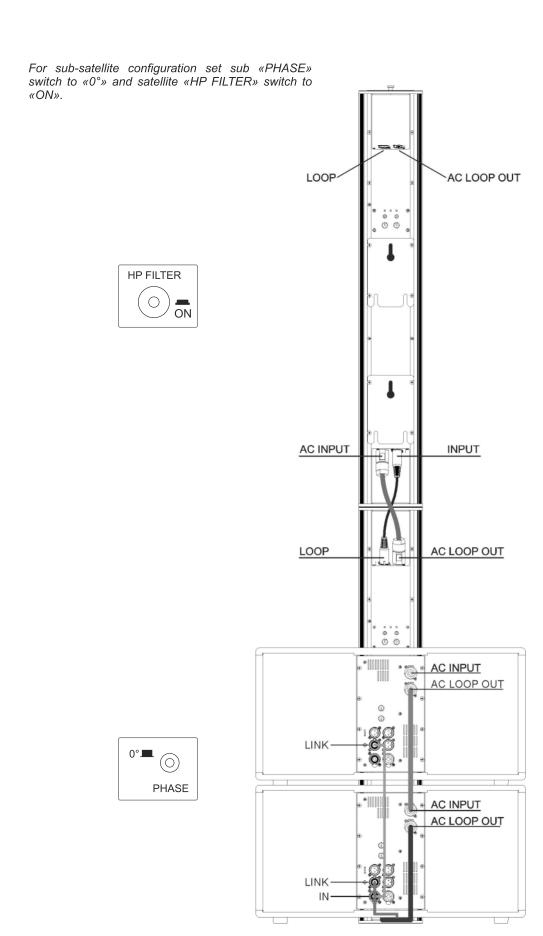


The signal internal recovery system, and the powering one through XLR and POWERCON on sub and satellite, allows preserving the aesthetic of the system, as cables are not in sight.

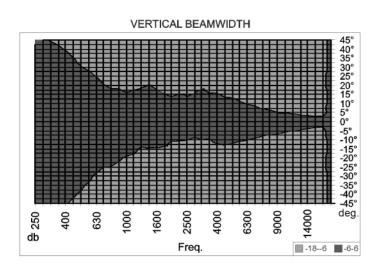


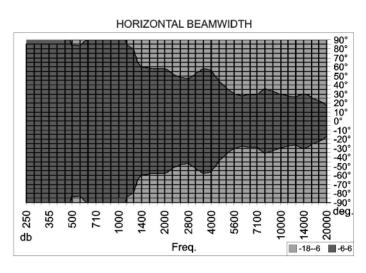


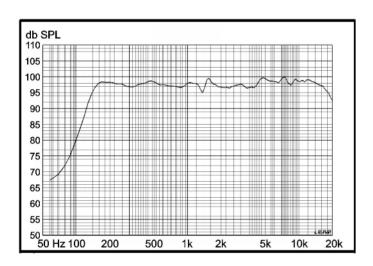
CONNECTION EXAMPLES



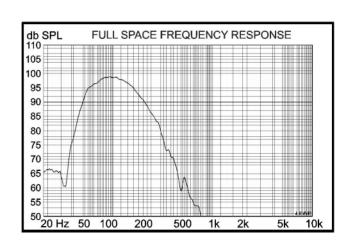
CLA 604A





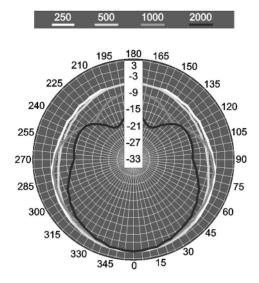


CLA 208SA

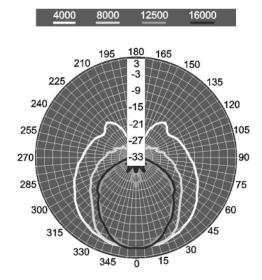


CLA 604A

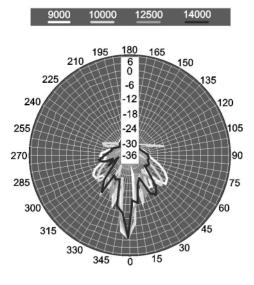
HORIZONTAL POLAR DIAGRAMS



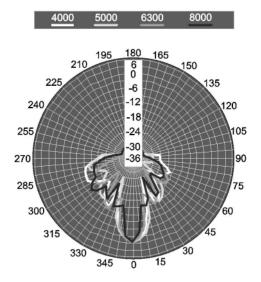
HORIZONTAL POLAR DIAGRAMS



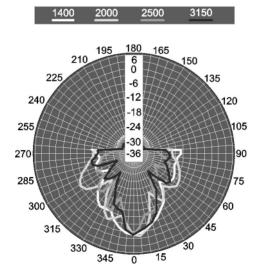
VERTICAL POLAR DIAGRAMS



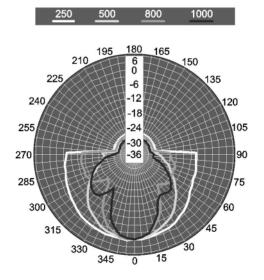
VERTICAL POLAR DIAGRAMS



VERTICAL POLAR DIAGRAMS



VERTICAL POLAR DIAGRAMS



TECHNICAL SPECIFICATIONS

		CLA 604A	CLA 208SA
CONFIGURATION	way	2	1
BUILT-IN AMPLIFIER CONT. RMS LF/HF	watt	350 / 80	400
BUILT-IN AMPLIFIER MAX. RMS LF/HF	watt	400 / 100	600
BUILT-IN AMPLIFIER MAX. PEAK LF/HF	watt	800 / 200	1200
FREQUENCY RESPONSE	@-6dB	130Hz - 20kHz	50Hz - 150Hz
LOW FREQUENCY WOOFER	inch	6 x 4" - 1" coil	2 x 8" - 2" coil
HIGH FREQUENCY DRIVER	inch	4 x 1" - 1" coil	
MAX. SPL CONT/PEAK	dB	122 / 125	125 / 129 half space
DISPERSION	HxV	100° x 20°	omnidirectional
INPUT IMPEDANCE	kOhm	22	22
CROSSOVER FREQUENCY	kHz	2.5	0.15
AC POWER REQUIREMENT	VA	450	450
INPUT CONNECTORS		XLR with loop	stereo XLR with loop/HP out
POWER CORD	inch	16.4	16.4
NET DIMENSIONS (WxHxD)	inch	5.12 x 33.1 x 5.12	21.7 x 10.6 x 19.7
NET WEIGHT	lb	19.84	44.09
TRANSPORT DIMENSIONS (WxHxD)	inch	8.66 x 36.61 x 8.66	27.16 x 14.56 x 24.60
TRANSPORT WEIGHT	lb	25.35	51.80



WARNING: where affixed on the equipment or package, the barred waste bin sign indicates that the product must be separated from other waste at the end of its working life for disposal. At the end of use, the user must deliver the product to a suitable recycling centre or return it to the dealer when purchasing a new product. Adequate disposal of the decommissioned equipment for recycling, treatment and environmentally compatible disposal contributes in preventing potentially negative effects on the environment and health and promotes the reuse and/or recycling of equipment materials. Abusive product disposal by the user is punishable by law with administrative sanctions.

CODE 35545#12.2011

All informations included in this operating manual have been scrupulously controlled; however FBT is not responsible for eventual mistakes. FBT Elettronica SpA has the right to amend products and specifications without notice.