

VDC-2



GUARANTEE CONDITIONS

VIETA AUDIO S.A. guarantees its products for a period of 2 years. This guarantee covers the possible manufacture failures for all products VIETA sold in the Spanish territory by authorized distributors. VIETA products acquired in others countries will be covered by the guarantee offered by the local distributors. In order to be able to benefit from this guarantee, please, visit an authorized technical service of VIETA AUDIO S.A. showing your purchase invoice.

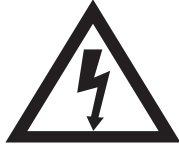
This guarantee **DOES NOT COVER:**

- Damages caused by accident, inadequate use or abuse
- Damages caused by external elements or natural catastrophes.
- Robbery
- Damages caused by manipulation of the product by not authorizez personnel by VIETA AUDIO S.A.
- Subsequent damages in other components.
- Products purchased outside the Spanish territory, or to non authorized distributors.
- Any cost derived from the installation or the de-installation of the product.

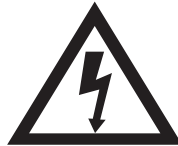
Any manipulation of the product by non authorized personnel by VIETA AUDIO S.A. will annul immediately this guarantee.

Consult your local distributor to know which is the closest authorized technical service of VIETA AUDIO S.A., in your residence area.

CE AND SAFETY



ATTENTION: To reduce the risk of fire or electrical shock do not expose the unit to rain or humidity.



Risk of electric shock do not open



This symbol indicates that an users manual exist and containing important information



An example of this equipment has been tested and found to comply with the following European and international Standards for Electromagnetic Compatibility and Electric Safety.

INSTRUCTIONS OF ASSEMBLY OF THE UNIT:

This equipment is thought to be installed in a rack. The equipment has to be installed so that the connection plug to the network remains easily accessible. The frontal part of the equipment as well as the back panel should remain accessible to facilitate the connection of the equipment with other elements.

Nevertheless, the lateral parts of the equipment should remain inaccessible during the operation of the same one, because there exists the possibility of reaching high temperatures in some points of the equipment chassis.

In order to avoid overheats, the equipment has to be installed with enough space for its ventilation, the minimum space recommended by the manufacturer is of 1 cm per lateral and of 5 cm in its backside.

In the frontal part, the equipment has 4 fixing points to be fixed in the rack. The screws to use for this aim are M6 screws, always depending of the length, type and characteristics of each rack.

FOR YOUR SAFETY:

- To avoid high temperatures: make sure that there is enough airflow around the unit when installing it in a rack.
- Do not cover ventilation holes.
- Do not open or modify this unit.
- If the unit is not being used over a longer period of time it should be unplugged.
- It should not be necessary to remove any protective earth or signal cable shield connections. Do not defeat the purpose of the polarised or grounding-type plug. A polarised plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade and the third prong are provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet. Only use this equipment with an appropriate mains cord.

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GRATITUDE

Thank you for acquiring the VDC-2 of VIETA thus demonstrating your trust in the trademark, to carry out its applications. We recommend you to read this instruction manual, in order to obtain the maximum system yield.

1.- INTRODUCTION

The VDC-2 is an audio processor specially designed to work with all Vieta speaker systems to optimise the acoustical performance and to protect and extend the performance of the speakers.

The VDC-2 has two balanced XLR input connections; Left & Right and two full range Left & Right XLR outputs. To extend and compliment the frequency response, the unit also has a XLR balanced subwoofer output.

Uniquely the VDC combines great-sounding analogue audio quality with the benefit of precise digital control.

The essentials of the VDC processor is its dynamic control, active crossover and parametrical equaliser together with a loudspeaker protection system.

One of the protection systems is the Hard-Limiter; its function is to optimise good average power level when the systems is working at its maximum level. The Hard-Limiter can obtain an average maximum sound level and still be able to preserve the peak audio signals. Another protection system is the Vieta developed TBC system (Thermal Brain Circuit). This system analyse constantly the powering of the speaker at the audio output of the amplifier, making sure that the system works at its maximum without overheating the components preventing unwanted breakdowns.

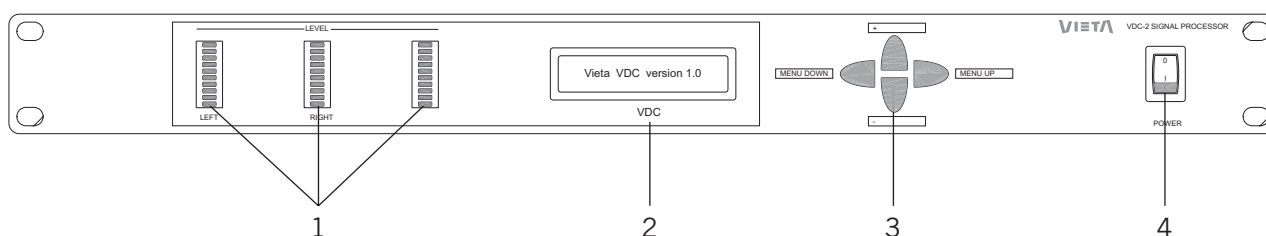
The analogue signal is kept in the analogue domain at all time except for the signal being used in the closed TBC protection system circuit.

This signal is only being used to control and optimise the performance of the speakers.

2.- FRONT PANEL

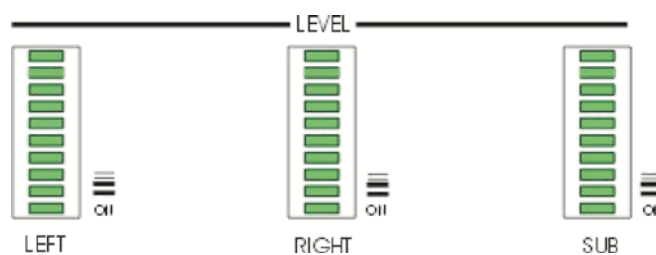
On the frontal panel we find the indicators of output level of each output (L, R, Sub), menu display, displacement cursor in the menu and the start on switch.

2.1.- Front Panel Layout



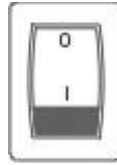
- 1) Output Meters
- 2) LCD Screen
- 3) Navigation's Keys
- 4) Power Switch

2.1.1.- Output Meters



The output meters indicates the output level of Left, Right and Sub channel. When only the first led is illuminated it indicates that output is active, when the channel is muted only the first led is not illuminated, where the rest of the leds can be illuminated if the channel is receiving a signal. When all lights are illuminated the output level is + 6 dB. 0 dB is indicated when all leds are illuminated except from the two superior leds.

2.1.2.- Power Switch



POWER

Power Switch: turns the unit's mains supply off and on.
For the first four seconds that the VDC is powered on all outputs are muted.

2.2.- Processor menu.

To gain access to the processor menu it is necessary to use the male connector SUB-D, provided with the equipment. Putting it in the service port of the VDC-2, one is able to unblock the apparatus and therefore, to vary its parameters.

Without the connector, the VDC-2 is blocked permanently, and therefore, the displacement cursors deactivated, to avoid the wrong manipulation of the equipment.

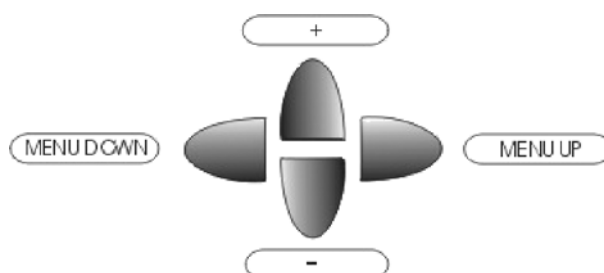
2.2.1.- LCD Screen Menu



The LCD shows all movements and indicates your position in the menu.
When the unit is powered on, the first line in the display indicates witch type of the speakers the unit is set-up for, the second line in the display indicates the version of the operative system. When the VDS is powered on, all three channels are muted for the four seconds.

If "POWER FAIL – SPEAKER PROTECT" appears in the display the main power is extremely unstable or a main power cut has occurred.
At this time all outputs will be muted for four seconds, if the problem disappears the VDC will automatically return to its working set-up.

2.2.2.- Navigation's Keys



Menu Down / Up: moves forward or back through the list of available parameters.

+/-: Activates and changes menu settings

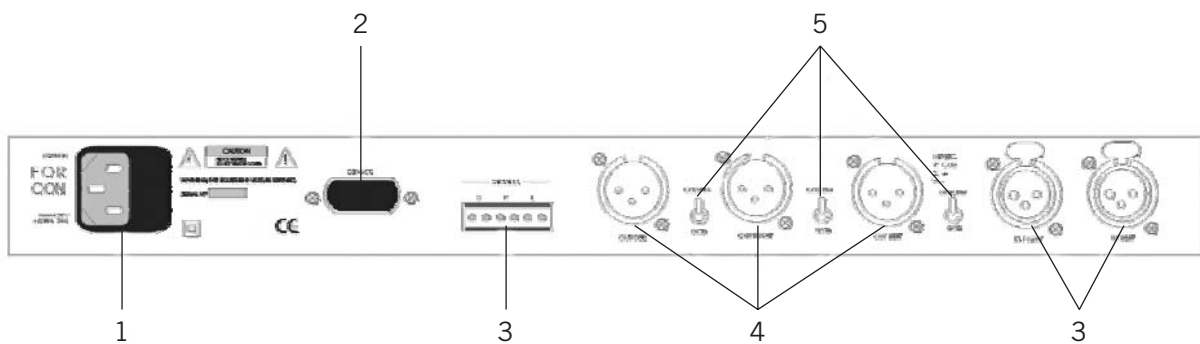
2.2.2.1.- Menu options

EQ HI ON/OFF	It selects the acute response curve.
OUTPUT LEFT	It activates or deactivates the signal output of the left channel.
OUTPUT RIGHT	It activates or deactivates the signal output of the right channel.
OUTPUT SUB	It activates or deactivates the signal of the sub grave channel.
AMPLIFIER (L,R)	The processor is predefined for stages of 32 dB gain power. In case of using a stage for the left and the right channels with a different gain, select the new gain to adapt the processor for a more optimal yield. Scale with selection between +28 dB and +38 dB to cover the different gains of the amplifying stages of the market.
AMPLIFIER (SUB)	The processor is predefined for stages of 32 dB gain power. In case of using a stage for the left and the right channels with a different gain, select the new gain to adapt the processor for a more optimal yield. Scale with selection between +28 dB and +38 dB to cover the different gains of the amplifying stages of the market.
EQ LOW ON/OFF	It selects the grave response curve. It is always activated.
SUB SETUP	This function is previewed so that the system can work without sub graves, passing to the outputs L,R, all the frequency range for the box model for which the processor has been configured. The SUB output will not be deactivated at any moment. If this function is in position "off", it is recommended not to connect any box to the SUB output to avoid a badly operation.
SAVE MEMORY	It saves in its memory the final configuration selected by the user.

3.- REAR PANEL

In the back panel we find the feeding input, the service port, the control signal input, the signal outputs and the signal inputs.

3.1.- Rear Panel Layout



- 1) Main Inlet
- 2) Service Socket
- 3) Sensor Control Input
- 4) Audio Output
- 5) Audio Signal Ground Lift Switch
- 6) Audio Input

3.1.1.- Main Inlet



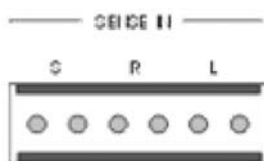
Connected via a standard IEC Socket comprising the main fuse 1A, which is located in a finger proof holder adjacent to the main inlet holder. A spare fuse is also located in this holder.

3.1.2.- Service Socket



Connector of service port. It allows to fit the functions of each unit by qualified personnel of VIETA, predetermined in factory.

3.1.3.- Control Sensor Input



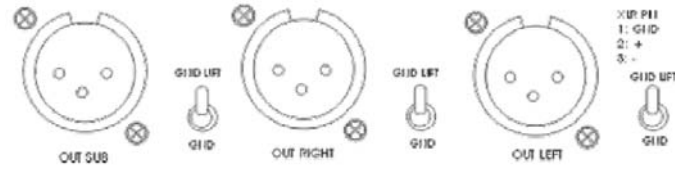
The control sensor input is connected to each respective power amplifier output for Sub, Left and Right. The output voltage from the amplifier is being registered by a microprocessor. The microprocessor is constantly analysing the output voltage that it used to calculate the powering of the speakers.

When the speaker is working at full power for more than certain period of time (Time period: depending of the speaker model).

The VDC adjusts the power level to avoid the speakers from overheating by reducing the power of the speaker without changing the audio perception.

When the protection system is activated a * appears in the display until the system is back to its normal working level.

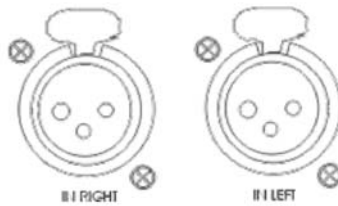
3.1.4.- Audio Output & Ground Lift switch



VDC-2 has three balanced outputs (Left, Right & Sub). The pin configuration is located on the right hand side of the outputs (1=GND, 2 = + and 3 = -).

Each output has a ground switch, when the switch is in the position “GND Lift”, pin # one of the XLR connector is isolated. When the switch is in position “GND”, pin # one of the XLR connector is grounded.

3.1.5.- Audio Input



- 1) Audio input balanced Right.
- 2) Audio input balanced Left.

4.- SPECIFICATIONS

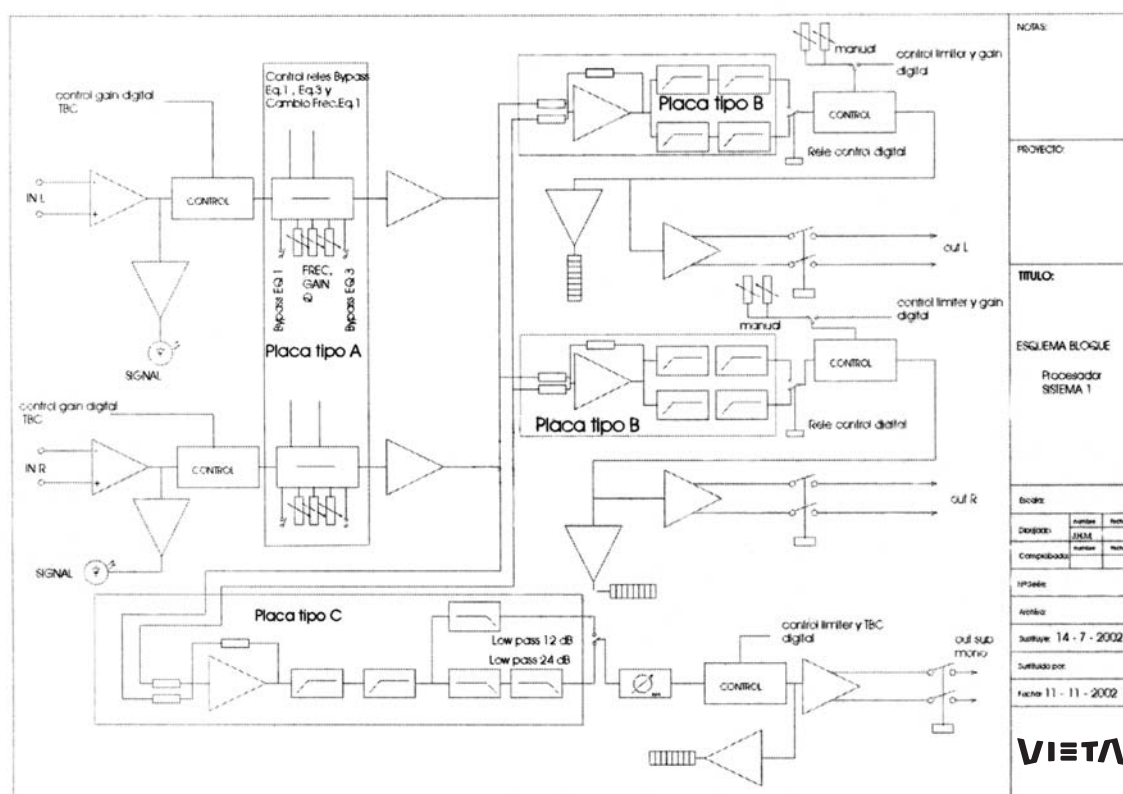
In this section we describe the technical and mechanical characteristics of the VDC-2.

4.1.- Technical Specifications

The block diagram # B001 located on the following page shows level control and filters.

The signal of the Left & Right channels is being processed through three parametrical EQ's. The parametrical set-ups are all pre-set by Vieta to optimise the performance of each speaker type. The parametrical EQ's can be bypassed in the Menu Option "EQ Low" and "EQ High".

Another process is the high-pass and low-pass filters that are configured to 12dB/Oct or 24dB/Oct depending on the speaker model. The crossover frequency of the high pass filter is changeable through the Sub set up in the Menu. If Sub is OFF: the high-pass filter is active at the lowest possible frequency in the speaker's frequency area. If sub is ON: the high-pass filter is active at a higher frequency to combine with the crossover frequency of a sub.



4.2.- Technical Specifications

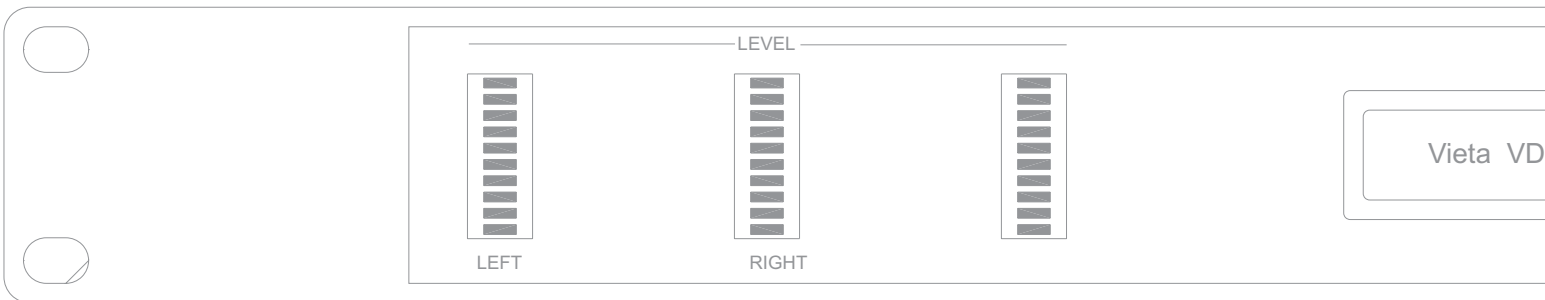
Description	Signal processor of 2 stereo routes with VDC technology.
Possible configurations	Two stereo routes + monophonic subgrave.
Signal inputs (L, R)	Signal inputs balanced through XLR connector. Connecting code: Pin 1 Mass. Pin 2 Positive (+). Pin 3 Negative (-).
Control signal inputs (L, R, Sub)	Return signal input of loudspeakers through connector of extractable strip. Connecting code Pins 1 and 2 sub graves. Pins 3 and 4 right channel. Pins 5 and 6 left channel.
Signal output (L, R, Sub)	Signal outputs balanced through XLR connector. Connecting code: Pin 1 Mass. Pin 2 Positive (+). Pin 3 Negative (-).
Impedance input	20kOhms
Output level (charge 600 ohms)	+18dBV
Relation signal noise	> 85 dB.
High-pass and low-pass filters	24-12dB/oct type Butteworth, Bessel or Linkzwey-Riley, depending of the system configuration.
Distortion	0.07% 1kHz, +18dBu
Feeding	230 V / 50Hz

4.3.- Mechanical Specifications

Dimensions (W x H x D)	483 x 44 x 310 mm. / 19 x 1,7 x 12,2 in
Net Weight	5,3 Kg / 11,66 lb

5.- NOTES

Notes:



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