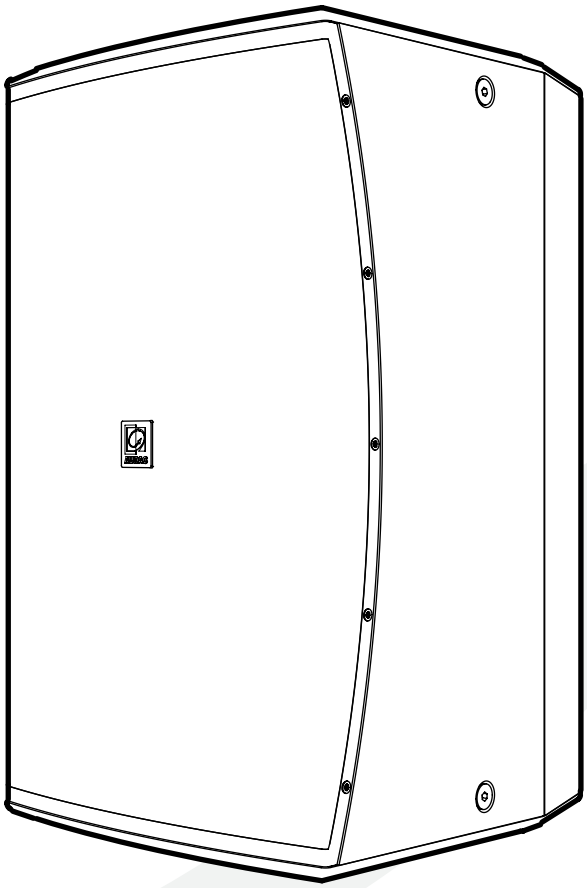
AUDAC

User manual

VEXO1xxA



ADDITIONAL INFORMATION

This manual is put together with much care, and is as complete as could be on the publication date. However, updates on the specifications, functionality or software may have occurred since publication. To obtain the latest version of both manual and software, please visit the Audac website @ www.audac.eu.

Table of contents

Active high performance loudspeaker

The VEXOxxA is a high-output loudspeaker cabinet, providing a powerful and detailed sound in a compact cabinet.
Their elegant enclosure allows them to be used in modern & trendy installation applications such as bars and nightclubs, while their functional features make them perfect for use in compact mobile systems. The integrated amplifier can deliver an impressive amount of power and includes a stereo line input which is implemented balanced and unbalanced, allowing convenient connection to any kind of audio source. It delivers a powerful sound. Compression driver overload protection is provided through an internal limiting circuit. Mounting in both horizontal and vertical direction is possible with the optional wall bracket and the rotatable horn. A standard 35 mm pole adapter can be installed when used in mobile applications. The VEXOxxA loudspeaker is available in Black (/B) or White (/W).

Precautions

READ FOLLOWING INSTRUCTIONS FOR YOUR OWN SAFETY

ALWAYS KEEP THESE INSTRUCTIONS. NEVER THROW THEM AWAY

ALWAYS HANDLE THIS UNIT WITH CARE

HEED ALL WARNINGS

FOLLOW ALL INSTRUCTIONS

NEVER EXPOSE THIS EQUIPMENT TO RAIN, MOISTURE, ANY DRIPPING OR SPLASHING LIQUID. AND NEVER PLACE AN OBJECT FILLED WITH LIQUID ON TOP OF THIS DEVICE

NO NAKED FLAME SOURCES, SUCH AS LIGHTED CANDLES, SHOULD BE PLACED ON THE APPARATUS

DO NOT PLACE THIS UNIT IN AN ENCLOSED ENVIRONMENT SUCH AS A BOOKSHELF OR CLOSET. ENSURE THERE IS ADEQUATE VENTILATION TO COOL THE UNIT. DO NOT BLOCK THE VENTILATION OPENINGS.

DO NOT STICK ANY OBJECTS THROUGH THE VENTILATION OPENINGS.

DO NOT INSTALL THIS UNIT NEAR ANY HEAT SOURCES SUCH AS RADIATORS OR OTHER APPARATUS THAT PRODUCE HEAT

DO NOT PLACE THIS UNIT IN ENVIRONMENTS WHICH CONTAIN HIGH LEVELS OF DUST, HEAT, MOISTURE OR VIBRATION

THIS UNIT IS DEVELOPED FOR INDOOR USE ONLY. DO NOT USE IT OUTDOORS

PLACE THE UNIT ON A STABLE BASE OR MOUNT IT IN A STABLE RACK

ONLY USE ATTACHMENTS & ACCESSORIES SPECIFIED BY THE MANUFACTURER

UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME

ONLY CONNECT THIS UNIT TO A MAINS SOCKET OUTLET WITH PROTECTIVE EARTHING CONNECTION

THE MAINS PLUG OR APPLIANCE COUPLER IS USED AS THE DISCONNECT DEVICE, SO THE DISCONNECT DEVICE SHALL BE READILY OPERABLE

USE THE APPARATUS ONLY IN MODERATE CLIMATES

CAUTION

The symbols shown are internationally recognized symbols that warn about potential hazards of electrical products. The lightning flash with arrow point in an equilateral triangle means that the unit contains dangerous voltages. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the users manual.

These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

CAUTION - SERVICING

This product contains no user serviceable parts. Refer all servicing to qualified service personnel. Do not perform any servicing (unless you are qualified to)

EC DECLARATION OF CONFORMITY

This product conforms to all the essential requirements and further relevant specifications described in following directives: 2014/30/EU (EMC) & 2014/35/EU (LVD).

WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The WEEE marking indicates that this product should not be disposed with regular household waste at the end of its life cycle. This regulation is created to prevent any possible harm to the environment or human health.

This product is developed and manufactured with high quality materials and components which can be recycled and/or reused. Please dispose this product at your local collection point or recycling centre for electrical and electronic waste. This will make sure that it will be recycled in an environmentally friendly manner, and will help to protect the environment in which we all live.

Chapter 1

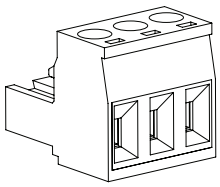
Connections and connectors

CONNECTION STANDARDS

The in- and output connections for AUDAC audio equipment are performed according to international wiring standards for professional audio equipment

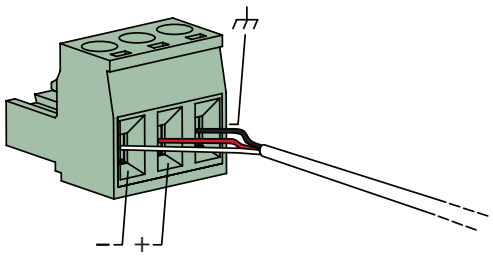
3-Pin Terminal block:

For balanced signal input and output connections

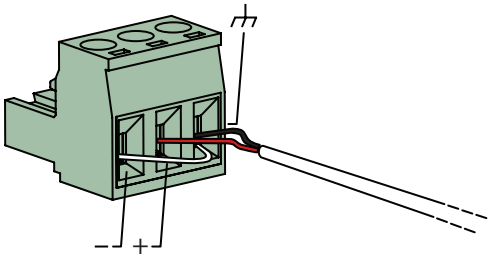


Left:	Signal -
Center:	Signal +
Right:	Ground

For balanced signal input and output connections

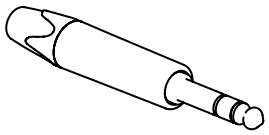


For unbalanced signal input and output connections



6.3 mm Jack (AUX):

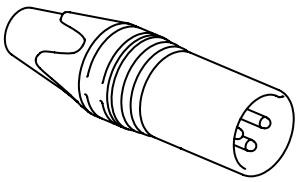
For balanced line input connections



Tip:	Sig +
Ring:	Sig -
Sleeve:	Ground

XLR

For balanced line input connections

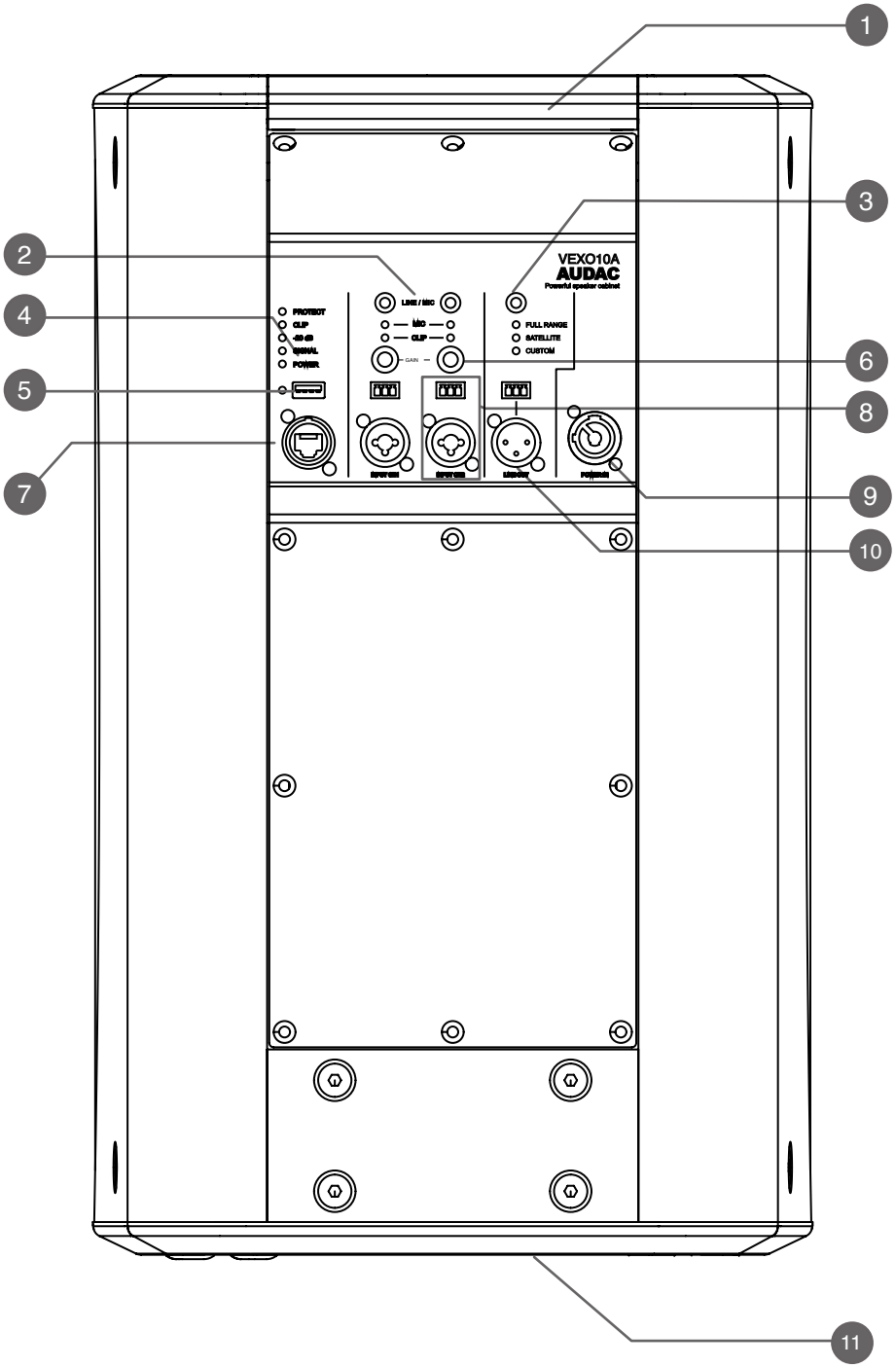


PIN 1:	Ground
PIN 2:	Sig +
PIN 3:	Sig -

USB

USB-A: For updates and custom WaveDynamics™ presets

Overview VEXO1xxA: Back



1) Integrated carry handle

The integrated handle allows easy movement and handling of the speaker.

2) Mic / line switch

The switch changes the input sensitivity of the amplifier in the speaker. In the 'Mic' position the input has a higher sensitivity than in the 'line' position (+23dB). You need a stronger signal to drive the signal in the 'line' position. For safety reasons, press and hold for three seconds to change the input.

3) Mode selection:

You can choose from different modes. By pushing the button, you can switch between Full Range, Satellite and Custom modes.

In full-range, the full capacity of the speaker is used. In satellite, the low frequencies are cut away. This requests for an external bass cabinet to be connected to the system.

In custom mode WaveDynamics™ can be configured live thanks to the ANI44XT module or can be uploaded thanks to the provided USB-port.

4) Status LED:

PROTECT: The Amplifier Protection Mode is a shutdown state that amplifiers can enter in critical situations. The purpose of the shutdown state is to prevent damage to the amplifier or other system components.

CLIP: The Clip LED illuminates when the channel is working at maximum level. To ensure the best signal-to-noise ratio, the Clip LED may only illuminate at peak levels.

-20 dB: the -20dB LED illuminates when the input signal reaches the -20 dBV level.

SIGNAL: The Signal LED illuminates whenever a signal is detected.

POWER: When the VEXO is on, the LED is blue. By default, the VEXO will go into standby mode after 20 minutes of inactivity. This is indicated by the LED turning orange. The time period for activating standby can be adjusted in the device settings.

5) USB port for custom WaveDynamics™ speaker presets

WaveDynamics™ is an audio control and processing technology implemented in AUDAC amplifiers. The powerful DSP processor, that is built in the amplifiers, can deliver control over the most advanced acoustic configurations. Custom WaveDynamics™ can be made in the AUDAC Touch2™ app and imported true this USB port.

6) Gain control:

The gain for the inputs is adjustable within a range of -∞ dB to +7 dB which can accept either microphone or line level signals.

7) Optional Dante network audio

The VEXO has the option to be equipped with a ANI44XT Dante™ audio network. The installation of this optional module allows these amplifiers to be integrated into any DANTE enabled AV network and transfer digital audio with any compatible product on the market, ranging from music sources to microphone systems, mixers, and many more.

When the optional ANI44XT module is installed, the VEXO1xxA can be connected to the network here.

8) Input connections

The combination input of XLR / 6.3mm Jack and the 3-pin terminal block accepts both XLR or TRS connections (such as microphones or other professional audio signals)

9) Powercon mains input connection:

For power supply, the VEXO model is equipped with a compatible PowerCON TRUE1 connector. The powerCON TRUE1 is a locking 3 conductor equipment AC connector.

10) Line output connections:

This XLR or 3-pin terminal block output connection should be used to connect to another active VEXO loudspeaker. Be sure that the polarity of the speakers is correct.

It is possible to intercept the line out signal at various times. See the block diagram on page 11 for more information.

Filters and/or delays pre-made in the AUDAC Touch2™ app can be transferred via the line out of the VEXO1xxA.

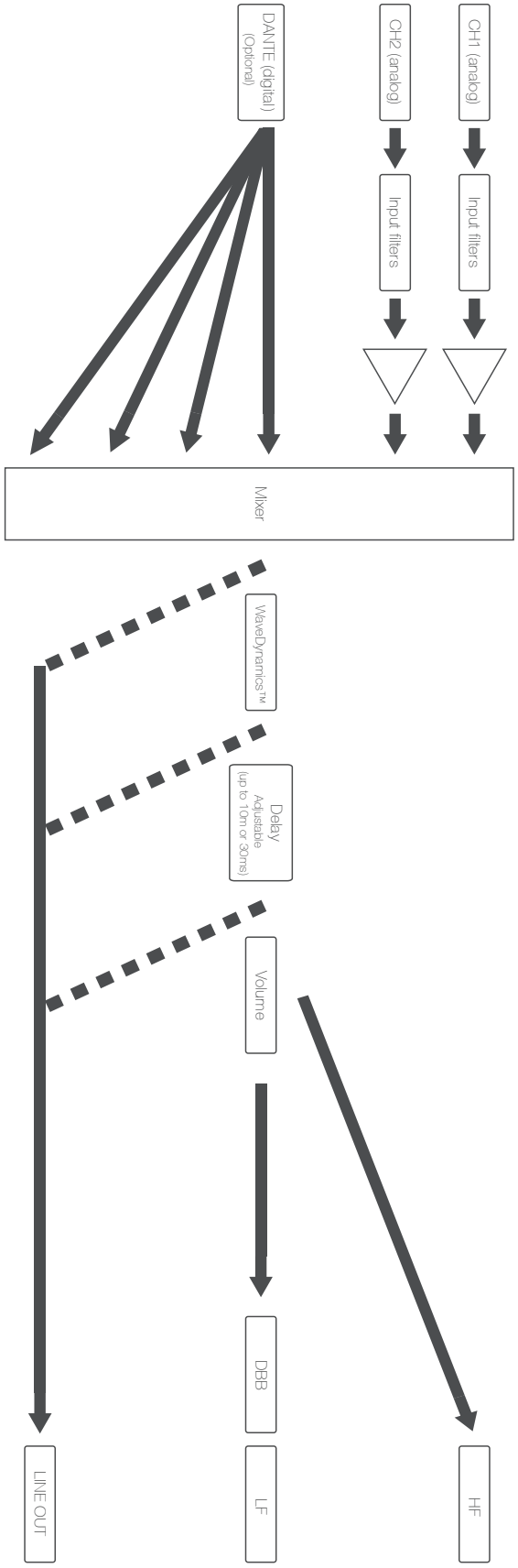
11) Integrated 35 mm pole adapter:

The pole adapter makes it possible to install the VEXO quickly and conveniently on speaker stands with a tube diameter of 35 mm.

Chapter 4

Block diagram DSP structure

The VEXO1xxA features a digital signal processor (DSP). A DSP is a processor specially designed for processing and modifying digital signals. In this block diagram, we give an overview of the processor's operation.



DSP functions

The DSP functions can be adjusted via the AUDAC Touch™ 2 app when the optional ANI44XT Dante™ audio network interface module is installed. The AUDAC Touch™2 app can be downloaded for free via the AUDAC website, Google play or Apple App store. After the adjustment, the new DSP settings can be applies to the VEXOxxA via a flash drive thanks to the provided USB port. When the ANI44XT module is installed, the DSP is updated live.

Talkover: The talkover functionality ducks other music sources to a certain level so spoken messages can be heared. Only analogue input channels and Dante 1 can be used as a source for talk over messages.

Line out: The “line out” selects the signal to be output. You can choose between:
Signal / Signal + EQ / Signal + EQ + Delay.

Standby: Standby mode can be enabled or disabled. The duration when standby is activated can be adjusted in the app. The default standby time is 20 minutes.

Anti phase: Phase shift is an audio effect that exploits the way sound waves react to each other when they are out of phase. Phase shift is most likely used to align top/sub speakers or to correct cables that have reversed phase.

Noise gate: A noise gate reduces any noises when there is no signal connected.

TouchLink: TouchLink™ is a system that can be used for creating virtual zones by linking multiple compatible devices with each other. In AUDAC Touch™ or directly on the device you can select multiple devices that should react to the user as one zone. More information about TouchLink™ can be found on the following URL:
https://audac.eu/innovations/d/touchlink

4-band input EQ: The four-band equalizer frequencies are infinitely adjustable within a range of 20 Hz to 20 kHz, while the Q-factor (bandwidth) is adjustable within a range of 0.05 to 15. The amplification or attenuation of each band can be adjusted within a range of +30 dB to -30 dB.

7-band output EQ: The seven-band equalizer frequencies are infinitely adjustable within a range of 20 Hz to 20 kHz, while the Q-factor (bandwidth) is adjustable within a range of 0.1 to 15. The amplification or attenuation of each band can be adjusted within a range of +15 dB to -15 dB.

Delay: This function enables to create a specific delay between the input and the output signal. This delay can be used for time alignment between different loudspeakers in one configuration. It is configurable within a range of 0 to 30mS (up to 10 meter).

MAX volume: The volume for the speaker can be limited at a certain level. The maximum output volume for this speaker will be limited at the selected level. The maximum volume can be adjusted witjin a range of -70dB to -0dB.

Dynamic bass boost: Dynamic bass will make a correction depending of the level (volume) in the low frequencies. This correction will make that music will sound warm and detailed (with true reproduction of low frequencies) at low volumes, but with increasing level (volume) the low frequencies will be weakened. This will result in less distortion due to reduced low frequencies at high volumes, allowing the loudspeaker to handle higher sound pressure levels with less distortion. It can be switched ON and OFF, whereby OFF means that dynamic bass is disabled and ON means that a level dependent correction in the low frequencies is made.

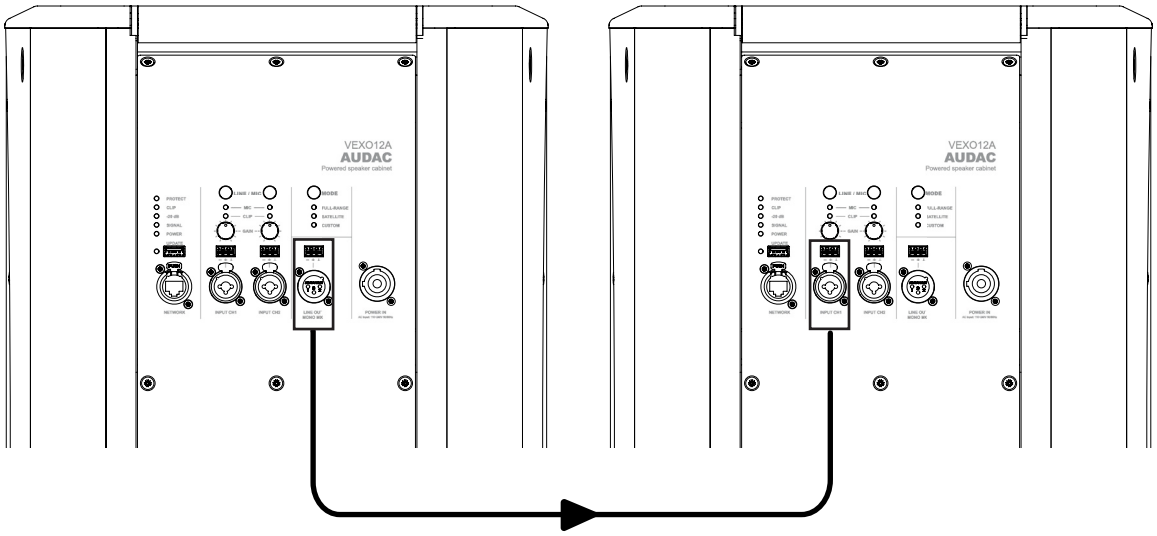
Chapter 5

Connecting VEXO1xxA

Several VEXOxxAs can be linked to each other. Make sure all devices are switched off

Insert an XLR cable or terminal block into the 'LINE OUT' output at the first VEXO. This cable can be connected to the next VEXO in 'INPUT CH1' or 'INPUT CH2'. The available signal can be defined in the DSP functions In the AUDAC Touch™ 2 app.

Repeat these steps for the amount of speakers you desire.



Updating VEXO1xxA

The software for the VEXO1xxA is constantly being improved. Please check www.audac.eu for possible updates.

New software can be found on the 'AUDAC system manager'. You can download and install the 'AUDAC system manager' on the AUDAC website. Place the update file in the root folder on a USB drive.

Insert the USB stick into the back of the VEXO. The POWER LED will blink (orange or blue).

During the update process the first MIC light will turn green.

When the update is completed the POWER LED will turn blue.

A power cycle is recommended after updating the VEXO1xxA

Technical specifications

	VEXO110	VEXO112	VEXO115
Peak Power handling	1200 Watt	1600 Watt	2000 Watt
Program Power handling	450 Watt	600 Watt	750 Watt
RMS/AES power handling	300 Watt	400 Watt	500 Watt
Nominal impedance	8 Ohm	8 Ohm	8 Ohm
Sensitivity 1W/1m	96 dB	99 dB	100 dB
Sound pressure Max W/1m	121 dB	125 dB	127 dB
Frequency response - 3dB	65 Hz - 20 kHz	58 Hz - 20 kHz	50 Hz - 20 kHz
Drivers	1.7" HF compression horn tweeter		
	10" MF / LF woofer	12" MF / LF woofer	15" MF / LF woofer
Coverage	90° x 70° (rotatable)		
Connectors	Input	Balanced 3.81mm 3-pin Terminal block	
		Combo Balanced XLR / 6.3 mm Jack	
		Remote connector RJ45 (Optional with ANI44XT module)	
	Output (linkthrough)	XLR connector	
		3.81mm 3-pin Terminal block connector	
Power consumption	Standby		3.3W
	Idle		22W
	1/8 rated output power		90W
	1/3 rated output power		190W
Construction	Plywood with Polyurethane coating		
Front finish	Powder coated steel grill witch acoustical foam		
Rigging points	10 x M10 (2 x top, 3 x bottom, 2 x each side, 1 x rear)		
Stand fitting	35 mm pole adapter on bottom		
Handle	1 x on top		
Mounting pattern	At the back of the device		
Colour	White (RAL9003)		
	Black (RAL9004)		
Dimensions (w x h x d)	329 x 540 x 345 mm	369 x 610 x 390 mm	429 x 690 x 450 mm
Weight	17.7 Kg	23.3 Kg	28.9 Kg
Optional accessories	ANI44XT Dante module		
	Wall & ceiling mounting bracket (MBK series)		

Notes

Discover more on audac.eu