

DEVINE

Onyx Active 12SA / 15SA / 18SA Active subwoofer



User manual

The information in this user manual is subject to change at any time without notice.

Version: 1.0

Date of creation and author's initials: 23-09-2017 RV

Revision date and author's initials: -

Introduction

Thank you for purchasing this Devine Onyx active subwoofer. We advise that you read this user manual in its entirety before unpacking the contents of the box, so that you are familiar with all of the functionality that this product has to offer. Please be sure to check that all of the parts and accessories listed below under 'box contents' are included in the package. In the event that the product does not function properly, or if you have any issues while operating it, please remove the plug from the power socket and contact your dealer for assistance.

Box contents:

- Devine Onyx active subwoofer, in 12, 15 or 18 inches
- power cable IEC C13 to Schuko

Please inspect the device and the included accessories.

Should you discover that either the device or one or more of the included parts have been damaged or rendered defective while in transit, please contact your dealer directly.

Please note that the pictures in this user manual serve illustrative purposes only and may differ from the product you receive.



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Contact:

Devine Pro Audio Products
Verrijn Stuartweg 18
4462 GE Goes
The Netherlands

*Please do not send any products to this correspondence address.
Should you wish to send in a product for repair or for a refund, please contact your dealer for an RMA
(Return Merchandise Authorisation).*

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Safety instructions



WARNING!



Keep this device away from moisture, water and rain to avoid the chance of electric shocks.

Everyone involved with the installation, operation and maintenance of this device must:

- Be qualified
- Be skilled
- Have read the instructions in this user manual
- Be sure that neither the device nor the included accessories are damaged. Should the device or the included accessories be damaged, please contact your dealer for more information.
- Ensure that the device is in good working condition and is safe to operate. Please follow the advice and instructions as they are described in this user manual.

Damage caused by misuse and/or modifications made to the device are not covered by the warranty. This device does not contain any parts that need to be repaired or replaced by the user. Should maintenance or repairs be necessary, they must be handled by a qualified technician.

Important information regarding health and safety:

- Do not remove any labels or stickers from this device.
- Do not leave any cables lying around.
- The device should not be opened up, and any hardware or software that may be present should not be modified.
- To achieve optimal performance, inputs on this device should not be fed with a signal higher than necessary.
- The device should only be used indoors; contact with water, rain and moisture should always be avoided. Do not place any objects containing liquids on top of the device.
- Remove the device from any nearby flames or heat sources; do not place it near flammable fluids, gasses or objects.
- Disconnect this device from the power supply if it will not be used for a longer period of time, if maintenance is necessary, or if the device needs to be cleaned.
- Do not pull on the cable to remove a connector, as it can cause damage.
- Do not use any cables other than the ones described in this manual. Do not use defective cables. Please contact your dealer if the included or necessary cables do not function properly with this device.
- Only use this device with power from a grounded power source.
- In the event that the device is exposed to extreme temperature changes (e.g. transported through a cold outdoor environment into a warm indoor environment), it should not be turned on until it has reached room temperature. This is necessary to prevent moisture from forming in the device, which could lead to electric shocks.

Guidelines and operation of this device:

- This device is intended for adult use only.
- This device is not suitable for use by children, and should always be operated by an adult.
- This device may only be used in a suitable environment where no damage to the device can occur. Do not use the device in moist or dusty environments such as:
 - indoor swimming pools where chlorine is used
 - beaches where there is sand and salt
 - outdoors
 - indoors in spaces where intense heat sources are present, or where it reaches temperature levels that would be considered uncomfortable for a person
- Avoid impacts and collisions during use and transport. Do not transport the device while it is in use. Avoid using excessive force when installing and operating the device.

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- The user should become familiar with the functions of this device before using it.
- The user should be able to stop the device's power supply in case of emergencies. At least one of the following should therefore be accessible at all times:
 - the on/off switch on the back of the unit
 - the power cable connector on the back of the unit
 - the power socket the cable is plugged in to
 - the power socket switch or extension cable switch
- Should the device not be used in the manner described in this user manual, damages or even injuries could occur. Devine cannot be held responsible for any injuries or damages that occur as a result of improper use of this product.

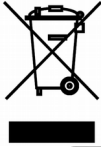


Storage and transport:

- This product is designed for mobile use. It can be transported separately as long as it's well-protected against shocks and collisions.
- This device is not designed for permanent (24/7) use. The expected lifespan of the device will not be affected by occasionally turning the device off. Disconnect the device or turn off the power when it is not actively in use.
- If the device will not be used for a longer period of time, it should be disconnected and stored in a dust-free environment.
- Do not expose the device to extreme temperature differences.

Housing

- Inspect the device's housing frequently, and always just before use. Avoid operating the device if there are large dents or cracks, or if screws are missing. Do not use the device if the housing is not in good condition. Contact your dealer or a qualified technician if you are unsure about the state of the device.
 - Check the device and the screws for corrosion. Corrosion must not be present on this device. Contact your dealer or a qualified technician if you find any corrosion on the screws.
- Every power and signal connector should be securely mounted. Do not use the device if the connectors are not secure.
- Avoid dust and dirt build-up. Clean the device once a month by disconnecting it from the power supply and wiping it down with a dry or slightly moist cloth. If the device is used frequently, the cleaning intervals should increase.

Symbol explanation:

	<p>WEEE: Ensure that this device is disposed of properly. This product falls under the WEEE (Waste Electrical and Electronic Equipment) directive. The requirements of this directive apply to all manufacturers and producers of electronic devices in the EU. Do not throw this product away with regular rubbish. Please contact your local authority for more information about how to recycle and dispose of these products in your region. By recycling this product in the proper manner, we can work together to ensure that we can continue to enjoy these kinds of products and still protect the environment as much as possible from pollution.</p>
	<p>CE: The CE logo indicates that this product meets the European norms and requirements to which it must legally conform.</p>
	<p>Only suitable for indoor use: this product was only designed for indoor use. The maximum environmental temperature must not exceed 40 degrees Celsius (104 degrees Fahrenheit).</p>

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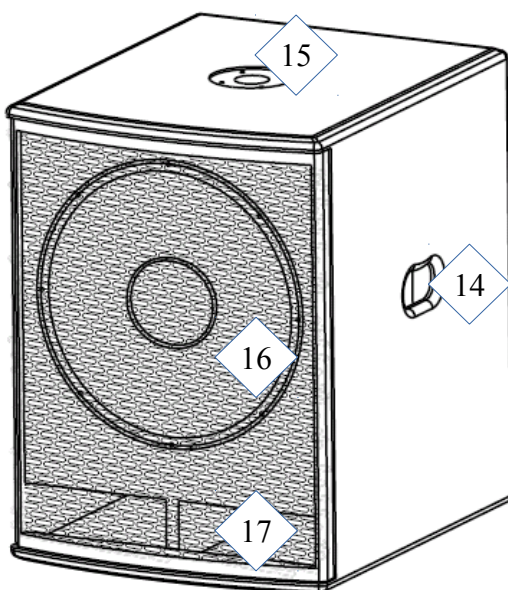
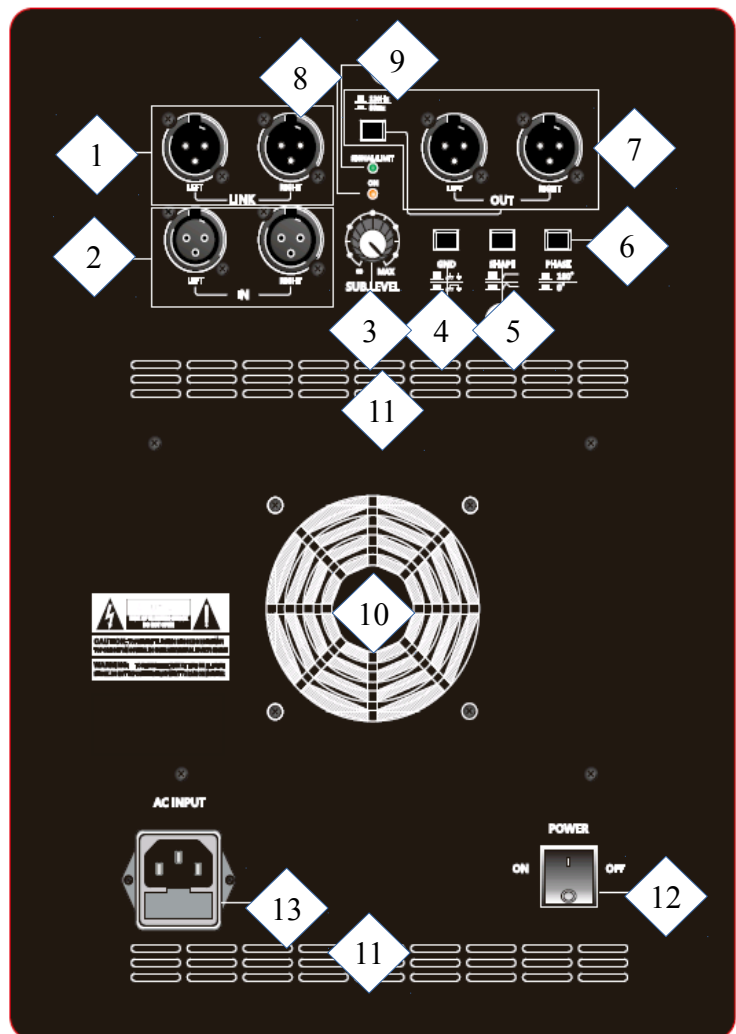
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Guidelines and operation of this device

These images apply to all models.

1. link outputs (copy of input signal) via balanced 3-pin XLR
2. inputs via balanced 3-pin XLR
3. subwoofer volume control
4. ground lift, interrupts the ground loop of the audio inputs to eliminate interference
5. boost filter, boosts frequencies around 45 Hz when switched on
6. phase inverter (180 degrees)
7. filtered outputs via balanced 3-pin XLR + low cut, cuts off frequencies lower than 80 or 120 Hz
8. clip limiter LED
9. signal indicator LED
10. fan
11. ventilation slots
12. on/off switch
13. IEC C14 power input with fuse holder
14. handle
15. M20 screw thread for mounting a distance pole
16. low tone speaker
17. bass reflex ports



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Operating the device

The Onyx subwoofers can be used for different purposes, but it's important to be aware of the following information beforehand in order to achieve optimal performance.

Warning before use

Devine's Onyx subwoofers are capable of producing volume levels that can cause temporary or permanent hearing damage. Use these units with care and keep the volume at a reasonable level when possible. The volume should ideally be set to a comfortable level when listening to music.

Devine cannot be held liable for any injuries or damage resulting from the use of this product.

General use

Housing

The Onyx subwoofer has a robust housing with a wooden frame and internal bracing to give it added strength. The exterior has been given a special coating to protect it from light impacts and help prevent scratches.

During use, storage and transport, ensure that the subwoofer cannot fall or be damaged by nearby objects that could fall or move.

Handles

The Onyx subwoofers are equipped with handles on the side. With the exception of the 18-inch model, they have one handle on each side. Due to its size and weight, the 18-inch subwoofer is equipped with two handles on each side.

The handles make it easier to pick up and move the subwoofer. It's possible to stack up to two subwoofers on top of another one for a maximum stack of 3. It's possible to use harnesses or tension straps when moving the subwoofer but please be aware that this may damage the finish on the handles.

Wheels

The 15-inch and 18-inch subwoofers are equipped with screw threads and bolts for mounting wheels. Standard 80 or 100 mm wheels from any reputable supplier can be used so long as they have bolt holes measuring 80 x 60 mm. Fixed or swivel castors are both suitable, with or without brakes. We recommend the use of wheels with brakes so that the wheels are fixated during use and won't make unnecessary noise during use.

Whenever the subwoofer is transported in a vehicle like a car, bus or truck, we recommend placing it on its feet to prevent it from moving.

If you do not want to attach wheels to the subwoofer (because it will be placed in a permanent location, for instance), we recommend leaving the bolts in place to prevent holes in the housing which will cause additional air displacement.

Protection during transport

While the Onyx subwoofers can be transported, they are not waterproof and caution is therefore advised if they taken outside during rain or in adverse weather conditions. If they are exposed to moisture in any form, ensure that they are completely dry again before use. Failure to do so may result in a short circuit which could cause permanent damage or injury. Exposure to moisture can also cause visible or invisible corrosion which may cause damage in the long term.

Grille

The Onyx subwoofers are equipped with a metal grille on the front to protect the speaker components behind. There is also acoustic foam behind the grille to prevent any unwanted matter from getting inside the speaker. The grille should therefore not be removed.

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Speaker pole mount

The Devine Onyx subwoofers are equipped with a pole mount with an M20 screw thread. This means that a suitable speaker pole can be screwed in securely to provide a stable platform for mounting a full-range speaker on top. Due to a subwoofer's heavier weight and larger dimensions, this setup is space-saving as well as stable. Naturally, the subwoofer needs to be placed on a flat surface that is capable of holding the weight of the subwoofer with a speaker on top.

Voltage switch

The subwoofer is equipped with a voltage switch for extra versatility. By default, it should be set to 230V and need no adjustment. In case of doubt, please contact your dealer.

Audio technology

The Onyx speaker series features the very latest in audio technology. By adhering to the following tips and instructions, you can make the most of everything this subwoofer has to offer for the very best audio and performance quality possible.

LED indicators

The green LED on the speaker will light up whenever the subwoofer is connected to an active power source and turned on.

The red LED on the speaker is an indicator for the clip limiter and will light up whenever the amplifier module is overloaded by an input signal that is too loud. In this case, appropriate adjustments should be made until the red LED indicator no longer lights up.

Continually overloading the amplifier module and causing the red LED to light up is likely to cause permanent damage to both the amplifier module and the speaker components and shorten their lifespan considerably. Damage caused by negligent use is not covered by the warranty.

Connectors

The Onyx subwoofers support 2.1 setups (1 subwoofer + 2 speakers) and are equipped with functions and connectors specifically for this purpose. The sound source should be connected to the subwoofer first via the two input connectors where the low tones will be filtered out. The speakers should then be connected to the subwoofer's outputs.

Outputs:

The Onyx series subwoofer's outputs are designed for connecting powered satellite or full range speakers. They filter out the low frequencies so that each part of your system can focus on the frequencies it reproduces best for optimal results.

Link out

The Link outputs are designed for connecting additional (full-range) speakers or subwoofers. The link outputs do not filter out the low frequencies like the filter outputs do so that (full-range) speakers and subwoofers connected to the link outputs receive the full signal that they can then filter themselves. If the standard filtered outputs are used with a subwoofer there will be nothing left for it to output.

When using a microphone

It's not possible to connect a microphone directly to the Onyx subwoofer. This should be done via a PA mixer so that the volume and sound can be controlled. The mixer's main output can be connected directly to the subwoofer.

For optimal sound quality, a microphone should be placed at a maximum distance of 5 cm away from the mouth and spoken into at a sufficient volume so that minimal amplification is necessary. A microphone is directional and will not usually capture much sound from the back or sides.

Microphones should never be held directly in front of a speaker as this can cause feedback, which results in a loud, high-pitched tone. Should this happen accidentally, remove the microphone from the vicinity of the speaker immediately and turn down the volume control.

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People using microphones should ideally stand directly next to or behind speakers in order to prevent any problems with feedback. Standing in front of a speaker will almost always result in the sound of the speaker itself also being picked up by the microphone.

Using with external equipment

It's possible to use the Onyx subwoofer with external equipment like crossovers, equalisers and speaker management systems. Bear in mind that using external equipment may change the character of the speaker's sound.

If you use a speaker management processor or a crossover, it's possible to bypass the subwoofer's internal crossover. To do so, connect your device directly to the subwoofer and speakers so that they are no longer connected to each other. The advantage of this setup is that you can determine the crossover frequencies yourself.

Using in combination with speakers

The Onyx subwoofers work seamlessly with Onyx speakers. The subwoofer should preferably be one size larger than the Onyx speakers for the perfect setup. The signal from your source (mixer, smartphone, laptop etc.) should be connected to the subwoofer first and then from the subwoofer to the speakers. This setup allows the subwoofer to reproduce the low tones while the higher frequencies are passed on the speakers through the subwoofer's outputs. This allows each part of your sound system to focus on what it does best. The signal from the speakers can then be connected to additional speakers if you want to work with more speakers and one subwoofer.

If you want a setup with more subwoofers and more speakers, the left and right signals should be separated. They should still go through the subwoofers first. Use the Link function to connect subwoofers and connect the speakers to the last subwoofer in the chain via the filtered output. This means that each subwoofer gets the full signal and can filter out the low frequencies itself. The last subwoofer in the chain will then pass the filtered signal on to the speakers for the best possible sound quality without having to use any external equipment.

Using external equipment like a speaker processing system gives you additional possibilities when it comes to tweaking the sound and making adjustments that are pertinent to your situation.

45 Hz boost

The 45 Hz boost function can be activated via a button on the back of the subwoofer. As its name suggests, it boosts frequencies around 45 Hz giving the bass even more prominence. This can also help to give background music a fuller sound.

180-degree phase button

The 180-degree phase button is not normally required but can be handy to resolve problems with frequencies that interfere with one another or cause feedback through speakers. Pressing the button reverses the phase of the signal.

Crossover switch

The crossover switch has two frequency presets of 80 Hz and 120 Hz. Only frequencies above the set values will be sent to the speakers via the standard outputs.

Smaller speakers are not as good at handling lower frequencies so when using smaller speakers you should filter out as many of the lower frequencies as possible by setting the Crossover switch to 120 Hz.

For larger speakers that are 12 or 15 inches in size, for instance, a crossover setting of 80 Hz is suitable. Frequencies below this value will then be reproduced by the subwoofer while the speakers can reproduce the mid and higher frequencies.

This is just a guide and may not be the best setup depending on the rest of your equipment and situation. It's always worth experimenting with settings and listening to the results to find the optimal sound.

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Subwoofer troubleshooting guide

If you have a problem with your subwoofer, please consult this troubleshooting section for possible solutions. If, after consulting this section, the problem remains unresolved, please contact your dealer for more information and/or help.

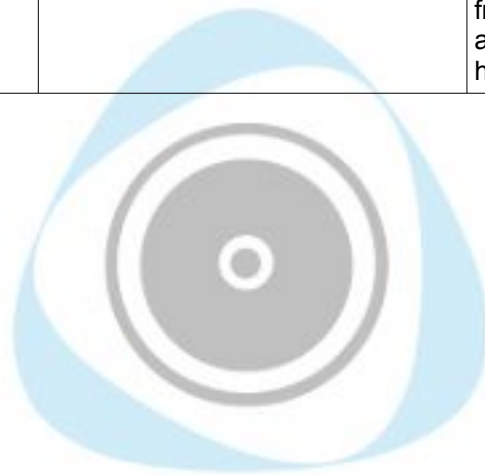
This troubleshooting section contains information on how to solve the most common subwoofer problems, but it does not and cannot cover every eventuality. It is possible that you won't find your problem, cause and solution in this section due to differences between various connecting devices.

Problem	Possible cause	Solution
Speaker does not turn on with mains power	Defective fuse	Check the fuse, which is located under the power input, to rule out if it's blown or not. If it is blown, replace it with a new fuse of the same type and class.
	Problem with the power cable	Check that the power cable is plugged into an active power socket and the subwoofer properly. Try using another cable of the same type to determine if there's a problem with the power cable and if there is, the problem cable needs to be replaced.
	Speaker doesn't turn on	Check if the power switch on the back of the speaker is set to the 'on' position.
	Power LED doesn't light up	If the subwoofer is connected to an active power socket, the fuse has been checked and the power switch is ON but the power LED is not lighting up, there may be a problem with subwoofer itself. In this case, the subwoofer should be turned off again and you should contact your dealer for more help.
No sound via one of the inputs	Cable not connected properly	Make sure the cable between your sound source and the subwoofer is connected properly.
	Line/mic signal switch in wrong position	If present on the input channel, set the signal switch to the correct position for the connected device.
No sound from the master output	Volume control is not turned up	Turn up the master control volume to a sufficient level.
Red Clip Limiter LED lights up often or continually	volume is too high	Lower the volume of the input signal or the subwoofer's volume. Overloading the subwoofer can cause permanent damage.
Distorted, clipping, crackling sound	The connected device is transferring a distorted signal	Check if any of the connected source devices is transferring a distorted signal and turn down the volume on the device if necessary.

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	Volume control is too loud	Turn the volume down
	The tone controls for treble and/or bass are too high or too low.	Turn the tone control back to 12 noon and listen to see clipping is still audible.
	Woofers or tweeters are defective	If a speaker is exposed to a loud, distorted, or clipped signal for a longer period of time, this can cause permanent damage to its internal components. If you suspect that the woofer or tweeter is damaged, contact your local dealer for assistance.
Subwoofer sound fades or is very prominent in certain places	Incorrect positioning/acoustics	Try repositioning the subwoofer or using the phase button to see if that resolves the problem. If the problem is caused by the acoustics of the room or frequencies interfering with one another, these solutions should help.



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Specifications

General specifications for all models:

- robust subwoofer in strong plywood housing
- available in 12, 15 and 18 inches
- metal grille
- acoustic foam behind grille to prevent any unwanted matter from getting inside the speaker
- grille covers the front of the subwoofer for optimal protection
- high-quality finish with black scratch-resistant finish
- rubber feet
- filtered and unfiltered line outputs
- M20 pole mount
- 45 Hz boost button for even more prominent bass reproduction when required
- built-in clip limiter
- Power LED indicator and Clip LED indicator
- 2-band tone control (Bass / Treble)
- IEC C14 power input with fuse holder
- on/off switch

Mixer connectors:

- mini TRS jack line input
- 3-pin XLR or jack plug balanced input, switchable between line and mic signal
- 3-pin XLR or stereo RCA input (mono summing) line input
- 3-pin XLR line output (master line out)

Technical specifications per model:

Model	Onyx 12SA	Onyx 15SA	Onyx 18SA
Frequency range	40 Hz – 150 Hz	35 Hz – 150 Hz	30 Hz – 150 Hz
Amplifier power (RMS / Peak)	450 W / 1800 W	600 W / 2400 W	600 W / 2400 W
Amplifier type	Class D		
maximum SPL	120 dB	126 dB	136 dB
Low tone speaker	12-inch woofer with 3-inch voice coil	15-inch woofer with 4-inch voice coil	18-inch subwoofer with 4-inch voice coil
Connection voltage	110 – 230 V AC, 50/60 Hz		
Fuse	T5.0 AL 250V		
Nominal maximum power consumption	720 W		
Dimensions	495 x 590 x 540 mm	530 x 700 x 625 mm	610 x 745 x 680 mm
Weight per speaker	23.5 kg	32.5 kg	38.75 kg

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