



# OPERATION MANUAL

**M&K Sound**  
**In-Wall Subwoofer System**

**IW28S**  
**VA500**



M&K Sound · Denmark · [www.mksound.com](http://www.mksound.com)

***The Choice of Professionals®***

Ver. 1.1 - JULY 2016



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## 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 blade 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.
- 13) Unplug this apparatus during lightning storms or when unused for long periods of time.
- 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.
- 15) The equipment shall be used at maximum 35-degree C ambient temperature.
- 16) Do not open the equipment to reduce the risk of electrical shock. For safety reasons it is only allow to the opened by qualified service personnel.
- 17) WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. And the apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- 18) The MAINS plug is used as the disconnect device and shall remain readily operable.
- 19) The product shall be used on open bench.
- 20) No naked flame sources, such as lighted candles, should be placed on the apparatus.
- 21) The apparatus is suitable for use in tropical climates.



	Le symbole de l'éclair avec une flèche à son extrémité, dans un triangle équilatéral, a pour but de vous avertir de la présence d'une « tension électrique dangereuse » et non isolée à l'intérieur de l'enceinte de l'appareil, qui peut être suffisamment puissante pour constituer un risque d'électrocution pour les personnes.
	Le point d'exclamation dans un triangle équilatéral vous avertit de l'existence d'instructions importantes de fonctionnement et d'entretien (intervention) dans la documentation accompagnant l'appareil.

## Consignes de sécurité importantes

- 1) Lisez ces instructions.
- 2) Conservez ces instructions.
- 3) Observez tous les avertissements.
- 4) Suivez toutes les instructions.
- 5) N'utilisez pas cet appareil à proximité de l'eau.
- 6) Utilisez uniquement un chiffon sec pour le nettoyer.
- 7) Ne bloquez pas les ouvertures de ventilation. Installez conformément aux instructions du fabricant.
- 8) Ne l'installez pas à proximité de sources de chaleur telles que des radiateurs, des bouches de chaleur, des poêles ou d'autres appareils (amplificateurs compris) produisant de la chaleur.
- 9) Ne pas contourner le dispositif de sécurité de la fiche polarisée. Une fiche polarisée possède deux lames dont une plus large que l'autre. La grande lame est fournie pour votre sécurité. Si la fiche fournie ne rentre pas dans votre prise, consultez un électricien pour le remplacement de la prise obsolète.
- 10) Protégez le cordon d'alimentation, surtout au niveau des fiches, des prises et des points où il sort de l'appareil, pour éviter qu'on ne marche dessus ou qu'on ne le pince.
- 11) Utilisez uniquement les accessoires spécifiés par le fabricant.
- 12) Utilisez uniquement avec le chariot, le socle, le trépied, la table ou le support spécifié par le fabricant ou vendu avec l'appareil. En le fabriquant ou vendu avec l'appareil. Cas d'utilisation d'un chariot, faites attention lorsque vous déplacez l'ensemble chariot / appareil de ne pas le renverser.
- 13) Débranchez cet appareil lors d'orage avec foudre ou lorsque vous ne l'utilisez pas pendant des périodes prolongées.
- 14) Faites-le réparer et entretenir par un personnel de service qualifié. Il est nécessaire de faire réparer l'appareil lorsqu'il a subi des dommages quelconques du type suivant : cordon ou fiche d'alimentation abîmé, liquide renversé ou objets tombés dans l'appareil, exposition de l'appareil à la pluie ou à l'humidité, mauvais fonctionnement ou chute.
- 15) La température ambiante lors de l'utilisation ne doit pas dépasser 35 degrés Celsius.
- 16) Afin de réduire les risques d'électrocution, n'ouvrez pas l'équipement. Pour des raisons de sécurité, seul du personnel d'entretien qualifié est autorisé à l'ouvrir.
- 17) ATTENTION: Pour réduire le risque d'incendie ou d'électrocution, n'exposez pas cet appareil à la pluie ou à l'humidité. De plus, l'appareil ne doit pas être exposé au dégouttement ou aux éclaboussures et aucun objet rempli de liquide, tel qu'un vase, ne doit être posé sur l'appareil.
- 18) La fiche d'alimentation CA sert de principal dispositif de déconnexion et doit toujours être capable de fonctionner correctement.
- 19) Ce produit doit être utilisé sur une surface ouverte
- 20) Aucune source de flamme nue, telle, que des bougies allumées, ne doit être placé sur l'appareil.
- 21) L'appareil est adapté pour une utilisation dans les climats tropicaux.



	Le symbole de l'éclair avec une flèche à son extrémité, dans un triangle équilatéral, a pour but de vous avertir de la présence d'une « tension électrique dangereuse » et non isolée à l'intérieur de l'enceinte de l'appareil, qui peut être suffisamment puissante pour constituer un risque d'électrocution pour les personnes.
	Le point d'exclamation dans un triangle équilatéral vous avertit de l'existence d'instructions importantes de fonctionnement et d'entretien (intervention) dans la documentation accompagnant l'appareil.

# Congratulations!

Your new M&K speaker system will give you years of unmatched enjoyment and excitement while listening to your favorite music and audio/video sources.

We encourage you to read this owner's manual, as there is a great deal of information provided here to help you achieve the best possible performance from your new speakers.

If you have any questions about your speaker system, please contact your M&K dealer.

Additional information may also be obtained on our web site: [www.mksound.com](http://www.mksound.com).

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Serial Number:	
Date of Purchase:	
Dealer Name:	
Dealer Address:	
City/State/Zip:	
Country:	
Invoice Number:	

## Introduction

M&K Sound in-wall subwoofer IW28S and amplifier VA500 form an integrated system, designed for easy in-wall installation.

The amplifier is especially designed to power the IW28S, and cannot be used in combination with any other products.

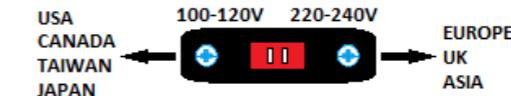
The VA500 amplifier features a specially designed three-position EQ switch located on the amplifier front panel, designed to tune the response of the IW28S subwoofer for the most accurate bass performance in different positions.

## Connecting the VA500 Amplifier

Adjacent to the AC power cord receptacle on the back of the amplifier you will find a voltage selector switch preset at the factory for the proper local voltage.

**Always check to make sure that your subwoofer is set to your country's voltage.**

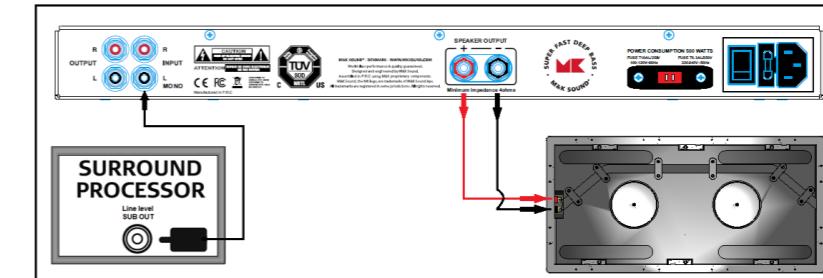
If the input voltage needs to be changed, the correct fuse value must be inserted in the fuse holder next to the AC socket.



(DIFFERENT FUSE VALUES ARE INCLUDED IN THE ACCESSORY PACK)  
100-120 Volt T10AL/250 Volt – 220 Volt T6AL/250 Volt.

(If you have questions about this, contact your M&K Sound dealer)

The VA500 amplifier is provided with a detachable power cord, **ALWAYS** attach the cord to the subwoofer first, **BEFORE** plugging it into the AC wall socket. Do NOT use "switched" power outlet found on the back of some receivers, processors and amplifiers.



### Subwoofer Line-Level In Connection

The VA500 amplifier features phono connectors for line level input. Use the line-level subwoofer output labeled "Sub", "Sub Out", "SW", "LFE" from your surround receiver or processor. When connecting subwoofer signal from receiver or processor to the amplifier, use only Left Mono phono input on amplifier for correct control of the amplifier's auto on/off functions. If using "Y-splitter" phono connector, use Left and Right inputs. The phono outputs are not affected by the crossover, and operate as sub "signal throughput only".

### Speaker Output Connection to Subwoofer

Connect speaker cable between the subwoofer's push terminals and the binding posts on the rear of the amplifier. The subwoofer's push terminals accept wire thickness up to 5 mm /AWG 6 for wiring to amplifier. The amplifier binding posts accept banana plugs, spade connectors or "stripped" cable. In surround system setup, it is important to wire all speakers correctly for proper phase. It is recommended to use speaker cable with wires marked for **positive** and **negative** leads, for easy visual check of connection.

## Basic Amplifier Functions

Once your main connection and audio connections are complete, you are ready to start operating the amplifier in basic mode.

	Set main Power Switch on amplifier back panel to "On"
	Set main selector on front to "Off" (LED on front stays Red)
Before starting up amplifier, set front panel controls to following recommended <b>default operation positions</b>	
	<p>Set "VOLUME" control to "Minimum level"</p> <p>When turned all the way to the left, the volume control clicks and activates fixed level.</p> <p>To set volume at "minimum position", turn the volume control slightly right to click and allow adjusting volume level.</p>
	<p>Set PHASE control at "0" and CROSSOVER to "BYPASS"</p> <p><b>FOR MORE DETAILS ABOUT PHASE CONTROL, PLEASE VISIT <a href="http://WWW.MKSOUND.COM">WWW.MKSOUND.COM</a></b></p>
Select either <b>Auto</b> or <b>On</b> to turn on the Amplifier.	
	<p>In "AUTO" position your amplifier remains in standby, until it receives an audio signal.</p> <p>At that point, it automatically switches on and continues operation as long as an audio signal is detected. After a few minutes without an audio signal, it will power down to Standby.</p>
	<p>With the power switch in the "ON" position, the subwoofer is always ready to play, regardless of whether a signal is present or not.</p>
	<p>Now, play some music through your system, and turn up volume from minimum to approximately 11 o'clock.</p>
	<p>Once you confirm your subwoofer is playing, turn the <b>VOLUME control</b> back to "<b>Fixed level</b>" position and you are ready to perform overall system calibration from your processor's bass management setup menu.</p>

## Speaker Placement

Before cutting a hole in the wall for the IW285 subwoofer, optimal placement must be determined. Subwoofer interaction with room environments can cause significant variations in bass performance.

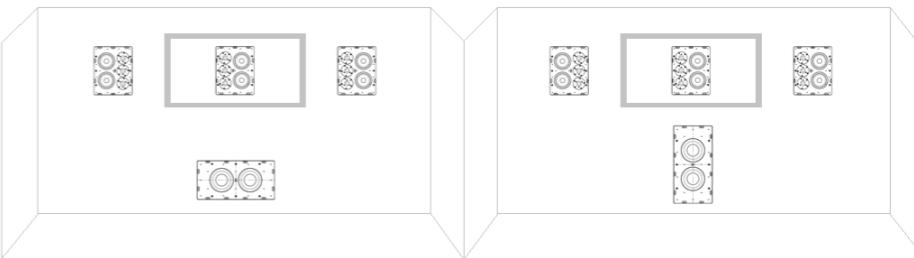
Placing a subwoofer in a corner will typically add "level boost" (room gain) at the lowest frequencies. When the sub is placed in the middle of the room, the lower frequencies will be less affected by low frequency "room gain".

For basic calibration considering the room effects at low frequencies, the M&K Sound VA500 Sub amplifier is equipped with a three-position EQ switch on the front panel, to pre-adjust the EQ of the lowest bass frequencies in the IW285 subwoofer.

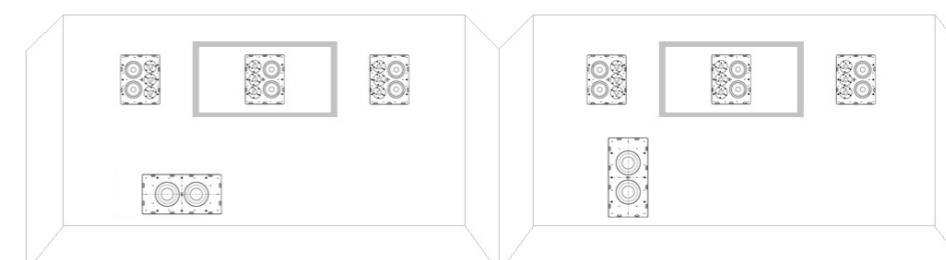
The feature does not affect the subwoofer's entire frequency range, but is designed to adapt the subwoofer's low frequency output in different positions in rooms.

### EQ Settings in Practice

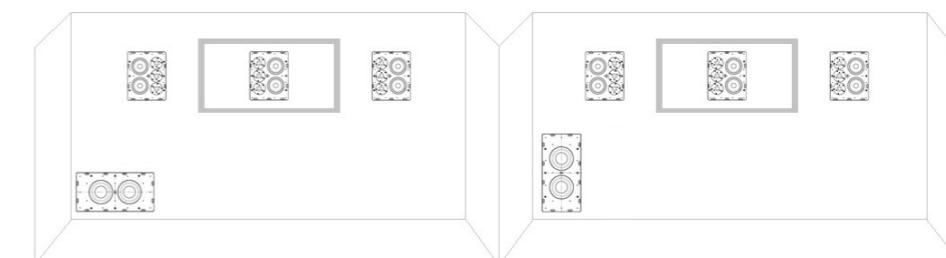
**EQ 1** is designed to be used when the subwoofer is placed in a mid-room position. Because mid-room placement has the least influence on the lowest sub frequencies, EQ 1 on the amplifier is designed to add +3dB extra boost at 40Hz.



**EQ 2** is designed to be used when the subwoofer is placed halfway between mid-room and corner position. EQ 2 delivers flat response at 40 Hz, because the typical room contribution of this placement is an additional +3 dB at the lowest sub frequencies.



**EQ 3** is designed to be used when the subwoofer is placed in a corner. EQ 3 is designed to reduce 40 Hz response by -3 dB to compensate for up to +6 dB room contributions at low frequencies in corners.



## EQ Settings for Multiple Subwoofers

When installing two subs in a given room position, use the same EQ setting as described for a single sub. The three EQ options designed to operate at 40 Hz will in practice provide the same balancing of the lowest frequencies for the following placements of multiple subs.

**EQ 1** = Two subs in front middle

**EQ 2** = Two subs in front halfway to corners

**EQ 3** = Two subs in front corners

**EQ 1** = One sub in front middle + One sub placed at back wall middle

**EQ 2** = One sub halfway in front + One sub placed diagonally halfway at back wall

**EQ 3** = One sub in front corner + One sub placed diagonally in back wall corner

## Connection of Multiple Subwoofers

The IW28S subwoofer is rated at 4 Ohms and designed only to be driven by one VA500 amplifier.

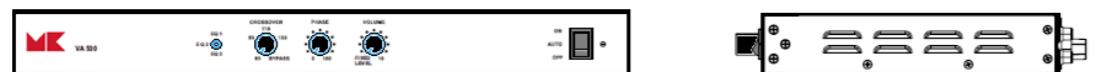
Connecting two or more VA500 amplifiers to support multiple subwoofers is easily done using the phono inputs and outputs. Simply connect phono interconnect between amplifier 1 **phono output** and amplifier 2 **phono input**. When linking amplifiers, use the LEFT (mono) connector.

## VA500 Amplifier As Stand-Alone Unit

The VA500 amplifier is fitted with removable rack ears.



To use the amplifier as a stand-alone unit, simply unscrew the rack ears, re-insert the screws into chassis, and mount the four shock-absorbing rubber feet.



## VA500 Amplifier Special Notes

The VA500 amplifier is a dedicated sub amplifier and will not reproduce frequencies above 200 Hz.

The VA500 amplifier is equipped with auto protection circuit for overload and short circuit.

If the amplifier goes into protection mode and front LED stays RED, turn off the unit, disconnect main power supply and wait for approximately 100 seconds. Turn on unit for continued operation.

## Subwoofers and Sound Formats

M&K Sound subwoofers are designed to support 3D sound formats such as Dolby Atmos, DTS-X, and Auro-3D.

Note! See their websites for useful information on recommended speaker placement– M&K Sound speakers are fully compatible with all current formats.

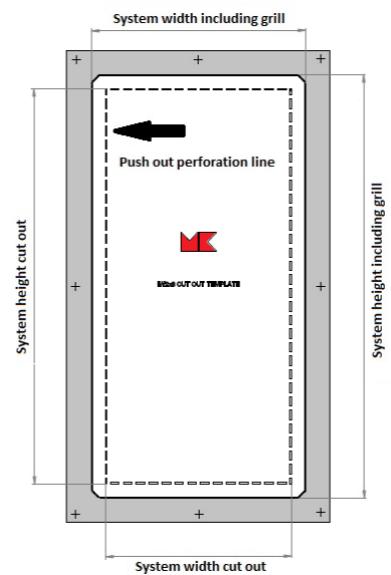
## Speaker Installation

To ensure precise wall cutout for M&K Sound back-boxed speakers, use the template included in the carton.

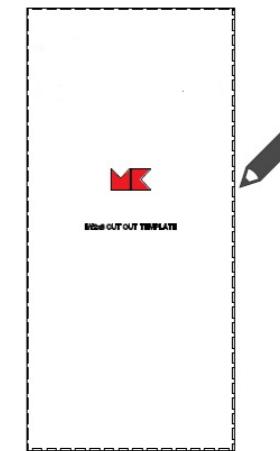
The two-piece carton template matches the speaker's outer dimensions, as well as a push-out section to be used for the actual cutting.

**Following the instructions 1 - 8 will result in proper and easy install of the speaker.**

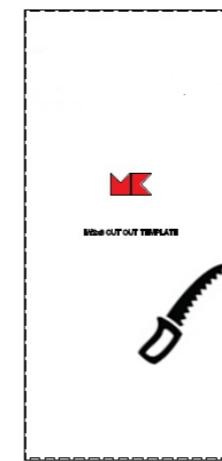
1. Use the overall carton template to visualize wall position for system, before pushing out the actual cutting template along the perforated lines.



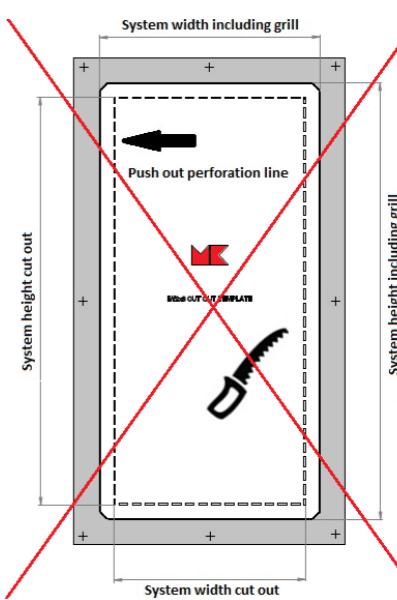
2. Hold the "pushed out" cutting part against the wall to mark a line for the actual cut.



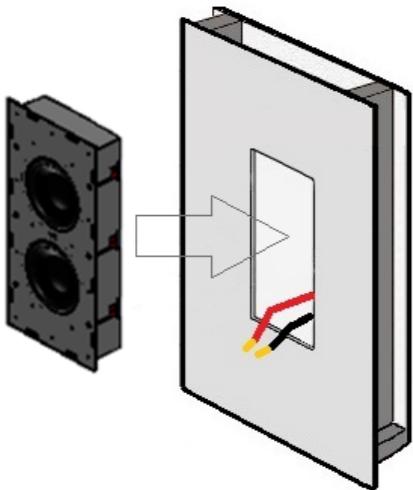
3. Cut to the inside of your marked line on the wall.



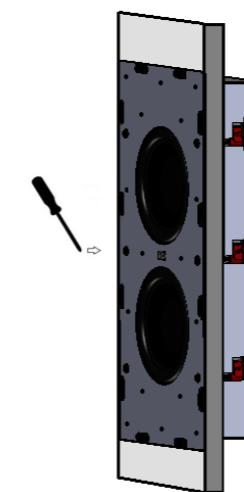
4. Cutting direct on the template is not recommended.



5. Connect the speaker to cables in the wall, and place cabinet into the wall cut.



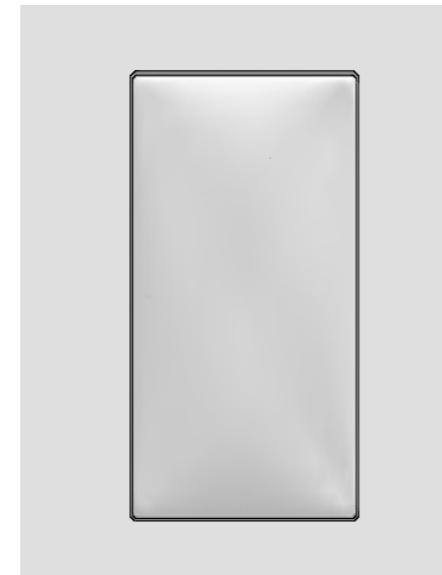
6. Turn the Torx screws on the front clockwise to activate the mounting clamps.



7. Check if speaker is perfect aligned.



8. Mount and align the grill, - and your install is done!

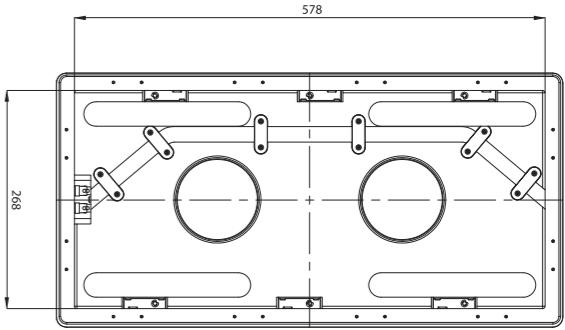
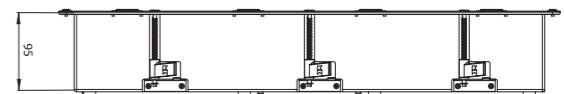
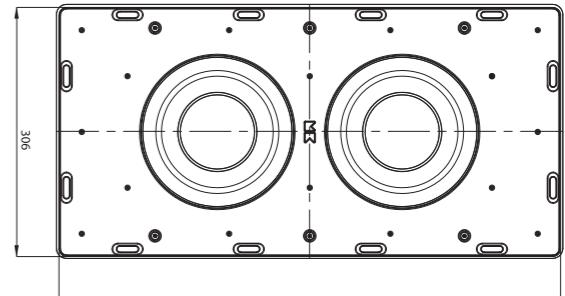


#### Note for Practical Information!

When using electric tool for screw mounting, adjust tension to prevent the dog screws being overly tightened.  
It is further recommended to use moderate or low speed when tightening the dog screws.  
If removal of speaker is needed for service, make sure to turn out front dog screws slowly until they "feel resistant" -  
At this point, the mounting clamps should be turned back in neutral position, and the speaker is ready to be pulled out from the wall cut.

#### IW28S In-Wall Subwoofer

Impedance ..... 4 Ohm  
Bass Drivers ..... 2 x 8" paper pulp  
Frequency Response ..... 28 Hz – 200 Hz, ± 3dB  
Sensitivity (drive signal 100mVolt VA500 amp) . 88 dB/1m  
Grille Dimensions (HxW) . 24.48 x 12.44", 622 x 312 mm  
Baffle Dimensions (HxW) . 24.25 x 12.04", 616 x 306 mm  
Wall Cutout (HxW) ..... 22.84 x 10.62", 580 x 270 mm  
Mounting Depth..... 3.74", 95 mm  
Weight ..... 11 kg / 24,2 lbs.



#### VA500 Subwoofer Amplifier

Continuous Output Power ..... 500W/4 Ohm, Class D  
Peak Output Power..... 800W/4 Ohm  
System Preamp..... Analog  
Line-Level Connections Phono In, Phono Passthrough Out  
Speaker Connections ..... 5-way binding posts  
Controls:..... Volume, Phase, Crossover  
EQ Switch..... 3-Position Room Adaptation:

1. For one sub placed away from corners
2. For one sub placed near a corner
3. For one or two subs placed in corner(s)

Input Voltage ... 100-240 VAC (switchable), Auto On/Off  
Dimensions (WxHxD). .... 16.88 x 1.74 x 8.81"  
Dimensions (WxHxD). .... 429 x 44,4 x 224 mm  
Dimensions (WxHxD) Rack size ..... 19 x 1.74 x 8.81"  
Dimensions (WxHxD) Rack size ..... 483 x 44,4 x 224 mm  
Weight ..... 4 kg / 8,8 lbs.

