

ROCKTRON
TECHNOLOGY FOR GUITARISTS



GUITAR POWER AMP

Instruction Manual

*May be covered by one or more of the following: U.S. Patents #4538297, 4647876, 4696044, 4745309, 4881047, 4893099, 5124657, 5263091, 5268527, 5319713, 5333201, 5402498 and 5493617.
Other patents pending. Foreign patents pending.*

Velocity[®] is a registered trademark of GHS Corporation



Your Velocity®300 has been tested and complies with the following Standards and Directives as set forth by the European Union:

Council Directive(s): 89/336/EEC Electromagnetic Compatibility

Standard(s): EN55013, EN50082-1

This means that this product has been designed to meet stringent guidelines on how much RF energy it can emit, and that it should be immune from other sources of interference when properly used. Improper use of this equipment could result in increased RF emissions, which may or may not interfere with other electronic products.

To insure against this possibility, always use good shielded cables for all audio input and output connections. Also, bundle audio cables separately from the AC power cables. These steps will help insure compliance with the Directive(s).

For more information about other Rocktron products, please see your local dealer or one of our importers closest to you (listed on the enclosed warranty sheet).

General Safety Precautions

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Electromagnetic Compatibility

EN50082-1

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meet).

General Safety Precautions

GENERAL OPERATING PRECAUTIONS

NOTE: IT IS VERY IMPORTANT THAT YOU READ THIS SECTION TO PROVIDE YEARS OF TROUBLE FREE USE. THIS UNIT REQUIRES CAREFUL HANDLING.

All warnings on this equipment and in the operating instructions should be adhered to and all operating instructions should be followed.

Do not use this equipment near water. Care should be taken so that objects do not fall and liquids are not spilled into the unit through any openings.

The power cord should be unplugged from the outlet when left unused for a long period of time.

DO NOT ATTEMPT TO SERVICE THIS EQUIPMENT. THIS EQUIPMENT SHOULD BE SERVICED BY QUALIFIED PERSONNEL ONLY. DO NOT MAKE ANY INTERNAL ADJUSTMENTS OR ADDITIONS TO THIS EQUIPMENT AT ANY TIME. DO NOT TAMPER WITH INTERNAL ELECTRONIC COMPONENTS AT ANY TIME. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY VOID THE WARRANTY OF THIS EQUIPMENT, AS WELL AS CAUSING SHOCK HAZARD.

OPERATING TEMPERATURE

Do not expose this unit to excessive heat. This unit is designed to operate between 32° F and 104° F (0° C and 40° C). This unit may not function properly under extreme temperatures.

1. Introduction

Congratulations on your purchase of the Velocity 300. We are proud of our designing power amplifiers specifically for you. This is the latest and greatest in our line of Velocity amplifiers.

The Velocity 300 provides 150 watts/channel into 8 ohms, bridged into a 8 ohm load!

The Velocity 300 has a unique “Reactance” control that is found on all our amplifiers—so you can get the same great sound as your favorite tube amps. And, because it is a variable control, your favorite tube amps. Best of all, this feature is available on all our amplifiers.

In addition, the Velocity 300 has “Definition” control that brings your playing out in the mix. It also has a protection circuit that and shuts down the amplifier before any internal components are damaged.

Other Features:

- 115/230 VAC voltage selector switch.
- An AC power detect circuit, which ensures the amplifier is powered removed. This will guard against any thump or pop to the speakers when power is cut to the amplifier.
- Differential input buffers to eliminate ground loops.
- Over-temperature protection
- Rock-solid design to provide reliable, trouble-free operation.

Precautions

BEFORE YOU READ THIS SECTION TO
OPERATE THIS UNIT REQUIRES CAREFUL

Operating instructions should be
carefully read and followed.
Precautions should be taken so that objects do
not fall through any openings.
Cover the power outlet when left unused for a

PERMANENT DAMAGE TO THIS EQUIPMENT
IS CAUSED BY UNAUTHORIZED PERSONNEL ONLY. DO NOT MAKE
ALTERATIONS TO THIS EQUIPMENT AT
ANY TIME. ALL ELECTRONIC COMPONENTS
ARE COVERED BY THE INSTRUCTIONS MAY VOID
THE WARRANTY AS WELL AS CAUSING SHOCK

This unit is designed to operate
on 115V AC. If the unit may not function properly

1. Introduction

Congratulations on your purchase of the Velocity® 300 guitar power amplifier! Rocktron has been designing power amplifiers specifically for guitar players since the early 1990's. The Velocity 300 is the latest and greatest in our line of Velocity power amps.

The Velocity 300 provides 150 watts/channel when used in stereo applications or 300 watts mono bridged into a 8 ohm load!

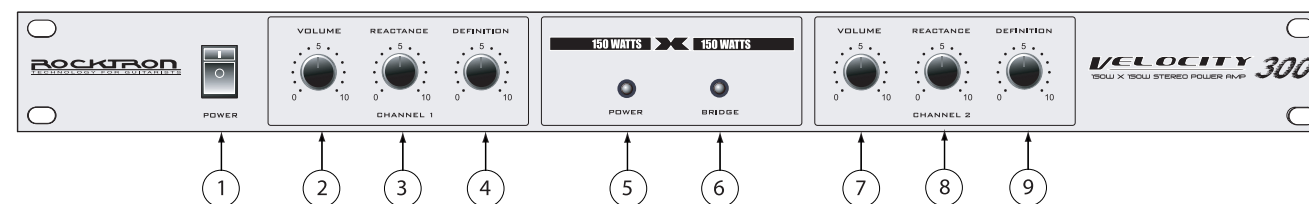
The Velocity 300 has a unique “Reactance” circuit that actually replicates the output impedance of tube amplifiers—so you can get the same great sound that a tube amplifier delivers in a reliable solid state design. And, because it is a variable control, you can customize your Velocity 300 to sound like any of your favorite tube amps. Best of all, this feature is available in the mono bridged mode too!

In addition, the Velocity 300 has “Definition” controls to give you that little bit of edge you need to bring your playing out in the mix. It also has automatic short circuit protection, which detects problems and shuts down the amplifier before any internal damage can be done.

Other Features:

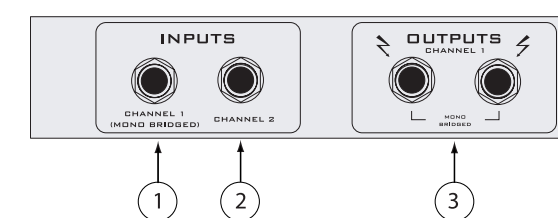
- 115/230 VAC voltage selector switch.
- An AC power detect circuit, which ensures that the amplifier outputs shut down first when AC is removed. This will guard against any thumps or pops that could otherwise occur, potentially damaging speakers when power is cut to the amplifier.
- Differential input buffers to eliminate ground loop hum coming from the power amp.
- Over-temperature protection
- Rock-solid design to provide reliable, trouble-free use.

2. VELOCITY 300 Front Panel



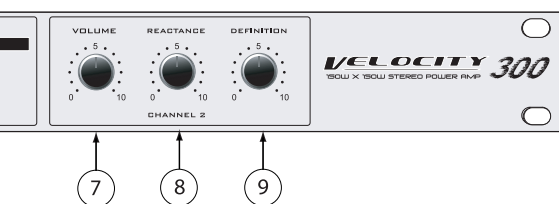
- 1 This switch powers up the Velocity 300.
- 2 This control determines the volume level for Channel 1.
- 3 This control determines the amount of Reactance for Channel 1. As this control is turned clockwise, the simulated output impedance is increased and the Velocity 300 will increasingly exhibit the characteristics produced by the interaction between a tube amplifier and a guitar speaker cabinet. When turned fully counterclockwise, the simulated output impedance is at a minimum.
- 4 This control determines the level of DEFINITION for Channel 1. Turning this control fully counterclockwise bypasses the Definition circuit, while turning it fully clockwise provides maximum Definition. See section called "DEFINITION" later in this manual for more information on this feature.
- 5 This is the "POWER" LED. When the Velocity 300 is "ON" the LED will be lit or "ON".
- 6 When switched to "BRIDGED" on the back of the unit (see section marked Velocity 300 Back Panel for more information on the Bridge/Stereo switch on the back panel) the Velocity 300 operates as a mono unit with increased output power (Channel 2 becomes inoperable in this condition). In the "BRIDGED" position the LED will be "ON". When "STEREO" is selected via the back panel switch the "BRIDGE" LED on the front panel will not be lit and the Velocity 300 will operate as a normal stereo amplifier with 150 watts per channel or side.
- 7 This control determines the volume level for Channel 2.
- 8 This control determines the amount of Reactance for Channel 2. As this control is turned clockwise, the simulated output impedance is increased and the Velocity 300 will increasingly exhibit the characteristics produced by the interaction between a tube amplifier and a guitar speaker cabinet. When turned fully counterclockwise, the simulated output impedance is at a minimum.
- 9 This control determines the level of DEFINITION for Channel 2. Turning this control fully counterclockwise bypasses the Definition circuit, while turning it fully clockwise provides maximum Definition. See section called "DEFINITION" later in this manual for more information on this feature.

3. VELOCITY 300



- 1 This standard 1/4" jack provides an input to your effects chain. This jack is used as a mono input in "BRIDGED" mode.
- 2 This standard 1/4" jack provides an input to your effects chain. Use this jack and Channel 1 for stereo input.
- Note: This jack is inoperable when the Velocity 300 is switched to "BRIDGED" and the LED is lit.*
- 3 These standard 1/4" jacks provide outputs to a load of less than 4 ohms (or less than 8 ohms in mono-bridged mode) using the Velocity 300 in "BRIDGED" mode.
- 4 These standard 1/4" jacks provide outputs to a load of less than 4 ohms (or less than 8 ohms in mono-bridged mode). These jacks are used for stereo output in "STEREO" mode.
- 5 This switch allows for easy setup between mono and stereo operation.
- Warning: Improper setting of this switch may damage the local AC mains voltage.**
- 6 This switch allows you to switch between mono and stereo operation. When selected the green LED on the front panel will be lit. Select "STEREO" if you would like to run your system in stereo. Select "BRIDGE" if you would like to run your system in mono. See this manual for more information."
- 7 This module provides a connection for the fuse. See this manual for more information about changing the fuse, see page 10.

Front Panel



1.

Channel 1. As this control is turned clockwise, the Velocity 300 will increasingly exhibit the tube amplifier and a guitar speaker cabinet. Output impedance is at a minimum.

Channel 1. Turning this control fully counter-clockwise provides maximum information in this manual for more information on this

is "ON" the LED will be lit or "ON".

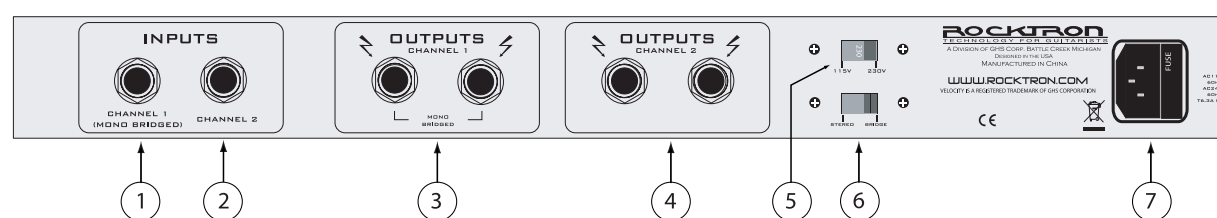
(see section marked Velocity 300 Back Panel the back panel) the Velocity 300 operates as 2 becomes inoperable in this condition). In when "STEREO" is selected via the back panel it be lit and the Velocity 300 will operate as a side.

2.

Channel 2. As this control is turned clockwise, the Velocity 300 will increasingly exhibit the tube amplifier and a guitar speaker cabinet. Output impedance is at a minimum.

Channel 2. Turning this control fully counter-clockwise provides maximum information in this manual for more information on this

3. VELOCITY 300 Rear Panel



1 This standard 1/4" jack provides an input to Channel 1 from the output of your preamp or the last device in your effects chain. This jack is used as the input jack when operating the Velocity 300 in "bridged" mode.

2 This standard 1/4" jack provides an input to Channel 2 from the output of your preamp or the last device in your effects chain. Use this jack and Channel 1 input jack when running in stereo.

Note: This jack is inoperable when using the Velocity 300 in "BRIDGED" mode (BRIDGED switched to "BRIDGED" and the LED is "ON" on the front panel).

3 These standard 1/4" jacks provide outputs for Channel 1 to speaker cabinets. Do not connect these outputs to a load of less than 4 ohms (or less than 8 ohms in mono-bridged mode). These jacks are used when using the Velocity 300 in "BRIDGED" mode.

4 These standard 1/4" jacks provide outputs for Channel 2 to speaker cabinets and are to be used when running your system in "stereo". Do not connect these outputs to a load of less than 4 ohms (or less than 8 ohms in mono-bridged mode). These jacks are inoperable when using the Velocity 300 in "BRIDGED" mode.

5 This switch allows for easy setup between 115VAC and 230VAC.

Warning: Improper setting of this switch may cause the unit to fail. Make sure the switch setting matches the local AC mains voltage.

6 This switch allows you to switch between "STEREO" and "BRIDGE" modes. When "STEREO" is selected the green LED on the front panel will be lit. When "BRIDGE" is selected the red LED on the front panel will be lit. Select "STEREO" if you would like to run your set up in Stereo. Select "BRIDGE" if you would like to run your system in mono. Follow the "CONNECTIONS" guide later in this manual for more information."

7 This module provides a connection for the power cord and also houses the main fuse of the unit. (For information about changing the fuse, see page 8).

4. Operating Precautions

Although operation of the Velocity 300 is simple once the proper connections have been made, attention to the following precautions is essential to protect your equipment against failure and ensure the long life of your Velocity® amplifier.

Power Output/Speaker Load

The Velocity 300 is capable of producing the following power output levels into each of these loads:

Unbridged (Stereo)

4 ohm load 150 watts
8 ohm load 75 watts
16 ohm load 37.5 watts (with both channels driven)

Bridged (Mono)

4 ohm load Not Recommended*
8 ohm load 300 watts
16 ohm load 170 watts

! Always be certain to use speaker cables to connect cabinets.

! Always be certain to use speakers or speaker cabinets capable of withstanding the power provided in the above mentioned applications. Rocktron is not responsible for speaker failure resulting from use of this equipment.

! Never connect 2 outputs of the amplifier to the same speaker. This would be equivalent to shorting the outputs of the amplifier together and would shut the unit down immediately.

5. Automatic Short Detection

A feature truly unique to the Velocity line of power amplifiers is the Automatic Short Detection (ASD). This feature protects the internal components of the amplifier from damage caused by shorting the outputs of a high output power amplifier. The Automatic Short Detection will detect any shorts which may inadvertently occur across the amplifier outputs and shut the unit down to protect it against internal damage.

Should this condition occur, switch the unit off and disconnect all speaker cables from the amplifier outputs. Once the proper connections are made, the amplifier will operate normally. The amplifier should never be connected to the outputs together and will cause the unit to shut down.

In the unlikely event that the proper connections are not made, we recommend that you first contact our Customer Support Department. See the back cover of this manual for more information.

6. Definition of Volume

When playing with other musicians, it often happens that the guitar is not as loud as the other instruments and cannot be distinguished. The effect of bringing the guitar out of the cabinet is to increase the volume so that the guitar becomes more audible when the volume knob is turned counterclockwise bypasses the definition circuit.

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proper connections have been made,
your equipment against failure and ensure

power output levels into each of these loads:

channels driven)

es to connect cabinets.

speaker cabinets capable
the above mentioned
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puts of the amplifier together
tely.

5. Automatic Short Detection

A feature truly unique to the Velocity line of power amps is Automatic Short Detection circuitry. Typically, shorting the outputs of a high output power amplifier will cause amplifier failure and severely damage internal components. The Automatic Short Detection circuit in the Velocity 300 will automatically detect any shorts which may inadvertently occur across the amplifier's outputs and immediately shut down the unit to protect it against internal damage.

Should this condition occur, switch the unit off for approximately 10 seconds and make sure that the cords from the amplifier outputs are properly connected. When the power is turned on again with the proper connections, the amplifier will operate normally. It is important to note that two outputs from the amplifier should never be connected to the same speaker, as this would be equivalent to shorting the outputs together and will cause the unit to shut down.

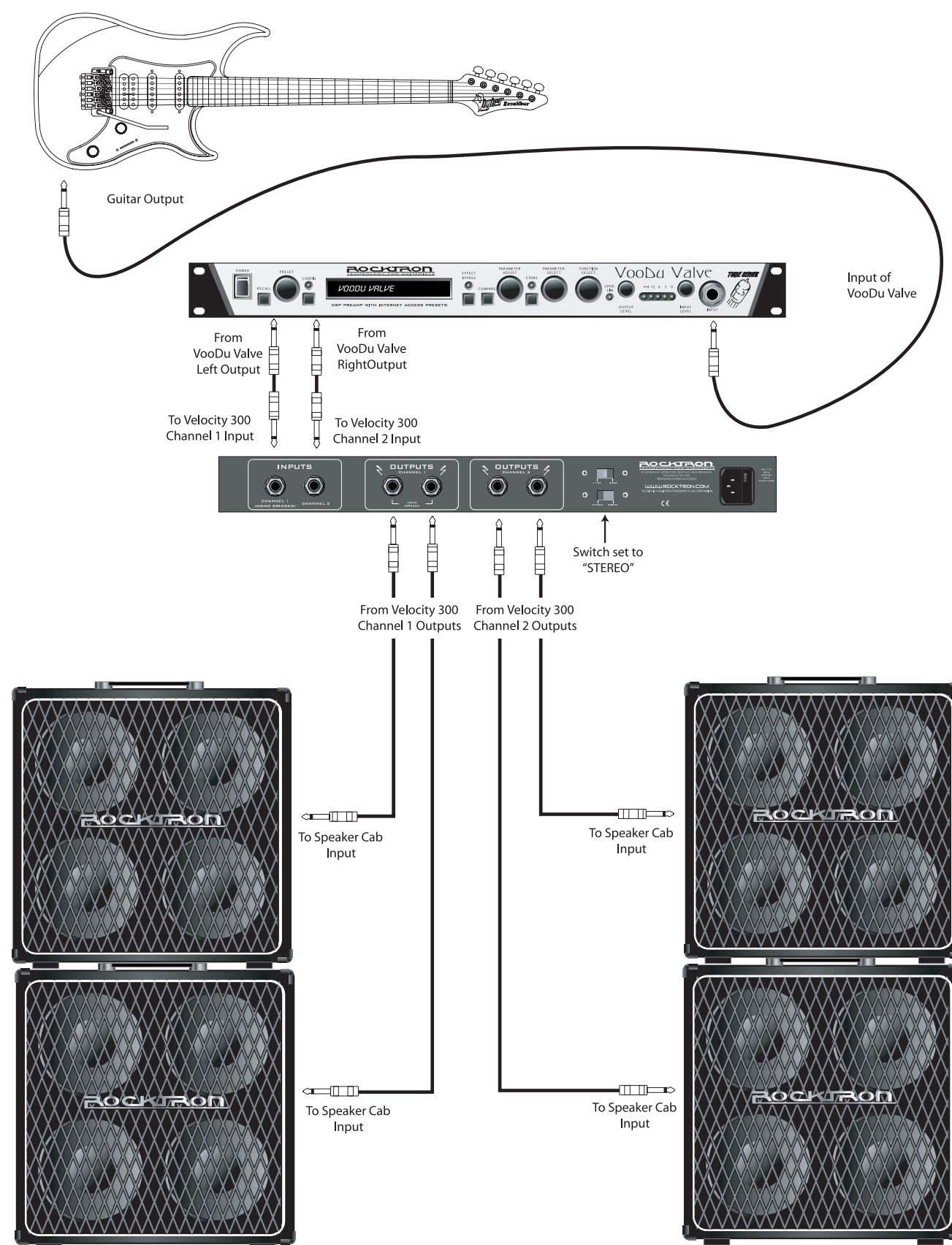
In the unlikely event that the proper connections have been made and the unit still shuts down, we strongly recommend that you first contact our Customer Support Department at the phone number shown on the back cover of this manual before taking the unit to a dealer or repair shop for servicing.

6. Definition Controls

When playing with other musicians, it often becomes a problem that the guitar can get "buried" under the other instruments and cannot be distinguished easily. The front panel Definition control gives the effect of bringing the guitar out of the cabinet so that it can be heard despite the other instruments. Although it does not actually effect the volume of the amplifier, the Definition control can be adjusted so that the guitar becomes more audible when playing with a band. Turning the Definition control fully counterclockwise bypasses the definition circuit, while turning it fully clockwise provides maximum definition.

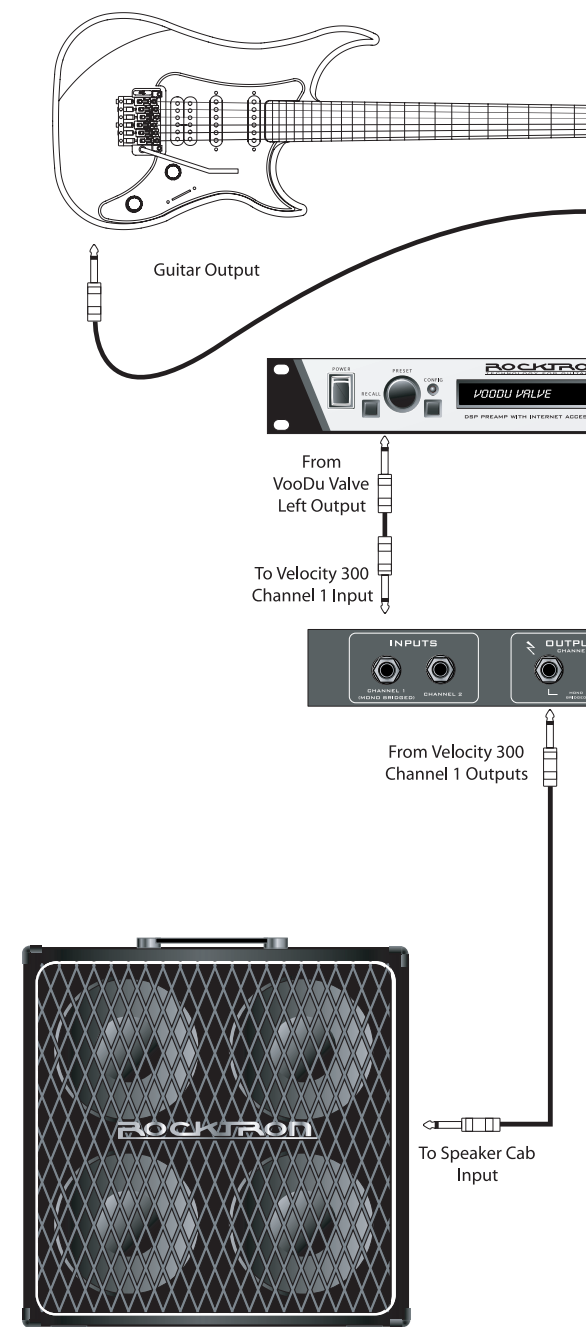
7. Stereo Connection

This connection is an example of a stereo connection from the Velocity 300.



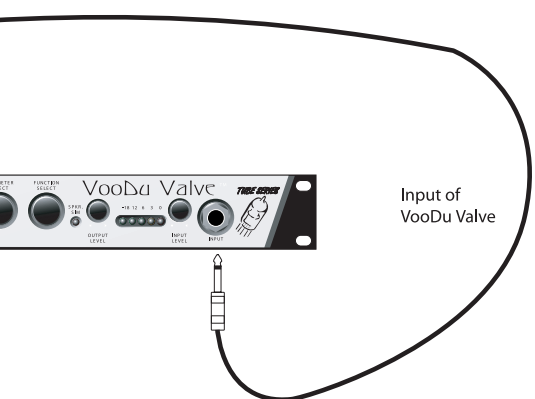
8. Mono/Bridge

This connection is an example of the MONO connection.



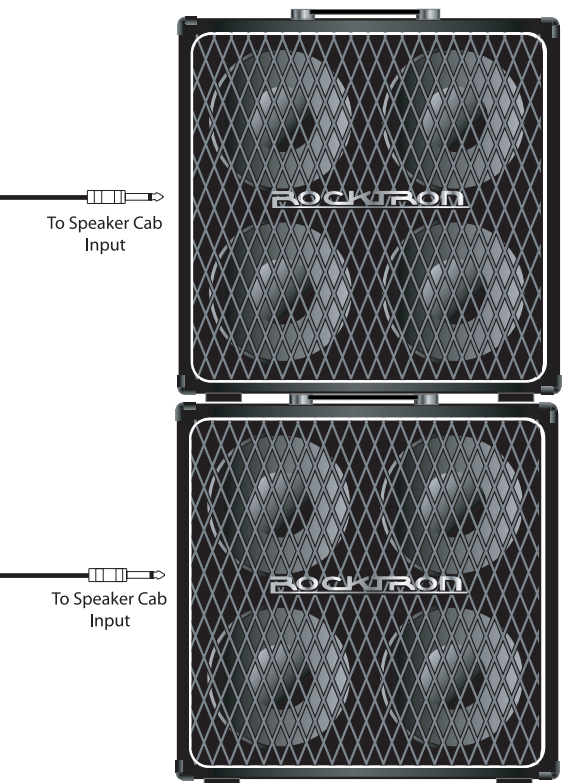
on

the Velocity 300.



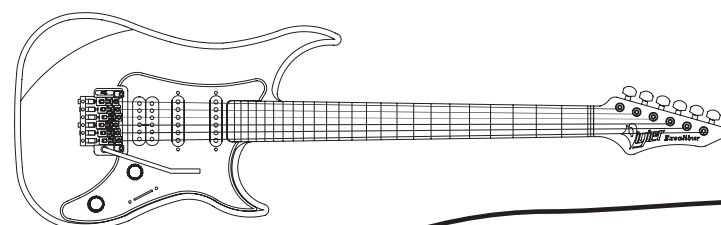
Switch set to "STEREO"

300
outs



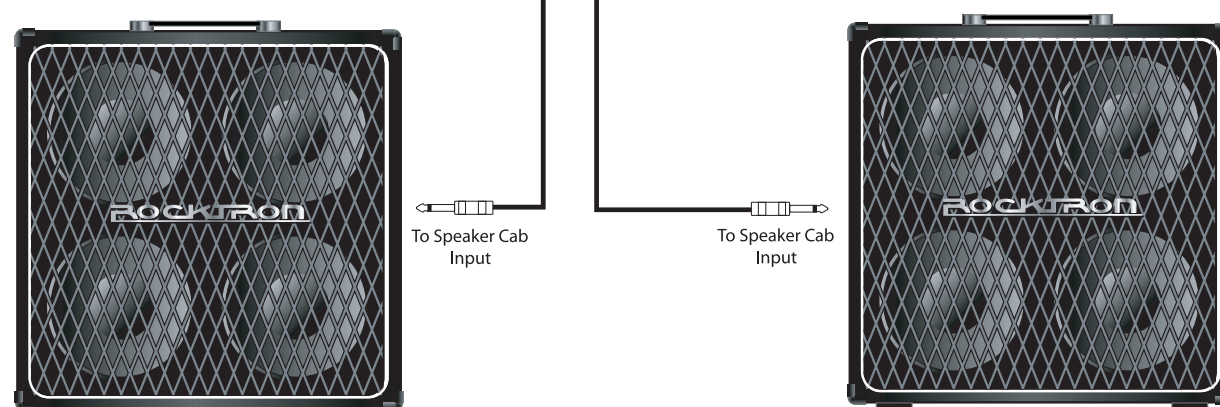
8. Mono/Bridged Connection

This connection is an example of the MONO/BRIDGED connection from the Velocity 300



Switch set to "BRIDGE"

From Velocity 300
Channel 1 Outputs



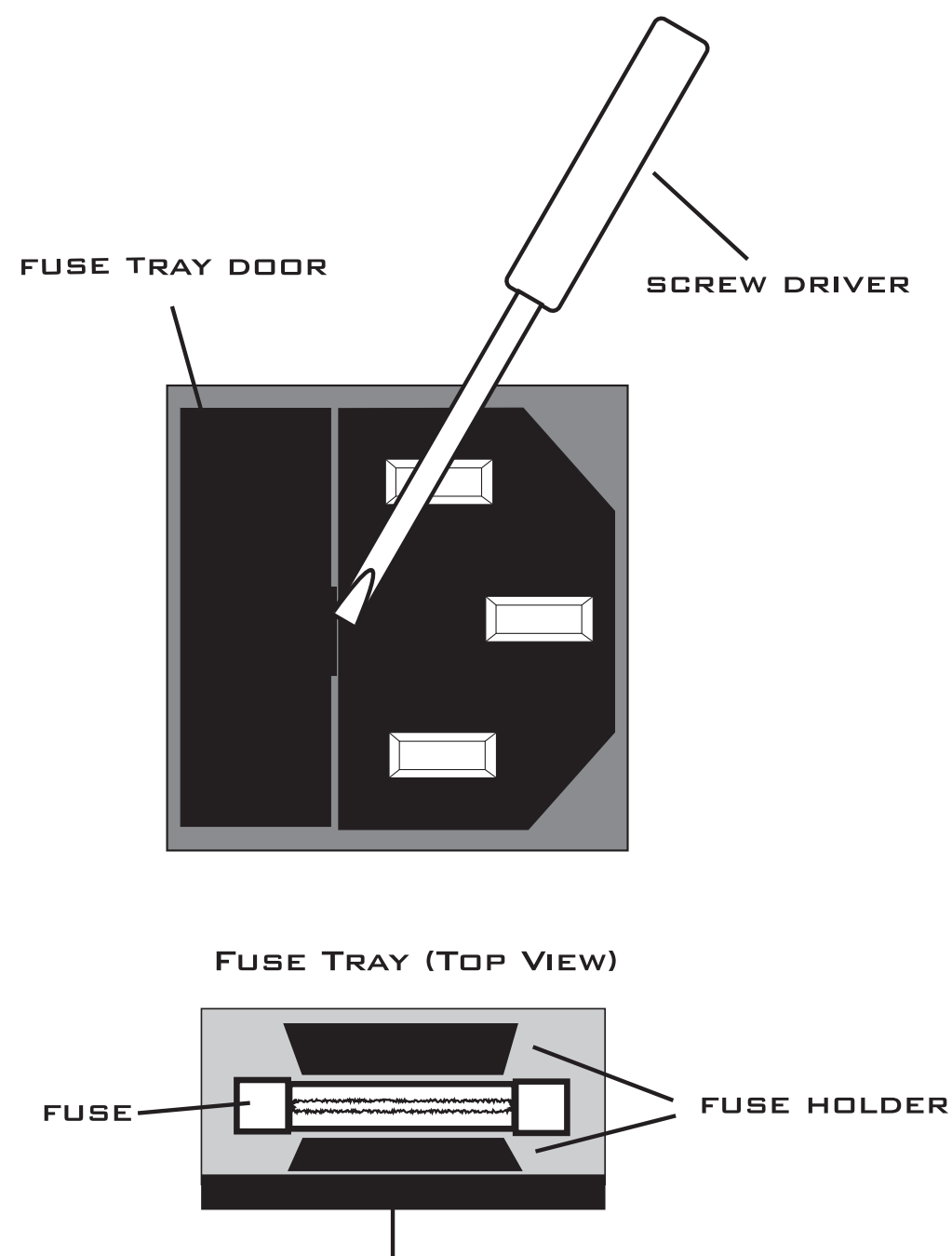
9. Fuse Replacement

We recommend that you use an authorized repair person to change the fuse in this unit.

To access the fuse, first power down the unit and unplug the cable from the wall outlet and the amplifier. Using a small screw driver, open the fuse tray by prying open the small tab as shown in the drawing above.

Please note that the tray may not come all of the way out.

Remove the old fuse and replace with a comparable new fuse and close the tray being sure that the tray snaps into position.



10. Specifications

Output Power (Unbridged)	150 watts per channel 75 watts per channel 37.5 watts per channel
(Bridged)	300 watts @ 16Ω 170 watts @ 8Ω
Input Sensitivity	-7.3dBu (0.3V)
Maximum Input Level	23dBu (10.9V)
Maximum Output Level	35dBu (4W)
Maximum Gain	36dB
Noise Floor	-75dBu typical
Dynamic Range	95dB
Distortion (Typical)	0.1% THD
Frequency Response	20Hz - 20kHz
Current Consumption	5 amps @ 115V
Dimensions	19" x 1 3/4" x 4 1/2" 483mm x 44mm x 114mm
Weight	7.5lbs 3.40kg

Note

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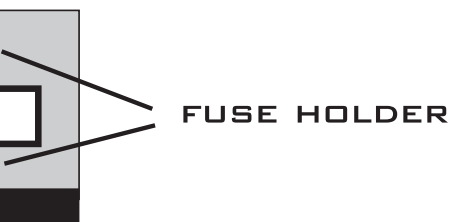
to change the fuse in this unit.

the cable from the wall outlet and the
by prying open the small tab as shown in the

use and close the tray being sure that the



(VIEW)



10. Specifications

Output Power (Unbridged)	150 watts per channel @ 4 ohms (both channel driven) 75 watts per channel @ 8 ohms (both channels driven) 37.5 watts per channel @ 16ohms (both channels driven)
(Bridged)	300 watts @ 8 ohms 170 watts @ 16 ohms
Input Sensitivity	-7.3dBu (0.335V RMS), 4W stereo for rated output at max. gain
Maximum Input Level	23dBu (10.95V RMS), input stage clip point
Maximum Output Level	35dBu (4W bridged)
Maximum Gain	36dB
Noise Floor	-75dBu typical (referenced to 1 watt)
Dynamic Range	95dB
Distortion (Typical)	0.1% THD
Frequency Response	20Hz - 20KHz, +/-3dB
Current Consumption	5 amps @115VAC max. (575 watts)
Dimensions	19"x 1 3/4" x 9 1/2" 483mm x 44mm x 241mm
Weight	7.5lbs 3.40kg

Note: 0dBv = 0.775V RMS
CE Approved

ROCKTRON



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