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# ROCKTRON

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TECHNOLOGY FOR GUITARISTS

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## 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.*

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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).

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# General Safety Precautions

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## 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

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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 Design

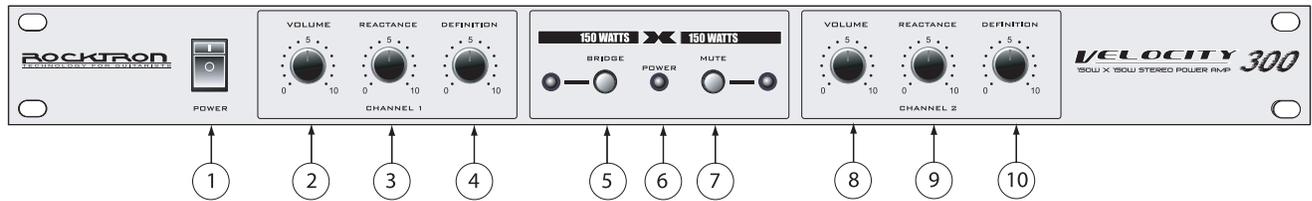
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Congratulations on your purchase of the Velocity® 300 guitar power amplifier! The Velocity 300 is designed to provide the greatest flexibility with the highest reliability, even under extreme operating conditions. This single rackspace amp will provide 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!

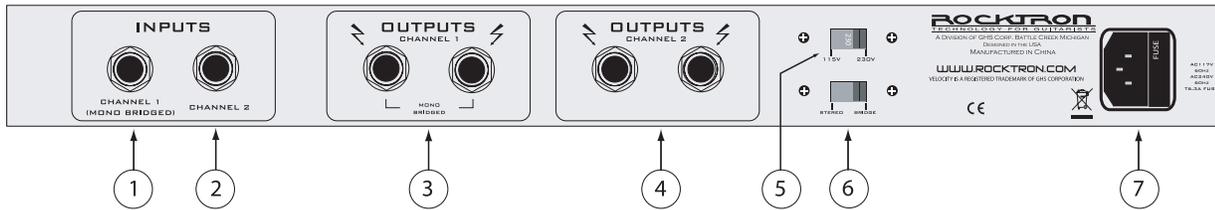
In addition, the Velocity 300 has “Definition” controls to give you that little bit of edge you need to bring your playing out in the mix.

# 3. 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 When switched to "BRIDGED" 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". In the "STEREO" position the unit operates as a normal stereo amplifier with 150 watts per channel or side.
- 6 This is the "POWER" LED. When the Velocity 300 is "ON" the LED will be lit or "ON".
- 7 The MUTE switch allows you to "MUTE" or silence both channels if necessary without turning off the Velocity 300.
- 8 This control determines the volume level for Channel 2.
- 9 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.
- 10 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.

# 4. 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).

# 5. Operating Precautions

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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 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.**

# 6. Automatic Short Detection

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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 250 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.

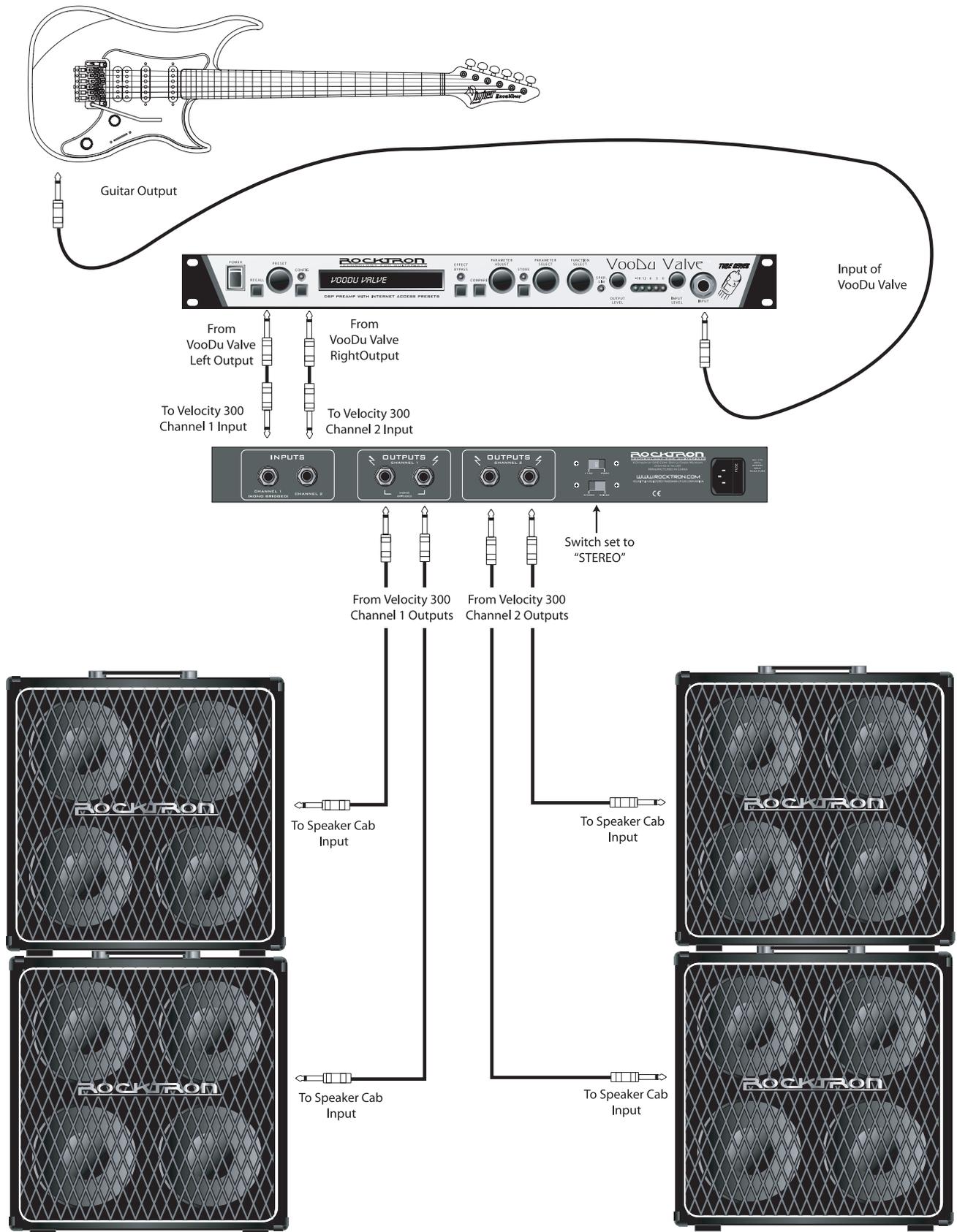
In the unlikely event that the proper connections have been made and the unit still shuts down, we strongly recommend that you first contact our Customer Support Department at the phone or fax number shown on the back cover of this manual before taking the unit to a dealer or repair shop for servicing.

# 7. 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.

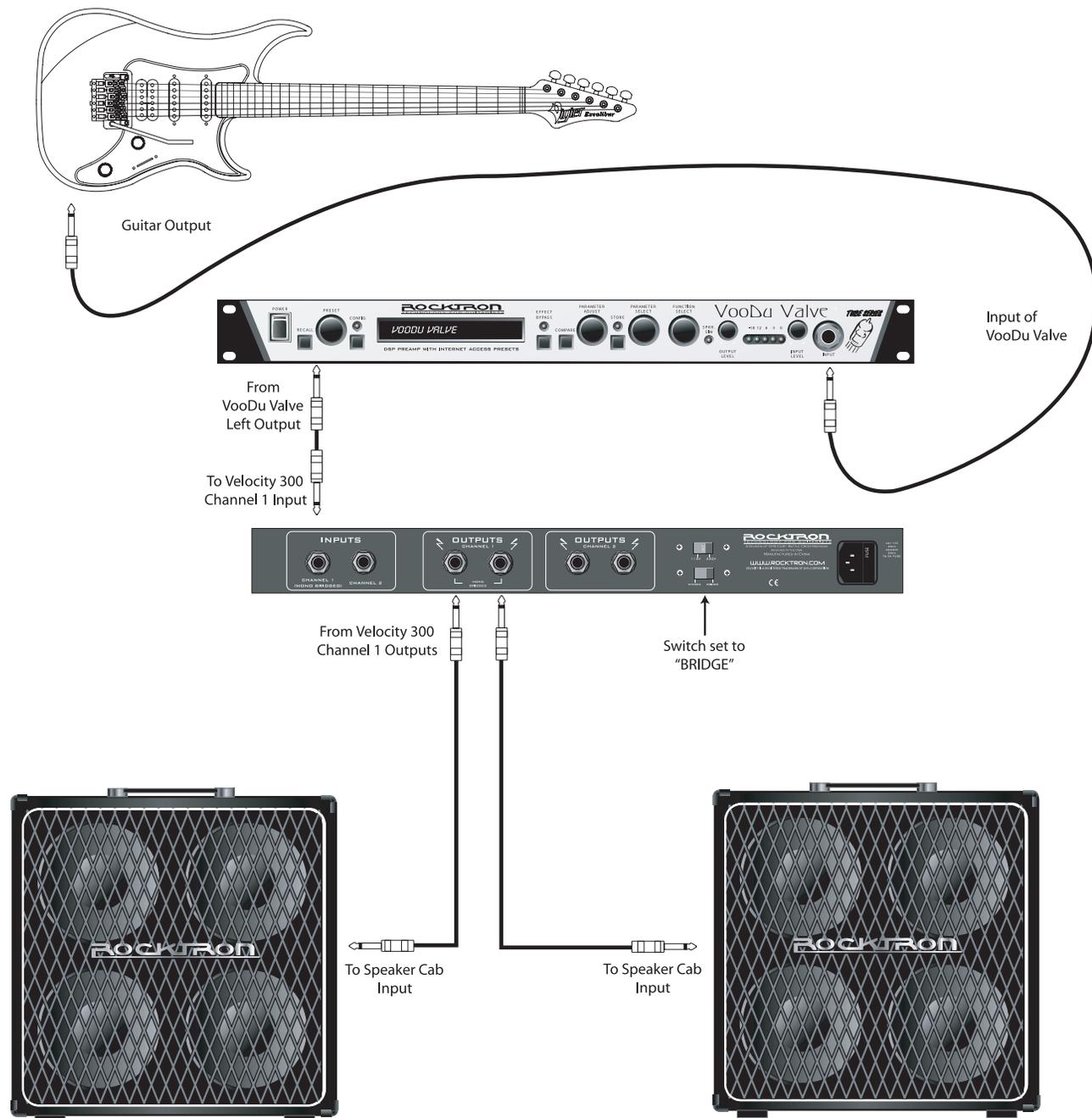
# 8. Stereo Connection

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



# 9. Mono/Bridged Connection

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



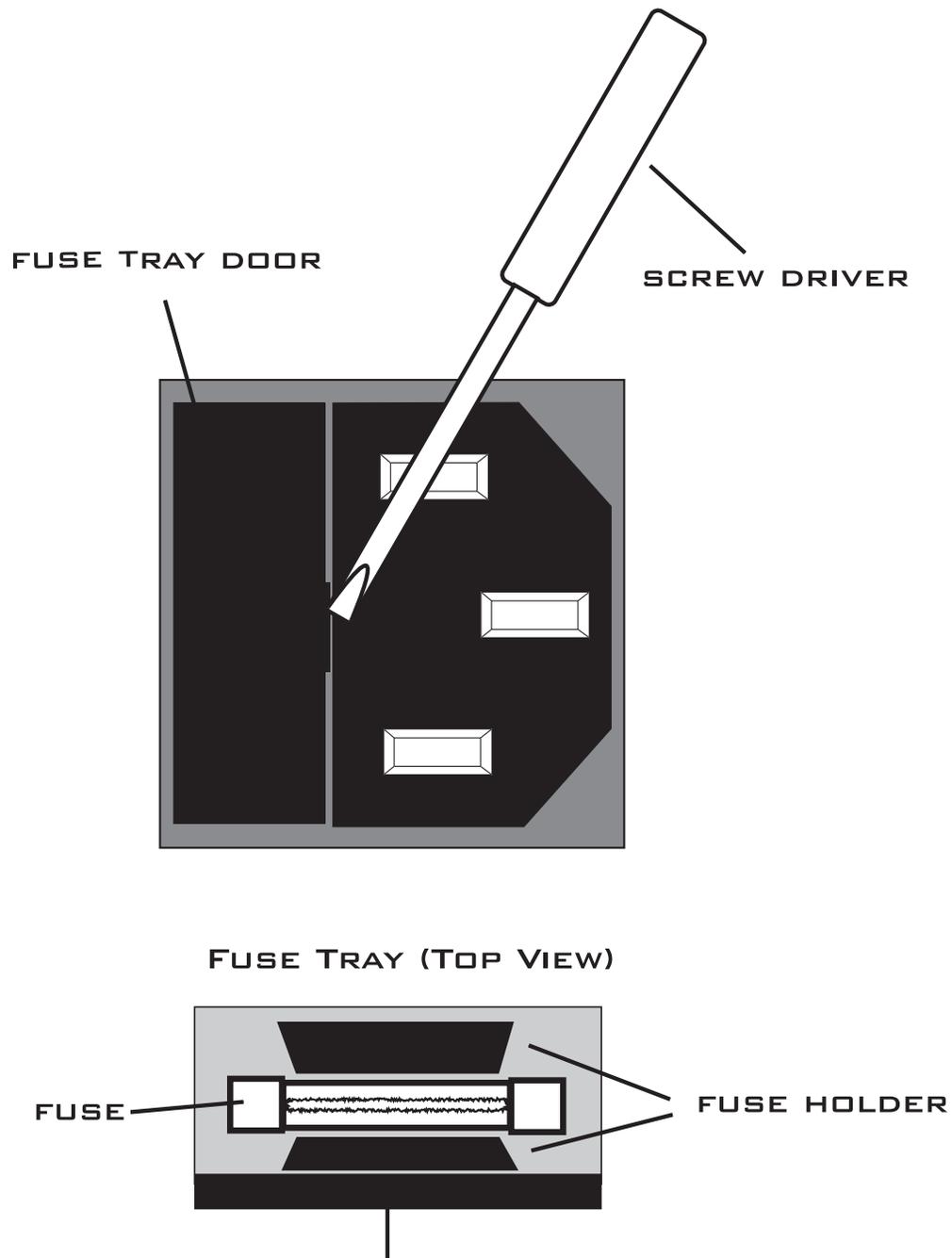
# 10. Fuse Replacement

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.



# 11. Specifications

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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)E

*Note: 0dBv = 0.775V RMS*

*CE Approved*



# ROCKTRON



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