

Egnater[®]
CUSTOM AMPLIFICATION

RENEGADE[®]

RENEGADE[®] HEAD

RENEGADE[®] 112

RENEGADE[®] 212

RENEGADE[®] 410

Owner's Manual

Greetings.....

I would like to personally thank you for choosing Egnater as your “Tone Partner”. Our goal is to provide you with the best tools we can to help you express yourself to the fullest. Your amplifier is an integral piece in your never ending “Tone Quest”. Our commitment to helping you achieve that goal is our passion. Our hope is that you will take advantage of the years of innovative tube amp designs we offer and use it to find the sound that is “in your head”.

Thank you for putting your trust in Egnater.

Best Regards,

Bruce Egnater

Bruce Egnater

INSIDE THIS OWNER’S MANUAL

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RENEGADE OVERVIEW



Plug in to all-tube tone that takes no prisoners! The incredibly versatile Renegade is a 2-channel powerhouse that gives you the tools to forge your sound and the power to move some serious air in any size venue. Channel 1 produces lush, three dimensional clean tones with just a bit of grunt when you dig in. Channel 2 starts with a sweet, bluesy overdrive, but pushing the gain opens the floodgates, unleashing enough thick, harmonically rich distortion to satisfy the most demanding player. Both channels offer an independent 3-band EQ, Egnater's BRIGHT and TIGHT switches and a Wattage Selector switch that lets you choose between an intimate 18W or a wall-shaking 65W. Master Presence and Density knobs let you sculpt the high and low-end response.

At the heart of this tone machine, you'll find six 12AX7 preamp tubes and a power section fueled by two 6L6s and two EL34s. The Renegade features the ground-breaking TUBE MIX function on each channel, allowing you to blend the deep Californian character of the 6L6s with the aggressive British midrange punch of the EL34s. There are independent reverb controls for each channel, dual footswitchable master volumes and a speaker-emulated line out. The included 4-button footswitch controls much more than just channel switching. It also engages the on-board reverb, effects loop and secondary master volume with channel-assigning switches for all three. Run them on both channels or just the one you choose. The Renegade is available in a head and 1x12", 2x12" and 4x10" combo versions.

IMPORTANT INFORMATION

Please keep this instruction manual for future reference and for the duration of owning this Egnater Renegade. Please carefully read and understand the instructions inside this user's manual before attempting to operate your new amp.

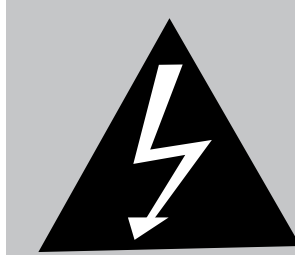
This instruction manual includes essential safety information regarding the use and maintenance of the Renegade. Take special care to heed all warning symbols and signs inside this manual and those printed on the amplifier itself.



WARNING

TO PREVENT FIRE OR SHOCK HAZARD, **DO NOT** EXPOSE THE AMPLIFIER TO WATER OR MOISTURE. DO NOT OPERATE NEAR ANY WATER SOURCE

- 1) Read these instructions.
- 2) Follow all instructions.
- 3) Keep these instructions.
- 4) Heed all warnings.
- 5) **DO NOT** turn on the amplifier before connecting all other external devices.
- 6) Do not use the amplifier near water. Be extra cautious when moving the amplifier during rain or while transporting it over wet surfaces as water might splash onto the unit.
- 6) Clean only with dry cloth.
- 7) Do not block any ventilation openings and operate in accordance with manufacturer's instructions.
- 8) Do not operate near heat sources such as radiators, stoves or other devices that may produce heat.
- 9) Do not defeat the safety purpose of the polarization or grounding-type plug. A polarized plug has two blades 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 is provided for your safety. If the provided plug does not fit your outlet, consult an electrician for replacement of the obsolete outlet.
- 10) Protect the power cord from being walked on or pinched, particularly at the plug and the point where it exits the amplifier.
- 11) Only use attachments / accessories specified by Egnater Amps.
- 12) Unplug the amplifier before lightning storms and when not in use.
- 13) Refer all servicing to qualified personnel. Servicing may be required when the unit has been damaged in any way such as when power-cord or



WHAT'S THE MEANING OF THIS?

The lightning flash with an arrow triangular symbol is intended to alert the user to the presence of non-insulated "dangerous voltage" within the products enclosure, and may be of sufficient magnitude to constitute a risk of electric shock

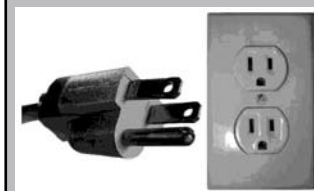


WHAT'S THE MEANING OF THIS?

The exclamation point triangular symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the user manual accompanying this amplifier

- plug is damaged, liquid has been spilled into the unit, the unit has been exposed to moisture or rain, does not operate normally, or has been dropped.
- 14) Moisture can damage the amplifier and can cause corrosion of electrical contacts.
- 15) Keep the unit out of extended or intense direct sun light. No containers filled with any type of liquid should be placed on or near the amplifier.

WARNING





Handle the power supply cord with care. Do not damage or deform; it may cause electric shock or malfunction when used. Hold plug attachment when removing from wall outlet. Do not pull on the power cord.

FOLLOW THESE SAFETY PRECAUTIONS

1. **READ INSTRUCTIONS** – All the safety and operating instructions should be read before this product is operated.
2. **RETAIN INSTRUCTIONS** – The safety and operating instructions should be retained for future reference.
3. **HEED WARNINGS** – All warnings on the amplifier and in the operating instructions should be adhered to.
4. **FOLLOW INSTRUCTIONS** – All operating and use instructions should be followed.
5. **WATER AND MOISTURE** – The amplifier should not be used near water - for example, a bathtub, washbowl, kitchen sink, laundry tub, wet basement, or near a swimming pool, and the like.
6. **HEAT** – Amplifier should be situated away from heat sources such as radiators, heat registers, stoves, or other amplifier (including amplifiers) that produce heat.
7. **POWER SOURCES** – This product should be operated only from the type of power source indicated on the rating label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
8. **GROUNDING OR POLARIZATION** – This product may be equipped with a polarized alternation-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
9. **POWER-CORD PROTECTION** – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the cord in correspondence of plugs, convenience receptacles, and the point where they exit from the amplifier.
10. **CLEANING** – The amplifier should be cleaned only as recommended by the manufacturer. Clean by wiping with a cloth slightly damp with water. Avoid getting water inside the amplifier.
11. **NON-USE PERIODS** – The power cord of the amplifier should be unplugged from the outlet when left unused for a long period of time.
12. **OBJECT AND LIQUID ENTRY**
 - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
13. **DAMAGE REQUIRING SERVICE**
 - The amplifier should be serviced by qualified service personnel when:

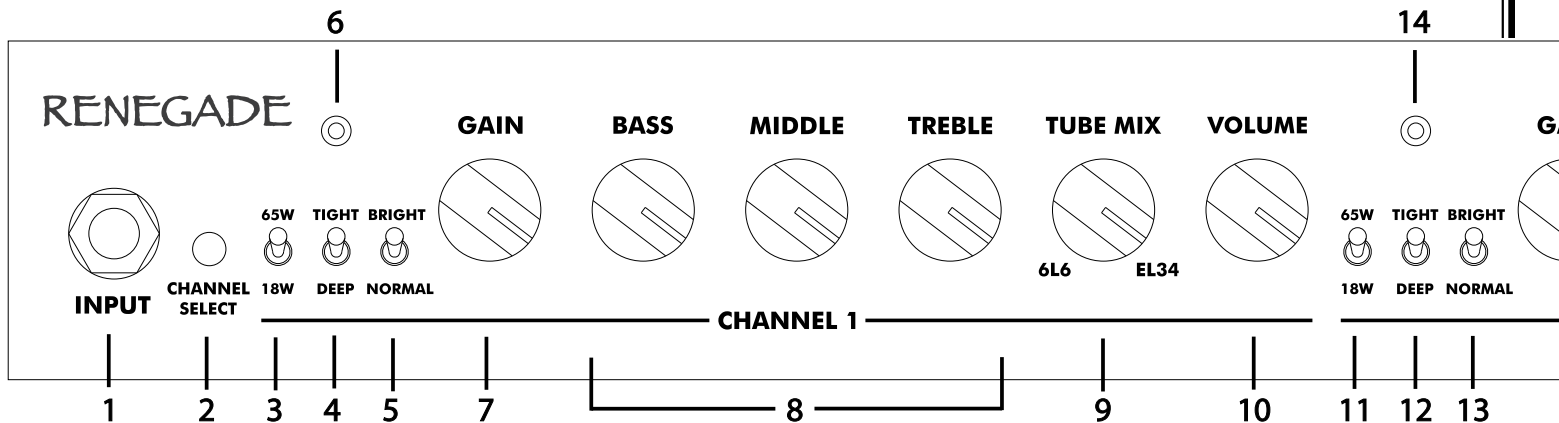
	CAUTION DO NOT OPEN RISK OF ELECTRIC SHOCK		CAUTION: To reduce the risk of electric shock, do not remove any cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.
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	The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
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	The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this amplifier.
---	--

CAUTION	
To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.	

- A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the amplifier; or
 - C. The amplifier has been exposed to rain; or
 - D. The amplifier does not appear to operate normally or exhibits a marked change in performance; or
 - E. The amplifier has been dropped, or the enclosure damaged.
13. **SERVICING** – The user should not attempt any service to the amplifier beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
 14. **VENTILATION** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack.
 15. **ATTACHMENTS** – do not use attachments not recommended by the product manufacturer as they may cause hazards.
 16. **ACCESSORIES** – Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product.
 17. **LIGHTNING** – For added protection for this product before a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet. This will prevent damage to the product due to lightning and power-line surges.
 18. **REPLACEMENT PARTS** – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
 19. **SAFETY CHECK** – Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.
 20. **FUSES** – Always use the correct rating and type of fuse as indicated on the rear panel. Note the proper rating fuse is determined by the AC line voltage in the country this unit is being operated.
 21. **AC SELECT SWITCH:** This switch must be set to match the AC line voltage in the country this unit is being operated. To change the setting, loosen (do not remove) the two screws above and below the slide switch. Temporarily move the protective cover strip and slide the actuator to match the voltage in your country. Place the protective cover strip back over the switch and tighten the two screws.



1) GUITAR INPUT: Plug your guitar in here using a high quality, shielded instrument cable.

2) CHANNEL SELECT: The push-button switch to select CHANNEL 1 or CHANNEL 2.

NOTE: This switch is disabled when using the footswitch.

3) CHANNEL 1 - 65/18W SWITCH: This toggle switch allows you to preset the power for CHANNEL 1 to either 65 watts for maximum headroom and clarity or switch down to 18 watts for a somewhat softer attack and feel. This is cool if you are looking for a little more power amp breakup. Keep in mind, 18 watts can still be quite loud. Read the TECH NOTES later in this manual for an in depth explanation of WATTS vs.VOLUME.

4) CHANNEL 1 TIGHT / DEEP SWITCH: This switch is really useful for tightening up the low end, especially when pushing the gain. It works by cutting the deep bass at the beginning of the preamp. Setting the TIGHT switch up will result in a clearer, tighter tone. Down retains a full, big low end that is great for a really robust, fat rhythm sound.

5) CHANNEL 1 BRIGHT/NORMAL SWITCH: As expected, the up (BRIGHT) setting boosts the high end. Do experiment with different combinations of the BRIGHT on and TREBLE knob down compared to the BRIGHT off and the TREBLE up. You will find that with the BRIGHT on and the TREBLE down, the

tone will be a little less midrangy compared to the BRIGHT off and the TREBLE turned up.

6) CHANNEL 1 ON LED: Tells you CHANNEL 1 is active.

7) CHANNEL 1 GAIN: This controls the amount a “drive” in the CLEAN channel. Low settings of the GAIN knob (with higher settings of the VOLUME knob) will keep the sound big, full and beautiful. You can also use higher settings of the GAIN knob to push the channel into overdrive to get some really raucous rock & roll crunch tones.

8) CHANNEL 1 TONE CONTROLS: This channel features the familiar passive tone control designs of many revered classic tube amps. Dial in beautiful, pristine clean sounds to bold, powerful overdrive tones. Don’t hesitate to turn the knobs. You’ll find a vast array of stellar sounds.

9) CHANNEL 1 TUBE MIX: A super cool Egnater feature. Inside the RENEGADE you will find a pair of 6L6/5881 tubes AND a pair of EL34 power tubes. This knob allows you to select a tone with a more “British bark” by rotating the knob all the way to the EL34 side. Setting the knob full counterclockwise brings out the more “American” character of the 6L6 tubes. But wait, there’s more. You can BLEND the two tube types in any proportion you desire giving you a tonal range not found anywhere else.

10) CHANNEL 1 VOLUME: Adjust the loudness of CHANNEL 1.

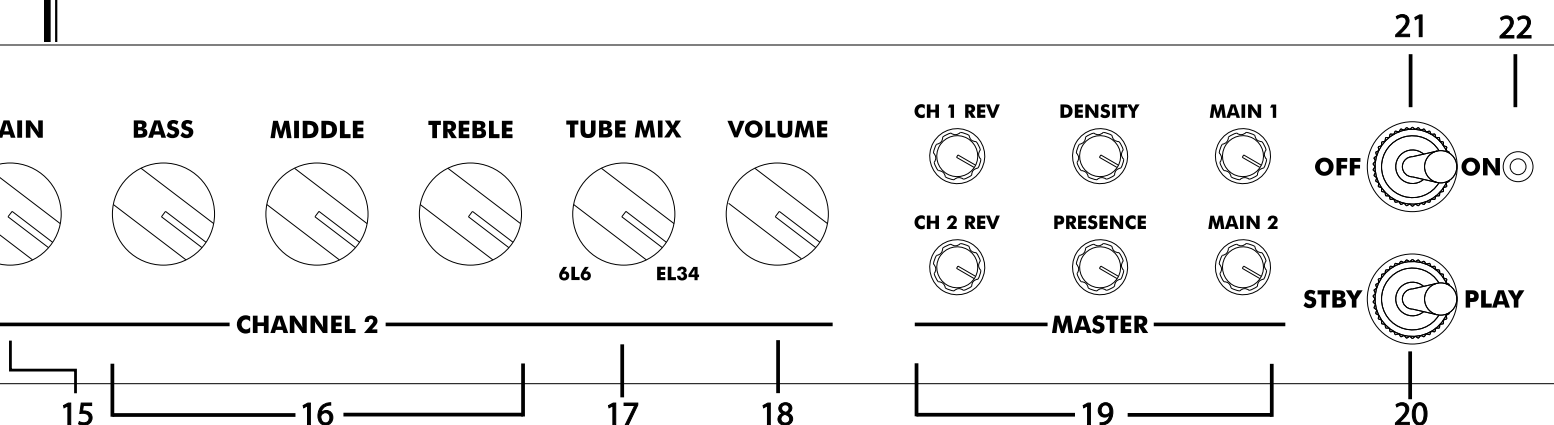
11) CHANNEL 2 - 65/18W SWITCH: Same as on CHANNEL 1. This toggle switch allows you to preset the power for CHANNEL 2 to either 65 watts for maximum headroom and clarity or switch down to 18 watts for a somewhat softer attack and feel. This is cool if you are looking for a little more power amp breakup. Keep in mind, 18 watts can still be quite loud. Read the TECH NOTES later in this manual for an in depth explanation of WATTS vs.VOLUME.

12) CHANNEL 2 TIGHT/DEEP SWITCH: This switch is really useful for tightening up the low end, especially when pushing the gain. It works by cutting the deep bass at the beginning of the high gain preamp. Setting the TIGHT switch up will result in a clearer, tighter tone. Setting the switch to DEEP will create a fuller, fatter tone but can tend to get a little muddy with high gain settings, especially with humbucking type pickups.

13) CHANNEL 2 BRIGHT/NORMAL SWITCH: As expected, the up (BRIGHT) setting boosts the high end. Do experiment with different combinations of the BRIGHT on and TREBLE knob down compared to the BRIGHT off and the TREBLE up. You will find that with the BRIGHT on and the TREBLE down, the tone will be a little less midrangy compared to the BRIGHT off and the TREBLE turned up.

14) CHANNEL 2 ON LED: Tells you CHANNEL 2 is active.

QUICK START GUIDE



15) CHANNEL 2 GAIN: The gain knob controls the amount of overdrive (distortion). Use the least amount of gain to get “your tone”. As always, lower gain settings will result in a tighter, more defined sound. Higher gain settings are more fun and make an amp easier to play but can get more compressed and muddy. Remember, to try the TIGHT switch with high gain.

16) CHANNEL 2 TONE CONTROLS: The Renegade overdrive channel features a tone control circuit reminiscent of many classic British amps. The range and feel should be familiar to most players and makes it really easy to dial in some great tones with minimal knob “twiddling”. Our advice is always to “use your ears, not your eyes” to find your TONE.

17) CHANNEL 2 TUBE MIX: Same as the TUBE MIX on CHANNEL 1. This knob allows you to select a tone with a more “British bark” by rotating the knob all the way to the EL34 side. Setting the knob full counterclockwise brings out the more “American” character of the 6L6 tubes. But wait, there’s more. You can BLEND the two tube types in any proportion you desire giving you a tonal range not found anywhere else and..... with separate TUBE MIX controls for each channel you have unlimited “TONE TWEAKING” at your fingertips.

18) CHANNEL 2 VOLUME: Adjusts the overall loudness of CHANNEL 2.

19) MASTER SECTION: CH1 REV and CH2 REV adjust the amount of reverb for

each channel separately. The Renegade reverb has a unique feature we call “spillover”. Most amps with separate reverb knobs for each channel simply switch controls when switching channels. With different settings of the two knobs, without “spillover”, there can be an abrupt cutoff of the reverb tail or a swell in the reverb level before it decays away. The “spillover” feature allows the reverb to decay naturally even when switching channels.

DENSITY: This control varies the amount of deep, low end in the power amp section and affects both channels. Higher settings create a really big, full low end. Use this control sparingly at high volumes. Excessive bass boost at high volumes can cause some speakers to break up (technical term is “fart out”).

PRESENCE: Adjusts the amount of overall “brightness” in the power amp section and affects both channels. Use this knob sparingly also. Too much PRESENCE boost, especially at high volumes, can make your amp sound harsh.

NOTE: The PRESENCE and DENSITY controls are boost only type controls. This means that when the knobs are all the way down, they are not adding or subtracting from the sound. As you turn them up, you are only boosting the low and high content. It’s fine to have them off if that works for your tone.

MAIN 1: An overall volume for the entire amp. Once you get the proper balance

between channels, you can use MAIN 1 to turn the volume up or down as needed without changing any individual channel settings. Typical setting for this knob is between 9 o’clock and 1:00 o’clock.

MAIN 2: A second overall master control for a solo or volume boost that is controlled from the footpedal. Set MAIN 1 first to get your normal playing volume. Next, switch MAIN 2 on with the pedal and set your boost volume. **NOTE:** MAIN 2 does not function unless the pedal is plugged in.

20) STANDBY/PLAY SWITCH: When in the STANDBY position, the amp is warmed up and ready to play. To play, switch to PLAY. Placing the switch in the STANDBY position when you are not actually playing will also help extend tube life in the long run.



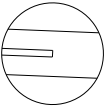
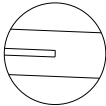
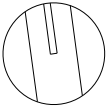
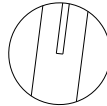
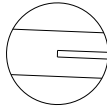
21) ON/OFF SWITCH: Turns the main power ON and OFF.

NOTE: The correct procedure for turning ON and turn OFF is as follows. When first powering the amp on, always have the STANDBY switch in the STANDBY position. Turn the POWER switch ON. Wait about 30 seconds or longer before moving the STANDBY switch to PLAY. Reverse the procedure when shutting the amp off. By following these steps you will, once again, help extend tube life by not “slamming” the tubes with high voltage while they are cold.



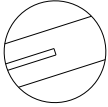
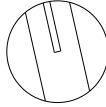
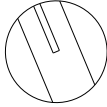

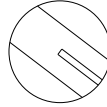
22) COOL BLUE PILOT LIGHT: No explanation needed, right?

FINDING THE SOUND YOU WANT!



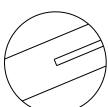

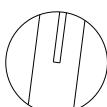

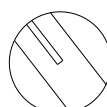
Below are some suggested knob settings to get you started. Keep in mind these are merely suggestions. You are encouraged to experiment to find “your tone”.

GAIN **BASS** **MIDDLE** **TREBLE** **TUBE MIX** **VOLUME**
 65W **TIGHT BRIGHT**

 18W **DEEP NORMAL**






 6L6 EL34
 _____ **CHANNEL 1** _____



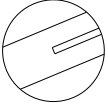
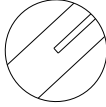
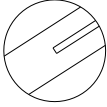

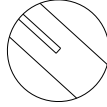
PRISTINE

GAIN **BASS** **MIDDLE** **TREBLE** **TUBE MIX** **VOLUME**
 65W **TIGHT BRIGHT**

 18W **DEEP NORMAL**






 6L6 EL34
 _____ **CHANNEL 1** _____



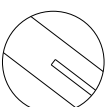

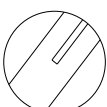

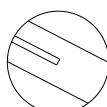
JAZZY

GAIN **BASS** **MIDDLE** **TREBLE** **TUBE MIX** **VOLUME**
 65W **TIGHT BRIGHT**

 18W **DEEP NORMAL**






 6L6 EL34
 _____ **CHANNEL 1** _____



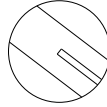
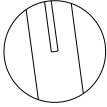

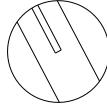
CLASSIC ROCK



GAIN **BASS** **MIDDLE** **TREBLE** **TUBE MIX** **VOLUME**
 65W **TIGHT BRIGHT**

 18W **DEEP NORMAL**






 6L6 EL34
 _____ **CHANNEL 1** _____



BLUES

GAIN **BASS** **MIDDLE** **TREBLE** **TUBE MIX** **VOLUME**
 65W **TIGHT BRIGHT**

 18W **DEEP NORMAL**






 6L6 EL34
 _____ **CHANNEL 1** _____

HEAVY CRUNCH


GAIN

BASS

MIDDLE

TREBLE

TUBE MIX

VOLUME


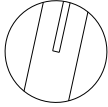
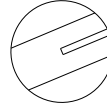
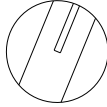

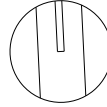
65W **TIGHT BRIGHT**





18W **DEEP NORMAL**





6L6 EL34

CHANNEL 2

DARK METAL


GAIN

BASS

MIDDLE

TREBLE

TUBE MIX

VOLUME


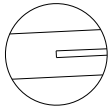
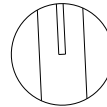
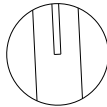
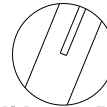
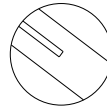
65W **TIGHT BRIGHT**





18W **DEEP NORMAL**





6L6 EL34

CHANNEL 2

BLUES DELUXE


GAIN

BASS

MIDDLE

TREBLE

TUBE MIX

VOLUME


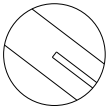
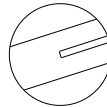
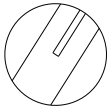
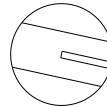
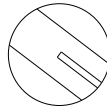
65W **TIGHT BRIGHT**





18W **DEEP NORMAL**





6L6 EL34

CHANNEL 2

SOFT COMPRESSION


GAIN

BASS

MIDDLE

TREBLE

TUBE MIX

VOLUME


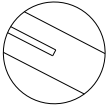
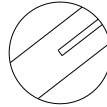
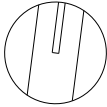

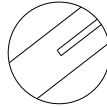
65W **TIGHT BRIGHT**





18W **DEEP NORMAL**





6L6 EL34

CHANNEL 2

SEARING SOLO


GAIN

BASS

MIDDLE

TREBLE

TUBE MIX

VOLUME

65W **TIGHT BRIGHT**



18W **DEEP NORMAL**



6L6 EL34

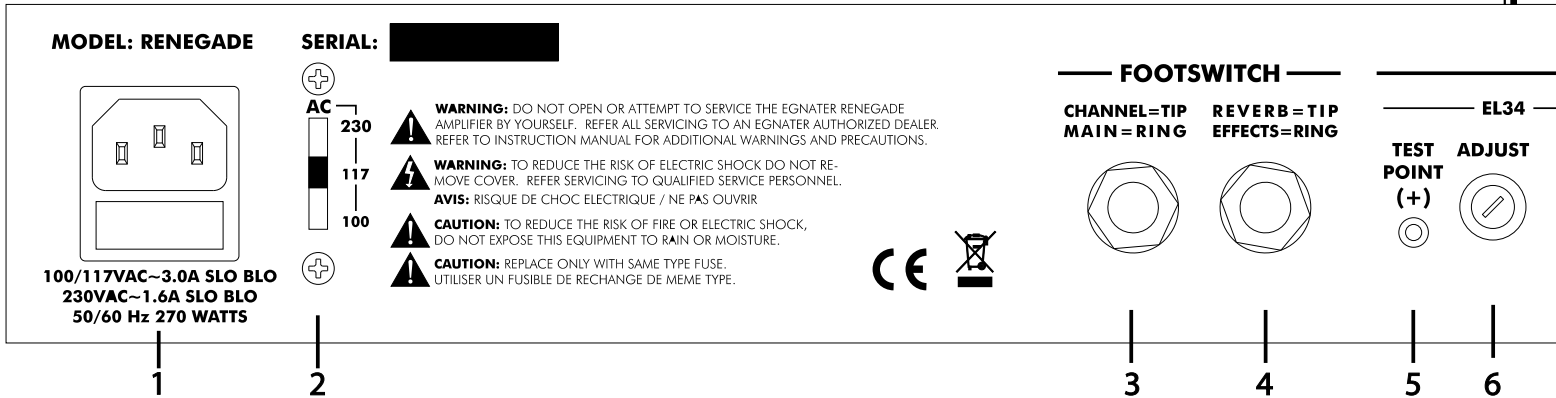
CHANNEL 2

CHUNKY

A TIP FOR GETTING THE MOST OUT OF YOUR RENEGADE.

The less gain you use, the tighter and more defined your low end will be.

TUBE MIX KNOB: We did not include suggested settings for the TUBE MIX because it is truly up to you as to what sounds best. Experiment with different TUBE MIX settings to find “your sweet spot”.



1) AC INLET and FUSE: Connect a universal IEC type power cord. Be sure the proper value fuse is installed that matches the ratings as indicated for your country on the rear panel.

2) AC VOLTAGE SELECTOR: Makes the Renegade compatible with the line voltage in any country. Proper setting of this switch is absolutely critical. Be sure the switch position matches the line voltage in your country. Severe damage will result from improperly setting this switch and will void your warranty, as well as destroy your amp. To change the setting, loosen (DO NOT REMOVE) the two screws securing the plastic safety cover strip over the switch. Swing the cover aside. Using a small screwdriver, slide the switch to the proper setting. Replace the cover and retighten the screws. Be sure to install the proper value fuse.

3) FOOTSWITCH (BEIGE PLUG): The Renegade footswitch cable fans out into two ¼” plugs at the amplifier end of the cable. The Beige color plug goes in here to match the Beige color ring around the jack.

4) FOOTSWITCH (BLACK PLUG): Take a guess what plugs in here. You are correct. It is the Black plug on the end of the footswitch cable.

5) BIAS SECTION (5, 6, 7, 8, 9, 10 & 11): This group of technical looking stuff is very cool as you will discover later in the manual. See the section on “BIAS”.

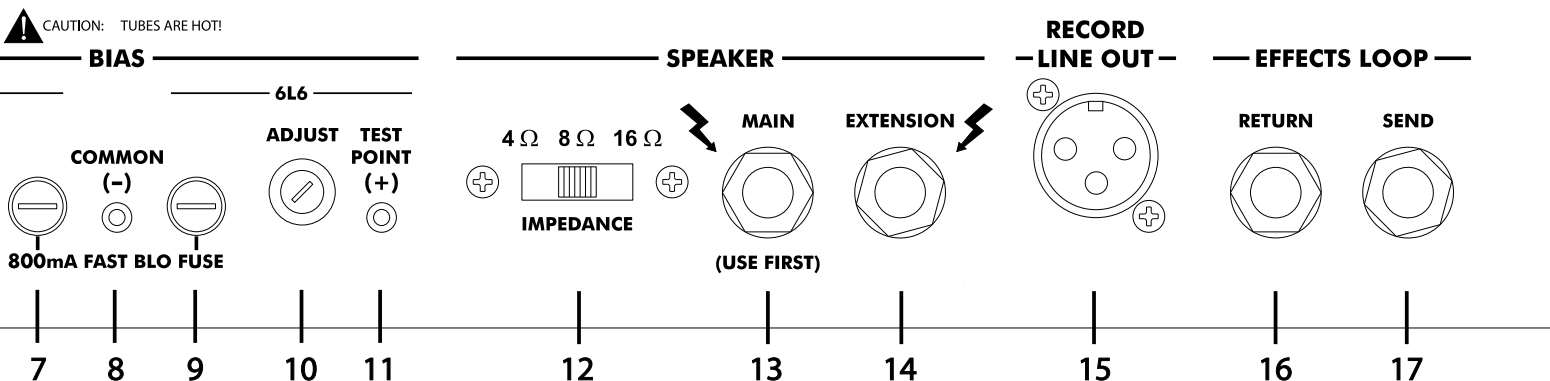
12) IMPEDANCE SWITCH: Set this switch to match the IMPEDANCE of

your speakers. The proper setting for the Renegade 1x12 is 16 ohms. The setting for the Renegade 2x12 is 8 ohms and 4x10 is 8 ohms. The proper setting for the Renegade Head is to match whatever your speaker impedance is.

13) MAIN SPEAKER OUTPUT: Labeled “USE FIRST” because you must use this jack...FIRST. There is a special circuit inside the Renegade that helps protect the amplifier from damage in case you forget to plug in the speakers and attempt to play. As we all know, NEVER operate a tube amplifier without a proper speaker load connected...but we didn’t have to tell you that did we ?

14) EXTENSION SPEAKER OUTPUT: Used for connected an external speaker to the combo or when a second speaker cabinet is used with the head. Since the MAIN speaker output in labeled USE FIRST, it would be reasonable to assume this jack could be labeled USE SECOND, which would be correct. See the section later in this manual for proper connection and IMPEDANCE SWITCH settings for different speaker arrangements.

15) RECORD LINE OUT: This is an active, balanced “cabinet simulated” output for direct connection to the mic input on your mixer for recording or live sound. It effectively eliminates the need to place a microphone in front of the speaker. The frequency response of this output closely mimics the sound of a mic’d speaker cabinet. Using this



output is great for getting a consistent recording or live output from your rig regardless of what mics are available and how competent the person setting up your gear is. Often setups on stage are done in a hurry and the mic is just hung from the top of the cabinet or stuck right in the middle of the speaker (the worst location) or even forgotten. By supplying a predictable, consistent output to the PA or recorder, you are never at the mercy of any of these issues.

16, 17) EFFECTS LOOP: Basically a series insert patch point between the preamp and power amp. When an external effects gadget is patched into these jacks, the path is interrupted and 100% of your signal is routed through the effects. This puts some special demands on the effects unit. First is must be essentially transparent, meaning it can't mess with your tone. Second, the input and output levels (if there are any) must be properly set for lowest noise and maximum headroom. Proper setting of these controls can be achieved using the following method:

- a) Set your amp/preamp volume levels for normal playing levels. Connect a high quality shielded cable from the series send jack to the effect input.
- b) Adjust the effects unit input level to "just peak" while playing your most aggressive licks.
- c) Now connect another high quality shielded cable from the effect output to the return jack.
- d) Adjust the effects unit output level to

match the volume you heard before connecting the return cable. You can check this by pulling the cable in and out of the return jack while playing and verifying there is no substantial volume difference. This is called "unity gain". A cool "techie" phrase for "you get out what you put in". If your effects gadget does not have level controls, it can be assumed you will get unity gain when plugged in.

NOTE: Depending on how loud you play, the level at the loop may be higher than normal guitar level. Though many floor type and tabletop effects may work, some may tend to overload. You will know an effect is not made for higher levels if, when you plug it the effect into the loop, you notice distortion and/or a loss of volume. Most modern effects (including many pedals) can operate just fine in an effects loop. We have gone to great lengths to make the Renegade loop compatible with as many different effects gadgets as possible. Of course, you still may occasionally encounter a device that simply won't work properly in a loop. This is one of the reasons we discourage players from using pedals in a loop. You just spent a considerable amount of your hard earned dollars to get this awesome sounding amp. Sticking a mediocre pedal in the loop of your amp seems to be "counter-tone". Remember what we said about the effect being transparent. Most pedals color your sound and not always in a good way.

Bias: Power Tube Bias

What is bias? Simply put, it is a circuit inside the power amplifier section that controls the “idle current” that flows through the power tubes. Much like the idle speed on a car. There is an optimum setting where the engine (amplifier) is running (idling) fast (hot) enough to keep it from stalling (distorting) but not too fast (hot) to cause excessive wear and overheating. Get it?

Why don't all amplifiers have bias or idle current adjustments?

Most do have some provision for that but typically involve removing the amp chassis from the box, exposing you to very dangerous high voltage. Special test equipment and knowledge of amp circuits and tubes is also needed. Not a skill most musicians possess and shouldn't need to. Why would I want to adjust the bias? All power tubes are different. They each have unique sonic and electrical characteristics. The Renegade amplifier is shipped with a pair of 6L6/5881 tubes and a pair of EL34 tubes, but is designed to accept a variety of different tube types. EL34, 6L6, 5881, 6CA7, 6550, KT66 and KT77 are among the many possible choices. Because they are all different, each requires different bias settings for safety, reliability and optimum performance.

Please read the following instructions on how to use this cool feature.....

You will need a decent quality digital voltmeter capable of measuring in the 100 to 200 millivolts DC range. This is a very basic type of meter available at any electronic supply house or Radio Shack. They typically cost anywhere from \$10 to \$25, about the cost of one bias adjustment from your local amp tech.

You will also need a small, flat blade screwdriver to turn the adjustment controls that are recessed inside the grommets below each tube label on the rear panel.

1) Turn the amp on, standby switch in the PLAY position. All controls all the way down. Turn the meter on and set for reading DC millivolts. Consult the meter instructions for how to do this properly.

Since all meters are different, it is extremely important that you thoroughly understand what you are looking at on the meter display.

2) Insert the black (negative) test lead into the panel hole labeled (-) COMMON.

3) Notice there are two identical sections to the left and right of the common terminal.

4) First step is to insert the red (positive) meter lead into the EL34 test point (+) hole.

5) With your flat blade screwdriver, turn the BIAS ADJUST control to obtain a correct reading from the chart below.

6) Repeat this procedure for the 6L6 tubes.

7) Now allow the amp to warm up for about 10 minutes and retweak so the readings are within the range of the recommended reading.

Displays differ from one meter to the next. Some may indicate, for example, 60.0 for 60 millivolts. Others may show .060 for 60 millivolts. Knowing how your meter works is of the utmost importance. You should always check the bias readings whenever you replace output tubes and readjust if needed. Since we've made it so simple, there is no reason not to.

Additional features of the “POWER TUBE BIAS SECTION”

Fast Blo fuses. One per output tube pair. In the event of a power tube failure, the corresponding fuse will open protecting the amp from additional damage by effectively removing the failed tube from the circuit. You can keep playing with just a small reduction in performance and still get through the gig. If this happened in the past, you would need to take the amp to a repair shop. They would then hold it for ransom while you figured out how to raise enough money to pay them to fix it. No more. The amp will protect itself from the potential damage and you can continue to play.

Read the quick trouble shooting procedure below if you suspect a tube failure: If you notice a sudden loss of power/

volume or degradation in tone, you may have a blown power tube. Not really that uncommon these days. While playing the amp on either channel, rotate the TUBE MIX knob from one extreme to the other. If you have a blown tube (and corresponding blown fuse) you will notice and severe volume loss on either the EL34 side or the 6L6 side. Once you determine that one of the tubes pairs is dead, turn the power off, unplug the power cord and wait at least 5 minutes for the power tubes to cool. Remove and check the suspect blown fuse located either left or right of the COMMON test point in the BIAS section on the rear panel. If you do find a blown fuse, this is a pretty sure bet one of the power tubes on that side has failed. Remove the suspect pair and replace the fuse with a 800mA (3/4amp) fast blo type fuse. Install a new, matched pair of tubes, plug the power cord back in and turn the power on.

Check the bias reading. If you get a reading that is reasonably close to the proper setting, you have just repaired your own amp. Simply readjust the bias control according to the chart and you are on your way. You can thank us later for saving you a bunch of money and a trip to the repair shop.

SPECIAL NOTE:

Obviously for this to work, you MUST carry spare power tubes, fuses, a flat blade screwdriver and your voltmeter with you. If a tube fails at a gig, you could be back up and running in a matter of minutes. You wouldn't drive your car without a spare tire, right? Try that with any other amp. In a pinch you may continue to use your Renegade with somewhat reduced performance, even with shorted tubes. No additional damage to the amp will occur. Do service the amp as soon as possible, of course. Because the BIAS readings are actually the sum of the currents for each pair of tubes, we highly recommend replacing power tubes in matched pairs. If your tubes are not matched, one tube could be running very hot while the other is barely on but you would still read the sum of the pair. This is not a good thing.

Bias: Power Tube Bias

Advanced theory (for those who care):

Those of you with electronic knowledge may notice we are referring to current draw but are making measurements in millivolts. Ohms law states that $I=E/R$ or current (I) equals voltage (E) divided by resistance (R). Inside the amp are one ohm resistors in the cathodes of the output tubes. The external test points allow access to those resistors. When you measure across those resistors at the rear panel test points, you are reading the DC voltage drop across a one ohm resistor. Referring to ohms law, if $R=1$ in the formula, then $I = E$ or current equals voltage. So when you read for example, 60mV you are also seeing the equivalent numerical value of current or 60mA. You may have also figured out by now that since you have separate adjustments for each tube pair, it may be possible to use alternate tube types at the same time. Your suspicion is correct. You "tweakers" can combine different types by installing one type in the EL34 sockets and another type in the 6L6 sockets. Be sure to adjust each pair for the proper range. This way you can combine the characteristics of the different types. The range of the bias adjustments are such that you should have not problem adjusting for just about any type of compatible tubes.

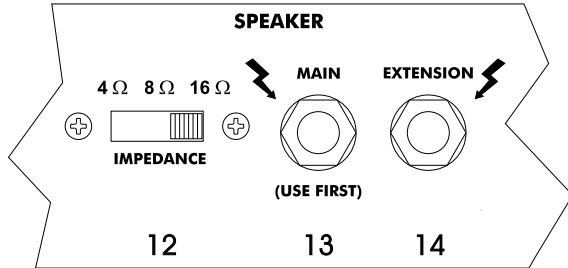
WARNING:

DO NOT be tempted to run your tubes hotter than the maximum values in the chart. You may find it sounds really cool as you destroy your expensive tubes and possibly damage your amp, of course voiding your warranty! Also, in case you haven't found out the hard way yet, power tubes get extremely hot (as high as 800 degrees)!!!! NEVER touch the tubes while the amp is on. Always allow at least 5 minutes for the tubes to cool before touching them after turning the amp off.

RECOMMENDED BIAS SETTINGS

6L6/5881	60mV to 70mV
EL34/6CA7	65mV to 75mV
E34L	70mV to 80mV
6550	70mV to 80mV
6V6 (JJ ONLY !!!!!!!)	30mV to 40mV
KT66	60mV to 70mV
KT77	65mV to 75mV

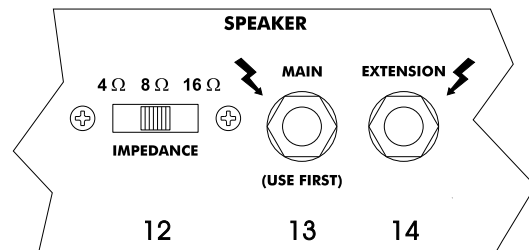
Renegade Speaker Connections



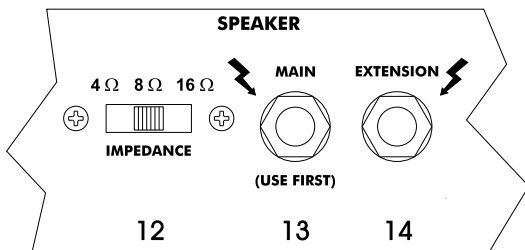
1x12" Combo

INTERNAL ONLY SET IMPEDANCE SWITCH TO 16 Ohms
 INTERNAL + 16 OHM EXTENSION SET TO 8 Ohms
 INTERNAL + 8 OHM EXTENSION SET TO 4 Ohms
 INTERNAL + 4 OHM EXTENSION SET TO 4 Ohms

2x12" Combo 4x10" Combo



INTERNAL ONLY SET IMPEDANCE SWITCH TO 8 Ohms
 INTERNAL + 16 OHM EXTENSION SET TO 4 Ohms
 INTERNAL + 8 OHM EXTENSION SET TO 4 Ohms
 INTERNAL + 4 OHM DO NOT USE

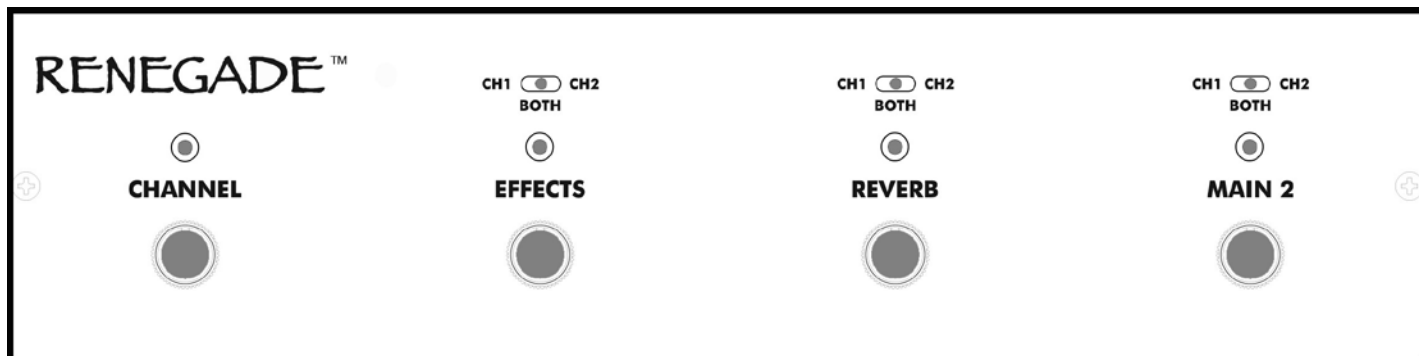


Head

ONE 16, 8 OR 4 OHM CABINET SET THE SWITCH ACCORDINGLY
 TWO 16 OHMS CABINETS SET THE SWITCH TO 8 OHMS
 TWO 8 OHM CABINETS SET THE SWITCH TO 4 OHMS
 TWO 4 OHM CABINETS DO NOT USE
 ONE 16 OHM AND ONE 8 OHM CABINET SET TO 4 OHMS
 ONE 16 OHM AND ONE 4 OHM CABINET SET TO 4 OHMS

SET THE IMPEDANCE SWITCH TO MATCH YOUR SPEAKERS
 Note: The MAIN and EXTENSION jacks are wired in parallel.
 The total impedance is the parallel combination of all the cabinets. You can connect one cabinet to each output jack or connect from the MAIN speaker output to the first cabinet and then from the first cabinet to the second. The switch setting is the same.

Renegade Foot Pedal



The special foot pedal that comes with your Renegade is an innovation in itself.

Notice the extra switches above the EFFECTS, REVERB and MAIN 2 push-buttons. Not only can you turn these functions on and off from the pedal, you can now assign those features to automatically work on only CHANNEL 1 or CHANNEL 2 or both channels. Let's use the EFFECTS section as an example. Suppose you have an effect in the loop that you would like to be able to access "on the fly" regardless of which channel you are playing on. For that you would simply set the corresponding EFFECTS toggle switch to the CENTER position. Now when you step on the pushbutton, the effect will be on when the LED indicator is on, or bypassed when the LED is off. Same goes for Reverb and MAIN 2.

Now the cool part. Here's an example. You have this nice compressor that sounds great for the CLEAN CHANNEL but you don't want it on your OVERDRIVE CHANNEL. You can simply assign the

EFFECTS LOOP to automatically turn on when you switch to the CLEAN CHANNEL and turn off automatically on the OVERDRIVE CHANNEL. Move the little toggle switch to CH 1 only. Switch the amp to CHANNEL 1 and press the pedal pushbutton to turn on the effect.

Now, when you switch channels, the compressor will be active on CHANNEL 1 only and automatically bypassed when you switch to CHANNEL 2. You will still be able to turn the effect on and off on the CLEAN CHANNEL with the pedal pushbutton but it will not be accessible from the OVERDRIVE CHANNEL. This is just one example of how useful this feature can be. Assume you are using a ton of gain on the OVERDRIVE CHANNEL. You have some noise issues so you want to use a gate but only on CHANNEL 2. Simple. Plug the gate into the loop and set the mini toggle on the loop section to CHANNEL 2 only. Select CHANNEL 2 on the pedal and turn on the EFFECTS LOOP.

Now when you switch channels, the

gate will only come on when you go to the OVERDRIVE CHANNEL. You can do the same with the Reverb and the MAIN 2 feature. The REVERB should be pretty self explanatory so I don't think we need to go over that, right?

The pedal functions the same way for the REVERB as it does for the EFFECTS LOOP. MAIN 2 corresponds to the knob labeled MAIN 2, which is just below MAIN 1 on the Renegade front panel. This is a volume or solo boost level control that, when switched on, provides a boost in volume that you can preset with the MAIN 2 knob. Once again, this is programmable just like the other functions. What if you never need a solo boost for your CLEAN CHANNEL but you do on the OVERDRIVE CHANNEL. Just set the toggle switch above MAIN 2 to CH 2 only. Switch the amp to CHANNEL 2 and turn the MAIN 2 function off. Now when ever you need the solo boost, it will only work on CHANNEL 2.

TECH NOTE #101 WATTS vs VOLUME and other stuff....

There is some confusion about the relationship between watts and volume (loudness). There is much discussion about how this many dB is twice as loud as that many and that many dB is double the power and blah blah..... lot's of techie rambling but no real world explanations. I'll try. Let's say you have a guitar amp with a knob to adjust the power (watts). Now say this amp is 20 watts at its maximum power setting and 1 watt at the lowest knob position. It would be reasonable to assume that 20 watts should be loud enough to play with the band and 1 watt would be whisper volume. Anyone who has had the opportunity to test this theory has found quite the contrary. 20 watts through a reasonably efficient speaker is quite loud. 1 watt through the same speaker is also quite loud. What's up with that? Have you ever seen the specs for a 12" speaker? A typical guitar speaker will produce about 95 to 100dB at 1 meter (about 3.3ft) with 1 watt of input power. Now put 2 or 4 of that same speaker in a cabinet and the output is even higher. What this is saying is that even with a mere 1 watt of power, that speaker will put out the volume about equal to a person yelling. Obviously not "TV watching" volume. To obtain that whisper volume, you might need as little as 1/10 of a watt but.....at that low a volume, most guitar speakers start to sound terrible. In addition, there is a phenomenon that occurs with human hearing that is documented by Fletcher and Munson (two really smart guys) that graphs the way we hear things at different volumes. Look it up on the internet. The Fletcher/Munson curves show how our ears, at lower volumes, are less responsive to low and high frequencies. That means the quieter you play, the more we tend

to want to boost the bass and treble to compensate for our own hearing. Ever seen the "loudness" contour switch on a home stereo? That is what the switch does. It boosts the treble and bass to make it sound better quiet. On a guitar amp you often find knobs for boosting the low and high end in the power amp section. Typically these controls are called Presence for the high end boost and Resonance or Depth or Density (Egnater) for the low end. At low volumes you typically turn those controls up but the louder you play, the more you find you need to turn them down. Fletcher/Munson again.

Because we make guitar amps with variable power (Rebel) and switchable power (Tourmaster and Modular), we get inquires about this all the time. Often players will use one of our amps and it appears that the power cut feature doesn't do much. Please allow me to explain.

Let's say you are playing an amp at home or in a music store at relatively low volume. Recall what was said earlier about how little power it really takes to get a fairly loud volume. If you're playing quiet, you might be using even less than 1 watt to obtain the loudness you're at. If you have a chance, try this on a Rebel. Play fairly quiet and turn the WATTS knob from 20 watts to 1 watt. What do you hear? Very little change! Why? Because at that volume you probably are not even using up 1 watt let alone 20 watts. Sort of like driving a car at 5MPH. It doesn't matter if the engine is a 100HP or 500HP, you are still only going 5MPH and using very little HP to maintain that speed. Same with your amp. To cruise along at low volume requires very little power (watts). Having the extra horsepower (watts) doesn't

make the amp louder when you play at low to medium volume.

Now try this with your Rebel. Set the power to 20 watts, turn the master full up and turn up the gain knob until you start to hear some distortion. It will be loud. While you're playing turn the WATTS knob down. You will clearly hear and feel the way less power creates a spongier, lower volume tone. Some players are saying the knob isn't really cutting the power but is reducing the headroom. Call it what you will, the result of reducing power is more of a "feel thing" than a volume thing. Ultimately the idea is to set it to where you like the sound and be happy.....play your guitar. While we're on the subject of the Rebel, there has been some talk about how, when panning from the 6V6 tubes to the EL84 tubes, the tone difference is not what some expected. It is believed that by simply changing power tubes you can make a Fender (6L6 power tubes) sound like a Marshall (EL34 power tubes) or a Vox (EL84 power tubes). What you are hearing in the Rebel when you go from 6V6 to EL84 is the real difference in the sound of those two types of tubes. It may not be quite as dramatic as many believe but that is the reality of it. The tonal difference between various types of tubes is more subtle than many believe. A few people have even been disappointed when using the TUBE MIX features because their expectations of what should happen were really not based in fact. The intangible characteristic is the change in "feel" between different types of tubes. These subtle differences do become more apparent at higher volume when the power tubes are "pushed" a little more into overloading. What you are hearing in the Rebel is "the truth" about power tubes.

TECH NOTE #102 Sound dispersion

Ever wonder why your 4x12 cabinet sounds better when you stand off to the side? Did you consider why the pros mic a speaker from the edge instead of in the center? Ever have people in the audience tell you your guitar tone is really loud and shrill but it sounds great to you on-stage? This is a result of the directionality of loudspeakers. Speakers inherently do not project all frequencies equally. As the frequency increases, the dispersion decreases. In non technical terms, this means the higher you play on your guitar neck, the more directional your sound will be. By nature, speakers tend to be somewhat non-directional at lower frequencies. This means you can stand off to the side of your cabinet and you will hear basically the same bass and lower mids as your audience is hearing right in front of your speakers. On the other hand, and this is where the trouble starts, higher frequencies tend to “beam” from the speaker. While you are standing off axis from your cabinet (not directly in front of it) you are hearing an even balance of lows, mids and highs and feeling pretty pumped about your awesome tone. Unfortunately, unbeknownst to you, the listeners directly in front of your cabinets are being killed by the high end that is “beaming”. FYI, contrary to what one might deduce, having more speakers in a 2 by 2 arrangement, as in a 4x12 cabinet compounds the problem and makes the beaming even worse. Next time you play take a moment to walk from side to side and squat down in front of your speakers. You will be amazed at the difference between listening off axis (to the side) and listening on axis (directly in front). Have you ever seen a band in a small place where you are hearing the stage volume and wonder why the guitars sound so bright? Doesn't

that guitar player hear that obnoxious high end? That knucklehead must be deaf!?!? More likely he is standing close to his cabinets and all that high end is just blowing past his/her legs so he/she doesn't even hear it.

OK..so now I've pointed out how we've all been playing for years believing everyone in the crowd thinks our tone is as awesome as we think.....or is it? Great, so what can you do about it? The key is to place your speakers so you are hearing the same thing as everyone else. If you can get the cabinets far enough behind you, you probably will pretty much hear everything just fine. If that is not possible, try placing the cabinets pointing across the stage sideways instead of forward at the audience. At least then you will only be killing your other band members instead of the audience. Chances are you often want to kill the drummer or bass player anyway, right? The best thing you can do is to tilt your cabinets so that they are pointed at your head. I guarantee you will set your controls way different from what you normally do.

There are a number of possible options to combat the beaming problem. A few companies make a solid disc that you install in front of the speakers to help disperse or attenuate the high end. These discs have met with some success though they do introduce some phasing issues. Also, because there is a solid piece in front of the speaker, if one places a microphone in front of the disc (which happens quite often at shows), it can sound weird because the disc is altering the sound into the mic. There are some other smart people attempting to address the problem. Most involve using some form of foam piece in front of the speakers. The method we find works

best for both live, and when placing a mic in front of the speakers, utilizes a sound absorbing 4" x 1" foam disc placed on the back side of the grill cloth directly in front of the speaker. The discs are made of an acoustical foam material that attenuates the beaming highs instead of blocking them.

I'm always surprised whenever this subject is discussed and many guitar players make the statement “I hate the way my guitar sounds when I stand in front of my speakers”. The answer is not to simply stand off to the side so it only sounds good to you because everyone else is still hearing the sound that you hate. Remember why we play music? It is for others to enjoy. We should always make a conscious effort to think about what the audience is hearing, too.

FEATURES & SPECIFICATIONS*

Renegade HEAD, 1x12, 2x12 and 4x10 combos

POWER OUTPUT: 65 watts maximum into 4, 8 or 16 ohms

4/8/16 ohm Impedance Selector Switch

Two Footswitchable Channels

Master PRESENCE and DENSITY controls

MAIN 1 (MASTER) and MAIN 2 (BOOST MASTER) controls

Buffered Series Effects Loop

International Voltage Selector

Four Button Programmable Footpedal

Cabinet Simulated Direct Balanced Output

CLEAN CHANNEL:

Gain, Treble, Middle, Bass and Volume Controls

Tight and Bright Switches

65/18 Watt Switch

TUBE MIX Control

Reverb Level with "spillover"

OVERDRIVE CHANNEL:

Gain, Treble, Middle, Bass and Volume Controls

Tight and Bright Switches

65/18 Watt Switch

TUBE MIX Control

Reverb Level with "spillover"

TUBES:

Two 5881/6L6

Two EL34

Six 12AX7

DIMENSIONS:

Renegade Head 25"w x 10.5"d x 9.5"h

Renegade 1x12 combo 25"w x 10.5"d x 19.5"h

Renegade 2x12 combo 26.5"w x 10.5"d x 21"h

Renegade 4x10 combo 25"w x 10.5"d x 27.5"h

LIMITED WARRANTY

Thank you for choosing Egnater. Egnater manufactures some of the world's most innovative all-tube amplifier, combos and speaker cabinets. Egnater takes great pride in thoroughly testing each product prior to shipment.

AMPLIFIERS, COMBOS AND SPEAKER

CABINETS: Egnater offers a three (3) year warranty to the original purchaser that an Egnater product will be free from defects in material and workmanship. A dated sales receipt will establish coverage under this warranty. This warranty does not cover service or parts to repair damage caused by accident, neglect, abuse, normal & wear, disaster, misuse, abuse, over-powering, negligence, inadequate packing or shipping procedures and service, repair or modifications to the product which have not been authorized or approved by Egnater. If this product is defective in materials or workmanship as warranted above, your sole remedy shall be repair or replacement as provided below.

TUBES: Egnater warrants the original purchaser that the tubes used in an Egnater amplifier/combo will be free from defects in material and workmanship for a period of 90 days from the original date of purchase. A dated sales receipt will establish coverage under this warranty. This warranty will automatically terminate 90 days after the original retail sales date. This warranty is in lieu of all other expressed warranties. If tubes fail within the 90 day warrant period your sole remedy shall be replacement of tubes as provided below.

RETURN PROCEDURES: In the unlikely event that a defect should occur, follow the procedure outlined below. Defective products must be shipped, together with proof of purchase, freight pre-paid and insured to the Authorized Egnater Service Center or directly to Egnater. If a product must be returned to Egnater for warranty replacement/repair, a Return Authorization Number must be obtained from our Customer Service Department prior to shipping the product.

Please contact our Customer Service Department for the Authorized Egnater Service Center nearest you. Products

must be shipped in their original packaging or its equivalent; in any case, the risk of loss or damage in transit is to be borne by the purchaser. The Return Authorization Number must appear in large print directly below the shipping address. Always include a brief description of the defect, along with your correct return address and telephone number.

When calling to inquire about a returned product, always refer to the Return Authorization Number. If Egnater determines that the unit was defective in materials or workmanship at any time during the warranty period, Egnater has the option of repairing or replacing the product at no additional charge, except as set forth below. All replaced parts become a property of Egnater. Products replaced or repaired under this warranty will be returned via ground shipping within the United States-freight prepaid. Egnater is not responsible for costs associated with expedited shipping, either to Egnater or the return of the product to the customer.

INCIDENTAL OR CONSEQUENTIAL DAMAGE:

In no event will Egnater be liable for any incidental or consequential damages arising out of the use or inability to use of any Egnater product, even if an Egnater dealer has been advised of the possibility of such damages, or any other claim by any other party. Some states do not allow the exclusion or limitation of consequential damages, so the above limitation and exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

FOR YOUR PROTECTION: Please complete and mail the Purchase Information Card within (10) ten days of the date of purchase so that we may contact you directly in the event a safety notification issued in accordance with the 1972 Consumer Product Safety Act.

CUSTOMER SUPPORT: Our dedicated staff is ready to help you with any warranty or product questions you may have. Please call 1-877-EGNATER (9:00AM to 4:00PM Pacific Standard Time).

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