



GEORGE LYNCH SIGNATURE AMPLIFIER SERIES

LB103 OPERATION MANUAL



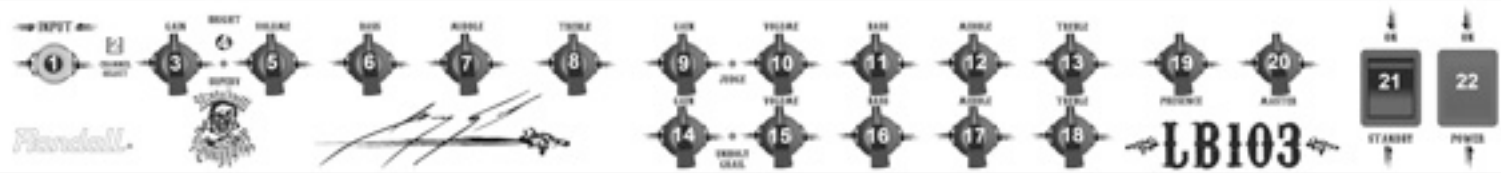
Randall®

A M P L I F I E R S

Congratulations on the purchase of your new George Lynch Signature “LynchBox” **RANDALL** Amplifier!

George and all of us at Randall Amplification appreciate that you chose this amplifier. We spent a lot of time at the bench with George helping us refine the tone and gain structure into this bad-ass machine you just pulled out of the box.





SUPER V - Channel 1 - based on the ‘SuperV’ preamp this is a ‘Chimey’ vintage british style tone that is mostly clean but breaks up nicely with the gain knob pushed.

JUDGE - Channel 2 - based on ‘The JUDGE’ preamp this channel is George’s heavily modded out plexi style tone - versatile for Blues all the way to Metal.

UNHOLY GRAIL - Channel 3 - new modern style somewhat compressed style sound with a ton of Gain.

1. 1/4” Instrument input - Plug your Guitar in here,
2. Channel Selector Switch - Switches channels - corresponds with included footswitch.
3. SuperV-Channel 1- Gain - Controls amount of input level and subsequent overdrive.
4. Bright switch enhances high-frequency in SuperV-Channel 1
5. SuperV-Channel 1 volume controls this channel’s output level
6. Bass - Low frequency EQ control for SuperV-Channel 1
7. Mid-frequency EQ control for SuperV-Channel 1
8. High-Frequency EQ control for SuperV-Channel 1
9. JUDGE-Channel 2 Gain - Controls amount of input level and subsequent overdrive/distortion
10. JUDGE-Channel 1 Volume controls this channel’s output level
11. Bass - Low frequency EQ control for JUDGE-Channel 2
12. Mid-frequency EQ control for JUDGE-Channel 2
13. High-Frequency EQ control for JUDGE-Channel 2
14. UNHOLY GRAIL-Channel 3 Gain - Controls amount of input level and subsequent overdrive/distortion
15. UNHOLY GRAIL-Channel 3 Volume controls this channel’s output level
16. Bass - Low frequency EQ control for UNHOLY GRAIL-Channel 3
17. Mid-frequency EQ control for JUDGE-Channel 3
18. High-Frequency EQ control for UNHOLY GRAIL-Channel 3
19. Presense control tailors high-frequency power amp output response - effects all channels
20. Master Volume control for entire amplifier - effects all channels.
21. Standby Switch--the standby switch is there for a reason-- always wait 5-10 seconds between turning power switch on/off and standby switch---This is important to ensure maximum tube life.
 ON= Power > wait > Standby
 OFF= Standby > wait > Power
22. Power Switch turns the amplifier on and off
23. Fuse - internal fuse protects amplifier circuit
24. IEC Power connector - plug the included power cable for your country’s standard here
25. Footswitch jack - Plug the Included RT3 footswitch here - This 3 button footswitch switches the 3 channels
26. Effects loop series send - connect to input of external effects unit
27. Effects loop return - connect from output of external effects unit
28. Loop Level - this button toggles between instrument level for pedals/stomp boxes and professional level for studio/rack style effects. Check your 3rd party effects documentation or listen for low level -or- distortion to adjust.
29. Speaker Output- 1/4” MINIMUM 8 OHM LOAD - Connect this to your 8-16 Ohms speaker cabinet.
30. Speaker Output- 1/4” MINIMUM 4 OHM LOAD - Connect this to your 4 Ohms speaker cabinet.
 You can plug (2) 8Ω -or- (2) 16Ω cabs into these jacks
31. See Next page for details on the Tube Bias functions.

31. TUBE BIAS SYSTEM

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) (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 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.... Why would I want to adjust the bias? All power tubes are different. They all have unique sonic and electrical characteristics. The RT amplifiers are designed to accept a variety of different tube types. EL34, 6L6, 5881, 6CA7 and 6550 are among the possible choices. Because they are all different, they each require different bias settings for safety, reliability and optimum performance.

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

The RT Series of products from Randall takes the danger and mystery out of bias and puts it safely into the users hands. You will need a decent quality digital voltmeter capable of measuring in the 100 millivolts DC range. This is a very basic type 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 control.

1. The amp should be on, standby in the “PLAY ” position and all knobs all the way down.
2. 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.
3. Insert the Black (Negative) meter lead into the panel hole labeled “COMMON ”.
4. Insert the Red (Positive) meter lead into the panel hole marked “TEST POINT 1 ”
5. You typically will observe a reading between 25mVDC (25 millivolts DC/.25v) and 45mVDC (45 millivolts DC/.045v).
6. With your screwdriver, turn the “BIAS ADJUST ” control to obtain the proper reading for your tube type from the chart below. Write this number down.
7. Next, move the red meter lead to the hole labeled TEST POINT 2. Write down the value. Both readings from steps 6 and 7 should be within the range shown on the chart. Readjust if needed to get both tubes into the proper range of readings.
8. Lastly, keep the red test lead in the TEST POINT 2 hole and move the Black meter lead to TEST POINT 1. You should read less than 5mVDC (5 millivolts DC) or .005VDC. If the reading is greater, this indicates the tubes are not very well matched. It doesn 't necessarily mean they are defective, just not matched. If the reading is greater than 8mVDC (8 millivolts DC) or .008VDC, we recommend replacing the pair with a closer matched set.
9. After completing the adjustments, allow at least 5 minutes for the tubes to warm up and stabilize. Then recheck and read- just if needed. Lower settings will typically sound a bit cleaner and harder while higher settings tend to be a bit more compressed and softer. Find a range you prefer.

BIAS READINGS:

6L6/5881 28mV to 35mV -- EL34/6CA7 30mV to 38mV -- E34Ls 6550 35mV to 45mV

Meter displays differ from one meter to the next. Some may indicate for example, 30.0 for 30 millivolts. Others may show .030 for 30 millivolts. Knowing how your meter works is of the utmost importance.

Additional features of the “POWER TUBE BIAS SECTION”

Fast Blow fuses. One per output tube. In the event of a power tube failure, the corresponding fuse will open protecting the amp from additional damage. A red LED next to the fuse will indicate that the fuse is blown. 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 now tell you if you have a shorted output tube and which one it is! With the power off, simply remove the power tubes and replace the indicated fuse with a FAST BLO 250mA (1/4 amp). NEVER EVER use anything but a FAST BLO 250mA (1/4 amp) fuse. If you do have the misfortune of “blowing” an output tube, we strongly suggest replacing the pair. Remember, your amp will only perform as well as your weakest tube.

Special Note:

You should always carry a spare pair of power tubes, fuses, 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. Try that with any other amp.

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, 30mV you are also seeing the equivalent value of current or 30mA.

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.

Please review the safety instructions below and be aware that the documentation provided in this manual references 120volt USA versions of the models covered. Note that the POWER listed on the back of the unit should be for your countries' power standard.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two 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 are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.



WARNING- To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

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Randall Warranty

Randall Amplifiers, a Division of U.S. Music Corporation warrants the product you have purchased to be free of defects in materials and workmanship in normal use for a period of two (2) years from the date of original purchase. This warranty shall run to the original purchaser when purchased from an Authorized Randall Dealer. The manufacturer warrants speakers for a period of (1) years. The manufacturer warrants tubes for a period of (90) days. Defective parts found during the applicable warranty period with proof of purchase will be replaced or repaired without charge if the complete product is returned to US Music Corp or any Authorized Randall Service Center within the U.S.A. Randall reserves the right to use materials readily available at the time of the repair. All Warranty service requires Proof of Purchase (sales receipt) to be presented at time of service request. Any repair or service performed by any person of entity other than an Authorized Service Center is not covered by this limited warranty. The customer pays transportation to and from Randall factory service or any Randall Authorized Service Center. Rental stock is warranted for (1) year from date of invoice to the Authorized dealer. Warranty on rental units is not transferable.

What is covered against manufacturing defects

Parts and Labor to correct any defect in materials used and any defect attributable to workmanship.

What is not covered:

Shipping Damage. Report damage upon receipt of item to the carrier (i.e. UPS). Freight carrier must be notified upon receipt of items to insure freight damage claim resolution. Shipping damage not filed with carriers within (48) hrs upon receipt will not be covered under warranty. Report any shipping damage within (48) hrs of receipt to the Randall Customer Service Dept at 1-847-949-0444, ext. 5120. Keep all original documents and packing materials to insure freight damage claim resolution. Merchandise that has been modified after original shipment from the Randall factory. Products whose serial numbers have been altered or removed. Exterior normal wear and tear damage to the finish due to misuse, operation outside the specified ratings, neglect or accident. Warranty claims by anyone other than the original purchaser. Randall is not responsible for any items left in protective covers or cases, (We strongly advise that all personal items such as chords, cables, tuners, etc... be removed!) freight charges to and from the factory or an Authorized service center on customer owned goods, any and all charges incurred from priority service requests (Rush Service) or priority shipping for replacement parts. Any and all charges if no problem is found.

Return Authorization

All items being returned for any reason must have a Return Authorization number. This RA# must be placed on the outside of the carton of the item being returned or the carton will be refused upon delivery. Please call the customer service department at 1-847-949-0444, ext. 5120, for the return authorization number. Dealer stock items will be returned to the dealer freight prepaid.

An Authorized Warranty Service Center must perform any and all field warranty service work. Customer will not pay for parts and/or labor provided the problem found is within warranty guidelines. Proof of purchase must be provided at the time of service request. Transportation charges to and from the Authorized Warranty Service Center are the responsibility of the customer. Rush service charges and special freight charges for required parts are not covered under warranty and are also the responsibility of the customer. If a unit is not easily transported to an authorized service center, the customer is responsible for technician travel charges. Any charges for labor or processing when no problem is found are also not covered under warranty. Any charges incurred for work performed by an unauthorized service center are the responsibility of the customer.

Warranty terms may vary per country, check warranty terms with local Distributor or at point of purchase.