

# **Large Coil Noise Canceling System-Hollow body LP (LCNCS-H)**

## **User's manual and installation instructions**

This product is mainly designed to be fit in a hollow body guitar, having one or more single coil pickups. The LCNCS-H is adapted to be placed inside of the hollow body guitar then attached to the inside surface of either the top or the bottom of the body

The LCNCS-H contains a low impedance coil assembly so it effectively eliminates the noise while the single coil pickup tone retains unaltered. The LCNCS-H is an easy to install passive system.

The best way to install the LCNCS-H is to use professional service of a guitar builder or guitar repair shop but it can be also installed by anyone that is familiar with guitar electronics, guitar assembling and wire soldering.

Heavy bending or deep scratching isolation of the LCNCS-H could badly damage the unit and cause you to lose all terms of the warranty.

### **Basic requirements:**

1. All single coil pickups need to be same kind (i. e. Alnico rod poles, steel screw poles etc.)
2. All pickups need to be wound in the same direction and have same magnetic polarity (if there is a RWRP pickup this pickup needs to be reversed or replaced with a regular one)
3. The pickups switching does not include any "in series" or "out of phase" combination.
4. The pickup selector switch, the volume and tone pots, all pickups and the output jack operate normally.

### **Preparing the guitar for LCNCS-H Installation:**

1. If you need to modify the single coil pickups - pull off all strings from tuners and modify the pickups accurately.
2. At the Volume and Tone potentiometers area - arrange them so you will be able to solder the new wires.
3. Take a picture or do a simple sketch to memorize the original wiring of your guitar electronics and the pickup wires connections for any future references.
4. If the pickup output wires are braided type you will need to convert them to 3 lines (conductor) pickup output wires
5. Take the Adjusting PCB and make sure that you will be able to fit it inside of the guitar easily.

### **LCNCS-H installation steps:**

=Use one F hole or one of the pickups mounting window to insert the LCNCS-H. Carefully squeeze the coil and insert it into the hollow body. Then reshape the LCNCS-H back to the original rounded rectangular shape. Use several strong duck tape pieces (about 2"X1" or 50X25mm) to attach the LCNCS to the inside surface of the body back. The best location of the LCNCS-H will be under the Neck and Bridge pickup area.

=Tin with soldering gun and fresh solder wire one of the short ground wires (G1) left on the Volume potentiometers.

=Solder the cables coming out of the Adjusting PCB as follows:

=Green wire to G1; White wire to Ng; Blue wire to Bg. Then isolate the created soldering joints.

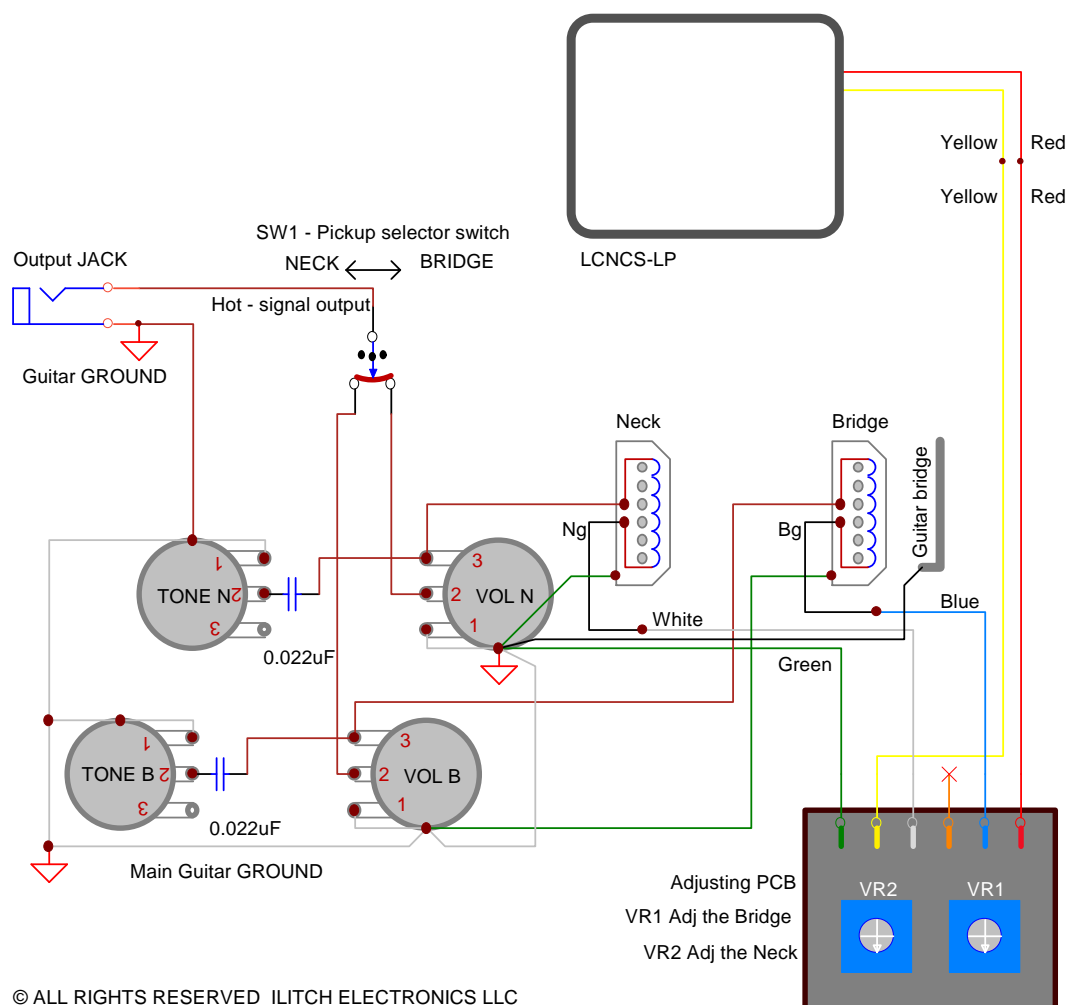
=Connect the red and yellow wires from the LCNCS-H coil to the red and yellow wires from the adjusting PCB and isolate the created joints.

=After finishing all soldering and isolations, shape the wire harness and place back the Neck and Bridge pickups with their mounting screws. Keep the adjusting PCB outside of the guitar (via the F-hole) control until you finish the noise canceling adjustments.

### **Adjusting the LCNCS-H for best noise cancellation:**

1. Put ON some of the guitar strings (at least one), and turn the guitar volume and tone controls to their "MAX".
2. Connect the guitar to a guitar amplifier using a regular guitar cable.
3. Use a correct size screwdriver to adjust the blue trim pots located on the adjusting PCB.
4. Turn the two trim pots on the adjusting PCB to their "MAX" (100%). In this way you will be able to hear some basic hum noise.
5. Turn "ON" the guitar amplifier and set it up with a gain and loudness, so you can hear some noticeable hum noise. Play over the strings to check that all pickups operate normally and the hum noise has almost the same level at all 3 position of the pickup selector switch SW1.
6. Hold the guitar as you would play on it and get a position near the amplifier but not less than 3 feet (1 meter). Best noise canceling result will be achieved with the amplifier located behind your back and the guitar approximately parallel to the amplifier's front face.
7. Put the pickup selector switch SW1 at position "1" (Bridge pickup only). Turn down (CCW) VR1 trim pot to reduce the noise level. If the noise increases instead of decreasing, unplug the guitar from the amplifier remove the pickguard again and swap the wires connection as follows: yellow wire from the adjusting PCB to the red wire from the LCNCS-H; red wire from the adjusting PCB to the yellow wire from the LCNCS-H. Now turn down VR1 trim pot until get an optimum noise cancellation at position "1".
8. Put the pickup selector switch at position "3" (Neck pickup only). Turn slowly down (CCW) VR2 trim pot to reduce the noise until get an optimal noise cancellation at position "3".
9. You can now go back and forth through all 3 positions (Bridge; Bridge + Neck; Neck) of the SW1 and fine adjust the locations of the VR1 and VR2 until you get the best noise cancellation. After you are satisfied with the noise reduction result, wrap out the adjusting PCB with a small plastic bag or piece of foam, and insert it inside of the guitar.
10. Set up the guitar, plug it in and double check for its normal operation.

Basic Wiring diagram. Use this wiring ONLY if the two SC pickups are same polarity (hum noise at ALL 3 positions)!  
Find your color wiring diagrams on the website - [www.ilitchelectronics.com/wirings/](http://www.ilitchelectronics.com/wirings/)



#### Terms of Limited Warranty. RETURN & EXCHANGE POLICY:

We offer to the original purchaser (For DIRECT SALES from ILITCH ELECTRONICS ONLY) the following terms of Limited Warranty and RETURN & EXCHANGE POLICY:

1. One year of warranty for all moving parts (i.e. trim potentiometers) of the product.
2. Two years warranty for all non-moving parts (i. e. - capacitors, resistors etc.) of the product. Ilitch Electronics reserves the right, based on visual observing and electrical measuring, to determine what has caused a defect. Damages caused by accident, abuse, alteration, or misuse are not covered by this warranty. Product appearance and normal "wear and tear" (worn paint, scratches, etc.) are not covered by this warranty.
3. We offer a four weeks money back policy for customers not satisfied with the purchase. You have to contact us first to get a return authorization number (RAN).

A refund will exclude all shipping and handling costs PayPal fees and an additional 15% restocking fee will be applied. The product needs to be in its original condition and packaging that you have received it from us.

Customer's Name: ..... Date of purchase : .....

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