



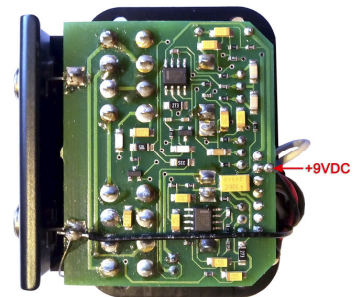
## How to install BECOS Micro Booster Preamp in Music Man John Petrucci w/piezo guitars

### ***A word of advice***

Please use the corresponding schematic published on our website as a guide for installation. Be aware that you may void manufacturer warranty if you proceed to modifications in your guitar. Technical skills and circuit understanding are required for this installation. Please refer to a qualified technician for installation, help and support.

### ***Prepare BECOS Micro Booster Preamp for installation***

1. Unsolder the 3-wire to output jack and battery clip wires from BECOS booster board. You won't need the stereo output jack anymore, since existent output jacks on the guitar will be used.
2. Solder a 20 cm long red wire to (+) point on the booster board. The other end of this wire will be connected to guitar's battery on positive pole, to power the booster from the main battery on the guitar. This connection can also be neatly made on piezo's preamp board, at indicated point in the picture on the right (it seems like they prepared this board to be ready to draw power from it for another preamp; which they did in the 2014 iteration of Music Man, JP14, which also have a booster).



Picture showing the point where 9VDC for magnetic booster is taken from the existent piezo preamp

### ***Install booster on Tone pot position\****

1. Remove original tone pot from the guitar by unsoldering the wire on the end that is connected to the volume pot. Also remove the tone capacitor completely; you will reuse the capacitor on the new tone pot.
2. Unsolder the guitar's output HOT wire from the central lug of the volume pot (usually a white wire, which sends the signal to guitar's output - in our case to the piezo preamp board where output jacks are soldered). We will reconnect this wire to the BECOS booster OUT output point when we reassemble everything.
3. Solder the capacitor on to the potentiometer attached to booster's board (actually, the switch-pot). One end on to the point marked B on the booster's board, and the other end on to the pot's metal case (which is put to ground in booster's circuit).
4. If long enough, reuse and solder the short white wire by soldering it to point marked A on the booster board; the other end will be reconnected to volume's side lug, where it was previously desoldered from.

*\* The simplest installation is in the Tone position, but this is not mandatory. Installation in Volume position just means to rewire the new pot attached to booster's board exactly the same as the one replaced!*



## ***Reassembling everything***

1. Start by placing the booster/switch-pot in place and fix it loosely. After all the connections will be made, it can be fixed in place for good.
2. Take the 20 cm red wire previously soldered at (+) point on the booster's board through the existing hole in the guitar body that is in between electronic cavity and piezo preamp cavity, along with the other wires that goes over there (coming from piezo volume pot).
3. Solder this wire to the point indicated in the picture above, on piezo preamp board. You will draw +9VDC power from this point, for BECOS booster. In fact, this point is in contact with battery's positive pole and is situated near where the red wire coming from battery is soldered on to the piezo preamp board.
3. Solder booster's Input red wire to the central lug of the existent volume pot.
4. Solder guitar's output HOT wire (which was disconnected from the central lug on the volume pot) to the point marked OUT on booster's board.
4. Solder the black ground wire coming from the booster to the main ground point of the guitar, in the guitar cavity.
5. Solder the small white wire that connects the tone pot (from point marked A on the booster board) back in the circuit, to volume's pot side lug, where it was in the beginning.

## ***Testing***

Before packing up everything, test the circuit. When pot's switch is in Down position, the signal goes straight to the output of the guitar (true by-pass). When in Up position, the signal goes through the booster; adjust the booster output volume from the volume trimmer, as desired. The trimmer knob may be taken out through the cavity's metal cover (as in our demonstration of installation videos on Youtube). The booster works only for magnetic pickups. Tone pot is active at all times and is effective on magnetic pickup's signal only. Boosted signal can be mixed with piezo signal using the piezo/mix/magnetic switch in the guitar. Booster's circuit is powered only when instrument cable is inserted in the guitar, similarly with the existent piezo preamp. Battery life will be shortened a bit, since both circuits will draw power from the same battery, but it should be long enough for a couple of months of quite intensive usage.

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Document last revised on April 11, 2015