



## MMSR 3 Knob 2 Band

### MM Style Volume, Bass & Treble Preamp

The BTB-MMSR has been designed with characteristics very similar to the original MM Stingray© 2 Band EQ, but is not a copy of the original circuit. The original used a single op-amp chip (single amplifier stage in the form of a chip) for both bass and treble circuits, whereas this unit utilises a more modern dual op-amp chip (two amplifier stages in a chip).

#### • **BASS & TREBLE CONTROLS**

The design of the 2 band EQ in the early Stingray© basses is unusual in that it does not follow the types of topologies around which the majority of equalisers are designed. It would seem that Leo Fender designed it to create a particular sound rather than follow any conventions, such as symmetrical EQ curves. Consequently the figures shown may appear unusual to those familiar with such specifications. In fact it's not easy to portray what this EQ does with a few numbers, but in any case some figures, based around a flat response input signal, are quoted as reference points.

**NOTE:** *Like the original, this circuit does not have a flat response when the controls are set midway. This unit is not designed as a clinical tool, where what goes in, comes out at some reference setting.*

#### • **TREBLE (+20dB / -16dB @ 10 kHz)**

There is more boost than cut, giving rise to the characteristic 'sizzle' associated with the Stingray© style of EQ.

#### • **BASS (+14dB / -7dB @ 40Hz)**

The bass control has a little more boost than the original. The boost curve continues to rise towards the lower frequencies, without flattening out at any frequency within the normal bass guitar range. Conversely the cut characteristic is shelving, having an essentially flat response from 30 - 100Hz, when fully cut.

#### • **VOLUME**

Sets the level from the preamp, feeding the output jack directly, like the original. This means that the pickup feeds the preamp directly, allowing the best possible transfer of signal, and full interaction of the pickup with the preamp.

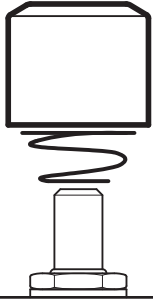
#### • **POWER**

This unit can be powered from 9 - 18 Volts DC.

#### • **INSTALLATION**

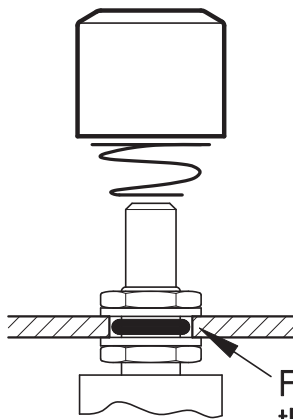
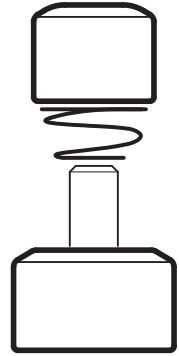
- The pots are marked: V = Volume, B = Bass, T = Treble
- The pot threads are 7.0mm size. Fit them into their holes leaving the rubber spacer rings in place if the holes are the original larger size. Tighten them once they are in place.
- Mount the preamp on the rear faces of the bass and treble pots using the foam tape on the rear of the preamp.
- Connect the pickups wires to the bass/treble circuit board, according to the BTB-MM diagram.
- A battery clip is provided with the preamp allowing it to be powered directly. But most basses will have a separate battery compartment. In which case, cut off the battery clip and join the red and black wires from the preamp to those in the bass. Before joining the wires, slip the heatshrink sleeves over the joints. The sleeving can be heated with a hot soldering iron, or other localised heat source, held in close proximity. (The heatshrink sleeves can be found threaded on the black ground wire)
- Connect the black ground wire from the jack to any ground wires in the bass, such as the bridge.

## Fit Spring Under Each Single & Upper Knob



A fine spring is provided for each single & upper knob, in order to maintain electrical contact with the knob.

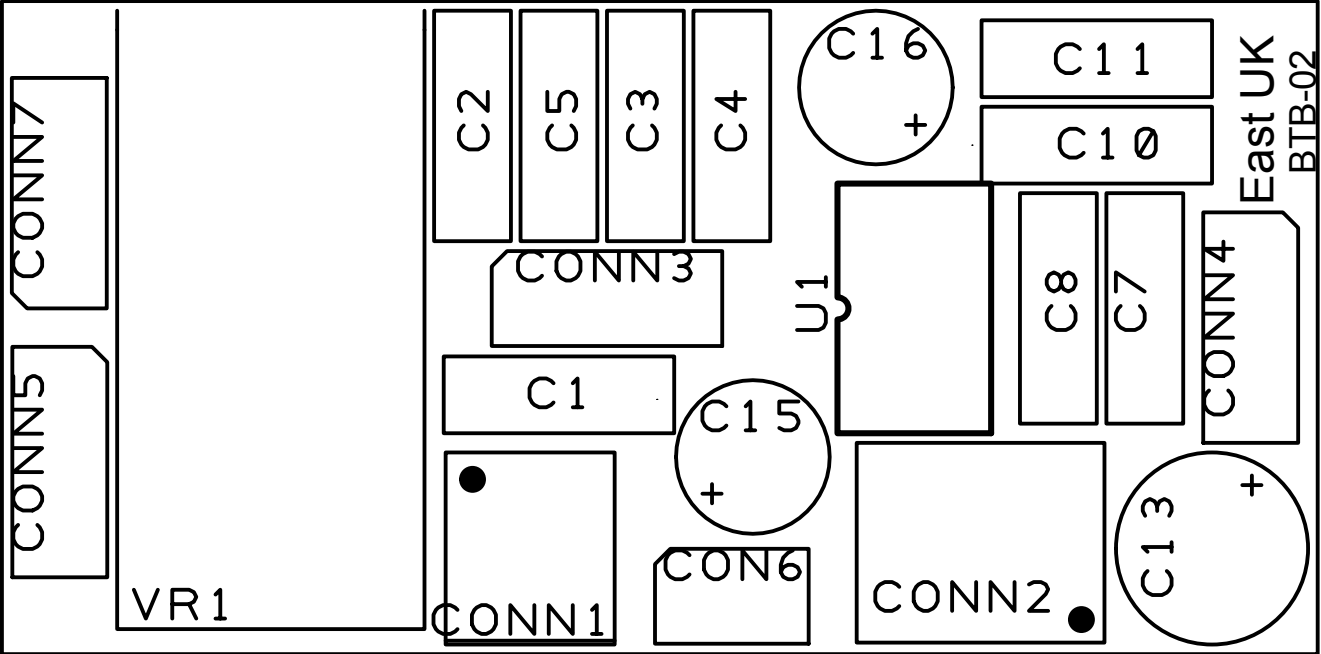
Fit on pot shaft with the larger coil upwards, then fit and tighten the knob, making sure it turns freely.



Control Plate

Fit rubber ring on 7mm pot threads where the holes in the plate are a larger size, in order to centre the control.

# BTB MMSR 02



East UK  
BTB-02

↑     ↑  
HOT   COLD  
PICKUP

↑     ↑     ↑  
GREEN - GND  
ORANGE - O/P  
RED - 9-18V +VE



### CARE & SAFETY

- This unit does not contain any user-servicable parts. Any repairs or maintenance should be carried out by qualified personnel only.
- Do not allow this unit to get wet or expose it to damp conditions.
- Do not leave a battery connected to the unit for extended periods if not in use.

### GUARANTEE

Your East product is guaranteed to be free from defects in materials and workmanship for a period of one year from the date of original purchase.

If during the guarantee period your product becomes faulty due to defective materials or workmanship then the unit will be repaired or replaced without charge for parts or labour at the discretion of East UK according to the conditions below.

### CONDITIONS

- 1 The original sales invoice or receipt indicating the date of purchase and sales outlet is presented together with the faulty unit.
- 2 The unit was installed competently consistent with the instructions supplied.
- 3 What is not covered:
  - a) Damage due to accident or improper handling, installation or operation.
  - b) Defects caused by the instrument or system to which to which the unit has been installed.
  - c) Damage resulting from repair of the unit carried out by non-authorized service personnel.
  - d) The costs of transport or shipping costs relating directly or indirectly to the guarantee of this product.