The Fodera Custom Shop Internal Preamp

Passive Mode

The first Mode is entirely passive and consists of a Master Volume and Master Tone (vintage style high-end roll-off) on a stacked control, and a pickup Blend control. The Blend control is custom made for Fodera to allow both pickups to operate in a "full on" state when the control is centered. When the bass is in the active mode, the entire passive section of the circuit is still used.

Active Mode

Putting the bass into the active mode simply inserts the preamp in between the passive mode and the output jack. The active controls are Bass, Midrange, and Treble. They are all cut and boost style controls with center notches.

The Custom circuit, although it has a balancer/master volume/tone passive section, is arranged so the active part buffers the volume control from the rest of the circuit. So in active mode, as far as the pickups are concerned, they are driving volume/volume/tone without the undesired losses you get from the extra loading element in a typical volume/balance/tone circuit, a commonly cited problem for many folks. The output of the volume control is fed back into an output driver, so the output impedance is not affected by the volume control setting.

Switches

- The power switch for the preamp is activated by inserting a guitar cord into the jack. Unplugging the cord turns the power off.
- The switch closest to the Treble control is the On/Off or Standby switch. Up is standby. Alternatively this switch may be set up to switch between high and low mids.
- The switch nearest the output jack is the Active/Passive switch. Up is passive, while down is active.
- Coil Tap: If the instrument has dual coil humbucking pickups, there is a third switch that acts as a Coil Tap. Up is single coil, while down is humbucking.

Frequencies

We feed our pickups straight into a 250k balance pot with no buffering -- Old School. Our circuits have a totally passive front end that is fed into an active section with a 1MedOhm input impedance to avoid unwanted loading on the pickups. Output impedance is 2k, which is low enough to swamp out cable capacitance, but high enough to protect the preamp from a sustained short circuit.

In terms of how we lay out the tone shaping of our active section the frequencies are as follows:

Bass: 12dB Cut and Boost at 46Hz or 90Hz (user selectable, ships set to 46Hz)

Treble: 15dB Cut and Boost at 6kHz or 10kHz (user selectable, ships at 10kHz)

Mids: Switchable between Low and High Mids with a toggle switch on the face of the instrument (on the Custom Preamp)

Low Mids: 12dB Cut and Boost at 330Hz or 473Hz (user selectable)

High Mids: 15dB Cut and Boost at 1kHz or 1.8kHz (user selectable)

The Bass Frequency on the Custom Preamp can also be assigned to the toggle switch, which allows the player to use a higher bass frequency when using the 1k or 1.8k mid setting, thereby avoiding overlap between the bass and low-mid frequency, which is a fairly wide band and does run down into the slope of the high bass. It is also possible to leave the midrange frequency fixed and simply use the toggle switch to vary the bass frequency.

Pots

We have a custom stack master volume / passive tone pot with 250k values. Our balance pot is also 250k and the pots used for the active section of the preamp (bass, mids and treble) are all 100k. These pots are all custom built for us by a company that we feel is the leading manufacturer of pots like these.

Batteries

The preamp is powered by two nine-volt batteries to give a total supply voltage of 18VDC. Current drain is extremely low allowing unusually long battery life. We have had reports of significantly more than 6 months of battery life if the instrument is not left plugged in when not being played.

Note: Even though the bass is in the Passive mode and is ENTIRELY passive, the preamp will, however, continue to draw a small amount of current from the batteries, so it is best to unplug your bass when it is not being played for a period of time.