Based on a design by ...
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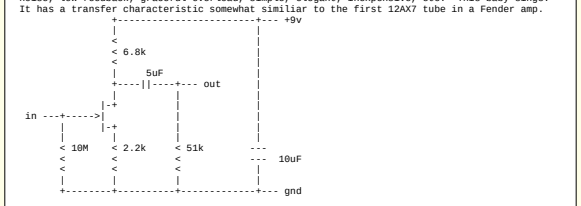
(Notes From DON)

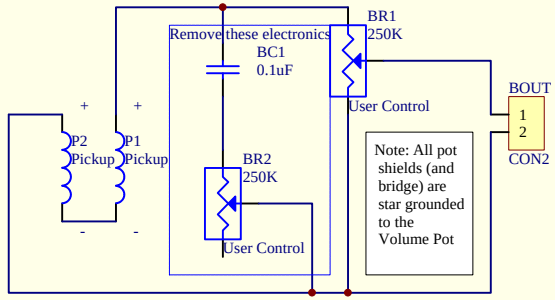
Well okay. Here's a nice design from the "op-amps are for weenies" school. Low distortion, low noise, low feedback, graceful overload, simple, elegant, inexpensive, etc. This baby sings. It has a transfer characteristic somewhat similiar to the first 12AX7 tube in a Fender amp.



The FET is a 2N5457. The voltage gain is subtle, 3dB or so. You can substitute another low-Vdss FET if you know what you're doing. Power drain is about 0.5 mA, so a 9v batter will last a good long time. It does start to sound a little grubby when the battery sinks below 7v.

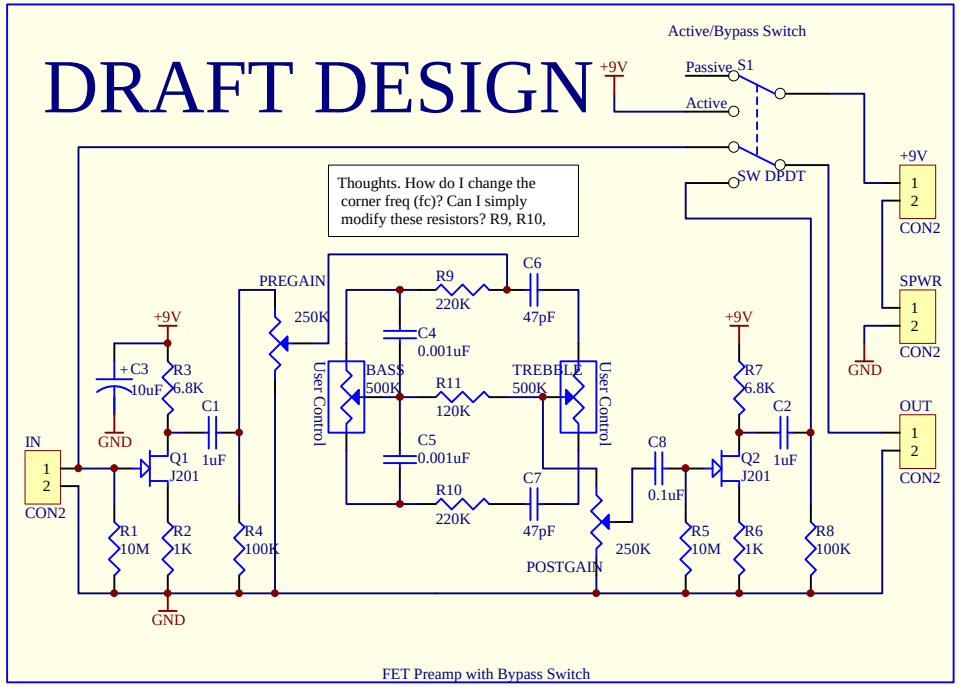
It's also trivial to add a high-boost switch if you'd like; have it shunt the 2.2k resistor with a 0.05 uF (adjust to taste) cap. Or shunt the 2.2k resistor with a 10uF cap for more gain.

Obviously you want to wire it so it's powered off when the instrument isn't plugged in -- it's far superior to use a switched jack instead of the weenie approach of using the second connection of a stereo jack. Also note that this design is easily phantom-powered, so you can even get by without installing a battery.



Original Bass Electronics

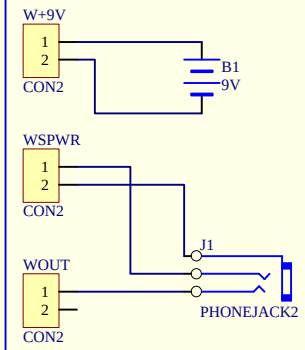
NOTE: Active/Passive Bypass Switch has changed from previous version.
The switch now selects between the raw input from the standard guitar electronics, or the OUTPUT of the FET preamp. This way when in passive mode, the only electronics in parallel with the guitar circuitry is a 1 MEG resistor, rather than in the previous version which had 1 MEG AND 51K.
The switch also disconnects the battery from the preamp to conserve battery power.
If you wish to ignore the Active/Passive bypass switch (not recommended in case you get a flat battery half way through a gig , and don't have a spare), simply ignore the switch and wire it up permanently in the Active Setting.
Note that when in passive mode, this circuit removes the use of the TONE control. Need a way to bring the tone control back into use in PASSIVE mode. Fairly simple, but need a clever way.
There are probably several redundant components here.



FET Preamp with Bypass Switch

Features:
1) Fet Preamp System
2) BAXENDALL Tone Control
3) Pre-Post BAXENDALL Signal Level Control
4) Lower Current Consumption ~0.5ma

The battery may be mounted loose, with some packing, or in it's own little carrier. In the Yamaha RBX260, there is just enough room for the battery above the volume and



Extra Wired Electronics

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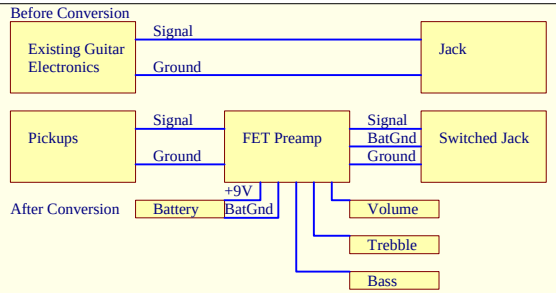
You modify your bass/guitar/electronics at your own risk.

No guarantee is made whatsoever about the quality, correctness, completeness, or validity of this documentation

The author cannot be held liable for damages.

When the preamp is turned on, there is a large voltage spike seen on the output, therefore when connecting your lead, always connect the lead to the bass first then to the amp after 3 seconds or so, thus allowing the voltage spike to subside.



Ideally the output jack should be a switched jack which isolates the switching mechanism from the jack signal and output lead completely.

I would like to thank the following people for their input into this design...
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Title: RBX260A Bass Schematics (Andrew Maxwell Signature Model)		
maxwella@usq.edu.au maxwella@ieee.org		
Size: A4	Number:	Revision: 2.0 (unfinished)
Date: 13-Oct-1999		Sheet of
File: C:\WINDOWS\..\FET_V2_0_bass.Sch		Drawn By: Andrew Maxwell