



HPF-Pre

High pass filter and impedance buffer for bass instruments

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Status: HPF-Pre is ready to take your orders!

Announcement: HPF-Pre Series 3 Mini is now available!

Series 3 Mini is the answer to many requests that I've received over the years. Bassists have asked me about a layout similar to most guitar and bass effects pedals. It's the same great filter circuit as Series 3, but in a smaller, pedalboard-friendly package, with fewer peripheral features.

Announcement: HPF-Pre Series 2 is discontinued!

I am discontinuing the Series 2 preamp. Series 2 and 2M are the same electronic circuit, in different boxes, and I want to move over to the metal box designs.

I will continue to offer Series 2M, which contains the same Class-A JFET filter circuit as Series 2, but expect it to be a specialty item. A few bassists have commented that they prefer its tone quality, probably due to a small amount of harmonic distortion added by the filter circuit. So I want to keep it available for that niche.

Series 2M has a failure mode, where a sharp impact to the knobs can break the pots inside the box. Only a tiny number of units have had this failure, but when they've come back for repair, they've all shown signs of heavy use and trauma to the knobs. I believe that while Series 2 is pretty rugged, there is no such thing as "too rugged" in music gear.

Piezo preamp with adjustable high pass filter for bass amplification

Here's my new e-mail address:

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Basic Information



HPF-Pre is a simple preamp for piezo upright bass pickups, with high input impedance, an adjustable high-pass filter, and a phase switch. It is designed to solve the most important problems that arise when plugging a piezo pickup into a mainstream bass amp or PA system.

HPF-Pre now comes in three versions:

- 1. Series 1 is the original preamp, as shown in the picture above.
- 2. Series 2M is the same basic audio circuit, with addition of a volume control and a LED battery indicator.
- 3. Series 3 uses the new "12+12" filter circuit, and has an optional DC power input, but retains the original "front panel."
- 4. Series 3 Mini uses the "12+12" filter circuit, has a pedalboard-friendly layout, but does not include a phase switch, battery compartment, or volume control.

I think that I should mention something about Series 3, and high pass filtering in general. My documentation talks about the benefits of high pass filtering in terms of the behavior of speakers. However, I'm hesitant to say that the HPF-Pre is a speaker protection device. You can still blow your speakers. In fact, if the HPF-Pre enables you to achieve higher volume by limiting overexcursion, you will eventually run into the danger of burning out your speakers by thermal overload instead.

Also, the HPF-Pre won't protect your ears. You still need to exercise appropriate caution to protect both your equipment and your hearing.

HPF-Pre Selection Table

Which one to choose? Here are some pointers:



1. For typical double bass amplification, such as jazz at moderate volume levels, Series 1 and 2M get the job done, and are not obsolete. If you have one of these preamps and are happy with your sound, then you don't need to upgrade. Or, if you don't have extreme cone control problems on an electric bass rig, then Series 1, 2M are economical choices.
2. The volume control on Series 2M and 3 is handy when you can't reach the volume control on your amp. This gives you the option of moving your amp away from your bass to help control feedback.
3. The plastic boxes are rugged, but it's indisputable that the metal boxes more rugged. Now the following is purely anecdotal, and not based on any kind of statistics or science, but is my impression based on servicing units that have gotten damaged: Electric bass use tends to be tougher on gear than upright. I don't think it's because of the bassists themselves, but because electric bass gigging seems to involve more gear getting bounced around by more people. Or maybe you guys simply get more gigs. So, with rising demand for HPF-Pre in the electric bass market, I'm leaning towards the metal boxes for future development.
4. The "12+12" filter curve is two filters in one. The first filter has a fixed corner frequency of 35 Hz, and 12 dB/octave slope. The second filter is adjustable from 35 to 140 Hz, and also has a 12 dB/oct slope. Thus it always has 24 dB/oct slope below 35 Hz. I designed the Series 1 and 2M filter (same circuit in both) for double bass amplification, to tame the infrasonic "thump" produced by the acoustic instrument, which interacts poorly with the low frequency excursion behavior of ported speakers. Interest in a 24 dB/oct filter came from electric bassists who are experimenting with the latest high-performance speakers, to avoid driving the system at frequencies below the port tuning frequency. I designed the "12+12" filter with the same input conditions and "front panel" as Series 2M, so that either could be used for double bass.
5. Maybe you don't need a preamp! Since I consider the HPF-Pre to be a problem solving tool, it's worth investigating whether your rig suffers from the problems that it purports to solve. A bit of research is always worthwhile. There are a number of credible people on the TalkBass and Greenboy forums, including engineers and reps from some of the major gear makers, who regularly provide competent and honest answers to technical questions asked by bassists.

HPF-Pre is an "open" design, with more specs and a detailed technical report available online (coming soon when I finish this site). You are welcome to build your own, and a number of people have done so successfully.

Sales Information

HPF-Pre is available from my part-time home business, HPF Technology LLC, to customers in the United States and Canada. I will maintain a modest stock, and orders received during the week will typically be packaged over the next weekend.

Unfortunately, the HPF-Pre is not available outside the US.

News and reviews

The HPF-Pre concept emerged from discussions on the TalkBass Forum. I am indebted to the collective intelligence of TB members who have provided me with valuable suggestions and feedback. The following thread contains user comments about the HPF-Pre device:

[TalkBass thread](#)

An article by Dan Berkowitz for Premier Guitar Magazine provides a good explanation of the need for a high-pass filter.

[Premier Guitar Magazine article](#)

About my business

I am making the HPF-Pre available through a part-time home business. My goal is to provide simple products with uncompromising quality and service. I also encourage DIYers to use my designs in your own projects!

Francis Deck