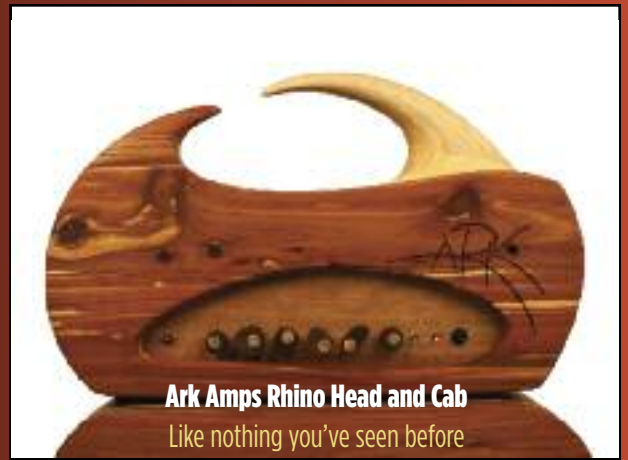


# bass gear

MAGAZINE



**Ark Amps Rhino Head and Cab**  
Like nothing you've seen before

All gear, all the time. [bassgearmag.com](http://bassgearmag.com) Issue 7



Hanging with  
Master Builder Michael Pedulla  
and Master Player Doug Johns

\$7.50US



**AER amp three**  
German mini might



**Wyn 5-String Bass**  
As good as it looks



**AudioKinesis Thunderchild**  
Rewriting the rules

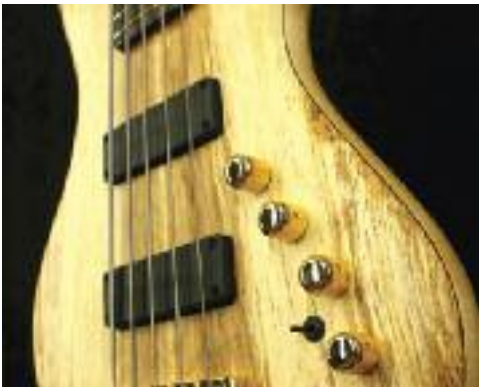
issue

# 7

## SPECIAL FEATURES

- A Technical Look at the Nitewalker Bass Guitar Tube Preamp** 44  
Technical Editor, Tom Lees, gives us his special insight into exactly what the Nitewalker Bass Guitar Tube Preamp is bringing (back) to the table.
- The Current State of iPad/iPhone Interface Options** 50  
Tom Lees compares and contrasts the AmpliTube iRig, Peavey Ampkit, and Pocketlabworks iRiffPort interface options for iPhone and iPad.

## COLUMNS



- How I See It** 6  
Back to basics, or bring on the latest and greatest? When it comes to technology, you need to find your balance.
- From the Bench** 100  
The most powerful measuring tool out there isn't one you can buy in a store. Tom Lees gives us an earful...
- In The Doghouse – High Pass Filters/fDeck HP-Pre** 104  
Sometimes the best way to lay down the low end is to lose some of it, especially when you are playing a large reverberant body. Chris Fitzgerald discusses the magic of high-pass filtering.
- Philthy Talk – “I Hate the Way My Bass Sounds”** 106  
There are a lot of factors which impact just how your bass will sound. Phil Maneri shares his insight into which factors matter the most, and why.
- The Upright Perspective – Getting Your Bass Playing the Way You'd Like, Part IV** 108  
In this installment, Arnold Schnitzer talks about the impact of choice of strings, tailpiece and wire, and the saddle.
- Manufacturer's Response** 111  
Yes, that's right. We give manufactures and luthiers their very own space to tell us what they really think about our reviews!
- Corrections/Comments from Prior Issue** 111  
BGM takes an editorial mulligan and corrects a few errant swings from issue #6.
- Fundamental Support – Blues in the Schools** 101  
Alan Loshbaugh shows us how more and more schools are getting hip to the transformative educational power of the Blues.



# In The Doghouse

By Chris Fitzgerald

## “The One” High-pass filtering in double bass amplification and the “Fdeck” HPF-Pre

If you could only have one \_\_\_\_\_, what would it be? Obviously, this depends on the answer to \_\_\_\_\_, but most people have a short list of their first choices for various things in their minds when this question comes up. For double bassists – who tend to be obsessive about their equipment – this is usually doubly true (at least, I know that it is in my case). If I could only have one \_\_\_\_\_, it would be: **kind of bass** - New Standard LaScala; **kind of strings** - Thomastik Spirocore (sorry, Dominants, but you don't work on *every* bass like Spiros do even though you've been my favorite on *my* bass for the past 8 years or so); **kind of amp** - Phil Jones Flightcase series; **kind of pickup** - Fishman Full Circle; **type of equalization** - a variable high-pass filter.

*Dude, wait...what? Really? You'd give up graphics, multiband semi-parametrics, full parametrics, notch filters, all of these types of EQ and more in favor of a simple one-trick pony like a high-pass filter? Seriously?*

Really. Seriously. Scout's honor, I cannot tell a lie, God's honest truth, I kid you not, and by the way, no, my pants are most decidedly **not** on fire. I'll do my best to explain the reasons why below, and I'll try to use as little “tech speak” as possible.

As you may recall, the oft-cited holy grail of double bass amplification is the sound

of “*my bass, only louder.*” The pursuit of this ideal over the past five decades or so has led a whole lot of bassists to do a lot of crazy and/or expensive experimenting with pickups, microphones, amplifiers, speakers, EQ, and all manner of little black boxes which purport to be the greatest new thing that will help achieve the goal of the sound of “*my bass, only louder.*” Those of us who have been around awhile have likely been through a number of these gearlust experiments, only to be disappointed each time in one way or another, and a lot poorer in the process. After a while, most people realize that it's not the gear that's really at fault, but the expectation of perfection itself. Along with this realization comes a more practical mode of thinking, which is usually expressed as something along the lines of, “If I can't have the perfect amplified sound, how can I manage to screw up my beautiful acoustic sound as little as possible when amplifying?” This is generally where things start to get interesting, and where some real progress starts to be made.

If we're going to try to figure out how to screw up an amplified double bass signal as little as possible, we should begin by examining the nature of the sound we're looking to amplify. When discussing the acoustic frequency response of the double bass, there are many mitigating factors – type of bass, type of string, the player, etc – but one of the biggest of these factors is something called “proximity effect.” When stripped of all of the tech jargon, proximity effect as it relates to the double bass can be described by the sentence, “The closer your ear or a microphone is to the top of the bass, the more low-bass there seems to be in the signal.” In other words, if you put your ear about a foot from the top of a bass while a low *E* (41Hz) is being played, you will likely hear a very thick bass tone rich in the fundamental; if you back up ten feet, you

will hear more of the upper partials of the overtone series of the vibrating string. Modern recordings of the double bass tend to sound much fuller than older recordings because it is common these days to mic the bass from a close distance. The question we need to ask ourselves when beginning to amplify a bass, then, is “From what distance away do I consider the frequency response of a double bass to sound ‘natural’?” For most people, the answer is somewhere between two and twenty feet, which represents an incredibly wide variation of possible bass frequency response.

If we assume that your answer is anywhere between four and ten feet, that narrows it down quite a bit. At this distance, the ear will perceive far less fundamental bass response acoustically than if the ear was very close to the top. The problem when you start to amplify usually begins with the mic or pickup – the front end of the signal chain – which is typically either mounted millimeters or inches from the top of the bass (pickup and many, bass-mounted, mics) to up to about 18” away (stand-mounted mics) for live amplification purposes to increase signal-to-noise ratio and decrease the bleed from the other instruments. As a result, while the new pickups and mics do an incredible job of reproducing the actual sound of the bass in a “hi-fi” way, the nature of live amplification compels them to do it from a distance at which the frequency response is inherently (and arguably) *unnaturally overbalanced toward the low-bass frequencies, which would naturally dissipate and blend in from further away.* Think about it; this aspect of the very beginning of our signal chain is the sonic Catch-22 from which most of our subsequent amplification issues ensue. Too close to the bass equals too much bass in the mix, which equals unnatural sound. Yet try to back the pickup or mic up to a “natural listening



distance,” and most of what you’ll hear is bleed from the other instruments on stage.

Enter the venerable high-pass filter. This very simple device does one thing: reduce or “roll off” low frequencies below a set point, while letting all higher frequencies “pass through” the filter unaltered and untouched. The roll-off is usually gradual and expressed in decibels per octave. Beyond this, there are two basic types of high-pass filter: *fixed* and *variable*. A *fixed* filter has a preset roll-off point that cannot be changed, while a *variable* filter enables the user to adjust the roll-off point. Both are useful, but if I could only have one type of EQ control on an amp, preamp, or effects unit, the variable high-pass filter would be it, as it comes closest to solving the fundamental sonic challenge of double bass amplification – or if not exactly “solving” it, at least giving the player the most amount of control over it. Strip away all of the tech speak about fundamentals, frequency response, overtones and spectrum analysis, etc, and what a variable high-pass filter allows the player to do is move the listener’s ear either closer to or farther away from the top of the bass with a single knob before feeding this signal to the amplifier. In addition to allowing the player to control this basic parameter, a judiciously used high-pass filter can also help amplifiers and speakers run more efficiently at high volumes, since it takes more power to amplify low frequencies than higher ones.

### The “Fdeck HPF-pre”

Many devices intended for the double bass incorporate high-pass filtering. Unfortunately, very few utilize true variable high-pass filtering (fixed filters seem much more common). My favorite variable high-pass filter for the double bass is designed by Francis Deck, a bassist from Madison, Wisconsin, who describes himself as having “a bit of an electronics hobby” (this, in my opinion, is roughly tantamount to stating that Kareem Abdul Jabbar had “a bit of a basketball hobby”).

One of the results of Francis’ “hobby” is a little device he calls the HPF-pre, an ingenious little black box that serves several important functions which all amplifying double bassists need to have

the ability to control at some point or other. First, with piezoelectric pickups, it is always useful to have a device that has optimal input impedance (the HPF-pre has an input impedance of 10 Megohms, which makes for a strong, clean signal to feed to the preamp). Second, and the main function of the box, is a variable high-pass filter that is adjustable from 35Hz to 140Hz – the frequency range that is most in danger of being over-amplified. Third, the unit includes a phase (polarity reversal) switch, which is sometimes a very useful control to have in complex amplifying environments.

I have been using the HPF-pre for years, and can’t at this point imagine intentionally leaving for a gig without it. I remember several years ago dropping my HPF-pre in a puddle after a gig in Cincinnati and playing quite a few gigs while waiting for the replacement unit to arrive. My amplified tone just sounded wrong without it. This unit is so simple, so well-designed, and so idiot-proof (puddle-dropping notwithstanding) that it should be featured on a Geico commercial for bass players: *so simple, even Chris can use it*. At this point, it’s the only EQ knob in my signal chain I ever touch. My amplification setup for a gig now consists of the following: plug the bass into the input of the amp, hook the HPF-pre into the FX return of the amp (I like the response of the amp input straight from the bass), adjust the master volume of the amp, then adjust the roll-off point of the HP filter to taste. The louder I need to be, the more bass I roll off. That’s really it, as the rest of the EQ settings on my amp – all

five bands of them – remain completely flat (“noon” on the controls) at all times. If I could have this unit built into the circuitry of the PJB Super Flightcase combo, I would consider it the ultimate double bass combo amp. As it is, I just keep the HPF-pre velcroed to the back of the amp where short patch cables connect it to the FX send and return jacks, and it’s as close to perfect as I’m every likely to get: one volume knob, one EQ knob, and the rest is all about playing music.

The HPF-pre currently comes in two versions: the series 1 (as described above), and the series 2, which has all of the features of the series 1 and adds a low-battery indicator and a volume knob, which helps keep the signal at a desirable level in the signal chain (this last is a kind of “set-and-forget” control which I have never changed once I found the optimal setting). I have both units, and both are great. If I had to choose only one, I’d choose the series 2 – the extra features are worth the few extra dollars, and the box is only a little bigger. Either of these units is a total no-brainer purchase for the amplifying double bassist who wants to control one of the most difficult parameters of bass amplification, and I can’t recommend them highly enough.

For more information on these units and ordering information, check them out at Francis’ web page: <http://personalpages.tds.net/~fdeck/bass/hpfpre.htm>. You’ll be glad you did.

