



Congratulations! You are the proud owner of a Catalinbread RAH!

BACKGROUND

So. Led Zep. Jimmy Page. The Royal Albert Hall gig in 1970. This pedal.

Turns out Jimmy Page used a custom “Jimmy Page” Hiwatt for gigs from mid-1969 through late-1971 of which the Royal Albert Hall gig in 1970 is the most famous due to the release of the footage on the Led Zeppelin DVD set. The tone was great, similar to his Marshall tone, but there was a little somethin-somethin going on there. Was it the amp? Or maybe it was the fact that the band was still young with a lot to prove?!

Well, thanks to the prodding of a very good friend of Catalinbread, we decided to do some investigation. Google, being everyone’s best friend ;-), yielded a schematic for the “Jimmy Page” model Hiwatt. Comparing it to a standard Hiwatt head of the same era, we notice that it is modified to provide more gain. Plus, there was a foot-switch that allowed two gain settings. So, what we have, in essence, is the standard Hiwatt amp with a bit more gain. We had already explored the Hiwatt realm with our WIIO pedal, which was modeled after the amp Pete Townshend had used, with the two-knob (Treble and Bass) tone stack. The Jimmy Page amp had the Hiwatt three-knob tone stack. Now, the tone stack is the heart of the preamp, and the Hiwatt three-knob tone stack is quite different than any variation of the Marshall three-knob tone stack so there was something here. And it’s also very different in sound from the two-knob tone stack used in the Pete Townshend version. Oh! Let’s not forget that Page was plugging these heads into Marshall cabs, not Hiwatt cabs, and there is a big difference in sound between the two due to construction differences and Celestions in the Marshall vs. Fanes in the Hiwatt. The Marshall cabs have a lot to do with Page’s tone still sounding “Marshall-y” even though the head is a Hiwatt. (Stay tuned we may actually shoot a video of this!) *FUTURE CBREAD VIDEO ELABORATION!*

Now, while the Jimmy Page model Hiwatt has more gain than the standard Hiwatt, that is not to say it is a “high gain” amp. It’s gain level is more in line with plexi-era Marshalls - clean turned down, crunchy turned up a bit, and singing and saturated when cranked. With a PAF-loaded Les Paul, it can even sound a bit furry when the amp is cranked. BUT - there was no fuzz pedal used! There is a lot of debate about this issue but we’re pretty convinced that it is his Les Paul plugged into two daisy-chained Jimmy Page Hiwatts with the only thing in-between a wah pedal and possibly an Echoplex (the Echoplex would add a bit of gain, but certainly not fuzz pedal levels).

What else is in the equation?

Well, the guitar, of course. A real PAF-equipped '59 Les Paul produces some complex harmonics while not being "hot" in output.

And Jimmy Page used a Herco Flex 75 guitar pick. This one is important! You can try several types of picks and you will find out this pick gets the closest to the Page sound!

Strings! We're convinced that Page was using very light strings, something like 8-40. Listen to Page play the main riff on the A string for Dazed and Confused at the Royal Albert Hall performance. You don't get vibrato like that from heavier strings! Plus, they were "top-wrapped" - meaning the strings come up over the tailpiece which reduces the break angle across the bridge resulting in a slinkier feel.

THE PEDAL

OK, let's talk about the Catalinbread RAH, shall we?

The RAH is designed to give you an incredible dynamic range that responds to your picking technique AND your guitar's controls. Like a good non-master volume tube amp the RAH is very uncompressed, retaining an open feel, which means there is little to "hide behind". This pedal is for players who appreciate the rewards and experience of a WIDE dynamic response. Plug the RAH into a tube amp set clean(ish) and neutral tone-wise (more on this later), leave the pedal on, and go from quiet, delicate passages to full on riff-a-rama saturated, singing, crunch with a flick of your guitar's volume knob! You can go from whispering blues to full on riff overload just by using your guitar's controls and leaving RAH on the entire time (this is very remarkable for a guitar pedal). It responds to your playing - play soft and get a delicate response or really dig in to bring it on home with a very authentic cranked-amp overdrive.

This pedal was designed to give you the response of Jimmy Page's custom Hiwatt heads in pedal form. It is voiced to give you the correct GAIN levels and DYNAMIC RESPONSE as the amp.

First, you will notice three tone controls, Treble, Middle, and Bass. These three tone controls reproduce the circuitry from Page's Hiwatt exactly down to the component value. They, like most tone circuits used in guitar amps, are highly interactive, meaning that adjusting one control will affect the behavior of the others. We'll talk about the tone controls more later, but the important point is that they reproduce the actual circuitry from Page's Hiwatts.

It's gain levels are perfect for using a humbucker equipped guitar to get Page's sound from the Royal Albert Hall show. But, don't think this pedal is only for playing Zep covers - in fact, we hope you'll be inspired by its tone and response to write your own epic riffs!

QUICK START

OK, put on your argyle sweater, grab your 1959 Les Paul (you do have one, right?), a Herco Flex 75 pick, and plug your RAH into your amp set for a cleanish, neutral tone. If you are using a Fender combo amp, for example, recommended settings are Vol: 2-4, Treble: 6, Middle: 6, Bass:3, and reverb to taste.

As always try out new pedals by plugging them straight between your guitar and amp. This is important to avoid problems that may be caused by other pedals in the chain due to bad cables or non-true bypass buffers. Once you get familiar with your new RAH, you can begin to integrate it into your pedalboard and all your other effects.

Now, set the RAH with the tone controls set around noon, turn the Gain up to 3:00 to 5:00, Volume around noon or so, and play your favorite Zep riffs while exploring different volume, tone, and pickup settings on your guitar. You should be rewarded with great clean-up when rolled back all the way to a nice singing, articulate crunch when all the way up!

THE CONTROLS

The RAH features a 5-knob layout with a three-knob tone circuit and Volume and Gain controls.

TREBLE, MIDDLE, & BASS

As mentioned, these three controls represent the exact circuitry of the Jimmy Page Hiwatt and will act the same and provide the same tonal response. As with most “passive” amp tone circuits, the three controls are highly interactive - changing the setting of one may affect the behavior of the other knob. For example, you will notice that the Treble control seems rather subtle in its sweep. But try cranking the Bass all the way up and the Middle all the way down - now the Treble knob has a more apparent effect. (Incidentally, this is a setting that Page probably never used, but it is a completely valid setting for folks who like scooped guitar sounds.) This is the nature of passive amp tone circuits and is completely normal. Tone circuits like these are NOT active circuits designed to function like your home theater, car stereo or PA. Tone circuits like these are designed to provide fine tuning over the range of the guitar spectrum as well as being the actual voice of any specific amp.



There are no rules regarding how to set the tone knobs but, as mentioned above, try starting with them all set at noon and going from there. You will notice that fine-tuning the Bass and Middle knobs will allow you to really hone in on the tonal sweet spot.

The Hiwatt three-knob tone circuit is unique and is different from the tone circuit found in typical Marshalls and Fenders. We find it offers a nice cutting attack while still remaining punchy in the midrange and never too heavy on the bass response (unlike the typical Fender and Marshall tone circuits!).

GAIN

This control corresponds to the “Input Volume” control on the actual Page amp. The sweet spot for this control is from 3:00 to max for the best Zep-like response. But for a cleaner response or if your guitar has really hot pick-ups you may want to try lower gain settings.

MASTER

This controls output volume. For best response, set it just past unity volume - usually around noon. (Unity volume means the volume with pedal on is about the same as with the pedal off.)

DEMO VIDEO SETTINGS

The settings used in the official Catalinbread RAH demos on YouTube are:

Gain: max, Master: noon, Treble: noon, Middle, noon, Bass: 11:00.

Your guitar's controls

The controls on your guitar are important in getting the most out of your RAH pedal and should be considered as part of the pedal's control set.

Your basic "bridge pickup, volume all the way up" setting is still appropriate for all out riffs and solos. You can then roll back the volume for any degree of clean-up you desire.

Soloing or riffing out with the neck pickup on full with the pedal's gain also on full can result in a almost 'fuzz'-like sound that is actually more akin to a non-master volume stack cranked all the way up then a fuzz pedal.

If your guitar is a Les Paul or has a similar control layout (two pickups, 3-way toggle and individual volume and tone controls) then you can get a lot of great sounds by using the middle position. Try this - set the bridge pickup's volume *almost* all the way up (around 9 - 9.5) and then set the neck pickup's volume *almost* all the way off (around .5 - 1.0). You can get a cool clean sound that is great for playing songs like SIBLY. And then when the epic part of the song comes up, flip to the bridge pickup and wail, returning to the middle position when you are ready to go back to comping. (In fact, this is the technique that was used in the Catalinbread YouTube demo for SIBLY. (Oh, for non-zep heads, SIBLY = Since I've Been Loving You.) *FUTURE CBREAD VIDEO ELABORATION!*

Experiment with those controls on your guitar!

AMPLIFIERS

OK, so if you own and use a plexi Marshall or a repro of Jimmy's Hiwatt then you obviously wouldn't be reading this user guide! Or maybe you have gear like this but still want to get the basic sound at a much lower volume and use small combo amps that are easier to lug around and won't get you fired from the gig for being too loud...

The RAH was designed to give common tube amp combos, especially clean American amps, the sound and response of a much bigger rig.

For example, Fender amps, we recommend and use the following general rule for setting your amp's controls, often called the rule of 6:

Treble: 6, Middle: 6, Bass: 3, Reverb: 2 (or add to taste)

Volume: from 1 up to around 4. The key here is to not have the amp overdriving *too much* on its own. No matter which sized Fender, we find this is almost always the optimal setting for the tone controls, whether you are using pedals or not. In fact, these are the settings we use when voicing our pedals.

Oh, if your amp has a Bright switch, turn it off when using it with the RAH (or most any other dirt pedal). Some Fender amps, like the Deluxe Reverb don't have a Bright switch but internally the bright switch is always "on". All the Bright switch does is switch in a capacitor that can easily be clipped out of the circuit. You could, of course, just use the Normal channel which has no Bright capacitor but then you won't have the option of reverb either with most Fender-style amps.

The RAH, like all of the Catalinbread foundation overdrives is also a very useful into larger amps as an "pre-attenuator". Set the big amp to clean, use the RAH to sound like that amp CRANKED! (Cue up the Xzibit "Yo Dawg, I heard you like Hiwatts so we put a Hiwatt sounding pedal in front of your Hiwatt so that you could have the cranked Hiwatt sound through a quieter Hiwatt.")

STACKING WITH OTHER PEDALS

The RAH was specifically designed to combine well with other pedals. This section gives you ideas on how to incorporate it into your rig.

Think of the RAH as your virtual pre-amp. And let's think of your actual guitar amp as your "power amp". With that in mind, what types of pedals do most guitarists normally plug into the front of their amp? "All Pedals!" is the quick answer. But some types of pedals might work better in the effects loop of the amp or even fed from the amp mic. So, pedals that you would normally plug in front of an amp, you'd plug in front of the RAH. Pedals that you might prefer to run in the "effects loop" would go between the RAH and your amp. Confused? Let's try an example....

Guitar -> wah -> treble booster -> fuzz -> phaser ->
RAH -> delay -> reverb -> amp.

In this example, the treble booster and fuzz is overdriving the RAH, just like you would use these pedals into an actual cranked amp. The delay and reverb is between the RAH and the amp, which is our virtual "effects loop". The delay and reverb after the RAH and into your amp (which is set clean), remain clear instead of being distorted and smeared.

Note: Although we think that Page mostly did not use any sort of fuzz or overdrive for most of his live gigs (after he started using Les Pauls anyway), the RAH sounds great with fuzzes, overdrives, and boosts in front of it.

Powering your RAH

The RAH runs on 9volts DC negative ground only, either from a battery or from the DC jack.



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MECHANISMS OF MUSIC

DESIGNER'S NOTES

Yes. I like Led Zeppelin. I love Jimmy Page. But I had never thought too hard about trying to really get his sound before. But a good friend of ours asked if we could make a pedal do the Led Zeppelin Royal Albert Hall 1970 sound. That was too hard to resist so I went for it!

Firstly, yeah it's "all in the fingers". And pick. And guitar.

Page used a Herco Flex 75 pick. We include one with every RAH because after trying every pick I had, that was the only one that got the 'Page sound'. Try it for yourself! It has that chirpy attack that he got and it's thickness/stiffness really facilitates playing those go-for-it solo runs he did. Yeah, be forewarned, you'll become a "sloppy" player though! ;-) What some people call sloppy, I call good ol' rock and roll driving on the edge attitude!

Strings. Go light as you can. 8-40 light. Top-wrap your strings. It's all about response and not having to "muscle" your guitar. Finesse. Play light but attack the strings hard.

Pickups. For the most authentic sound, you're gonna want something not-too-hot. Something in the PAF range. If you want to sound like Page. Otherwise, do your own thing with it! Please do!

Anyway, so back to the circuit. How to get this sound from a pedal? Well, we looked up the schematic for the Jimmy Page Hiwatt and compared it to the standard Hiwatt circuit. We were already familiar with the basic Hiwatt topology having done the WIIO which went for the Pete Townshend Live At Leeds sound. Pete's amp was quite different in that it had a unique two-knob tone circuit, very different from the Page amp which uses the standard Hiwatt three-knob tone circuit.

So, I started with the three-knob tone circuit and built the pedal up around that using our discrete MOSFET-based building blocks. How did I tune the circuit? Simple! I just put on the Led Zeppelin DVD to the Royal Albert Hall set and had that playing while tweaking parts on the breadboard while playing along to the DVD on my Les Paul. I kept tweaking the circuit until it made me PLAY like Page! There's an immediateness in the attack that Page's rig got which was quite different than Townshend's rig that we based the WIIO on - the WIIO makes you want to play big open windmill chords and the RAH makes you want to play riffs up and down the neck!

So, it's quite simple really. Tweak the circuit until you can't help but play like Page! ;-)

Does it sound EXACTLY like Page's sound from that gig? Yeah, right. Like anyone can do that through a Fender combo in a small room. Remember, it was at the Royal Albert Hall not Roy Al's Basement! It can sound pretty damn close though. But the key point is that it makes you play that way. And if it makes you play that way, guess what, you end up sounding that way!

It's a pretty good circuit if I do say so myself. For instance.

Have fun!

.... Howard Gee, Catalinbread
Guitarist, Circuit Designer, Audio Janitor, Cat Daddy..... mostly Cat Daddy.