

ECHOREC

catalinbread  
MECHANISMS OF MUSIC

Welcome to the Catalinbread EchoRec! With the EchoRec's distinctive four playback head delay line design coupled with the most dynamically touch sensitive preamp you've ever played, you'll be able to create a huge range of echo sounds, such as:

- the classic Binson syncopated multi-head sound,
- lush, swirling ambient beds,
- spacious arpeggio chording
- insanely cool fifties style slapbacks that have more dimension and complexity than single-tap echoes
- awesome faux reverbs
- multi-dimensional chorus type sounds
- oscillating space ship sounds
- epic soaring leads
- and more!

And all this while enhancing your guitar's touch sensitivity, giving you a completely immersive playing experience! It breathes, allowing you to go from soft, delicate shimmers to loud, raging cacophony - all just by varying your picking attack! Plus, you can go from rhythmic repeats to ambient soup just by playing more staccato or more legato! No need to change settings! It responds to your playing!

The Catalinbread EchoRec has been a labor of love for all of us here. It was years in the making and we're so thrilled it has finally come to fruition. As if it needs saying, we're really excited with the way this pedal turned out, exceeding our expectations. We'd like to congratulate and thank you for joining us on this adventure.

Please read on to get the full perspective on your new Catalinbread EchoRec!

## QUICK START

Here's a quick rundown so you can get some playing time in before coming back and reading the full story. And please do come back and read the rest of the guide! It will help you more fully appreciate what the Echorec can do for you and give you a bit of history!

Plug in your guitar, Echorec, and amp. Set your amp clean for now. Don't put it on your pedalboard just yet, just play it by itself to get familiar with it!

Set Swell to minimum, Tone to noon, Delay Time to noon, Mix between 9:00 and noon, and set Program Select anywhere you fancy.

Now play your guitar and flip through the Program Select. This control allows you to select the playback head combinations. Program 1 is a single tap and Program 12 is all four heads. And in-between are all the cool combinations that give you some famous and soon-to-be-famous rhythmic pulses (you will write a song before the night's out - guaranteed! ;-)) A good way to check out the head combinations is to flip to a Program and mute your strings and rake them once so you can hear the distinct rhythmic pulses each Program creates.

Now start turning the Swell control up and be greeted with a beautiful wash of swirling repeats. We know you're having fun now. You're welcome!

Don't forget to try playing soft passages followed by loud ones so you can get a feel for the touch sensitive dynamics of the Echorec's preamp. It breathes with your playing!

OK, now that you've undoubtedly already got a riff for that new song you've been meaning to write for the past six months, take a break and sit down to read the rest of the user guide!

## THE BINSON ECHOREC

The Echorec was a tube (later on solid-state) magnetic recording drum echo unit manufactured by the long since defunct Binson. Binson began making these echo units in the 1950s and stopped production in the 1970s. Over the decades, players as diverse as David Gilmour to Steven Drozd have been known to use the Echorec thus creating a cult following for the devices. The main problem with these devices is they were notorious for breaking down or at the very least needing constant TLC.

The Binson was designed back in the glory days of musical electronics, back when things had to be done electro-mechanically to achieve delay effects. Inventors tried different ways to delay a signal and have it played back. We had tape, we had oil cans, and in the case of the Binson, we had a rotating platter wrapped in magnetic recording wire. So yeah, that's different than, say, an Echoplex which used tape but is that all? Well, the unique twist that the Binson added was four separate playback heads! So you had a rotating platter and a record head and then following the record head around the platter were four playback heads.



And so? And so the farther away from the record head the playback head was, the longer it took for the disc to rotate to that spot and therefore the more delayed the echo signal was. So the Binson had four delay times based on the distance of the four playback heads from the record head. How did they think of doing that? It's kinda expensive having four playback heads and associated electronics. Seems like it would have been cheaper and more flexible to have the speed of the platter vary or to have a slider like on the Echoplex to move the playback head physically farther away from the record head. All we get with the Binson are four really short fixed delay times in a very expensive and bulky package. Or is that all we get? Well, the unique twist the Binson provided was that you could engage combinations of the four playback heads - from one head to two, three, and all four heads - up to 12 different combinations were provided. And then the Swell control fed the signal from these playback heads back into the input to create a beautiful wash of repeats. By selecting the head combination and adjusting the amount of repeats via the Swell knob, you could get a lot of great slapback, echo, and faux-reverb sounds from the Binson that sounded huge and dimensional. But as you played with it more, you found yourself reaching around on the control panel looking for a "delay time" knob. But, alas, there was none to be found. The maximum delay time would always be found on head 4 - 300ms, no matter what. If you select, say, head 2 and 4 then you get an effective delay time of about 150ms since head 2 splits that 300ms in half. All four heads? About 75ms between each "repeat". The Binson was a great echo unit. But if it could only get longer delay times then another world would open up.....

Besides the four head (four tap) delay, the Binson also offered a beautifully luscious tube audio path that enhanced any instrument plugged into it - especially a guitar and a good fuzz pedal, as David Gilmour showed us! And it could provide a nice bit of tube boost to drive the input of the guitar amp into a nice warm saturation.

When we decided to undertake the resurrection of the EchoRec concept, we knew that watching a few Youtube videos and looking at the schematic would not be enough to truly know that we were able to deliver. So we went out and bought an original tube unit and it needed to be completely overhauled. After we had experienced the Binson EchoRec for ourselves we knew we had to figure out a way to bring back its unique musical qualities to you in a modern stompbox package without sacrificing any of the qualities that made it so compelling. Once the overhaul was accomplished, we still wanted to be certain so we borrowed a perfectly functional EchoRec from a friend of ours. Armed with two functional examples, we were confident enough to then set out to develop the Catalinbread EchoRec! The end result of years of hard work was a circuit that was so EchoRec-like that we went out and officially trademarked the name EchoRec!

EchoRec™!

## CATALINBREAD ECHOREC - DESIGN PERSPECTIVES

The Echorec was so cool we wanted to bring it back. And we wanted to bring it back right. We wanted to take all the goodness of that huge Binson Echorec and squeeze it down into a standard sized stompbox without losing anything. In fact, not only did we not want to lose any of its qualities that made it such a compelling musical device, we wanted to EXTEND its capabilities because the original Binson hinted at possibilities that it couldn't realize. We're talking about variable delay time! We thought, "What if we had the same four playback head concept but could stretch the delay time out beyond the 300ms limitation? Then the rhythmic patterns suggested by the various combinations of those four playback heads could really come to life!" Since most of the Binson's settings were basically within the "slapback echo" delay time range, you couldn't really play off of the syncopations suggested by the head combinations. And it turns out the one example that we all know of that IS syncopated, namely the bass part on Pink Floyd's "One Of These Days" uses a single-tap setting - just head 4, which is 300ms, with a few repeats - so really, you could play that part with any old delay pedal. We felt there was something lurking in the Binson concept that hadn't been realized yet and could be unlocked by allowing longer delay times while still maintaining the equidistance between the four playback heads. For example, if we selected for playback, head 1,3,4 then the rhythm becomes: P 1 x 3 4, where P is your initial picking and x is head 2 turned off. The "x" becomes the rest note in the rhythm. This is hard to explain in writing but you hear it right away! So variable delay time up to 1000ms for head 4 was our goal, with heads 1, 2, and 3 divided evenly within that. For example, if set to the maximum delay time, head 4 would be 1000ms, head 3 would be 750ms, head 2 500ms, and head 1 250ms.

And we wanted a more musically useful tone control so we came up with a "tilt" style tone control that centers around noon and allows you to get warmer and deeper or brighter and thinner so you could either have the echos behind your playing with the darker settings or on top of your playing with the brighter repeats that emphasize the pick attack.

And we also wanted to provide an audio path that was as musically compelling as the tube audio path in the Binson, because what the Binson does for your overall guitar tone and response is as important as the fact that it is an echo device. We came up with a preamp circuit that utilizes two silicon transistors specifically tuned for huge clean headroom and maximum touch sensitivity. We didn't want to go with the normal audio driver circuits commonly found in delay pedals. They get the job done but they literally constrict your guitar signal and take away your playing dynamics; playing soft or playing hard results in the same response - flat. Our circuit actually ENHANCES the touch sensitivity of your amp. You'll find that you'll be able to go from whisper soft to full-on hard and loud attack just from varying your picking strength with the Catalinbread Echorec between your guitar and amp.

The combination of the four-tap delay with our exclusive audio path gives you an immersive playing experience that will have you playing inside the sound rather than on top of it. Our vision for our Echorec was to make it a musical instrument, not just an "effects processor". To us, what makes a pedal become a musical instrument is when it responds to your playing nuances rather than just adding a coating to your sound that ends up reducing your potential for expressiveness; light and shade as Mr. Page would say. Specifically, the Echorec gives you a huge dynamic range to work within - play softly and delicately and it breathes and shimmers gently. Hit it hard and your volume jumps up and hits your amp hard. Most common delay pedals end up functioning somewhat like limiters, evening out your playing dynamics regardless of how hard or soft you're playing. So while the delay lines in our Echorec are digital, your direct guitar signal never gets digitized. Our preamp driver circuit drives both your direct signal and the digital delay line system and is mixed passively without buffering to preserve and enhance the integrity of your guitar's signal.

Another thing we focused on was how the dry signal and the echo signal blended. We wanted the dry and echo sounds to be well integrated together and not separate and disconnected like you'll find on some delay pedals. What we achieved was a blend that allows you to go from soupy and ambient to distinct and separate just by how you play it - let the notes hold out and overlap and the Echorec responds by creating a wide spacious swirl; play muted staccato passages and you'll hear the distinctive Echorec syncopation repeats.

Just like a musical instrument, the more you play your Echorec the more expressive depth you'll find in it.

Yeah, we're pretty stoked on this thing. We know you will be too!

## FEATURES

- Replicates the four “playback head” functionality of the Binson with the added ability to change the delay time so you can go from classic Binson short multi-head echoes to longer delays that maintain the syncopated multi-head rhythms, extending the range of possibilities way beyond what even the real Binson could do. Plus, you can manipulate the delay time control in real-time to get Echoplex-like spaceship landing sounds - something that was impossible to do on the Binson.
- User-tunable modulation on the repeats that simulates the warble of the rotating platter. Or set more extreme to achieve new dimensions in chorus textures.
- True-bypass or “trails mode” operation. Trails mode allows the repeats to continue even after you hit the bypass switch and also leaves the Echorec’s beautiful pre-amp in your signal chain at all times.
- Mix knob goes from full dry to full wet giving a lot of flexibility to use the Echorec in a variety of situations, even wet/dry rigs by setting the Mix full wet.
- Exclusive Tone control tilts the EQ of the repeats from dark and fat to bright and thin. Dark settings makes the repeats sit in the background. Bright settings emphasizes the attack, great for playing off the syncopated rhythms of the multi-head arrangement.
- The Swell knob controls the number of repeats regenerated - from a single repeat of each playback head to infinite repeats.
- We love the all-tube audio path of the original Binson. It just makes your guitar sound betterer. We came up with a discrete two-transistor preamp driver circuit that also makes you guitar sound biggerer and betterer. What you’ll experience is a dynamic responsiveness to your playing that may exceed even the tube circuit in the actual Binson! There are no buffers in the audio path. Buffers limit dynamic response, we don’t like that. And it will sound awesome when stacked with your favorite dirt and fuzz pedals, retaining their dynamics and touch sensitivity. An internal trimmer sets the gain - from unity to a pretty substantial boost. And we mean substantial! Plus, well, read on and we’ll tell you about the easter egg later! ;-)
- 9 to 18 volt operation. 9 volts is great for all uses and is especially good for creating “ambient soup” textures - the notes swirl together really nicely. 18 volts is potentially louder and gives more headroom and more separation - particularly good for playing off the rhythms created by the multi-tap heads.



## ECHOREC CONTROLS

1. DC power input
2. Swell
3. Tone
4. Delay Time
5. Mix
6. Program Select
7. Input Jack
8. Output Jack
9. Bypass Footswitch
10. Silkscreen Faceplate
11. Catalinbread Logo
12. Chin

- Power Supply Requirements

To power the Echorec use a 9-18V DC Negative Ground power supply that can deliver a minimum of 70mA. No, you can't run it on batteries! We recommend that you try it on both 9 volts and 18 volts to see which voltage you prefer. As mentioned in the previous section, there are differences in headroom, output level, and overall feel between the two voltages - both are compelling!

- Swell

The SWELL knob is essentially the feedback control of the delay. When this control is fully counter-clockwise you will get one repeat (well, 1-4 repeats depending on which playback heads are active.) As you raise the control you'll get more repeats, giving you that famous Echorec swirl. The repeats float off over the horizon rather than falling off into distorted echoes. Towards the end of the sweep the Echorec will begin to self-oscillate for spaceship sounds and runaway feedback. Somewhere between 1:00 and 3:00 and you can get a beautiful ambient pad that doesn't take off in oscillation and doesn't completely fade out. The SWELL control regenerates the sum of all the heads being used (set by the Program Select knob) to create its complex swirl of repeats. It's intoxicating!

- Tone

The TONE knob controls the timbre of the echo repeats. It is a tilt style tone control. Around 12 o'clock you'll get a relatively flat, neutral EQ. Turning the knob counter-clockwise will give you darker, thicker repeats, from a mild burnishing, or all the way to deep, murky repeats. Turning the control clockwise will result in brighter, thinner repeats making it especially good to bring out the attack on rhythmic repeats or to just add a shimmer without muddying up the fundamental note of your playing.

The TONE control can be a lot of fun when the Echorec is self-oscillating. Turning it counter-clockwise the repeats will slowly bubble to the surface, like a behemoth rising from the deep, and turning it clockwise will bring out a siren-like effect when you adjust the delay time as well.

- Delay Time

The original Echorec had a maximum delay time of 300ms. The delay time on the Catalinbread Echorec goes from about 40ms -1000ms. And the cool thing is you can twist the Delay Time knob in real-time to get speeding-up / slowing-down, spaceship warp landing sounds! A lot of modern delay pedals don't do that. They just stop echoing while you're turning the knob. What fun is that?

- Mix

The MIX control allows you to run the Echorec completely dry (very useful as a bonus boost when run in TRUE BYPASS) or 100% wet (which works great in stereo or multiple amp setups.) and anything in between. Please note that the Mix control is still active when the pedal is bypassed if the internal switch is set to "buffer", but there will be no new wet signal present if you turned the mix to full clockwise. But if you have a nice long self-oscillation trail going it will keep going when you hit the bypass footswitch! If the internal switch is set to "true bypass" then the Mix knob will have no effect when the pedal is bypassed.

The Mix control is a passive design that was chosen because it had the least amount of impact on the playing dynamics of the pedal, something that was critical to us. We wanted nothing to get in the way of the touch-sensitive responsiveness of our pre-amp stage. And this mix design gave us the blend we wanted between the dry and wet signals - we wanted them to sound cohesive together and not separate and disconnected. Plus, we wanted to have the capability to go full-wet as there are times when full-wet is needed, as noted above, for stereo or wet/dry amp rigs. Because of this, you may notice that the dry signal seems to get a bit quieter as you turn the mix up from the full counter-clockwise dry signal only setting. That is because it is a true Mix control, blending the two signals in proportion to where the knob is set. A more commonly used mix method is to always have full-dry and then blend in the amount of wet signal - that keeps the dry signal constant but at the expense of having wet-only and, more importantly, at the expense of the playing feel. But, it is easy to compensate for this via the Gain trimpot. Just set the Gain trimpot while the Mix knob is roughly where you'll be using it the most.

- Program Select

The original Echorec had a 12 position switch which controlled the various playback head configurations. Since the original was mechanical with the disc only able to go one speed, not all combinations were available for use. The Catalinbread Echorec changes all that. With the ability to vary the delay time on the single playback head, we were able to include all combinations, which include rhythmic patterns not available before. Programs 7, 10, & 11 are these programs.

Below is a matrix that includes both the original and the Catalinbread program configurations. We've also included the Catalinbread Matrix on a card with your Echorec to use as a handy reference to keep with you.

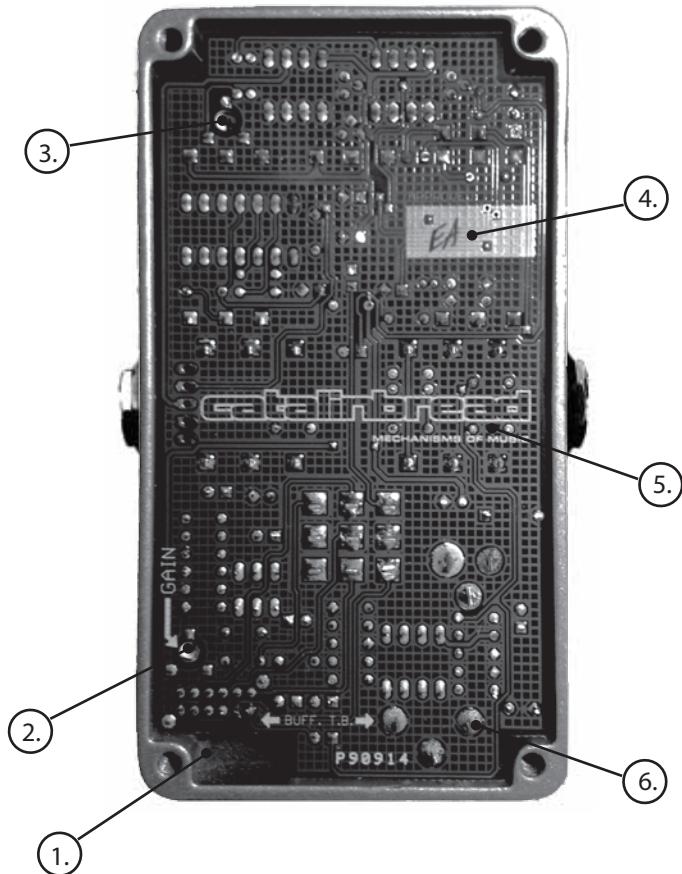
**BINSON MATRIX**

PROGRAM #	HEAD 1	HEAD 2	HEAD 3	HEAD 4
1	Black	Light Green	Light Green	Light Green
2	White	Black	Light Green	Light Green
3	Light Green	Light Green	Black	Light Green
4	White	Light Green	Light Green	Black
5	Black	Light Green	Light Green	Light Green
6	White	Black	Black	Light Green
7	Light Green	Light Green	Black	Black
8	Black	White	Black	Light Green
9	Light Green	Light Green	Black	Black
10	Black	Black	Light Green	Light Green
11	Light Green	Light Green	Black	Black
12	Light Green	Light Green	Black	Black

**CATALINBREAD ECHOREC MATRIX**

PROGRAM #	HEAD 1	HEAD 2	HEAD 3	HEAD 4
1	Single head variable 40ms-1000ms			
2	Black			
3	Light Green			
4	Black			
5	Black	Light Green		
6	White			
7	Black	Light Green	Light Green	
8	Black			
9	Light Green			
10	Black		Light Green	
11		Light Green		
12				

## INTERNAL CONTROLS



1. True-Bypass/Buffer Switch
2. Gain Trimmer Control
3. Modulation Trimmer Control
4. Quality Assurance Engineer Initials
5. Catalinbread Logo
6. Lead Free Solder (RoHS Compliant)

- Buffer / True Bypass Switch

From the factory we ship the Echorec in "buffered" or "trails" mode. (It's not really a buffer, it's a juicy preamp, but non-true bypass mode is commonly called "buffered" mode. You will be able to run long cables without signal loss though in this mode!)

There are a couple of good reasons for keeping the Echorec in this mode:

Trails! That means when you hit bypass whatever was echoing gets to keep echoing until it naturally decays. Or if you have the Swell control cranked up to self-oscillation levels, that'll keep going indefinitely, but any new playing you do after hitting bypass will not be echoed. You don't lose the illusion of ambience and can smoothly make the scene change transition.

The Echorec's preamp! It enhances your guitar signal, and gives you better playing feel with increased dynamic touch sensitivity. Plus, via the Gain trimmer you can have a preset amount of boost always on if you want. More about this in the Gain trimmer section.

Or you can flip the internal switch to "true-bypass" mode. This is a hard wire bypass that bypasses all internal circuitry.

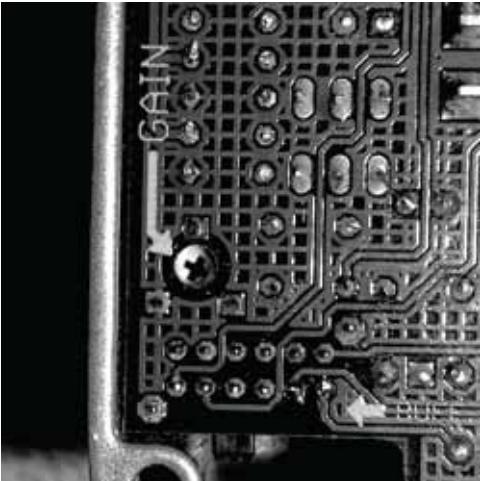
While we think you'll always want to leave it in trails mode, there IS a cool reason to use it in true-bypass mode: You can set the Gain trimmer for a pre-determined amount of boost so when you hit the Echorec, your sound will get louder, juicier, echoier, and have more impact. Great for emphasizing certain passages or for epic leads.

- Adjusting the Internal Trimpots

The Echorec has two internal trimpots that are set for optimal performance from the Catalinbread factory. Being set and forget type controls, we put them inside. When adjusting trimpots, it is important to recognize that you must use the correct tool for the job and do very careful work. Trimpots are much more sensitive to adjustments than the knobs on the outside of the pedal. Use a #00 Philips screwdriver, make sure the tip is seated correctly and only make 1/8 turns at a time. If the trimpot doesn't seem to move, it is at its full rotation. Do not attempt to force it beyond these full clockwise and counterclockwise positions or you will destroy the trimpot.

- Internal Controls - Modulation amount

This trimpot is at the top left of the circuit board. This pot adjusts the modulation depth. From the factory we ship the trimpot set to 1.00-1.1V DC. This is the optimal setting for the modulation to create a circular illusion of the recording drum without getting too cartoon-like. You may however wish to dial it back or crank it up, depending on taste. Overall, the modulation range of the trimpot is intentionally narrow, we're confident the position that it ships in is ideal, mimicking the rotating drum warble effect of the original. If you feel the need to adjust it you can always return to the factory spec with the aid of a multimeter. The modulation is applied to the repeats only! Your dry signal remains, um, dry.



- Internal Controls - Gain trimpot

This trimpot sets the Echorec's preamp gain. It is factory set at unity gain. But you can dial it up for quite a substantial boost if you want.

The Echorec's preamp is designed to have a lot of clean headroom at unity to moderate boost levels. BUT!, there is a secret mode available! This is the easter egg we hinted at earlier in this guide! If you turn the Gain trimmer all the way up (full CCW), you'll get an explosively loud and glorious fuzz boost sound! No, your pedal is not broken! But if you stumbled upon this accidentally we'll bet you probably wet your pants! In this Super Secret Fuzz Boost Mode (SSFBM), your Echorec will overdrive your amp or another overdrive pedal with an amazing, huge sounding fuzz boost! Please try this mode out either into another overdrive pedal (such as our RAH) or into an overdriven amp. If your amp is set to a clean high headroom sound, you may think it sounds splatty and ugly and LOUD (which is cool too), but if you hit something already a bit overdriven, be prepared for the rock gods to descend upon you and shower you with glory. So if you set the internal slider switch to "true-bypass" and then crank the Gain trimmer, your Echorec will become the most badass echo fuzz booster you've ever experienced (provided there are no buffered pedals between your guitar and the Echorec). Depending on your guitar, you may notice that in SSFBM, you get radio when the guitar volume is turned down, things are noisy and unruly, and generally not polite. But it will rock with authority and attitude! If you want the best response with your guitar's volume knob and still get maximum boost, set the gain trimpot \*just\* shy of full-on meltdown mode. As you turn it towards maximum, you'll feel that point where the amplification factor suddenly goes WAY up. Dial back to just before that threshold and you'll get the best of both worlds - maximum boost and maximum touch sensitivity and the best guitar volume knob response (check our YouTube feed for demos that illustrate this!).

OK, now that we've told you about the easter egg Super Secret Fuzz Boost Mode, for normal playing circumstances you'll want to carefully adjust the Gain trimmer to match your guitar's pickups and the rest of your rig:

Minimum gain is full CW on the trimpot. You should set the trimpot while your guitar is plugged in and the Mix control roughly where you think you'll be setting it the most. Play a chord and then slowly turn the trimpot counter-clockwise. At the beginning of the sweep the gain change will be subtle and then slowly ramp up. It will continue providing you with clean gain with increased harmonic content until the very end when the SSFBM is engaged.

Try setting the Gain trimmer to have a moderate amount of boost. If there are no other pedals between your guitar and the Echorec, you'll be able to control your volume just by changing how hard you're playing! (Especially if you're using mild output pickups.)

The Gain trimpot's setting is important. Spend some quality time with it and be careful turning that delicate trimpot!

## PLAYING TECHNIQUES

While we're actually hoping that you guys will discover new ways to play the Echorec and teach us about it, here's a few concepts to keep in mind when coming up with your style of playing the Echorec.

Think of your playing along these two dimensions:

Legato <-----> Staccato  
Pianissimo <-----> Fortissimo

Or in guitar player speak:

Let the notes ring out <-----> Palm mute it  
Not loud <-----> Loud

The Echorec was designed to accentuate playing across these two dimensions and will respond as you go from one side to the other. What do we mean?

On the Legato - Staccato continuum, you can play staccato - palm muted, percussive picking that doesn't let the note ring out and the Echorec will respond with its signature syncopated multi-head repeats. And given the same setting on the pedal, you can then play legato - letting notes ring out and overlap, especially when playing arpeggiated chord patterns and the Echorec will respond with a beautiful ambient swirl that adds a tremendous feeling of space and dimension without the specific repeats sticking out - it will have an amorphous, soupy quality. Other delay pedals can do this to a certain degree but the Catalinbread Echorec really excels at it due to our carefully voiced multi-head repeats and touch-sensitive preamp. In general, it seems most other delay pedals excel at one or the other but rarely both - one might be great at creating ambience without well articulated repeats and another might be great at providing repeats that preserve the attack of your note but then fail to do well when playing a more ambient style. So, really explore this capability of the Echorec! Practice playing tightly muted riffs in time to the syncopated repeats and then segue into a passage where you play arpeggiated chord patterns allowing each note to overlap into another and you'll hear this amazing swirl behind it that has hints of rhythmic pulse but is mostly this incredible space that fills up your playing with a beautiful hypnotic dimension. Or just play a chord and let it ring out to produce a beautiful swirling decay.

We've already mentioned the touch sensitive qualities of playing from pianissimo to fortissimo with the Echorec. In fact, we've probably mentioned it several times already in this guide. We just want you to hone in on something that may seem subtle at first but as you play it more and more, you'll discover how responsive it really is to your picking attack. The Echorec invites you to get inside it as you play. By this we mean when you play at a medium level of picking attack, not so hard that you are squashing down upon the sound, you'll find that it feels like the pedal breathes - there's room to go up and there's room to go down in its dynamic response. A lot of other pedals make it feel like you're always playing on top of it, there's no room to go up and no room to go down - it doesn't breathe. With a guitar that doesn't have too-hot pickups plugged straight into the Echorec and then straight into a decent tube amp that isn't mega-gained out, you can get quite a volume swing just by how hard you're picking. If the music you're playing has lots of light and shade, you'll really appreciate this quality of the Echorec. And of course, if you're balls out all the time, it ain't gonna stop your rock attack!

Try this experiment: Set your amp for a clean tone. Now set the internal slider to true-bypass mode, set the Gain trimpot to have a slight bit of boost when playing with a medium attack. Turn the Mix knob full CCW so you only hear your direct signal. Now with the pedal off, continuously play the low E string on your guitar, going from as soft as possible to as loud as possible by picking softer and then harder. Now turn on the Echorec and do the same thing, playing the low E string as quietly as possible to as loud as possible. You should notice that the guitar feels more alive and really quietly picked notes breathe and shimmer while the loud notes get much louder! You have a variable boost that is responsive to how hard you're playing! Now turn the Mix up and you'll feel the echoes also breathe with your playing! Echoes and breathe... Hmmm! ;-)

Speaking of rock attack, there is one more dimension we can talk about. If you have your Echorec set for Super Secret Fuzz Boost Mode, then the other dimension is the volume knob on your guitar. You'll be able to go from a loud, crunchy, fuzzy boost that overdrives amps perfectly to a nice clean tone just by rolling your guitar volume back. We look forward to getting your emails on tricks and techniques that YOU discover with your Echorec! Send us the YouTube link! ;-)

## PLAYING TECHNIQUES

Your Catalinbread Echorec can be placed in a variety of spots on your pedalboard to achieve different sounds and responses. Let's spend some time talking about some different scenarios and give you some things to keep in mind as you experiment with where to put it in your signal chain.

Probably the most basic default position for the Echorec is at the end or towards the end of your pedalboard. When placed after dirt pedals, you'll get more separation of the repeats and a more open sound. When placed before dirt pedals, you'll get a sound where the repeats and dry signal are more wrapped into one since the dirt pedal is compressing things together. But if you place the Echorec before a touch sensitive overdrive pedal (such as one of our Foundation pedals like the RAH or the DLS), it will preserve and even enhance the dynamic qualities of the overdrive pedal. Same with placing it before an overdriven non-master volume amp - you can go from clean to crunch without touching a knob or foot switch.

In order to take full advantage of the touch sensitive dynamic qualities of the Echorec's preamp, don't place any buffered pedals between your guitar and the Echorec. You'll want the capability to have the option to play straight into the Echorec. Other pedals placed before the Echorec are fine, just make sure they're not buffered so that when you bypass them your guitar's pickups will feed straight into the Echorec. If you have a buffered non-true bypass pedal that you really think you want to be placed before the Echorec, then please try it both ways - guitar straight into Echorec and then your guitar into your buffered pedal into Echorec, so you'll at least know what the trade-offs are. Be careful with putting buffered tuners like the TU-2 first in the chain!

If you want to use your Echorec as a lead boost for your epic solos (highly recommended, by the way), then set it up like this:

- Set the internal slider to true-bypass
- Set the internal Gain trimmer to boost (or even cranked all the way up into SSFBM as described in the Gain trimpot section)
- Place the Echorec BEFORE your main overdrive pedal or before your overdriven amp. If you want maximum epicness, then plug the Echorec straight into a cranked up non-master volume tube amp. Oh yeah. People will wonder how a delay pedal can boost an amp soooo good.
- Set the Echorec's controls to the echo sound you want for your leads.  
Now when your lead comes up, hit the Echorec and you'll get a boosted echo sound that will overdrive your amp or other overdrive pedal with perfection. It will sound freakin' huge. We're not kidding!
- When using this configuration, you can still achieve quieter Echorec'd passages by turning your guitar's volume knob down! The preamp will respond beautifully.

If you want things to get louder but not necessarily dirtier when you step on the Echorec, then place it after your dirt pedals and turn up the Gain trimmer to the desired amount of clean boost. As long as your amp still has clean headroom available, you'll get a volume boost.

Fuzzes and treble boosters? Most likely you'll like them best placed before the Echorec. Looking for Pompeii? Before the Echorec! The Echorec loves being hit by fuzzes. That was one thing we made sure it did really well!  
Compressor? Don't even know her.

As far as where to put your Echorec with other types of pedals like modulation, filter, or other time-based pedals, you should just experiment! Just keep the following in mind:

Non-true bypass "buffered" pedals placed before the Echorec will affect its touch sensitive qualities.

The Echorec itself can be configured to be great booster by setting the internal slider to true-bypass and cranking up the Gain trimpot.

#### THANKS AND HAPPY PLAYING!

If you made it this far into the user guide, we congratulate you and we hope it was a worthwhile read! Please enjoy your new Echorec and may it inspire a thousand riffs!

