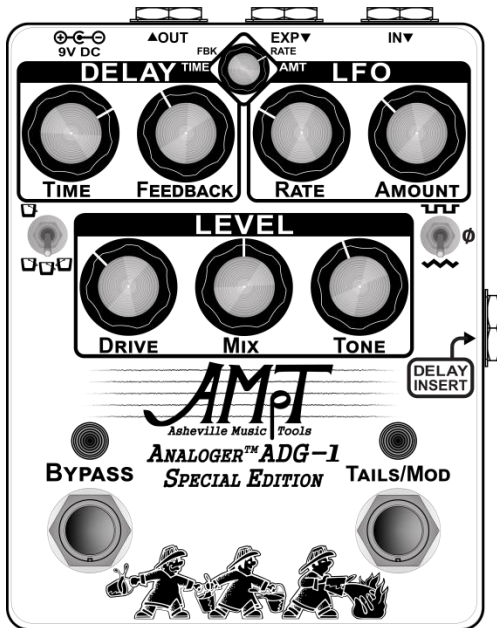


# AMT

Asheville Music Tools

## **ANALOGER™ ADG-1** **SPECIAL EDITION** *100% Analog Bucket Brigade Delay*

User Manual Addendum. Revision A  
Supplement to the ADG-1 Rev B user Manual  
*Last Revision 9/26/2021*



## Introduction

Thank you for your purchase of Asheville Music Tool's ADG-1 SE Special Edition Analog Delay.

This pedal, engineered by renowned analog delay designer *Hawker*, features **three** reissue high voltage Bucket Brigade Delay lines for over 1.06S of pure analog delay. It is coupled with a **Low Frequency Oscillator**, and uses control voltage topology to give you the best sound, features, and control available in any fully analog delay currently on the market. We hope you enjoy many years of use from your delay and find it as inspiring and fun to play as we have.

The ADG-1 SE is our special edition version of our famed Analog Delay. We will only produce this in small low volume batches. Starting with the same features as our regular ADG-1 700mS analog delay we have added some additional special features:

- A 3<sup>rd</sup> analog delay bucket has been added allowing you to switch between a single bucket for delay times of 16mS - 350mS or 3 buckets for 50mS - 1.06S delay time.
- The addition of a TRS Delay Loop Insert enabling injecting effects such as an EQ or octave pedals into the delay loop chain. This incrementally affects the repeats only.
- The addition of a center off switch to the LFO module as an upgrade from the Rev A ADG-1.
- A special color shifting, high gloss sparkling 2 layer Chameleon Teal powder coat that changes color in the light adding durability with a color popping metallic sparkle look.
- Upgraded genuine GØRVA Obelisk solid aluminum knobs.

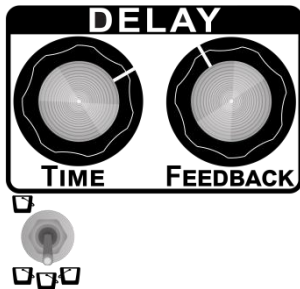
This manual is intended to supplement the ADG-1 Rev B manual written for our standard 700mS 2 BBD delay. Please review that manual for most aspects of the ADG-1 SE features. This short addendum is intended only to highlight the changes from that manual. For all other instructions, see the ADG-1 Rev B manual.

## Operation

The ADG-1 SE front panel controls are nearly identical to the ADG-1 standard version. The only differences are in the Delay section, the LFO switch, and the additional Delay insert.

### **DELAY MODULE**

**TIME:** The TIME knob adjusts the delay time from 16mS (1 BBD) to ~1.06S (3BBDs). If you change the delay time while playing you will also notice a pitch change as the signal currently captured in the BBDs is spit out faster or slower compressing or expanding the delay time. This is how analog delays make that great pitch-up or dive-bomb sound. Try playing with a short delay with lots of feedback then quickly turning the knob clock-wise for massive dive bombs.

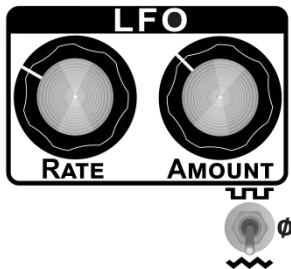


Note: as delay times lengthens high frequency roll off changes. In addition, very short or very long delay times will have reduced gain. Therefore, the tone or feedback levels may be different in 1 or 3 bucket mode or the standard ADG-1 in 2 bucket mode, even if the delay time is the same.

**BUCKET SWITCH:** selects whether the sound you are hearing travels through 1 or 3 BBDs (4096 or 12,288 stages) and so thirds or triples the delay time (16-350mS vs 50mS – 1060mS). While there clearly is overlap in the settings, as you can often get the same delay time from either setting, the tone is slightly different in each, so you may prefer one setting over the other. In general, use the down position for long reverberant delays. Use the up position for more sparkly shimmering delays, or when doing chorus or flange-like sounds.

## LFO MODULE

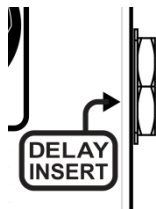
The ADG-1 SE LFO module is the same as our standard ADG-1. It contains a center off switch so that you may “kill” the modulation with the flick of a switch. Please note: due to internal offsets, the center off and the mod kill switch may give slightly different “off” TIME settings.



## Delay Insert

The ADG-1 SE contains a delay insert jack to the right of the controls. This feature is traditionally only found in very advanced delays, including some of Hawker’s past designs. The insert may be used to successively change the sound of the repeats. It is inserted post buckets and compander but pre tone control and feedback such that it will successively change the delay repeats only and not affect the dry signal.

Unlike some classic effects, the ADG-1 SE Delay insert will affect the first repeat and every one after that. Try inserting an EQ or Phaser into the chain for some great tonal changes. An octave up or down effect is also a great trick as each repeat will shift up or down octave as they degrade. Lastly, you may wish to simply have a gain control for some wild self-oscillating feedback ability. You may wish to add more complex EQ or Tone controls here so that it doesn’t get carried away with self-oscillation.



To use this feature use a TRS “insert” cable, such as a Hosa STP-201RR Right Angle insert cable into the jack. The Tip contains the Effect out and the Ring is the loop return. Be sure your device can handle the level output. Please note that any level change from input to output will affect the feedback controls and your output volume, therefore you may need to have a gain or level stage control make up if your device does not provide unity gain or work at stomp box levels.

## Modifications:

From time to time AMPt will release inside ideas for custom modifying our pedals. These modifications should only be attempted by experienced users with good technical SMT chops. Any damage to your ADG-1 based on workmanship in modifications will not be covered by your warranty.

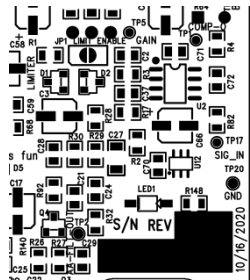
**Perform at your own risk!**

### ***Secret Limiter Modification:***

Shhh... Don't tell anyone. And whatever you do don't let classic ADG-1 owners know they can do the same trick. The ADG-1 SE contains two limiters that add compression to your signal. One limiter is on the wet signal the other is on the dry signal. A resistor and a solder blob sets the amount of limiting. The resistors here are SMT 0805 package, 1% tol.

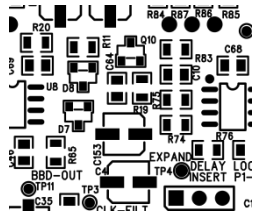
### **Wet signal Limiting:**

The mix amp combines the post drive and feedback signals and contains an aggressive limiter. This limiter helps to prevent the input signal from overdriving the buckets and compander. It also enables you to play over infinite repeats without the feedback overwhelming your playing. If you do not use a lot of drive or feedback you may prefer less limiting. To remove limiting all together remove the "solder blob" from JP1 on the right middle side of the PCB. Or to reduce it change R1 from 3.92k stock to a larger value. Try 5-50k for starters.



### **Dry signal Limiting:**

The dry signal contains a limiter that keeps highly driven signals at a more similar volume level to the wet signal. To reduce the limiting change R11 (located in the middle left side of the PCB ) from 4.75k to a larger value. Try 10-100k for starters.



## Functional Specifications:

*Note: All specifications subject to change at the whim of our overloads.*

**Time, Feedback, Rate** and **Amount** control range all extended with the use of Expression Pedal or control voltage input.

- **Delay Time:** 50mS – 1060mS Bucket switch down (all BBDs), 17mS – 350mS with switch up. 13mS – 1350mS with LFO or Control Voltages. CV is log V/Octave input.
- **Feedback:** 0 to greater than infinite. Capable of self-oscillation.
- **Rate:** LFO RATE, from 0.08Hz to 40Hz (75Hz with CV control)
- **Amount:** LFO depth control from OFF to 56% of TIME sweep.
- **Drive:** up to +23dB of control or level matching.
- **Mix:** Center 50%. Adjust from near 100% wet to -44dB dry
- **Tone:** ~605Hz center tilt like filter. Center = Flat to 0.25dB High +5dB - -12dB, Low +4dB - -7dB.
- **Bucket Toggle:** 1 or 3 BBDs (4096 or **12288 buckets**)
- **LFO toggle:** Rounded Triangle, slewed Square wave or OFF
- **Bypass Footswitch:** effect on/off user selectable True Bypass or JFET Buffered
- **Tails/Mod Footswitch:** User selectable modulation kill or engage tails bypass (sometimes called Spillover).
- **Expression Switch:** 4 position rotary selects Time, Feedback, Rate or Amount controlled by expression pedal. Time is bi-polar and log input modulation (0V=-50%, 5V=+50%) all others are additive and linear control.

**Under the hood switches:** (Accessible by removing ADG-1 Cover)

- **True Bypass / Buffered bypass:** Selects between true bypass and classic JFET buffered bypass
- **2nd Stomp Switch function:** Selects if 2<sup>nd</sup> stomp switch enables/disables modulation or is Tails mode.

## Electrical Specifications: *(subject to change)*

- **Type: 100% Analog signal and control path**
- **Power:** 9VDC @ <150mA. 80-140mA typical. Up to 400mA start up. Standard pedal center negative 2.1mm x 5.5mm barrel.
- **Bypass:** Switchable true bypass or JFET-buffered bypass with switchable tails
- **Expression / CV input:** TRS input assignable to Time, Feedback, Mod Rate or Mod Amount, (CV range is 0-5V). Ring supplied current limited 5V output. Control input on Tip.
- **Delay Time:** <35mS – **1060mS** Triple BBD mode, 17mS - 350mS single bucket mode. **13mS – 1350mS** with LFO or Control Voltages
- **Input impedance:** >1M $\Omega$
- **Output impedance:** 1K $\Omega$  Max (5k max for buffered bypass)
- **Max input level:** +15dB $\mu$  (4.3V RMS)
- **Max output level:** +14dB $\mu$  (3.9V RMS)
- **Maximum drive:** >23dB (covers attenuation to gain)
- **Noise Reduction:** 2:1 broadband with 12dB HF emphasis

## **Physical Specifications:**

- Genuine Hammond™ die-cast aluminum enclosure
- Dimensions: D=4.95” (12.5 cm), W=3.75” (9.4 cm), H=2.25” (5.8 cm)
- Weight: 15.5oz (440g)



***Tools To Inspire Your Creative Muse***

***Proudly Designed, Manufactured, Machined & Assembled in the mountains of Western North Carolina***



## **Changelog**

<b>Revision</b>	<b>Date</b>	<b>Notes</b>
Rev A	08/29/2021	Production Release:
Rev 1	07/30/2021	Prototype Manual

Visit our website for more information, mods, hacks, and presets.

[www.AshevilleMusicTools.com](http://www.AshevilleMusicTools.com)



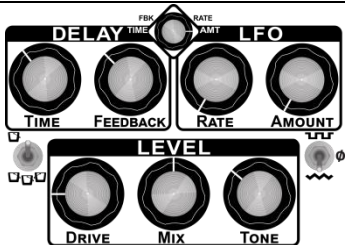
## ADG-1 Special Edition Presets:

The following are ideas for setting your ADG-1 SE. Since all analog products have some variability, the exact knob setting may be slightly different from that shown in these presets. Experiment and enjoy.

**Reverberant Lead:** Subtly modulated long delay with overdrive. Great for lead licks. Crank up the DRIVE for an even more aggressive sound or dial it back and try it with arpeggios.



**Cavernous Hallway:** Hello? Hello? Hello? Is there anybody in there? Do we have an echo in here? Reverberant echoes. Try dialing up some modulation for more fun.  
*(Modulation off)*



**Fold Under (low pass) Delay:** Long repeat delay where each echo slowly becomes less and pronounced as it fades out. Each repeat loses detail and folds under your mix allowing you to play over without delay tails getting in the way. Perfect for late night ambient jams.  
*(Modulation off)*



**Springy Bubbles:** Silly gurgling nonsense. Have fun and don't laugh too hard, especially if you dial up the AMOUNT more. Pro Tip: Use an expression pedal on the RATE or AMOUNT to get audio rate modulation. Adjust AMOUNT or flip the wave shape for stuttering warbles like a broken film projector (younger players, ask your parents about 16mm school projectors)



**Faux Flanger:** Phased hollow delay with peaky and present movement. It is similar to a Flanger, yet with longer delay times. Adjust the FEEDBACK to find that sweet spot right before oscillation and the AMOUNT to bring out the tone the best.



**Wet Pseudo Chorus:** A long drippy, lush, chorused sound with longer than average delay times. Dial in RATE and AMOUNT until you get it just right. TIME sets the level of drip. Way out dude! Only use a chorus pedal on one song? You are covered!



**Tin Pan Alley.** A unique hollow, peaky sound that is more tonal than delay. Sounds like you are at the end of a tunnel talking through an old telephone. (*Modulation off*)



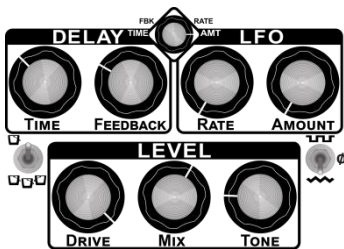
**Square Jumps:** Tune this by ear (using AMOUNT and TIME controls) for a bouncy, whimsical octave echo or a chaotic, atonal warble!



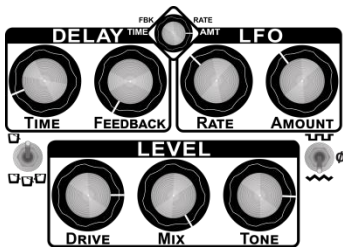
**Tape Wash:** Bright repeats fade away into the ether. No motor repair necessary. Wow others with the flutter. (*Modulation off*)



**Lead Fattener:** Make your solo stand out of the mix. Bonus points if you turn your amp to 11. (*Modulation off*) Alternatively, try a hair of modulation with RATE around 12:00 and just a hair on the AMOUNT knob



**Lofi Vibes:** Take advantage of the ADG-1's lush filter to construct a lo-fi vibrato evocative of vintage recordings.



**Slap Back Delay:** Short delay doubling. Chicken-Pickin' and finger licken' good. (*Modulation off*)

