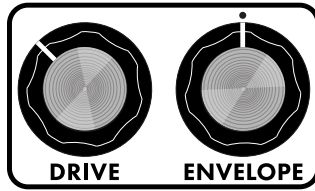


DRIVE AND ENVELOPE MODULES

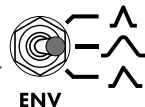
The **DRIVE** and **ENVELOPE** modules provide further shaping of your tone and control of the flanging sound.

DRIVE: The Drive knob is a tweak of the highly regarded preamp and drive circuit of our ADG-1 pedal. This version provides more character, with rich saturation and tone shaping as the drive is increased. This generates extra harmonics to work with when combined with comb filtered flanging tones. At about 9:00 the drive is unity gain, with a transparent and flat response. As gain is increased it becomes increasingly saturated and sculpted, providing nearly 36dB of total gain with a subtle midrange emphasis.



ENVELOPE: The Envelope knob provides a means of articulated “Whooshless” dynamic flanging as made famous by musicians like Frank Zappa, who used the MicMix Dynaflanger 265, or effects like the Eventide Instant Flanger FL201. This flange effect rides your dynamics and gets out of the way when not playing, eliminating the sometimes unwanted whoosh artifacts of typical flangers. The envelope is situated in the chain post DRIVE and can be thought of as a third hand turning the FREQ knob with your playing dynamics. At noon the effect is disabled. To the right it is the same as manually turning the FREQ knob clockwise, and to the left the same as turning it counterclockwise.

ENV SHAPE SWITCH: Controls the response of the envelope control signal. The top setting is great for dynamic playing with a fast attack and release time but may be jittery with some audio modulation artifacts. The lower setting is a slightly longer attack and much longer release and is great for picking or rhythm strumming with a smoother fade out. The middle setting provides for a long ambient attack and slowly fading release. If not using the envelope control, this setting is suggested to reduce false triggers.



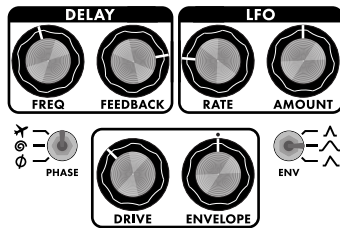
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Presets:

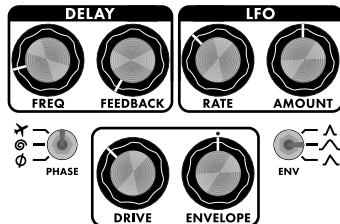
Let’s try out some sonic ideas for the AFG-1 and lay down the comb filtering. The presets here range from classic flange to far out freak out and funkiness. Remember kids, since analog circuits have some variability, the exact knob setting may be slightly different from those shown below. Be sure to tweak to taste. Drive and Envelope settings may vary based on the output of your instrument.

Note: Set ENV control to Rate if not using Expression Pedal:

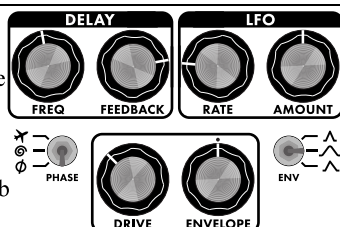
Classic Flanger: Starting with the knobs and switches as shown to the right creates a classic flanger sound. Adjust LFO rate and AMOUNT to taste. Tweak FREQ for the desired tone or crank Feedback some more for seriously deep jet whooshing sweeps.



Chorus: By reducing the FREQ knob and removing the feedback we have a classic Chorus sound. Again, adjust the Freq, RATE and AMOUNT to taste. You may find that a slightly faster RATE and less AMOUNT provides for a more traditional chorus sound.



Deep Ellum Flanger Blues: Returning to the classic Flanger position, try the three Phase switch positions. The middle gives smooth swirls, while the lower setting produces accentuated deep bass or vocal sounds. This effect is more pronounced as you move the FREQ knob CW or increase the Feedback.



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CONTROL VOLTAGE or EXPRESSION SECTION:

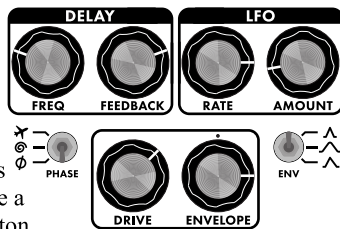
Using the **EXP** knob and an external **EX**pression pedal or control voltage with your AFG-1 will greatly increase the dynamic playing and tonal possibilities, as well as expand the control range beyond the extent of the front panel knobs alone. Use a standard 10-50K linear expression pedal or expression controller that uses the +5V voltage supplied on the ring jack and outputs the control voltage on the tip. Or, use a 0-5V external CV voltage source from a Eurorack module, Synthesizer, DAW, or similar.

CAUTION: Voltages over +5V or below 0V may damage your AFG-1. Use only standard 0-5V control voltages. If your expression pedal has a trim knob, you may find it helpful to use this feature to reduce the range of the expression pedal to less than a full knob sweep to make it easier to dial in the exact sound you seek and be less sensitive to the exact foot position.

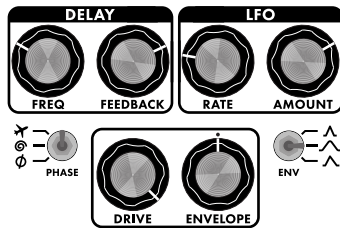
Please note: To provide a wider playing capability with expression inputs, the control setting selected by the **EX**pression switch will reduce the knob range and setting slightly. Think of it as turning the knob to -1. The **EX**P controls are additive with their corresponding knob in that the **EX**P input is added to the knob. For full control voltage range set the knob to the most counter clockwise (CCW) setting, however using both you may get delay times, feedback amounts or LFO rates / amounts beyond those achieved by using just the knob. Unlike the ADG-1, the AFG-1 FREQ is additive like the rest of the controls. Freq/Delay times beyond the normal knob position will produce a very short delay and extra high frequency comb.

Use only your fingers, a plastic screwdriver, a guitar pick or similar plastic device to turn the 4-position **EX**P rotary switch. Never use a metal object that could damage the shaft. If you use this feature frequently, we have included a knob (C&K part # 297F02000). Note this knob will turn the shaft but there is not enough shaft length through the enclosure to permanently secure the knob to the shaft and it may fall off. Do not glue the knob to the shaft or your AFG-1 will not be serviceable.

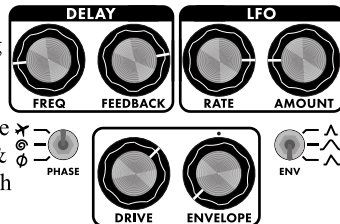
Talk Box: Adding Envelope control, adjust the FREQ slightly CCW and increase the ENVELOPE knob to the right to compensate. Using a fast envelope, add a little shimmer with the LFO. Place the phase switch down and increase the Drive bite to get whooshless dynamic flanging that sounds almost like a talk box. Eat your heart out Peter Frampton.



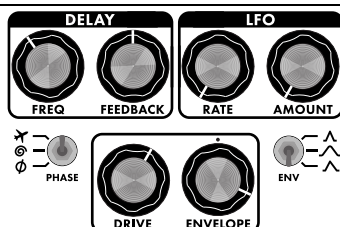
Barracuda. Need we say more? Let’s get to the *Heart* of the matter with this classic flanger defining sound. Bump Bitty Bump Bump Bump Ba Da.. Ah Wheeee!



Interstellar Overdrive: Boldly go where no flanger has gone before. Using the ENVELOPE control to take the FREQ to “out-of-band” places while setting a fast attack with slow release, we get some crusty aliased, dive-bombing & ring-mod overtones. Try the phase switch down for more Boing-for-your-Buck.



Breathe in the Light: Ride the healing waves of ambient release. Use this purely envelope controlled setting to embrace letting go. Play big sustaining cords and / or add your favorite echo effect in front and then set the DRIVE and ENVELOPE controls to taste.



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FOOT SWITCHES

BYPASS FOOTSWITCH: Turns the effect on or off. The LED is lit when engaged and will modulate to the LFO rate in approximately a triangle wave shape. A user accessible switch located inside the AFG-1 is user selectable for true bypass or buffered bypass depending on your preference.

TRUE BYPASS / BUFFERED BYPASS:

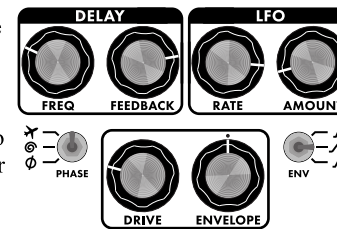
If you carefully remove the 4 screws holding the cover on to the back of your AFG-1 you will see a bypass setting switch underneath the jack board on the left edge of the PCB. This is the **ONLY** user accessible option on your AFG-1.

Do not adjust any of the carefully calibrated factory set trim pots.

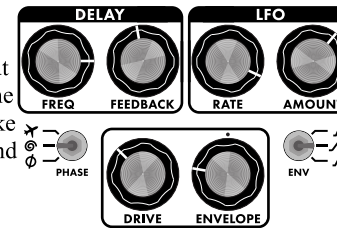
Use the switch, on the left side of the jack board, to select true bypass (Default – switch to the outside of the enclosure) or buffered bypass (switch towards the inside of enclosure). In true bypass, when the effect is not engaged, the input is coupled directly to the output and does not pass through any active electronics. If you have loading, high frequency loss, noise or interference issues from long cable runs or high impedance sources, select buffered bypass. This uses the internal JFET input buffer as a simple buffered output with approximately 4K ohm output impedance. Buffered bypass may have a slight (~1dB) gain loss depending on the impedance match. This is normal.

Note: if your signal is cutting out or thin sounding, check that the bypass switch is fully set to one position or the other. If it is stuck in the middle, your unit may not function properly.

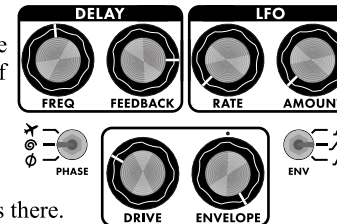
Res-O-Flange: An echo-like resonance with a subtle, leslie-like warble. Tune the FREQ knob to the key you are playing in and enjoy the otherworldly, sitar-like drone. Try setting the phase to the down position to swap your sitar for a “tubular bells” resonator.



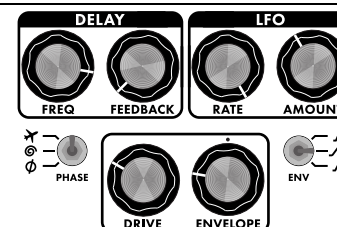
Tape Chewer: Using the swirl setting, you can achieve unique textures without dominating the sound. By combining the envelope with a fast LFO, you can evoke the sound of a worn-out, crinkly tape and a slipping belt drive.



Acme Flange ‘n Hancer: This setting is very subtle and entirely dynamic. Use the envelope to add a dynamic sweep of harmonics that sits neatly under your playing. Nice with fuzz or drive in front. Try higher FREQ settings for a more sparkly sound. If you didn’t hit Bypass you might not even know it was there.



Classic Vibes: Hep Hep Cat, and put on some groovy vibes my friend. This higher tuned warble is just the thing to add some flair and texture to your noodling and feel the vibes you groovy cat.



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Specifications:

- **Type:** 100% Analog signal and control path
- **Delay Time:** 0.52ms – 13.5ms typical. 0.33ms - 85ms with use of LFO, Envelope and / or external Control Voltages
- **Feedback:** Off to self-oscillation and beyond using EXP input coupled with knob position.
- **Rate:** LFO RATE, Sine Wave from <0.01Hz to 8.3Hz (~16Hz with CV control)
- **Amount:** LFO depth control from OFF to ~85% of FREQ sweep
- **Drive:** Up to 36dB of boost with clipping and increasing band pass characteristic as gain is increased.
- **ENV control:** Positive and Negative FREQ control modulation attenuator, center off. Greater than 100% modulation possible.
- **Envelope:** Attack and Release selectable Fast/Fast (~40ms / ~60ms), Slow / Slow (600ms / 800ms), Medium / Slow (60ms / 700ms).
- **Phase Switch:** 3 Position; Positive Wet and Feedback, Out of phase Feedback, or Out of phase feedback and wet signal. 4th “secret” mode, in phase feedback, out of phase wet on PCB with modification.
- **Expression Switch:** 4 position rotary selects Freq, Feedback, Rate or Amount external control. All controls are additive to the front panel knob adding extended range. TRS jack usable with CV or Expression pedal, (CV range is 0-5V). Ring supplied current limited ~5V output. Control input on Tip.
- **Bypass Footswitch:** effect on/off. User selectable True Bypass or JFET Buffered (Accessible by removing AFG-1 Cover)
- **Power:** 9VDC @ <150mA. 75-120mA typical. Up to 300mA start up. Standard pedal center negative 2.1mm x 5.5mm barrel.
- **Input impedance:** >1MΩ
- **Output impedance:** 1KΩ Max (5k max for buffered bypass)
- **Noise Reduction:** 2:1 broadband with 10dB HF emphasis
- **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:** 14oz (425g)

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

<12>



ASHEVILLE MUSIC TOOLS

Tools To Inspire Your Creative Muse

in collaboration with



HYPERTRIANGLE

Audio Manufacturing Collective

Designed By
Hawker

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



Changelog

Revision	Date	Notes
Rev A	05/16/2023	Production release
Rev 1	03/30/2023	Prototype manual

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

www.AshevilleMusicTools.com



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