

BY PAUL VNUK JR.

API 535-LA Line Amplifier

You didn't know you needed this little module... but boy, do you ever

Even considering its long and storied history building medium- and large-format recording consoles and other studio gear, Automated Processes Incorporated (API) is perhaps best known as the creator of the 500 Series format of modules and enclosures. This month we will be looking at API's latest 500 Series offering, the 535-LA. LA stands for line amplifier, and I will posit the theory that this module, more than any other, is the unsung hero of the API universe.

I say this based on my own personal revelation when reviewing API's The BOX back in our September 2014 issue. I discovered that the true "API console sound" is not due to its mic preamps or classic 550A EQ on their own, but how all the modules work and flow together in an API console. Each module has its own transformer and signature API 2510 and 2520 op amps, and the magic comes from the compounded sound of op amp and transformer into op amp and transformer, and so on. The component that ties it all together is the integration of the circuitry from API's 325 booster card.

This sonic signature became apparent again when I reviewed The Channel Strip in our 2015 July issue. The mic pre, EQ, and compressor were again rounded out by a 325 line driver at the end of the chain. At that time, the 325 was the secret sauce that you could not get on its own... but here we are a year later, and I'm pleased to introduce to you to the API 535-LA, a standalone 500 Series line amp module based on the 325.

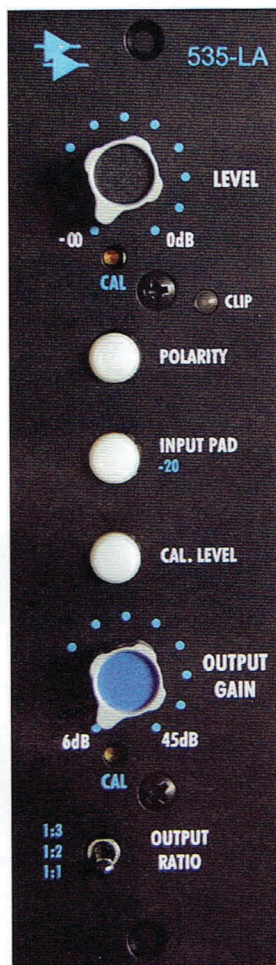
What's inside?

The newest member of API's 500 Series makes use of the company's standardized look and layout with a matte black metal faceplate, blue and white lettering and two of API's proprietary knobs. Inside is a well-laid-out, fully discrete design that uses the API 2510 and 2520 op amps and an AP2503 output transformer.

The 535-LA's front panel starts at the top with a detented Input Level knob from ∞ (muted) to 0 dB (unity gain). API suggests that you think of it as a fader, which is a good analogy. Below that are a trio of backlit push buttons for polarity (phase flip), -20 dB input pad, and a Cal. Level button (see below).

Below that is a fully variable Output Gain knob with settings of +6 dB up to +45 dB. This is rounded out by a 3-position toggle switch that changes the output ratio of the transformer between 1:1, 1:2, and 1:3 (the line driver setting inside The BOX). The unit also has a single red Clip LED that's shared between the input and output amplifier stages. If either is pushed into overdrive (or both are), it lights up.

The Cal. Level button lets you have a preset selection of Input Level, Output Gain, and Output Ratio accessible at the touch of a button. The 535-LA comes from API set to unity gain and a

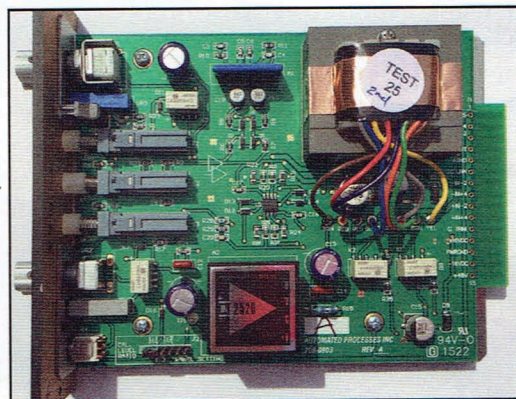


1:1 ratio. If you want to change these values, there are two front-panel trim pots for the level and gain and an internal jumper for the ratio.

What does it do?

Although this circuit is an essential component of the API console sound, it's not an instrument input or a mic preamp, so you may be wondering what it actually does. At its simplest, it turns signals up or brings them down. I'm not trying to be funny here; that's exactly what a line amp does! Essentially you have a device with a maximum throw of 53 dB of gain.

Here are its specs: frequency response of 30 Hz to 20 kHz (-0/+0.2 dB), THD+n of 0.006% and noise floor of -85 dBu (both measured at the factory Cal. Level setting), maximum input level of +32 dBu balanced (with pad in), maximum output level of +32 dBu balanced (at 1 kHz), input impedance over 20 k Ω without pad / 4 k Ω with pad, and output impedance under 75 Ω .



Why might I need it?

Beyond the previously-mentioned stacked API console sound, what other benefits does the 535-LA offer? Since this is our issue on all things DAW, I was inspired to include this review here because this little module is a fantastic way to inject some analog goodness into otherwise digital recordings and mixes.

In addition to being a line level mixing device that reins in quiet signals or boosts anemic ones, it can help compensate for balanced vs. unbalanced signal levels, and beyond that it can be a simple DAW warmer. Since the dawn of digital recording, many engineers have been running audio through simple transformer boxes. They just want to hit the transformer to impart its tightness, vibe, and color into the digital world.

The 535-LA can do that with ease, and it's capable of a full range of sonic emotions from happy 1:1 subtle weight to 1:3 overdriven rage! This box will drive, distort, and growl beautifully, if you need it to.

In my studio sessions with the 535-LA, I found two favorite uses for it. First, it's great to rough up a signal with gusto. Use it after a fully driven 2-stage in/out style microphone preamp for the classic 1960s and 1970s direct injected over-driven guitar sound—think "Black Dog" and "Revolution". You can also do similar fun distortion tricks with a pair of 535-LA modules in series, whether on input or during mixdown.

In more "normal" day-to-day use, the 535-LA can be used to add weight, sheen, and girth to any signal. I especially liked it on the master 2-bus from my DAW. It's also a great tool for "re-amping" software synthesizers and virtual instruments, to make them a little less pristine and 2-dimensional.


Ratios and levels

With the 535-LA's processed signal level matched to the dry signal (i.e. no attenuation or boost) and set to a 1:1 ratio, the sound is subtle, with a gentle addition of weight, punch, and a touch of top-end rounding. In my review notes, I emphasized that this sense of weight can be very subtle at moderate settings. As you change the ratio from 1:1 to 1:2 and 1:3 (keeping gain at unity), you'll start to get a hair more upper-mid bite and a pinch of still-subtle aggression.

It works best cumulatively. If you want to impart a virtual console sound to your mixes without plug-ins, I would suggest using the 535-LA at low ratio settings during tracking, reamping any software-instrument sources through it, and then mixing through it on the master bus. In this way the subtle flavor adds up nicely without going over the top.

As I mentioned above, you can drive the box for grit as well. Just tickling the red Clip LED can add a nice harmonic life that differs greatly depending on the Output Ratio. On a 1:3 setting, you can hear grit and drive even before you see red! It's a very musical distortion, great on drums, keys, vocals, and guitars. Note that the noise floor does rise a little bit when switching Output Ratio from 1:1 to 1:3, but it's nothing that will harm a sound that you're deliberately dirtying up a bit.

Conclusion

The 535-LA is a great combination of utilitarian studio device and creative tool. It goes from superbly subtle to wonderfully over the top with ease. It's hard to argue with a key component of the famed API sound, especially for computer-based studios that can use a bit of analog punch and liveliness. 

Price: \$595

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