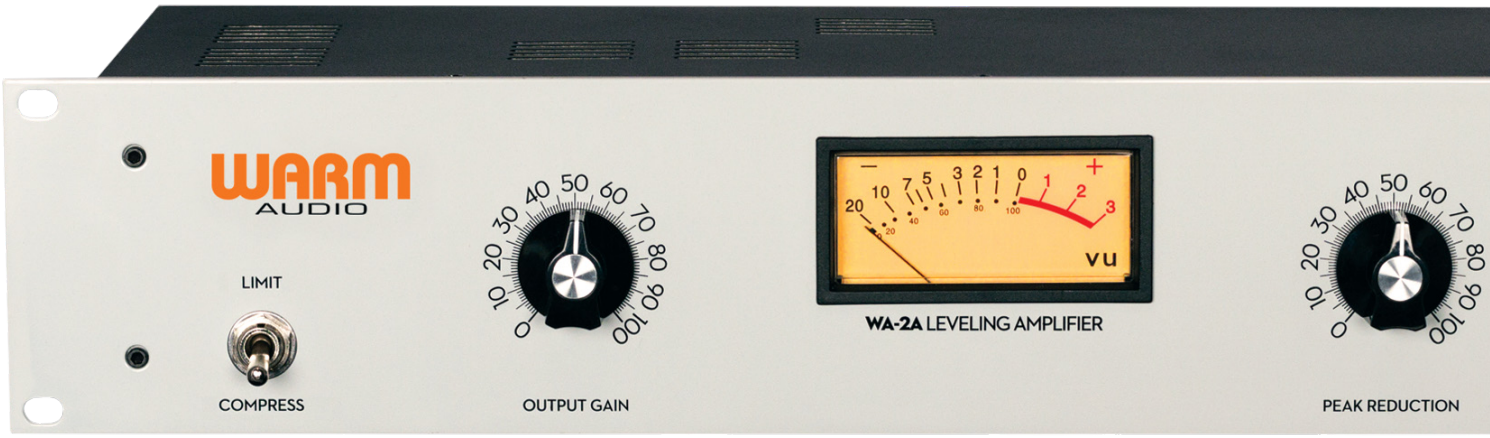


Warm Audio WA-2A

Valve Optical Compressor

Warm Audio promise us an authentic recreation of the Teletronix LA-2A for a fraction of the price...

ALAN TUBBS

The WA-2A isn't Warm Audio's first homage to a Universal Audio compressor — we reviewed the FET-based WA76, a Rev D 1176 clone, back in *SOS* May 2014 (http://sosm.ag/warm-wa76). Once again, the idea is to produce an authentic but affordable recreation; this time, we have a remake of the Teletronix LA-2A, which is another of those characterful yet versatile processors that have proven enduringly popular. First, let's consider what has earned the LA-2A it's enviable reputation. I'll then discuss how faithful a recreation Warm have managed to make, and what, if any, corners they've had to cut along the way.

Reasons For Opto-mism

The presence of a number of valves and input/output transformers does, of course, contribute to the sonic character, but the beating heart of the LA-2A design is its optical gain-reduction circuitry. The side-chain control signal of this 'leveling amplifier' (a term derived from its original intended application in broadcast) is drawn from the input signal, and feeds a T4 'opto' cell, which comprises an electro-luminescent panel attached to a pair of photoresistors, all sealed from external light. As the incoming signal level changes so does the voltage of the side-chain control signal. In turn, the panel becomes more or less bright and the resistance of both photoresistors changes accordingly. One of these is used to govern the amount of 'leveling' (gain reduction) applied to the audio signal, and the other to control the VU meter (which may be switched to display gain reduction or output level).

There are three main user controls on the front panel. A Compress/Limit switch sets the ratio and knee — Compress gives you a soft knee and a 4:1 ratio, whereas Limit gives you a ratio of (to all intents and purposes) infinity. With the ratio set, you juggle the output Gain and Peak Reduction (threshold) controls until you have the desired amount of gain reduction and the desired signal level flowing to the next device in the signal chain.

Optical compressors all react more slowly than VCA- or FET-based designs, such as the aforementioned 1176, and the LA-2A is no exception. That said, the LA-2A's 'fixed' (in that it's not user-adjustable, but varies slightly according to frequency) attack time of around 10ms is actually fairly quick for an optical design. The release behaviour is a little more complex, as it's both level- and programme-dependent, and while the first half of recovery is fairly swift, full recovery can take anywhere from 1s to 15s, the slowest releases occurring when the signal has exceeded the threshold (and thus the T4 cell's panel has been shining bright) for a particularly long time.

Despite the complexity of the behaviour, though, it's all automatic, and so operating the LA-2A is incredibly easy and intuitive. In terms of sonic characteristics, the release behaviour means that not only does the LA-2A raise the average volume, but it does so in a very natural-sounding way. Yet, at the same time, the thickening effect and flair of the transformers and tubes in this design can give the sound a real 'oomph'.

Design & Construction

That's the LA-2A, but what about Warm Audio's version? Overall, construction seems reassuringly solid throughout, but there

Warm Audio WA-2A
£799

PROS

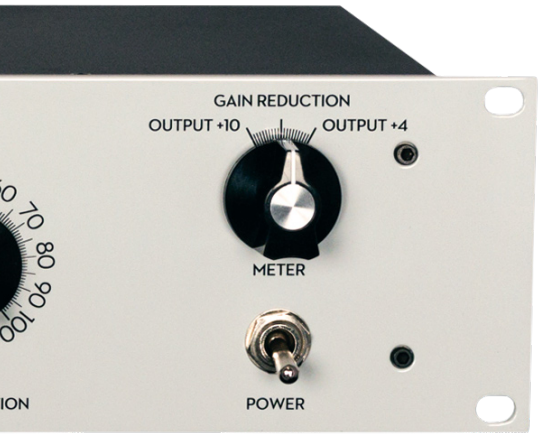
- The price is not only competitive: it's comparable to unassembled kits!
- Good components and high build quality.
- Makes it easy to achieve sounds you hear on many records.
- Greater stereo possibilities than the LA-2A on which it's based.

CONS

- Access to the rear panel is required for some useful functions.

SUMMARY

The WA-2A is an excellent and excellently priced recreation of a classic tube opto compressor, which offers both natural-sounding compression and the pleasing effect of tubes and transformers.



are clear differences: it's only 2U high (compared with the original's 3U), there's no hinged front panel, and the tubes are all located within the case, rather than on the rear. These are sensible areas in which to make cost savings, as they don't affect the signal path — in fact, having the tubes protected inside the case is no bad thing, as they shouldn't need changing frequently.

Lifting the WA-2A's lid reveals a circuit board that's littered with high-quality discrete parts. Both the input and output transformers bear the well-respected Cinemag name, and the vacuum tubes, all protected in metal housings, are all of decent quality too. There's a spare tube socket, which allows you to choose between two models for driving the T4 cell, which is a nice touch. The presence of an internal power supply, which is large and generously shielded, helps explain why the WA-2A is so much heavier than the same-sized but externally powered WA76.

As on the original, a large knob labelled Peak Reduction is used to bring down the threshold and thereby increase the amount of gain reduction — up to 40dB of gain reduction can be achieved. The make-up gain knob is helpfully labelled to make it clear that it governs output rather than input gain, and can apply up to 40dB of gain. The generously sized meter is joined by a three-position switch that sets it to display gain reduction or output level (for either +4dBu or -10dBV systems).

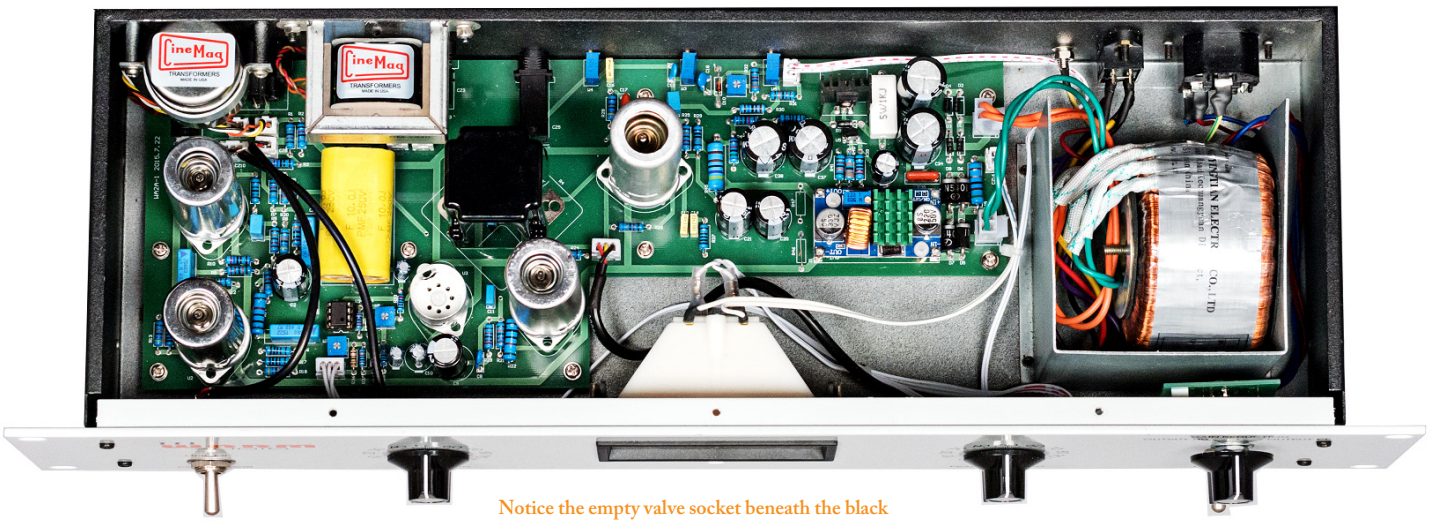
The controls on the rear are mostly of the set-and-forget variety. There's a switch to select US or European mains voltage/frequency, and a grounding lug, an authentic if largely superfluous feature these days. There are twin (XLR and quarter- inch TRS) balanced inputs and outputs (note that one shouldn't use both types of input simultaneously). There are also three user-adjustable knobs here: one is for meter calibration, and another, labelled Pre-Emphasis, is a side-chain filter that helps to prevent those big, omnipresent low frequencies from driving the compressor into pumping.

The final rear-panel control relates to the stereo-link facility. Once connected to another unit (via the dedicated TRS link socket), this knob determines how the unit will react to stereo material: at the lowest setting, each unit operates independently (dual mono). At the highest, each unit will react only to the other unit's input signal. For a steady stereo image, you must calibrate the meters on both units, set all front-panel controls as closely as possible, and turn the stereo-link knobs to the 12 o'clock position before adjusting for stereo tracking accuracy by ear. It's a really useful facility, and almost a shame the knob isn't accessible via the front panel. Unfortunately, I didn't have a second unit for review so couldn't test this facility. In terms of stereo applications, though, the WA-2A (like the LA-2A) probably has too much 'oomph' for mastering use, but should make an excellent stereo bus compressor.

Side By Side

So far, so theoretical — what really matters is how this thing sounds, and, to some people at least, how sonically authentic a recreation this is. Most such recreations capture the family resemblance well, especially when similar components are used, as here. But there are often certain differences that can only be revealed by direct comparison. With that in mind, I took the WA-2A to Kitchen Studios in Dallas, where owner JP uses a vintage Teletronix LA-2A daily. We fed both units with the same signals, including the usual LA-2A suspects (vocals and bass guitar), but we also threw in some tracks not always so closely associated with optical compression. Generally, both units sounded nice, and the attack and release behaviour were too close to tell apart. Both compressors also added that familiar transformer thickening, as well as a higher 'sparkle' I associate with tubes. However, the two devices were not sonically identical.

With only a few knobs and switches, settings were quick to find and easy to »



Notice the empty valve socket beneath the black T4 optical cell. This allows you to choose which of two tube types will power the T4.

» replicate. On a raw male vocal and electric bass both units sounded, as advertised, sublime. The thickening effect helped bring each sound out front distinctly, while the leveling helped to hold it in place there. We found that the thickening effect of the Teletronix unit sounded somewhat deeper and lower than that of the WA-2A when driven — which sound you prefer is a matter of taste, and will likely depend on the source material you're processing.

A pleasant surprise was just how well both units worked on an acoustic guitar track: it's not one of the instruments on which I usually use optical compression, but these tests might have changed my mind! The highs were super smooth from both units, but for this particular guitar, played in this particular range, we preferred the WA-2A over the Teletronix; it helped the guitar slide perfectly into the mix.

In short, then, we felt that the WA-2A did a really nice job of matching the LA-2A. Sure, we could notice some differences, but the similarities were more striking. It's worth noting that we were comparing a vintage LA-2A fitted with NOS tubes with a modern WA-2A with modern tubes. Furthermore, when you analyse things at a granular level, many vintage units will probably sound similarly different from one another. So if you already possess an LA-2A, one of these might not sound *quite* the same. But it will sound great — very close — and the compression action itself should be almost identical.

Alternatives

Obviously, **Universal Audio** continue to make a version of the **LA-2A**, and various manufacturers make similar units. **IGS Audio**, for example, offer the **One LA**. It's also fairly easy to find similarly priced tube optical compressors that depart a little from the original design, including **Tube-Tech**'s **CL B1** and **Manley**'s **ELOP**. **Antony DeMaria Labs** offer a stereo unit, the **ADL 1500** and, at the more affordable end of the market, **ART** have the **Pro VLA II**, which is tube-driven with a Vactrol gain-control.

Tracking

The Kitchen tests were enlightening, but back in my home studio I was able to take a little more time to do some tracking through the WA-2A and judge it on its own merits. The first thing I recorded was a female vocalist, taking advantage of her long warm-up to dial in the WA-2A settings before going for a 'practice' take. Suspecting she would sing louder than her warm-up — which of course she did! — I had my fingers at the ready to turn down the input and boost the output, which was quick and easy. Her next three 'real' takes were even louder, and the resulting transformer boost made her voice sound bigger and fuller as she drove it. And when she started to really belt it out, her voice just kept getting bigger, blowing up like a balloon. Yet it never burst, even as the meter swung from a modest 2-3 dB of compression up to a more assertive 10dB and more. The output never clipped the interface's converters, though, and importantly, the sound remained smooth, with no audible strain or breakup. There's nothing quite like riding levels of a good performance so that it hovers on the edge of noticeable distortion but never quite gets there. I don't know what more you could ask of an optical compressor!

Next I turned my attention to voiceover recording. Like many people, I usually don't like the sound of my own voice recorded — to me, it's too nasal. But having tracked my voice through the WA-2A, the sound on playback was much more the way I hear it in my head when speaking: the smooth action of the WA-2A and subtle thickening nicely counterbalanced my natural higher-register emphasis. It was a small alteration, but one that was very noticeable to me.

Conclusion

For mixing my own recordings at home, I tend to use mainly software; some of it sounds great, and the convenience and bang for buck is great. But good hardware (I include the Warm Audio WA-2A in that category) can sound a little better and, importantly, using it in the right way can inject a bit more fun and immediacy into the recording process. Increasingly, I'm finding that adding a few judicious pieces of character hardware lets me record most of the character and attitude that I want while tracking, in a way that software just doesn't. And that allows me to mix more cleanly in the box — mixing becomes a much simpler matter of pan and fader settings, and effects sends, than a fight to shape the tone of various sources. Sure, I'll still use compression and EQ, and might desire a little more saturation or distortion on certain sounds, but I generally don't need to be so heavy handed. The WA-2A is perfect for using in this way, and for that reason, along with its aggressively low price, it should prove a real hit. I'm sure Warm Audio will shift more than a few units to professional studios too. ■■■

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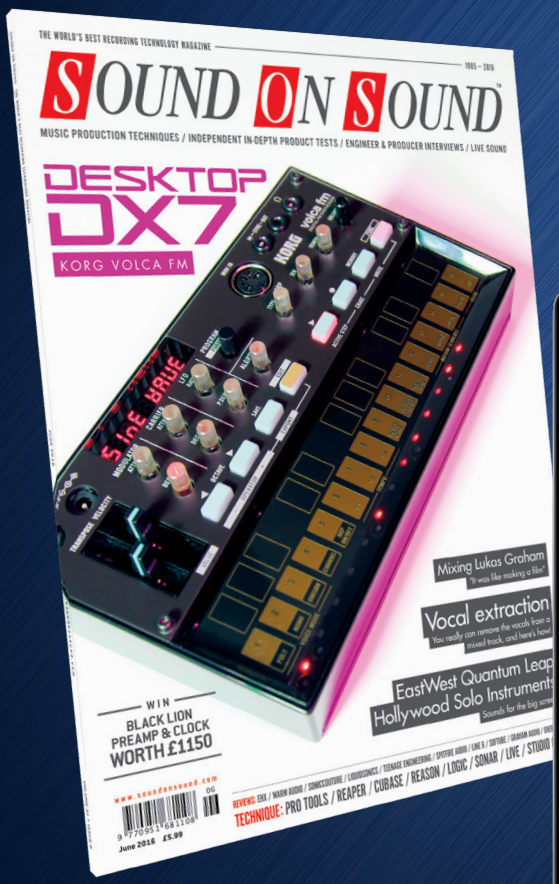

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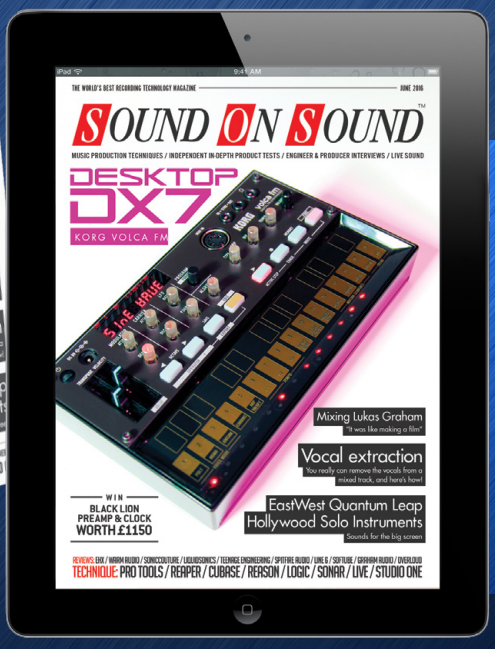

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