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Universal Audio LA610

Recording Channel

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Photo: Mark Ewing

Two classic designs — the 610 preamp and LA2A compressor — are combined for the first time in this attractive new reissue.

The interest in, and demand for, 'vintage' audio preamps and compressors remains constantly high, although whether that is because vintage analogue units do what they do better than more modern designs is a debate best saved for the pub! The American manufacturer Universal Audio is a name associated with some of the most highly regarded valve audio products — the classic Teletronix LA2A compressor and Putnam 610 preamp, for example, are both known and valued the world over. The subject of this review is a modern conjugation of those two classic vintage units into one box, called the LA610.

The LA610 combines a three-input preamp with an optical compressor, all mounted in a large 2U rackmounting case with vintage-style control knobs and switches, kept nicely warm by a trio of valves, and weighted down by some high-quality audio transformers. In concept, it is very similar to the company's own 6176 recording channel, which combines the same 610 valve preamp with the classic 1176LN solid-state compressor. However, the new LA610 is roughly two thirds of the price of the 6176, which makes it even more attractive!

My engineering genes always force me to take a peek at the back panel of a new product first, and in the case of the LA610 I discovered a lot of empty space. There are just three XLR connectors: a microphone input, a line input and a line output. There are no options to access the compressor side-chain — either to insert an equaliser or to link a second unit for stereo operations — and no pre-compressor outputs either. The only other facility is an IEC mains inlet to the internal linear power supply. The fuse holder can be inverted to allow operation on either 115V or 230V supplies.

The front panel looks fantastic, and is divided into three separate areas. The preamp controls are to the left, enclosed in a raised black panel, while the compressor controls are to the right, gathered within another raised black panel. To the right of both is a small VU meter and the power switch and associated indicator. The black-panel sections make it look like the LA610 houses separate modules, which is a nice styling feature.

The controls comprise three large knobs and six smaller ones, plus five miniature toggle switches and a very chunky power switch. The only nod towards modern styling is the blue-ish

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Universal Audio LA610 £1209

Pros

- Two great classics in one neat, stylish box.
- Flexible gain structure allows the valve character to be controlled and abused as required.
- The T4 compressor makes life so simple.
- Excellent value for money.
- A blue jewelled bulb cover is so much cooler than a blue LED!

Cons

- Can be difficult to see the positions of the toggle switches.
- No side-chain linking facilities.

Summary

A neat combination of two valve classics — the 610 preamp and the LA2A levelling amplifier — with a significant price saving thrown in for good measure. Although deliberately tailored to have a modern, bright sound, the essential features and character of its forebears shine through.

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lamp which comes on when the unit is powered — although rather than the ubiquitous blue LED, I was pleased to find this is actually an incandescent bulb behind a purple-blue jewelled cover.

Preamp & Equaliser

The preamp section is dominated by a large rotary level control. This has a very light action indeed — which doesn't seem right somehow — but it works well enough. To the left are the input conditioning facilities. Two rotary switches select the input and coarse gain, while three toggle switches provide an input pad, phantom power, and polarity reverse. The coarse gain can be switched in 5dB steps over a range of ± 10 dB, which is translated to span -25dB to -5dB when the 15dB input pad is switched in.

The unit has three inputs altogether. I've mentioned the rear-panel mic and line inputs, but there is also an unbalanced high-impedance input via a quarter-inch socket on the front panel for guitars and the like. The rotary input selector switch has five positions, though. The central position selects the rear-panel line input, while the two on the right select the front-panel DI input with either 47k Ω or 2.2M Ω input impedances — designed to provide ideal loads to active outputs and pickups respectively. The two left-hand switch positions select the microphone input with either 500 Ω or 2k Ω impedances. The first option is intended to match vintage dynamic mics while the latter conforms closely to the modern standard.

To the right of the large level-control knob are facilities for a two-band passive equaliser. Each band has a rotary switch to set the gain in 1.5dB steps to ± 6 dB, plus a further 3dB step out to ± 9 dB. Both bands also have selectable turnover points determined by toggle switches. The high band has options for 4.5kHz, 7kHz, and 10kHz, while the low band is provided with 70Hz, 100Hz, and 200Hz.

Optical Compressor

The T4 Optical Compressor section features two large control knobs. The first sets the amount of Peak Reduction, while the second sets the make-up Gain. Turning the Peak Reduction control clockwise increases the amount of compression, while the Gain knob provides up to 20dB of gain to restore peak levels. There are no controls for attack and release times — these are fixed — and the ratio is determined by a simple rotary switch which sets the operating mode between Bypass, Compress, or Limit. The compression ratio is somewhere between 2:1 and 3:1, and varies to a degree depending on the Peak Reduction setting. A second rotary switch determines what is shown on the VU meter: preamp output, compressor gain reduction, or output level.

As will be apparent, the controls are all very straightforward and intuitive, and easy to use. The only criticism I could make is that the positions of the preamp toggle switches are not always easy to see from a distance. Indicator LEDs would spoil the look of the unit, though, and (with the exception of the polarity switch) inappropriate settings would usually be obvious anyway.

Circuitry & Technology

The LA610 draws heavily on the original 610 and LA2A circuitry. The input and output transformers, for example, are the same as those used in the 610 preamp. However, there are some significant differences too. Whereas the 610 employed one 12AX7 dual-triode valve for the input gain stage and a 6072 valve to drive the output, the modern LA610 uses a pair of 12AX7s instead. This is because the preamp output stage only has to drive the compressor circuitry rather than the output transformer. A 6072 valve is still used in the unit, but it provides the compressor's make-up gain and drives the output transformer.

The preamp circuit design is configured so that increasing the coarse gain reduces the amount of negative feedback around the input 12AX7 valve. This has the inevitable side effect of increasing the amount of harmonic distortion — which is rather pleasing with the right sources. Hence the overall signal level and quality can be controlled by careful juggling of the coarse Gain and fine Level controls — the latter acting as an attenuator for the signal feeding the output 12AX7 valve. The maximum overall gain is a shade over 60dB, which should be enough for most studio applications, and the inclusion of the 15dB pad switch allows the preamp section to handle high-level signals far more easily than could the original 610 designs.

The handbook states that the LA610 is deliberately voiced to sound brighter than the original, and it certainly does sound very open at both frequency extremes. I didn't have access to a 610 to make a direct comparison, but to my ears the LA610 does sound a little brighter and more

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forward than I would have expected of the original design. The EQ is sufficiently controllable and subtle enough to allow gentle tailoring of the frequency response, though.

The compressor section is not exactly the same as that of the LA2A either, but the T4 compressor stage employs very similar optical attenuator circuitry — designed by the former Urei designer Dennis Fink — to ensure that the LA610 retains the rather individual compression characteristics of the original. This optical section is based on a special electro-luminescent panel which illuminates bespoke photo-resistors, the combination giving the unique programme-dependent dynamic and tonal characteristics — the 'signature sound', if you like — of the LA2A levelling amp. The active circuitry comprises another 12AX7 valve on the input side, with a 6AQ5 in the side-chain.

The attack and release time constants are well chosen, the attack being fast enough to do the job without drawing attention to itself, and the release being the usual two-stage affair, releasing loud transients quickly but imposing a slower release on more sustained loud material. Although the limiter mode provides an infinity:1 ratio, it has a very soft knee so that the effect is not the heavy clamp that so many limiters impose.

The 20dB make-up gain is provided by the 6072 valve mentioned above, which drives the output transformer. It is worth pointing out that the Bypass mode isn't a proper bypass — it simply disables the gain reduction — so all the compressor circuitry remains in circuit at all times. Good job it sounds so transparent, then! Actually, this is useful because it means that the gain make-up remains active, allowing further manipulation of the gain structure for interesting creative effects.



Photo: Mark Ewing

The LA610 In Use

Setting the LA610 up is very straightforward and the controls are easy and obvious to adjust. I would imagine the majority of users would employ this channel strip to handle vocals, so I started off plumbing in a Neumann TLM103 and set the gain control to suit a competent male vocalist. The immediate first impression was of a large and open sound quality, but with a very slight overemphasis on the sibilance region.

Depending on the mic in use this could be a blessing or a pain — and with the TLM103 I leaned towards the latter opinion! In the right circumstances, though, the LA610's slightly forward character would help to emphasise transient detail and presence, but when partnered with a bright mic the combination can sound a tad edgy on its own. Having said that, when the vocal was auditioned within a complete mix I found it did tend to retain a clarity and presence which helped it to cut through easily and without the need for further EQ tweaks on the console.

However, few people will ever use the preamp on its own, and it could be argued that the slightly brighter character of the preamp helps to compensate for the inherently darker tonality of the compressor. Since most people will make use of the compressor all the time, this swings and roundabouts approach works extremely well, and the overall sound character is more or less neutral when the compressor is active.

Swapping the Neumann for the ultra-flat Sennheiser MKH40 revealed the precise spectral balance of the LA610. While it obviously boasts a more 'modern' sound than its forebear, the extra brightness is relatively subtle and, I think, well judged to balance the compressor's slightly subdued character. The benign equaliser can be used to tailor the sound very easily if necessary, as can careful positioning of the mic, of course. As I suggested earlier, trading input gain against the output level allows the amount of valve coloration to be adjusted, a balancing act which provides a useful range of characteristics from ultra-clean to obviously distorted — although the latter always sounds musical and appealing. The distortion character is rich and rounded, adding extra weight and mid-range body in that characteristic way of overdriven triodes.

The compressor section sounded indistinguishable from the LA2A when heard on its own — certainly, all of the latter's character and attributes were present, and cranking the Peak Reduction control around delivered the expected results every time. This revised T4 optical compressor works beautifully, even when driven hard. However, I have to say that the small VU meter, while easy to read, isn't as attractive as the larger metering of the LA2A.

Using the DI input with an electric guitar, I found the ability to control the amount of front-end gain was very effective in adding character and bite to an otherwise lifeless pickup. This was also where the equaliser came into its own, allowing the highs to be tamed and the lows boosted to create a very full and attractive sound. I'm not a fan of DI'd guitars in general, but I found it was possible to create a surprisingly usable sound with the LA610, particularly when the compressor was set to Limit mode and driven fairly hard. It didn't have the scale of a decent amp miked up in a good space, but it produced a much bigger sound than I was expecting and it worked remarkably well within a mix. The same was broadly true of an active bass too — and the compressor worked superbly to control its transient excesses.

A Marriage Of Classic Designs

Original LA2A compressors and 610 preamps are rare and very expensive beasts, and even the modern remodelled units are expensive, so the new LA610 represents a very welcome addition to the modern studio equipment list. I think it is fair to say that the LA610 is not quite the sonic equal of those original classic devices — but it is not inferior either. The sonic differences are fairly subtle and based primarily on fashion, rather than being the result of cut corners or cheaper components, although the production costs have certainly benefited from the revised circuit designs. Indeed, the inherently flattering characteristics that defined both of the originals are still there in this new combined design — but it does sound more modern and detailed than the originals. To most, this will be a good thing, while owners of real LA2As and 610s can rest assured that their investment remains safe!

The best bit is that the LA610 is priced very attractively in the UK. A modern production LA2A costs over £2300, and the single channel M610 (which has a much simpler EQ section) retails for £938, so the LA610 represents a very significant saving over these two separate units. It looks fabulous, sounds great, and is easy to use, allowing you to concentrate on the performance and sound character rather than the technicalities. This is a very versatile unit that just does what it is supposed to do without fuss, and bestows a very musical and appealing character on whatever it is being asked to do. While clearly an expensive product in relation to the typical home studio budget, this is a very cost-effective unit in comparison with equivalent designs and gets my very firm recommendation as a characterful, flexible channel strip.

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