

# Alice 828 Mk3

Analogue Mixing Desk



Reunited with the much-loved Alice brand after many years, has Ted Fletcher managed to breathe new life into this classic compact mixer?

JG HARDING

Like most music producers under 40, I started out using software, but, thanks to studio visits and magazines like *SOS*, I came to realise that hardware was very much still 'a thing', and over the years have built up quite a collection. It includes a few interesting pieces by British designer Ted Fletcher, and two of the most interesting are a custom (or perhaps prototype) Alice 828 Mk2 desk and an Alice outside broadcast mixer, used in BBC radio trucks a long way back. So when I was told that the Alice name had found its way back to Ted, through a new collaboration, and

that he was reviving the 828 design I was excited to see and hear the result.

## Overview

The original 828 was designed to fill a gap in the market: there was a need for a small, high-quality mixer that could match the massive consoles of the day for sound quality, while being simpler to operate, transport and maintain. Primarily finding its home in TV and radio broadcast, the 828 was seen as a classic in its day, and remained in production from 1976 to 1984, with two different 'marks', as well as various custom and special versions that were constructed for Alice's broadcast clients. As the

broadcast world embraced all-digital systems, the combination of small form factor and general high-quality meant many 828s soon found loving homes elsewhere and, more than 35 years after the mixer's introduction, Ted was still regularly receiving emails asking for parts, servicing and so on — so he started to think about making a new version.

The result is the 828 Mk3, which has been designed to offer the user a large array of features in a small space, but not a cramped one: given its footprint of 460mm wide by 365mm deep and around 100mm tall, it packs plenty of punch. Amazingly, like the old Mk1 and Mk2 models, it is hand-built in England. Such claims can be thrown around in a bit of a shady way, with companies importing not only parts but also populated circuit boards, and simply assembling them in the stated country, but this mixer



The standard configuration has three mono and five stereo input channels. Only the mono ones have mic amps and EQ, though Alice say that as the desks are hand-made at their factory, all manner of user-customisations, including stereo channel EQs, can be specified when ordering.

» is actually made in England; only the green fibreglass boards are fabricated abroad, but they're all populated with components by hand in England.

The 828 MK3 is housed in a painted rolled-steel chassis, the steel construction making the desk feel substantial, and its 7.2kg weight contributes to a premium feel. It's populated with class-A preamps and EQs, with OEP transformers (made by Carnhill) on the mic channels and the stereo bus. All the pots all have a nice, high level of physical resistance too; few things make me sadder than a loose knob on a high-end item! Unusually, the internal PSU draws power (it is pretty economical, pulling a maximum 5W) from the mains through a captive mains cable rather than the usual IEC inlet. That's not really a problem, just a quirk, and I suspect is largely to save space on the rear.

Many manufacturers of modern equipment don't seem to take ease of serviceability into account, with internal circuitry being made up almost entirely of tiny surface-mount components and boards simply being swapped out in the case of a fault, or at least repairs being carried out by the manufacturer. The Alice 828 Mk3, though, uses PCBs populated with through-hole components for nearly all of the circuits, with the only SMDs being in the RIAA drop-in boards and a few parts of the master section. So, in

## Alice 828 Mk3

£2100

### PROS

- Solidly built, by hand.
- High-quality, versatile analogue mixer.
- Excellent sound: clean but with character.
- Carnhill OEP transformers on mic and stereo bus channels.
- Two stereo RIAA inputs a nice bonus.
- Liberal use of through-hole components will make servicing easy.
- Incredibly personal and responsive customer service.
- You can order any reasonable customisation you can think of.

### CONS

- EQ as standard on stereo channels would be nice.

### SUMMARY

The 828 Mk3 is a high-quality small-format console that wears its broadcast roots proudly on its sleeve. It can be clean but also has a lovely analogue character when the mic amps or output transformers are 'pushed'.



■ The two master-bus VU meters are the only visual indication of level on the desk — though that's not necessarily a bad thing if you're looking to drive the circuitry into saturation!

the event of a mishap in the future, any competent tech should have no trouble replacing components. This may not sound too important but analogue gear is an investment, and equipment that can be maintained and repaired well into the future strikes me as a much safer place to put my money!

### Modern Studio Workflows

Before I examine the facilities in more detail, it's worth considering who might be looking to use a mixer like this today. There will still be some people looking for a high-end, compact mixer for small radio stations, live sound and podcasting but, my guess is that it will have most appeal to those, like me, with a fairly serious 'hybrid' music-production studio. With the exception of some particularly trendy modular and computer-free setups, most jobbing music producers now put a DAW at the centre of their workplace, and where analogue equipment is still used it tends to be chosen more often for its ability to introduce pleasing distortion than for anything else.

Popular applications include use as a characterful front end for recording to the DAW (often achieved using transformer-loaded preamps and DIs), and using preamps or processors to add character to the stereo bus, or a mixer to add colour and do analogue summing. For example, my customised Alice Series A's eight stereo channels mean I can sum eight stereo busses coming out of my DAW, and can hit the output transformers

hard to impart some great character. The Alice 828 Mk3 can work in all of those workflows, to some degree.

### Mono Channels

There are three mono and five stereo input channels. The mono ones can be switched between mic and line modes and have XLR and quarter-inch jack inputs, as well as post-EQ direct outs. The preamps are a discrete class-A design (TL072 op-amps are employed only for tasks such as impedance conversion and buffering), offering 50dB of gain range. Further gain on the channel fader and at the master bus take the total gain available from input to output up to 80dB.

Phantom power is switched globally for all mic channels, which is only a problem if a 48V-sensitive device is plugged in alongside a 48V powered one; devices that are destroyed by 48V are very rare now but do exist, so always check if you are unsure.

Each mono channel contains a Carnhill OEP input transformer, selected for its complementary nonlinearity and peak-level handling, which it's in-circuit for mic and line inputs (the latter is padded down and routed via the mic preamp in the familiar way). These channels also feature two aux sends, the first fixed pre-fader, the second post-fader, as well as EQ, and PFL and pan controls.

### Stereo Channels

In comparison, the unbalanced stereo, line-only channels are quite sparse, »



» offering up to 24dB of gain, a fader, pan, PFL and two auxiliary sends. The most obvious omission in the standard model is EQs — this area of the top panel is blank. I enquired with Ted about this, and he said a stereo EQ is a possibility in the future and that “if there’s a serious request for EQ on stereo channels we could do it as a simple ‘mod.’” There’s no direct out or insert point.

The last two stereo line channels also include RCA phono inputs and RIAA equalisation, for connecting vinyl decks (moving-magnet cartridges, not moving-coil types, which is as you’d expect but worth mentioning). The RIAA gain/EQ stages feed their line-level outputs into the stereo channel path via break contacts on the left channel’s Line input jack (there’s no separate RIAA switch, so you cannot use the RCA connectors for standard unbalanced inputs). The two line input sockets are linked via normalling contacts, so that a single plug appears as dual mono.

As features go RIAA EQ seems quite niche these days, but vinyl is enjoying a resurgence and it could certainly be useful if you want to work with vinyl sampling: you could run the decks into the 828 stereo channels and its main stereo out into your audio interface, and sample without too much fuss. Again, stereo-channel EQs would be really useful: it’d make a great two-deck DJ mixer if it had EQs on these channels, but that would have to be a cost customisation.

### Master Section

The mix bus sums passively, and this is a sensible design choice given that a diode limiter comes next in the signal path. The linear part of a diode’s transfer curve needs a very low level input signal, and passive summing inherently involves a drop in level, so why go to the bother and expense of providing an active mix bus when you’d just have to pad the output down anyway? It’s not as if this mixer has enough channels to make passive mixing problematic.

The master section uses the same 60mm ALPS faders as the other channels, and hosts the activation and threshold controls for the left and right master limiters, as well as send and return level

controls for aux one and two. It can also serve as a basic monitor controller, with dim, mono and master output level controls. There’s also a polarity reverse facility, which flips the polarity of the left channel, and of course the monitor return control.

As standard, the monitor signal comes out on a single stereo quarter-inch jack on the rear, so it provides an unbalanced connection to monitors. While there are certainly some decent speakers with unbalanced inputs, many dedicated monitor speakers will have only balanced

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inputs, so this is a curious decision, though not an insurmountable problem. Of more concern is that while the master mix (which comes out on balanced XLRs) runs through the output transformers, the monitor feed does not. So, if you’re looking, as many will, to use this desk for summing and processing, you can’t hear the effect over any monitors you connect to the desk. To do that, you’ll want to plumb the main mix output back into your DAW, and use your audio interface for monitoring. This said, Ted stressed to me that as these mixers are all hand-

built, Alice can easily add various custom features such as transformer balancing for different outputs.

The two moving-coil meters (which aren’t technically VU meters, but bespoke pseudo peak types) aren’t just for retro cool — I find them genuinely useful, since there are no meters or clip lights on the individual channels. Analogue processing is most useful to me these days for nonlinear character, and a fair bit of this lies beyond the boundary of sensible input and output levels.

As such, a big red light trying to scare me off of intentionally driving the output stages (the limiter, the makeup gain stage and/or the output transformers), as a needle hitting the far-right of the meter. When it comes to the individual channels it’s arguable that an individual clip light can be useful, though personally I’m of the school of thought that in this context, if it’s a problem, I’m going to hear it. By default, the meters’ OVU mark is aligned as to 0dBu, rather than the more common +4dBu standard, though this is apparently adjustable on the circuit board to other standards.

Finally, a nine-pin D-sub connector provides a single closing relay contact, activated when the first channel’s fader is raised. It is intended to operate an external studio ‘mic live’ red-light. It’s a reasonably niche feature in the modern world, but it’s



■ The headphone output is conveniently located on the front right-hand corner of the desk.

» in line with the mixer's heritage and some will no doubt find it useful.

### Preamps

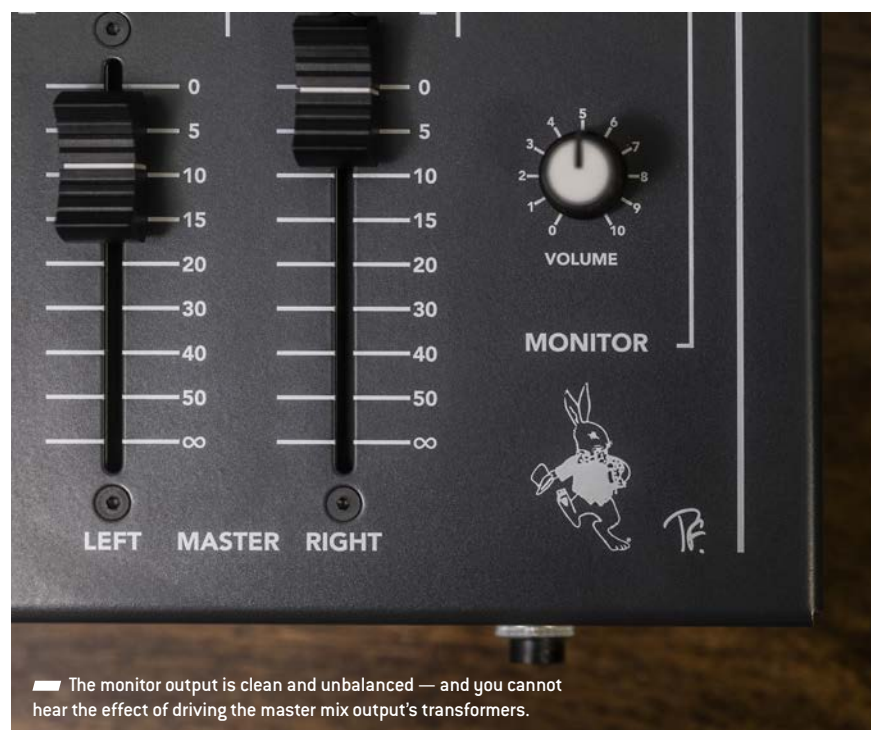
The preamp inputs are transformer balanced, but they're incredibly neutral: at reasonable input levels, I couldn't tell the difference on most sources between these and my Benchmark MP1, which, like most Benchmark products, was engineered to be as technically perfect and linear as possible. The mic preamp's EIN figure looks good at -128dB with a 200Ω input, but note that it's measured with 70dB gain (not that the preamp can deliver that on its own!) which is non-standard and inflates the EIN figure!

Looking closely at the recorded waveforms to compare what I'd recorded with the Alice and Benchmark preamps, I could see a tiny amount of transient compression in the Alice, but it wasn't audible. Winding the levels up, the Benchmark remained flat, whereas the 828 MK3 began to introduce character; a pleasing effect to my ears, though when pushing this too far the signal started to distort. On the cusp of distortion, there's a nice area where the preamp seems to be working hard, but not obviously distorting, and this can be great for giving a little natural 'drive' to a source. Keeping things lower, though, it's as flat as you'll ever need. There's also the option of feeding 'hot' levels into the preamp, should you want to 'push' the input transformers.

### EQ

On the original 828, the EQ would have been used while recording or mixing live broadcast material. Today, you're less likely to need to EQ while recording, but you can definitely use this EQ to tweak the balance when summing to stereo or, along with the mono channels' transformers and preamps, as 'external plug-ins' in your DAW. The EQs aren't brimming with character but neither are they totally benign: Ted has long used the same Baxandall-style EQ design in his desks, and it's an eminently usable musical-sounding circuit that I've always found simple and forgiving. It's definitely preferable to fiddling with a full parametric's controls in most situations!

The LF shelf EQ has a nominal turnover at 60Hz, and the mid range control covers 700Hz to 4kHz, with a Q of around 1.4. There's also a 10kHz HF shelf, and all three bands have a ±15dB range. The LF shelf and mid-range are



— The monitor output is clean and unbalanced — and you cannot hear the effect of driving the master mix output's transformers.

well judged, but musical tastes change with time, and a 10kHz treble band may be considered a little low in frequency for some modern styles. Still, where I particularly wanted a higher high shelf, I was happy turning to software or a different EQ, and this one works well most of the time.

My only real gripe about the EQs was the lack of them on the stereo channels. As this addition would make the 828 Mk3 much more useful for the sort of processing and summing I like to do, I asked Ted if a customer could have such a mod made, and I was told I could have any modification I wanted priced up, right up to input and output transformers on any channel and a full set of EQs. That's quite something in terms of personal service, and with that many transformers and EQs and 12 channels in a box, it could be a formidable tool.

### Sonic Character

This desk can, of course, be used as a good, clean-sounding, practical mixer — if you're looking for a high-quality analogue desk that sounds relatively benign, the 828Mk3 is worth considering. But, other than for the recording side of things, you can stay in the box for that, and my own favourite use for an analogue desk these days is to route stems and busses out of the box, through the desk for some character, and back in again. A great way

to process stems on a desk like the 828 MK3 is to push tracks into the master bus at a high level and encourage the output transformers to impart some character, though you can try overloading the channel input transformers too, or driving the discrete mic amps.

I've routed plenty of audio through this desk throughout the review period and, to my surprise, I particularly enjoyed using it with electronic music. In order to make some audio examples for this review, for example, I took a snappy drum and bass loop I'd made, and sent the left and right master into two of the mono channels in line mode, and pushed the

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### ALTERNATIVES

The **828 Mk3** is by no means a 'budget' mixer, but nor is it esoteric. Most other options seem either to be much cheaper or cost more for the summing alone, with no EQ or dynamics control. In the music studio, the **SSL SiX** offers two preamps, two EQ channels with high and low shelves, 12 summing inputs, two channels of 'one-knob' compressor and many other features in a tiny space, but it's a different desk in terms of layout style and philosophy. On the broadcast side, the **Allen & Heath XB-14-2** offers plenty of facilities for less, but is less characterful. So potential buyers will have plenty of factors to consider. Of course, there are rather more options to explore on the second-hand market.



■ The obligatory rear-panel shot: two of the 828 Mk3's five stereo channels offer the additional option of RIAA-compensated RCA phono inputs, for hooking up vinyl turntables.

» output as hard as I could to get some 'saturation'. For the mono channels, the input transformers are always in the signal path, whether in mic or line mode, but I suspect it's overloading the discrete mic amps that adds a beautifully big 'squash' to the sound when you drive these channels hard!

The output transformers are, as I'd expected, a more subtle affair but, combined with overloading the input transformers, you can access all the warmth and bounce you'd expect. The transformer saturation creates a nice, familiar 'rounding' of the sound, with a rich distortion kicking in as you push the levels into overcooked territory. There are plenty of creative uses here as well as more standard tone-shaping ones.

### Limiters

Although the 828 MK3's master-bus diode limiter, which has a broadly 12:1 ratio, was designed primarily for overload protection, it isn't and can't be left-right linked, which is as it should be for a protective limiter. Its Threshold control is numbered 1 to 10, with 10 being the lowest threshold.

While this limiter isn't really intended for creative use, that wasn't going to stop me! It has a fast, snappy and transparent characteristic, and can clamp down hard, yet manages to maintain the transient feel and attack. In fact, transients could sound so 'present' that on some occasions I used Oeksound Spiff to tame them before routing them to the desk. Out of curiosity, I compared it with a TG12413 Zener Limiter clone as well as some plug-ins. Compared with the TG12413 clone, the Alice sounded a little sharper, crisper and more 'lean'; the TG12413 blurred transients more and sounded generally softer and rounder. Even in limit mode,

with the hold controls nearly at maximum and an 80hz side-chain filter, it never managed the same snap as the Alice. Comparing the limiter to a few plug-ins, it exhibited the characteristic I love about hardware compression, the transients just seemed far more snappy, lively and present than with most of the software.

All of which means this limiter is something of a hidden gem. It's great on electronic music. Although techno, hip hop and other electronic producers may not immediately think of a British analogue desk as a first choice for a master limiter, they'd be missing out if they dismissed this, as it's great for electronic music — you can throw loud kick drums and so on at it and have the mix come out the other end with a nice, bouncy, lively sound.

### Conclusion

The 828 Mk3 wears its broadcast origins on its sleeve, with some seemingly anachronistic but charming quirks and features carried over from the earlier models. Really, it's a case of "if it ain't broke, don't fix it." Ted has taken a timeless design and added a handful of more modern features that make it even more solid than before. For example, the main failure points of the original consoles, namely the carbon-track pots and faders, have been replaced with conductive plastic versions, which should outlast the originals. But while construction has been updated for reliability, he hasn't done anything to sacrifice the original sound characteristics or the simplicity and spaciousness of the layout, which remains a real selling point — desktop mixers should not be the preserve of the tiny handed!

For my own use, while I love the desk overall, the off-the-peg model lacks a

few features. I'd like to have EQs and input transformers on all the stereo channels, so stems and mono channels can be treated to input transformer saturation and creative EQ, before going back into the box. I'd also like a balanced monitor output, and, ideally, a switch so I can listen to the effect of the output transformers.

Thankfully, then, Ted's old-school-in-a-good-way attitude means you can request customisations — you could specify anything you could reasonably want that can fit in the chassis, from a full complement of input and output transformers for every channel, to additional EQs, custom colours... you name it. All this would no doubt add significant expense to the mixer, but it would make it incredibly powerful for the footprint.

If you've caught the analogue bug, and love the idea of equipment that will work for years to come, whether your computer is there or not, the 828 mk3 offers a simple compact way to mix at high quality. It's a characterful and unique thing. There are a few quirks, such as the unbalanced monitor out and stereo inputs, but they're not insurmountable problems and you can specify mods. The price isn't low, but shouldn't be: three channels of transformer-balanced preamp and EQ could easily set you back more, and there are plenty of high-quality summing mixers that cost rather more.

Ted once ran a company called Joe Meek, named after the famous yet troubled producer to whom the saying "If it sounds good, it is good" has been attributed. The 828 MK3 sounds good and it is good. **///**

**£** Review model £2100 including VAT.  
Custom desk pricing available on request.  
**T** Alice +44(0)1442 863494.  
**E** info@alice.co.uk  
**W** www.alice.co.uk