

# Unison Research Unico 90

A classic, no-frills, line-level-only tube/tranny hybrid integrated amplifier from Italy? Unison Research's beefcake Unico 90 says 'Stop and smell the roses!'

Review: **Ken Kessler** Lab: **Paul Miller**

Sometimes, 'old school' is exactly the attitude that allows you to take stock of what is happening. For us, it's an opportunity to reassess the hi-fi landscape. For many there's a longing to brush away the plethora of streaming- and storage-based hardware and acronyms and gadgets that are turning the love of music into a mere sideshow in computing. Frankly, from my perspective the likes of Tidal, MQA, Roon, *et al*, are simply distractions that get between me and Bonnie Raitt or Johnny Mercer or The Kinks. And Unison Research's Unico 90 agrees.

## REVISITING OLD TIMES

If the 'no frills' in the sub-heading to this review suggests a masochistic hair-shirt approach, that would be misleading, as the unit comes with a remote volume control [see p65] and provides two XLR balanced inputs. Moreover, it can be used as a power amp or preamp-only, but otherwise it is DAC- and phono-free, and the remote control only operates volume (though it will control a matching CD player) so this £3500 100W-rated integrated amplifier is as no-nonsense as an amp can be.

Still, Unison Research managed to simplify its design without sacrificing an iota of usefulness, practicality, flexibility or pride-of-ownership – because it will do everything you want, it looks luxurious and the fit-and-finish are exemplary. The value is to be found on the inside.

Its standout quality among the hundreds of integrated amplifiers between £2500 and £5000 is that it's a welcome throwback to simpler times, and even the price seems sensible in an era when people don't blink at £10k for a piece of wire. You can have it in black or silver, but other than that, what you see is what you get. It is so sensible and 'correct' that, once you've manhandled its 20kg bulk and positioned

it, you will have it up and running in a minute... and 40 seconds of that will be muted warm-up time.

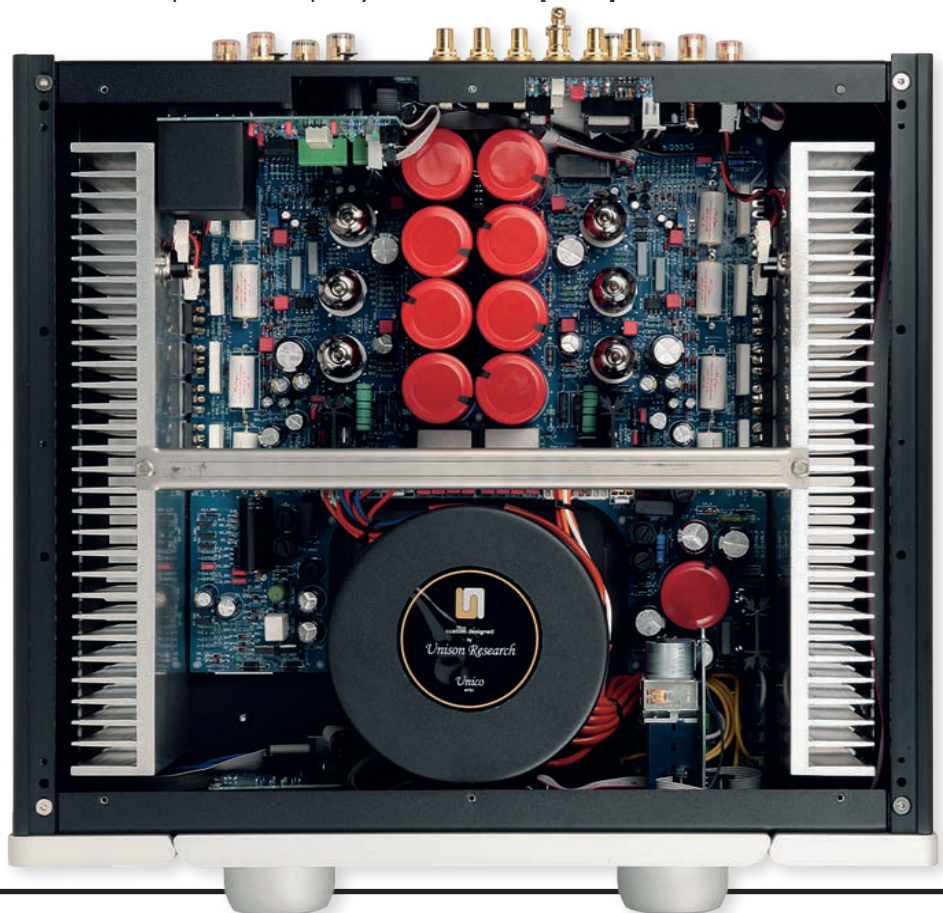
At the front are rotaries for input selection and volume, on either side of banks of LEDs that indicate the chosen source. The bottom LEDs blink while the amplifier undergoes warm-up. At the back, the two sets of speaker terminals allow for bi-wiring, and all of the inputs and outputs are solid, gold-plated RCAs, with two pairs of XLR balanced inputs grouped to the right. An IEC mains input, and an on/off rocker on the right hand side of the unit complete the arrangement.

When you switch on, there's a light show inside, including the glow of the gain stages' ECC83 and ECC81 double-triode valves – three per channel. Unison Research has never scrimped on tube quality, so

swapping the valves for aftermarket luxury types will probably not achieve much of an improvement. On the other hand, these define the valve-y sound of the Unico 90, so – if you're of a perverse *mien* and 'valves' to you means 'fat, soft and rich' – you might alter the character of this amp with NOS period Mullards or Brimars, *etc*.

As for the output, we're into FET territory – the valve/MOSFET combination has been a favoured solution for hybrid amp builders for years, and the overall character is, as you and they would hope, an ideal halfway house between a vintage tube sound and dry-as-a-bone tranny tightness [see PM's boxout, adjacent].

The Unico 90's internal construction is mainly dual-mono save for the massive, shared power transformer. The lid-off shot here [below] shows the massive heatsinks,



**RIGHT:** Two secondary windings on a single toroidal transformer supply the PSU for this dual-mono amplifier, featuring three triode tubes in its voltage/driver stage and three pairs of HEXFETs power transistors on heatsinks



and I barely got this to feel any warmer than one expects of the areas directly above the valves. The layout and the crosspiece add to structural rigidity, but I wouldn't stop you if you were prone to use flux dumpers or other weights on top of your hardware.

### SIGNATURE SILKINESS

Unison Research has chosen an ALPS potentiometer for its volume control while input switching is achieved through 'purely mechanical miniature relays' – the XLR inputs being truly balanced. So I fed the balanced signal from a Marantz CD12 DAC stage into these with wiring by Crystal Cable and Transparent, and YTER speaker cables between the Unico 90, KEF LS50s [HFN Jul '12] and Spendor 11ohm LS3/5As. As advised by PM, I let the amp cook for 30

'For a chuckle, I dug out a pair of teensy JVC EX-A1 speakers'

minutes before listening as the sound definitely sweetens and settles down [see Lab Report, p65], but at no time did I find this to be anything other than a component of ideal composure – it simply did what it was supposed to do.

In the decades that I have used both Unison Research all-valve and hybrid hardware, I have always been charmed by a uniform silkiness that seems to be a company signature. Kicking off with Lou Rawls' *At Last* [Blue Note CDP 7 91937 2], all was as it should be, with piano sounding notably resonant and natural. This amplifier respects nuance, and the little vocal tics that both he and collaborator Dianne Reeves use to punctuate the title track provide a delicious authenticity.

For a chuckle, I dug out a pair of teensy JVC EX-A1 speakers from some

**ABOVE:** Bluff-looking but still sensuously curved, the Unico 90's substantial alloy fascia comes in black or silver/grey. Rotaries suffice for input selection and (remote controlled) volume

long-forgotten mini-system, a brace of small cubes with single, full-range, wooden-coned drivers. These are, despite actually sounding delightful, best kept for secondary applications, eg, a spare bedroom, a kitchen system, whatever. But there they were, asking to be connected and I was thrilled to hear they delivered the same detail and character, despite the truncated bass. The Unico 90, through three different speakers, maintains a clearly-discernible 'voice', which makes it easy to appreciate.

### CARNIVAL IN TOWN

Back with the KEFs, and the rolling piano of 'Fine Brown Frame' was rollicking, joyous and yet also detailed enough to divert you into an analytical mood. The wealth of information – also a benefit while listening to the new *Sgt Pepper* set on vinyl [Apple 4553420602557: review next month] – through an ELAC Miracord 90 deck [HFN Jul '17] and EAR 834P phono stage, was enabled by broad dynamics and ghostly silences. Here you could discern minute effects in 'Being For The Benefit Of Mr Kite' that sit beneath the swirling tape loops and add to the carnival atmosphere.

This, however, highlights one of the joys/curses of assessing hi-fi, either as a potential purchaser or as a reviewer: that of resisting the desire to just sit back and groove. The Unico 90 has a way of doing both – seducing with sexy sounds while proffering so much information that you want to focus separately on every element. Of course, should you be listening to this in a shop's demo room, that's a priceless virtue, for you *want* it to do both. ☺

### HYBRID BREW

Before the 1960s all audio amplifiers were tube amplifiers but the advent of the transistor, and especially the 'next generation' silicon transistors, changed the face of mass market hi-fi. While the high voltage/low current operation of most tubes has attractions for line/preamp circuits the need for a very high quality coupling transformer to match a tube *power* stage with the low impedance of a loudspeaker load brings complexity, weight and – for a high-end product – significant added cost. Transistor power amps typically work at a lower voltage, but can deliver higher current more efficiently into a loudspeaker load.

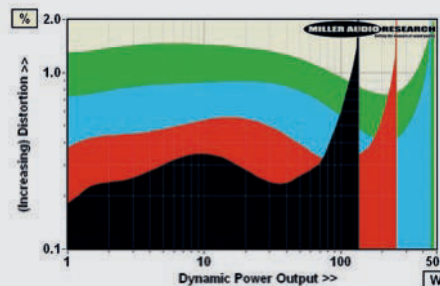
However, combining a high voltage tube pre/driver stage with a robust, high current transistor power amp also has its attractions, as designer Bascom H King illustrated with his seminal 'Infinity Class A' hybrid amp in 1979. Since then we've seen many designs ostensibly coupling the 'warmth' of tubes with the clout of transistors, the Unico 90 joining the ranks of PS Audio's BHK Signature 300 [HFN Jul '16], the AVM Ovation CS8.2 [HFN May '17] and even a tube/Class D hybrid in the form of Rogue Audio's Sphinx v2 [HFN Jul '16]. But a tube/transistor hybrid need not mean moderate or high distortion [see p65] as Musical Fidelity's clean-as-a-whistle Nu-Vista 800 [HFN Nov '14] clearly demonstrates. PM



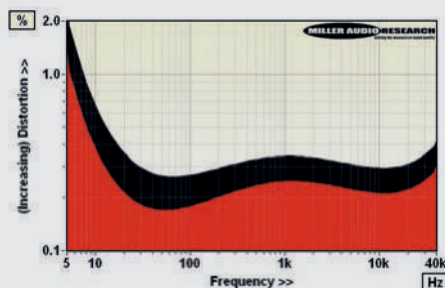
## UNISON RESEARCH UNICO 90

Italian brand Unison Research is no stranger to triode tube/FET hybrid amplifier designs – this heavyweight Unico 90 partnering the flagship Unico 150. Rated at 100W/8ohm and 180W/4ohm the Unico 90 achieves closer to 2x110W/8ohm and 2x200W/4ohm up to 1% distortion. In practice its 'hard clip' occurs between 2-3% distortion where its output is closer to 130W/8ohm and 220W/4ohm. However, unlike most 'complete' tube amps, distortion does not rise uniformly with output – it has a minimum of 0.1% at 1W rising to 0.25% at 10W before falling to 0.2% at 40W and climbing again to 1% at 100W (1kHz/8ohm). This is for the right channel – distortion was ~1.5-2x higher on the left with our sample which also betrayed a 0.85dB channel imbalance regardless of volume setting. Versus frequency, distortion is modestly high but uniformly 'flat' at around 0.2% (right) and 0.3% (left) from 20Hz-20kHz, albeit with a lift to 1-2% at a subsonic 5Hz [see Graph 2, below].

These distortion trends are also duplicated on the dynamic power output plots [see Graph 1, below] which not only illustrate the Unico 90's 120W, 240W, 420W and 370W momentary output into 8, 4, 2 and 1ohm loads (equivalent to 19.2A at 1% or 22A at 2% THD) but also show its substantive increase in distortion with decreasing load impedance. Noise is slightly high too – the 82.5dB A-wtd S/N ratio slightly below average. The amp/speaker system response is also influenced by variations in speaker impedance vs. frequency thanks to its high 0.4-0.5ohm source impedance. Into a 'flat' 8ohm load the response rolls off below 20Hz (-0.9dB) to -3dB/10Hz but has a lifted upper treble amounting to +0.5dB/20kHz and +2dB/33kHz. PM



ABOVE: Dynamic power versus distortion into 8ohm (black trace), 4ohm (red), 2ohm (cyan) and 1ohm (green) speaker loads. Maximum current is 19.2A



ABOVE: Distortion versus frequency at 10W/8ohm (5Hz-40kHz; left channel, black; right channel, red)



ABOVE: Six line inputs are provided (two balanced via XLRs) with two line outputs (monitor and subwoofer) alongside sets of 4mm bi-wire loudspeaker binding posts

That's why I try to do all my reviewing with music that's completely familiar, not least because I know what to listen for, while anticipating revelations. With Chuck Berry's swan song, *Chuck* [Decca 00602557561142], I made the mistake of listening to it for the first time through the review set-up and couldn't stop marvelling at how this nonagenarian sounded as sharp as he did 60 years ago.

### TICKING THE BOXES

It was as retro a musical experience as the Unico 90 was, relative to amplifiers. The Unico 90 could have been plucked from just about any time between 1985 and 2000 without anyone being able to date it precisely; at the same time it is certainly as refined and coherent as a pedigreed integrated amp should be circa 2017. Ditto for *Chuck*, which delivered the curious mix of sounding like a Chess session from 1958 while possessing all of the polish of a modern recording.

His vocals and guitar work for the double-whammy that is the Chuck Berry sound, and even his best imitators never quite managed to mimic that slightly out of step/tune nature of a Berry performance. Theirs were *too* polished, like a fully-restored vintage car versus one with the patina of age.

The Unico 90 mirrors this perfectly, which may be the prime *raison d'être* of a hybrid amplifier: it's never *too* clean, never *too* warm. For those wanting to have a tube-ish sound but without the hassles, such as heat and ventilation concerns, and who crave the fast and solid bass of a big tranny amp, the Unico 90 ticks all boxes.

With the ultra-modern production of *Lindsay Buckingham Christine*

*McVie* [EastWest 0190295828318] – essentially a Fleetwood Mac album minus Stevie Nicks – the Unico 90 did a masterful job of allowing the listener to hear the layering of harmonies, most vividly on 'Red Sun', positioning them with precision, keeping them in a separate space from the crisp percussion, all the while avoiding even the merest hint of sibilance.

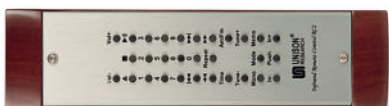
Are there limits to this deceptively powerful amplifier's capabilities? Does one need the added grunt of the Unico 150? A brief burst through a pair of Wilson Alexias [HFN Mar '13] swiftly showed the boundaries of its power, but then only a total shmuck would mismatch a £3500 amplifier with a £40k+ speaker.

Allowing for no hard-and-fast-rules, eg, absurdly good performers like KEF's LS50 speakers, that bely their sub-£1k price, the Unico 90 would be ideal as the heart of a system with a total cost between £6000 to £10,000. I would love to hear this power amplifier with the forthcoming Quad 60 ESL speaker, and I can see this being – in black, of course! – an ideal recipient for an SME 10 turntable with an EAT E-Glo S phono stage [HFN Mar '17]. The common thread? No nonsense. ☺

### HI-FI NEWS VERDICT

Tired of the acronyms and forced nomenclature of online music sources? Ready to get back to the country? The Unico 90 – even if you're too young to know life before iTunes – returns us to the era of 'honest hi-fi', when listening involved source selection, volume setting and nothing else. It will regale you with silky sound, more grunt than most people need and a sense of freedom. You are allowed to simply wallow in it.

Sound Quality: 83%



### HI-FI NEWS SPECIFICATIONS

Power output (<1% THD, 8/4ohm)	113W / 200W
Dynamic power (<1% THD, 8/4/2/1ohm)	120W / 240W / 420W / 370W
Output impedance (20Hz-20kHz)	0.31-0.47ohm
Freq. response (20Hz-20kHz/100kHz)	-0.8dB to +0.5dB/-6.6dB
Input sensitivity (for 0dBW/100W)	60mV / 600mV (balanced in)
A-wtd S/N ratio (re. 0dBW/100W)	82.5dB / 102.4dB
Distortion (20Hz-20kHz re. 10W/8ohm)	0.17-0.25%
Power consumption (Idle/Rated. o/p)	90W / 360W
Dimensions (WHD) / Weight	435x180x440mm / 20kg