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Halcro's 'Super Amplifier' sets new standards

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Halcro dm58 Monoblock amplifier

Here's an amplifier that doesn't just look different. It's different through and through

WORDS KEN KESSLER PICTURES TONY PETCH

PRICE	£20,750/pair
SUPPLIER	Audio Reference
CONTACT	01252 702705

There are two piles of magazines, some 150cm tall, sitting in my lounge. They consist mainly of hi-fi magazines I can't read until they're 'out of date'. Why? Because I don't want to be influenced by the reviews, and I don't always know whether or not I'll be reviewing a component which I've just seen slammed or praised. Thus it was that I tried to avoid whispers about the Halcro amplifiers from Australia. Even so, I kept hearing about these ***** amazing amps' from all and sundry.

Not that you need anyone else to tell you that the Halcros are — at the very least — 'different', that they stand out from the pack. The finish is so good that it's hard to believe we're talking Land of Foster's rather than Land of Liebfraumilch, while the styling reeks of Denmark. Although vertical amplifiers are now very much 'in' (credit goes to — I believe — Mark Levinson) but the Halcros aren't merely vertical: they're modular, and this tower-like construction isn't simply an aesthetic conceit. With a background heavily research-based, Halcro's designer Bruce Candy determined that there were genuine sonic gains to be made by a change from the traditional

physical topology, what he calls 'a complete reinterpretation of the amplifier aesthetic.'

Uncommonly pretty, the Halcro consists of an aluminium case with a satin anodised finish. The side panels are finned, while all other surfaces are smooth. To add a touch of the organic, each side panel's lower extremity is a solid mahogany foot, also in a satin finish. On the underside of the bottom module is the AC mains input and the primary on/off switch, which you won't ever want to access again: warm-up time from cold is a day. Instead, there's another switch — a funky 'air pressure' push button — resting underneath the upper module. Press it, and the LED on the lower section changes from red to blue. Behind the upper module are solid spade-connector-only binding posts for bi-wiring, an earthing terminal and inputs for single-ended

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(phono) or balanced (XLR; a rotary control chooses between the two).

Those modules sandwiched between the two upright sections are the 'housing compartments' containing the Audio Drive Module, the Audio Power Module and the Power Supply Module. Halcro feels that the Audio Drive Module and Audio Power Module 'must be within very close proximity of one another', but are shielded by a massive 16mm thick

plate of non-ferrous metal to prevent any residual non-linear fields from the power stage from feeding back to the input stage. The Power Supply Module, on the other hand, is physically separated from the other components for optimum shielding; the base of the Audio Power Module and the top of the Power Supply Module each have 3mm thick non-ferrous metal plates. The Audio Power Module also requires 'a major heat sink' to dissipate excess heat, the dual heat sinks housed within the vertical slabs.

But Halcro isn't tunnel-visioned, so the company also recognises that there are other benefits, including the way that separated, screened boxes perfectly suit vertical stacking to create a small footprint. Well, 'Aussie small' at least, because however much the company wants to boast that each 56.75kg unit occupies less floor space than most conventional amplifiers, a 400x400mm footprint is hardly Cinderella-esque. Height, by the way, is an awe-inspiring 790mm, so a pair of Halcro dm58s monoblocks is a sight to behold. Cleverly, the company points out that this 'aesthetically relates well to the typical vertical speaker formats', and I have to admit that they looked right at home next to the Wilson WATT Puppy System 6 they were driving. Also mentioned on the unit's behalf were the fact that freestanding amps don't require support stands or additional furniture, and that the sheer acreage provides maximum surface area for heat dissipation. No matter how hard these were driven, they never got more than lukewarm.

Candy describes the amplifier in the comprehensive technical paper as conventional in that its basic circuit consist of a differential input

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voltage-to-current converter, current mirror, voltage amplifying stage and a unity voltage gain power output stage. It's non-symmetrical because Candy argues that there's 'no such thing' as fully symmetrical — and besides, single-ended triodes are the flavour of the decade, and they ain't symmetrical either. But Candy also has a novel approach to retro: with the dm series amps, he's revived the

specifications war. He feels that the nastiest distortions are in the upper frequencies, and he also believes in clean and fast power supplies. But while Candy is perfectly happy to state that there's no such thing as total symmetry and he's not bothered about producing a skin-singeing true Class A design — the quiescent current is deliberately adjusted to a higher level to minimise crossover distortion — he's also playing the specs game with distortion measured in parts per billion.

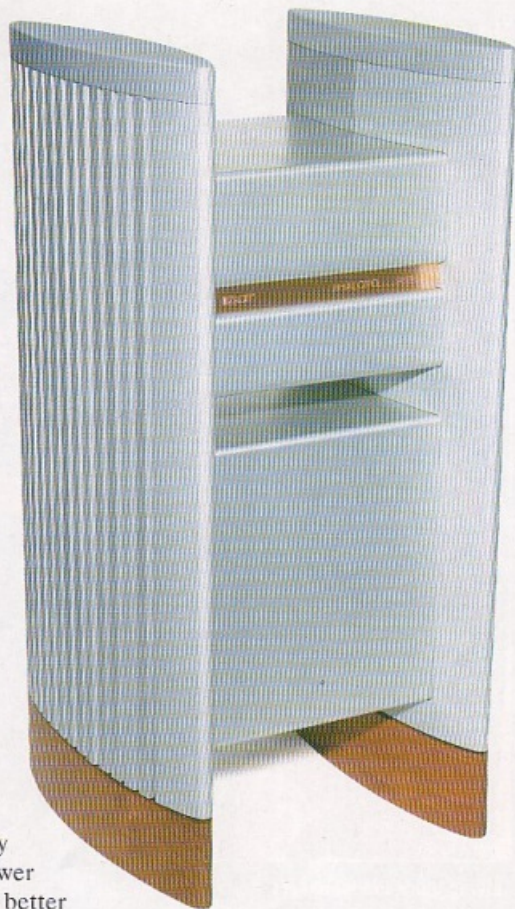
The Halcro uses power FETs in the output stage, delivering 200W per chassis into 8 ohm with distortion of less than 4000 parts per billion. This translates into 'fidelity of each pure tone at full power up to 20kHz reproduced at better than 99.9996% purity across the entire audio range.'

It features a universal, 'power factor-corrected' power supply with a power factor of one, which automatically operates from 85V through to 270V RMS without any internal or external switches, and boasts series and common mode filtering on the mains input. Like the top Linn amps, the Halcro uses a switch mode power supply, in anticipation of CE regs and adhering to Candy's belief that the

grunge produced by conventional power supplies is one of audio's biggest culprits; like the Linn, the dm58, and the higher-powered dm68, lay to rest any worries that the post-CE-approval future would be one free of hugely powerful amplifiers.

Like the external hardware (and that cool air-pressure switch), internal components are no-compromise. All of the semi-conductors are 'at least industrial grade', and all electrolytics are rated to 105°C. Resistors were chosen for their linearity, and the capacitors are MKP10/FKP1 types. PCBs are 6-layer for the power amp section to minimise stray magnetic fields and 4-layer in the power supply to minimise EMI and voltage transients, to improve reliability and efficiency.

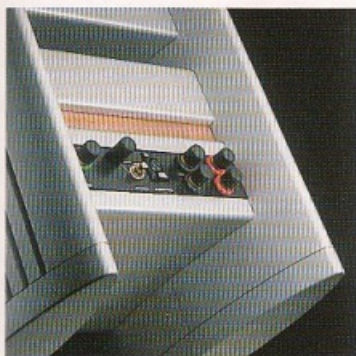
There's also plenty of mains filtering — EMI filtering on the input and between amp and power supply, plus high frequency filtering at the inputs and outputs — and the amplifier boasts more protection than an Amsterdam hooker: short circuit-proof, over current limiting, gradual power limiting if the amp



ⓘ Sandwiched between the two upright sections are the 'housing compartments' containing the Audio Drive Module, the Audio Power Module and the Power Supply Module — all of which are shielded by a 16mm thick plate of non-ferrous metal



definitivetest amplifier



- ① Fit and finish are superb, with no visible fixings
- ② Underside view reveals the mains inlet and power switch (the amplifier is intended to be left on)

grows too hot, cut out if continuous DC offset appears on the outputs, protection against mains transients and more. Essentially, this is the perfect amp for paranoids.

Because it can be used in both single-ended and balanced modes, I drove it with the GRAAF 13.5B pre-amp for most of the listening, as well as with the Musical Fidelity Nu-Vista and Quad QC twenty-four in single-ended mode. Regardless of what you may or may not think of balanced operation, in the case of the Halcro, the superiority is *not* subtle. The importer had a brief burst when he came to collect

I understand now why the importer hated to part with this pair even for a miserly week

the amps, not having tried balanced himself, and he was dumbstruck. Sources included the Nu-Vista 3D and the Marantz CD-12/DA-12.


Damn, is this a fine amplifier. Even though the beast requires a long warm-up period, it sounds so good at cold temperatures that you can only wonder how it might improve. What the warm-up does is free the sound, increasing the already wide dynamic contrasts, while sweetening the treble to almost tube-like levels. Y'see, this amp is so clean and naked-sounding, as the Candy-man intended, that it is merciless in revealing the ills of all which go before it. And in a certain sense, yes, it could be mistaken for the clinical or the overly hygienic. But it isn't: it's merely open-sounding, probably the most untainted sound I've ever heard.

And yet how does one account for the following: it's neither colourless nor characterless. But if it's truly neutral and clean, and therefore lacking any artefacts (either dissonant or euphonic), how can it have a personality? But it does. It swings, by virtue of the freest, deepest, most life-like bass I've heard this side of the ARC Reference 600, with such speed and precision that I even subjected myself to Rob Wasserman CDs. The bass is so luscious that you're tempted to disconnect the WATTs...

But then you feed it some vocals; this month I'm on a Temptations jag. Even though I wanted to lock the whucka-whucka guitars on 'Cloud 9' into A-B repeat mode — this amp could have Marshall

emblazoned on it — I headed for 'Papa Was A Rolling Stone' to hear high vocals floating over low. I have no idea what Candy listened to as a kid, but I bet he heard more than his share of Motown. The Halcro delivers all of the textures and nuances with the flair of a Radford STA25, but with reserves of grunt which no brace of EL34s can, alas, muster.

It loved the Wilson WATT/Puppies, and a few minutes with the Apogees showed it to be oblivious to loads. Quad electrostatics? No sizzle, no sting, and a dose of control which had me fantasising about how these would sound in the SME Music Room. I understand now why the importer hated to part with this pair even for a miserly week.

Yeah, I'm glad I didn't look at the reviews, or pay too much attention to the stories about the '***** stunning amp from Downunder'. It's so good that the £20,750 seems a veritable snip. So, here's another amp to add to KK's Dream Lottery Win list, alongside the Marantz Project T1 and the ARC Ref 600. And to think that DTS uses nine of 'em plus five dm68s for multi-channel... 

TECHNOLOGY: HERE WE GO, BACK TO 1972!

Halcro has tossed out phrases like 'The Only Amplifier In The World To Challenge A Theoretical Limit' and 'Unprecedented Harmonic Distortion Levels Of Less Than 1000 Parts Per Billion'. Their claim is based on the notion that it has taken the typical audio manufacturer 50 years to reduce distortion at 20kHz from 0.1% to 0.01%. 'Now, with a single revolutionary technological advancement, Halcro has reduced distortion to less than 0.0001%.' To put this 'parts per billion' business into context, and using the results of intensive testing at Adelaide University for verification, Halcro can claim to produce amplifiers with distortion of less than 1000 parts per billion at full power (the aforementioned 0.0001%), while typical high quality amplifiers produce 200,000 parts per billion. Reading through the bumf, there's even mention of the dm68 measuring at 99 parts per billion. (That larger model sells at £27,500 per pair, by the way.)

We are, of course, talking about vanishingly low distortion which would have had Japanese spec-warriors soiling their company smocks 30 years, and yet most of us are still sceptical about the numbers game. But *something* has to account for the Halcro amplifier producing such clean, open, natural sounds...