

Halcro

Eclipse Mono

Listening is all that matters

text | Chung Kai Yuen George



Halcro was re-introduced to Hong Kong by “Voyage Audio Limited”. Although Halcro has retained its vertical H-shaped design language that broke tradition some 20 years ago, every part of the new model has actually undergone substantial levels of enhancement, both inside and out.

The new generation of Halcro retains a strong link with the past. Halcro’s lead engineer, Lance Hewitt, developed all of the previous dm-series amplifiers with inventor, Bruce Candy and leads the new development effort. The new, small team is more aggressively focused on musical expression than the original company. Fastidious consideration has been paid to every element of the unique technology and no detail was too small for the team’s attention.

Halcro’s new Eclipse series is more integrated than ever before. The Eclipse has a new level of musical expression, so although this amplifier is visually similar to the previous dm88, in fact there are improvements in almost every aspect of the design.

The Halcro Eclipse Mono is distributed by “Voyage Audio Limited”. Their main demonstration room houses the Eclipse Mono driving a pair of Duntech speakers, also from Australia, with CFM’s top of the range Melodious sterling silver cables in AOS+5 spec (optimization shielding technology). This is a wonderfully complementary system.

Make a new start

Halcro Eclipse is available in both mono and stereo versions. “Voyage Audio Limited” is currently using their mono amplifiers for demonstration. The Eclipse Mono is visually reminiscent of the previous dm88 amplifier and evokes memories of the

original design. No matter what the company representatives said, no matter how much refinement was made, there is no getting past the visual link with the past. The new cases are a titanium grey colour, very different from the old silver-grey of the originals. An in-depth anatomical study of the Eclipse Mono body is not enough to determine whether the Eclipse Mono is a refurbishment of the old machine or something quite new without a thorough listening test. Therefore, we must listen first and discuss other details later!

Eclipse Mono - First impressions

The performance of the new Eclipse Mono is quite unexpected - a revelation. I felt a sense of dizzy excitement and slight drunkenness like a sip of Mexican tequila as soon as I heard the first few notes. What surprised me is that Halcro Eclipse Mono presented in a very fine transparent, crystalline way and feature a beautiful shimmer sound as usual. The fresh and refined temperament remains, but the natural way that it reveals the instruments and the expressiveness, nuance and subtle charm are completely different from my memories of Halcro amplifiers. Halcro’s unique clarity and presentation of the world remains as beautiful as it used to be, but the dynamics, the soundstage, the expression of the Eclipse Mono are all so unexpectedly refreshing that it makes the old version of Halcro inferior in terms of the layering and texture of the musical performance. The previous generation of Halcro amplifiers were more than exciting and refined, but by comparison, they lack the ecstasy and expression of the Eclipse Mono. It is abundantly clear that today’s Eclipse Mono has been ingeniously re-engineered. The new team painstakingly explored every aspect of the original design.



Dr. Peter Foster, current CEO of Halcro, explains the various changes in Eclipse Mono’s innovation.



Michael Kirkham is currently Sales and Marketing Manager.

Specification:

■ Output: 300W(8Ω)/550W(4Ω) ■ Frequency response: 3Hz-215kHz (-3dB/1W) ■ Total harmonic distortion: <-126dB ■ Size: 790x400x400mm (H x W x D) ■ Weight: 55kg

The old Halcro was crystal clear and transparent. If any criticism could be made, perhaps it was too pure! The performance of the Halcro Eclipse has taken a massive emotional stride into a new realm.

With the power of rolling thunder

The Eclipse Mono with independent left and right channel towers combined with the Jeff Rowland preamplifier replays all types of music freely and effortlessly. Nothing is too difficult for it. Whether it is a real instrument or an electronic synthesizer, everything is outstanding. Instruments have the right scale and tone. The Eclipse reproduces the natural resonances of the instruments exquisitely while the ultra-low frequencies are even more exciting – tight, controlled, delicate and powerful.

After listening carefully to many different styles of music, I decided to try Chinese music. To my delight, I found that the Eclipse Mono excels at immersing you in the intricacies and nuances of East Asian music and in particular resolving the delicacy of these unique instruments. This really demonstrates the capabilities and strengths of the new Halcro. Many Chinese musical works feature the pipa (a four stringed, pear shaped lute) and the erhu (a two stringed, three octave violin). The fidelity with which the Eclipse Mono reproduces these instruments is amazing. The degree of realism is astonishing. The dynamic contrast between subtle and powerful notes within a score is breathtaking and conveys emotion like nothing else. The positioning, size and scale of the instruments within the endless



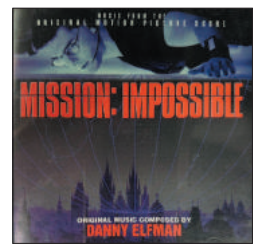
and deep three-dimensional soundstage is impeccable. Musical expression is second to none, the musicians seem to be as lifelike as they are playing in front of you.

This Australian amplifier's reproduction of Japanese Oni Taikoza drum stand is equally brilliant. The 《Fujiyama/Ondekoza》 really touches your soul. After a series of heavy blows by the bass drum I was ready to surrender. The 《Mikuni》 recorded on 《Fujiyama/Ondekoza》 is particularly representative of the immense power of the ultra-low frequency bass drum as it frequently and vigorously resonates deeply within your heart. This is accompanied by waves of feverish excitement from the toms and snare drums beside it. The overall low frequency energy builds to a dynamic crescendo of heart-pounding excitement - like the thrill of rolling thunder. Among all of this excitement, the small flute held its place, penetrating the thunderous sky with its clear and beautiful tone, penetrating the clouds but with no trace of ear-piercing disharmony. Perfect balance, scale and proportion. Then there is the performance of the shamisen, a three-stringed traditional Japanese instrument. The smooth, natural and energetic performance sparkled through the solid and vigorous, bouncing drums. The Halcro Eclipse Mono effortlessly drives Duntech's innovative Princess speakers and creating an amazing, awe-inspiring atmosphere. It is astonishingly good. Zhang used multiple super microphones to record each of the musical instruments with the legendary Studer A-820 analog recorder in high-speed 30ips (76cm/sec) mode. The sonorous result with 《Fujiyama/Ondekoza》 is worth all the effort. The earth-shattering force is breathtaking!



The majestic atmosphere is flawless

The outstanding and powerful reproduction of Halcro Eclipse Mono is ideal for creating the dramatic atmosphere demanded by big-budget, blockbuster movie soundtracks. The soundtrack's impact in 《Mission Impossible》 and 《Avengers》 cannot be overstated. In creating a dramatic landscape, the Eclipse is faultless. It delivers powerful transients and a wonderful sense of scale, all without losing the sense of music.



The flawless expression of the Eclipse Mono, which accentuates without colouration, is also extraordinary when playing a range of Western classical masterpieces. The content, volume and physical extent of an orchestra is often difficult to reproduce. Here it is harmoniously reproduced without compression of either musical content or soundstage. Of particular note is that the Eclipse faithfully locates each instrument in the soundstage

but more importantly it does not embellish or add anything to the music that shouldn't be there. Moreover, each instrument is at once isolated and at the same time seamlessly integrated. The natural and uncoloured musical expression is courageous, powerful and elegant.

Playing Carol Kidd's <When I Dream> the Eclipse Mono delivers all of the emotion and alluring power that Halcro lacked in the past. This is more than a simple upgrade. It is a thorough and careful redesign. The sound of the Eclipse Mono is no longer the somewhat thin transparency of the previous Halcro. The rich, delicate and even flirtatious texture of female vocals are beguiling. While the essence of Bruce Candy's remarkable design remains, the ingenious and meticulous improvements embodied in the Eclipse have made the brand-new Halcro even more extraordinary. The Eclipse Mono has clearly stepped into another realm!



Strong foundations — the power supply

Halcro entered the audio market 20 years ago with ultra-low distortion Hi-End specifications. I must admit to being very skeptical about the possibility that an amplifier with a sound purity of 99.9998% could be further improved. However, actually listening to the Eclipse you realise that Halcro has indeed raised the bar again. The performance has significantly improved

– it is more musical but without any pretense. The Eclipse is more truthful, more faithful to the music. But how does one fine tune an amplifier that is already the most sophisticated instrument available? The previous Halcro only measured 0.0002% distortion. This Halcro makes almost perfect use of its unique UPFC (Universal Power Factor Corrected Power Supply) delivering ultra-low noise from its dual-switched system.

So what is this UPFC power supply? Halcro pioneered a unique audio power supply that has two cascaded power supplies. The first is used for power factor correction and the second is used to provide the pure, noise-free and accurate DC voltage used for the amplifying circuit. A conventional power supply distorts the current waveform drawn from the mains but Halcro's input current is in phase with the mains voltage. This is the first step in creating a pure and stable power supply that allows the rest of the circuitry to create the beautiful, transparent Halcro voice which is as clear as a mirror. The entire revolutionary UPFC switching power supply architecture has been upgraded in the Eclipse with a meticulous research and development program and use of the latest professional-grade parts. New four-layer printed circuits and extensive shielding combine to greatly reduce electromagnetic interference and at the same time enhance the voltage transient speed. The power supply efficiency and reliability are both comprehensively improved.

A passion to Innovate

The team who developed the new Halcro Eclipse is passionate about their craft. They believe that when distortion is reduced to



these negligible levels you reveal a subtle interplay between components that can have a profound effect on the ultimate performance, even when the specifications and values of those electronic components are the same. They spent countless hours and many iterations of the design choosing suitable parts for the Eclipse Mono. They were more focused on listening. The result is an amplifier delivering an incredible mix of passion and delicate balance but without imparting colouration or personality. As an example the total filter capacitance in certain sections of the power supply may be unchanged, but the number, size and type of capacitors are different. This reduces the Eclipse Mono's already low ESR (Equivalent Series Resistance) impedance and makes the transient response extremely fast, while the dynamic contrast adds layers of texture with an amazing sense of light and shade. The delicate audio circuitry and the power supply system are also completely independent. They are each housed in their own physically separate, heavily shielded, solid enclosures. Multiple layers of shielding are employed in each sensitive circuit to reduce interference due to stray magnetic fields and eddy currents lowering the noise floor and further reducing nonlinear distortion.

The highest quality parts matched with precision design

In order to reduce electromagnetic interference and improve stability of reference voltages the audio circuit also uses a six-layer printed circuit board, highly linear resistors and various types of low ESR polypropylene capacitors such as MKP10 and FKP1 types. The main electrolytic storage capacitors are rated to 105° C ensuring extended operational life. In addition, the layout of the amplifier circuitry is different from the previous Halcro and the interconnection between different circuit blocks has been comprehensively improved. The audio circuitry is further improved to shorten the signal path and eliminate different kind of interference. Circuits that are particularly sensitive are also cleverly arranged away from other components to reduce interference and lower the noise floor. The input stage is a completely new design resulting in a lower, more revealing noise floor, lower distortion and wider bandwidth. Higher specification components are used throughout the power amplifier circuitry and shielding has been increased around sensitive areas of the circuit. It is no wonder then that the Eclipse Mono plays a huge orchestra with such intense energy, that it delivers the blockbuster movie soundtrack with the breathtaking power to shatter mountains and that it can equally paint exquisite sketches that bloom with fascinating bursts of moving colour – it can make you dizzy with excitement. The efforts of this new team are not in vain.

Multiple protection circuits

Halcro Eclipse uses a unique switching power supply, but its output stage is a bank of power FETs. The speaker terminals are equipped with a large gold-plated copper output coil and the extremely low output impedance allows the Halcro Eclipse to drive the speaker with power and finesse. The parts are all audio-grade with industrial-grade temperature ratings - stable and durable.

Even the seemingly unchanged H-shaped aluminum metal chassis has been specially strengthened. The modern, re-designed chassis is now machined from 10mm thick aluminum plate, which makes the whole machine more rigid. The power supply and audio circuits are better sealed and effectively eliminate problems that arise from airborne vibrations. The changes are many but I believe the only constant between the dm88 and the new Eclipse is the multi-protection system. There are more than ten types of precision protection devices monitoring the system to ensure that this break-through amplifier is always working normally. The power supply system uses two independent master clock error sensing circuits and each of the critical circuits are equipped with their own custom, advanced detection functions. Fundamental protection such as short circuit and current overload protection is naturally included, ensuring that the Halcro Eclipse Mono works properly at all times and the wonderful music lasts forever!

Summary

The new Halcro Eclipse Mono is meticulously improved in every detail. In addition to keeping the distortion at an unbelievably low and almost immeasurable level, the new team at Halcro has invested their passion into this new product. Now it has a sense of emotion and musicality that it did not have before. They have achieved their dream. The machined and polished solid wooden feet are also specially equipped to receive metal ball or spiked inserts at the bottom. This will allow the 55kg Eclipse Mono to be more solidly grounded, removing the last possibility of vibration induced colouration. There is no doubt that the Halcro Eclipse Mono sweeps away all the minor flaws of its predecessor. Since the Eclipse Mono is nearly perfect, nitpicking is just a waste of time. 🎧



The Halcro Eclipse Mono completely refreshed me

Voyage Audio Limited Demonstration

text | Lincoln Cheng

Recently, George and I visited the headquarters of "Voyage Audio Limited" in Kowloon Bay. The director, Calvin, has a well-equipped 450-square-foot audition room equipped with an array of high-end audio equipment. In addition to the CFM cables and grounding system developed by Calvin, there are two Australian audio brands he represents - Halcro's next generation Eclipse Mono power amplifiers driving Duntech's innovative Princess loudspeaker.

Seeing the twin towers of the Eclipse Mono next to the Princess stirred happy memories from more than ten years ago because they have a very similar appearance to the Halcro dm68

that I once owned. When it was released to the market the dm68 had the lowest total harmonic distortion specification in the history of audio (less than 200 parts per billion, or <math><0.00002\%</math>). Halcro became legendary in the audio industry immediately after its release at CES and after a detailed audition I decided to buy a pair.

The dm68 were central to many enjoyable listening experiences over the years so it is with great anticipation that I arrived today at "Voyage Audio Limited". I have to admire Calvin's incomparable enthusiasm for audio - the matching of wires, the placement of the speakers and the mastery of the acoustic treatment of his listening room - because the sonic landscape revealed from my position in the emperor's seat was absolutely lifelike. Halcro has clearly invested a significant research and development effort in the new Eclipse Mono. It is vastly superior to the old dm68. The tranquillity, speed, precision, enormous reserves of power, incredible control and the powerful presence of this pair are obviously far superior to the dm68 in my memory. There is nothing cold or harsh about the Eclipse Mono. It has a mellow, relaxed sound and is incredibly engaging, but you won't for a moment think it is a tube amp. Its dynamic contrast is a revelation, transients are exceptionally fast, the sound is clean and tight and there is abundant power!



Playing Chinese music, the lament of the erhu, the push and pull of the bow, and the resonance and overtones of the snakeskin stretched across the body are all so vibrant. When I played Carol Kidd's <i>When I Dream</i>, I was moved by the presence of the performance, the guitar was clearly and three-dimensionally positioned within the soundstage. This amplifier delivers a true interpretation of the human voice. The detail, restraint, nuance and the sincere expression of emotion touched me. Play <i>Mikuni</i> recorded on the <i>Fujiyama/Ondekoza</i> CD Disc. The powerful playing of the small flute soars into the clouds. The dynamic and powerful resonance of the shamisen, the intensive percussion of the snare drum and the powerful vivid attack of the bass drum makes the palms sweaty.

Above all the combination of Halcro and Duntech is calm, assured and silky. It is amazing! 🎧

