

Musical Fidelity MX-HPA

Claiming ‘ultimate’ performance, Musical Fidelity joins the balanced brigade with this slick and compact headphone amplifier – the first model in a new ‘MX’ range
 Review: **Steve Harris** Lab: **Paul Miller**

Anyone who listens seriously on headphones at home must eventually discover the limitations of a computer headphone output, or, if they are still using one, an old-style hi-fi integrated with headphone amp built in. So the boom in headphone listening has brought a big wave of dedicated headphone amplifiers. Musical Fidelity has already come up with more than one solution in this field, but its most ambitious model yet is the still-affordable £599 MX-HPA reviewed here.

In fact the MX-HPA is the first model in a new series. MF’s slogan for the MX range is ‘High-end in sound, small footprint’, and the MX-HPA is certainly a lot smaller and slimmer than the well-known M1-HPA or its recent successor, the M1-HPAP.

At the same time, this ‘ultra performance headphone amp’ naturally aims a lot higher than the budget V90-HPA [HFN Jan ’14]. According to Musical Fidelity, the MX-HPA is significantly more powerful than its budget sibling even though its ‘1.8W/8ohm’ specification is not directly comparable with the 32ohm rating often quoted by competitors.

FULLY BALANCED OPERATION

Power is only a small part of the story, of course, but even though the little V90-HPA’s output will be more than enough in practice, experience suggests that more power capability does make for better sound. But now we come to the MX-HPA’s main special feature, which is fully-balanced operation.

Most domestic audio equipment uses unbalanced or ‘single-ended’ connections between units, typically using RCA phonos, which mean that one of the two conductors carrying the audio signal is connected to the chassis or ‘ground’.

In balanced working, the two signal connections are both independent

of the chassis ground. Using a three-pin connector for each channel allows for a separate screen around the two conductors in the cable, and this is connected to ground.

Balanced operation was long-established in the pro world before it was taken up in high-end audio, because it allows the use of very long cables without interference or loss. Balanced pre- and power amplifiers have been commonplace for decades now, but more recently there have been moves to adopt a balanced connection for domestic headphones.

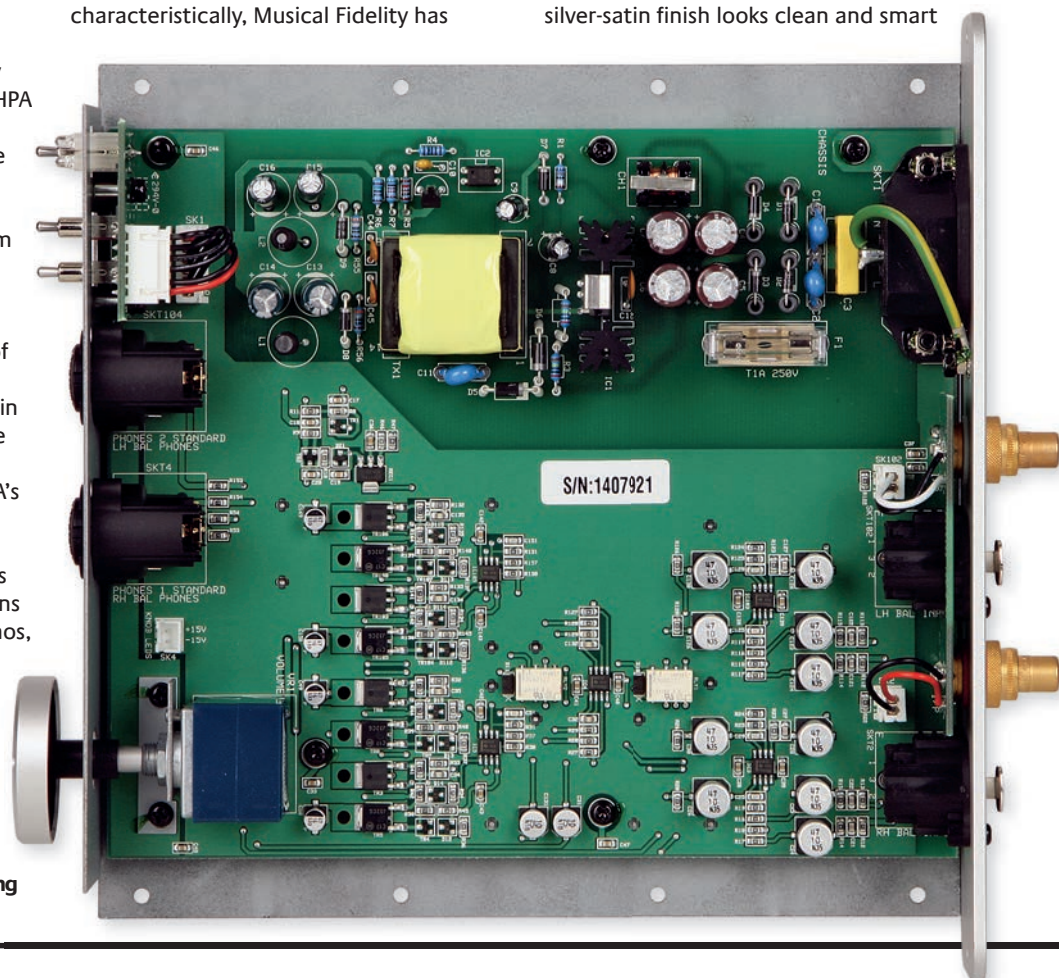
It seems that from a technical point of view, the benefits may not be clear-cut, as KH explained in his review of the Auralic Taurus MkII [HFN Jan ’15]. But characteristically, Musical Fidelity has

spotted the trend and fearlessly acted upon it. Unfortunately, perhaps, the twin-XLR option provided by the MX-HPA isn’t the only way of doing it [see boxout].

However, Musical Fidelity boss Antony Michaelson has mentioned that there may be another product soon featuring the alternative 4-pin balanced connection. (While Musical Fidelity will soon be releasing its own balanced headphones, the new MF200s are not equipped with balanced cables.)

MX’S CLEAN STYLING

You can’t fault the fit and finish of finish of the MX-HPA, as it gives every appearance of solid build and high-quality construction. That eye-catching crystalline-textured silver-satin finish looks clean and smart



RIGHT: Driven via a compact, low-noise switchmode PSU, the heart of the MX-HPA is a fully balanced Class A preamplifier offering an overall gain of x8 or x15



and doesn't seem susceptible to finger-marking. As a styling feature, a sort of double facet in the front panel emphasises the large volume knob.

Even so, the fascia is dominated as much by the two headphone output sockets, bigger than the usual 1/4in (6.35mm) headphone jack. These two sockets have a dual functionality because each of them can accept either a standard 1/4in jack plug, or a 3-pin XLR.

For balanced operation, if you have a pair of headphones equipped with separate 3-pin XLR connectors for the left and right channel, you will use both sockets for one pair of headphones. More usually, though, when using the ordinary (unbalanced) 1/4in connection, these same two sockets provide stereo outputs for two pairs of headphones.

There's no need to switch between balanced and unbalanced output operation, as the sockets will make the appropriate connection depending on which plug you insert.

Next to those big sockets are three neat little toggle switches. One of these is a gain setting switch, providing a gain boost

if required when using higher-impedance headphones. This operates on both output sockets, so although the MX-HPA will cater for two listeners at once, it doesn't provide independent control of gain setting.

As the MX-HPA caters for balanced inputs too, the back panel carries a pair of three-pin XLR sockets for L/R channels, as well as the usual RCA phono sockets for unbalanced sources. Another of the small toggle switches on the front selects

balanced or unbalanced input mode.

For this review Musical Fidelity kindly loaned a pair of its MF-100 headphones, and while I feel these are great value for

money, I did most of my listening with the truly excellent Sennheiser HD 650s. These have been on the market unchanged for many years now, but they are still a reference in their price category.

ORGANIC PRESENTATION

With the HD 650s, the sound via the MX-HPA was enveloping and also full of textured detail. On a well-produced album, you would hear instruments and voices growing organically out of the ambience. For me, it was this aspect that really set the

'There's a sense of ease which makes the music totally absorbing'

A BALANCED MARKET?

If you've yet to hear a pair of headphones using balanced wiring, don't worry as you're in the majority. Almost all headphones still use the standard (unbalanced) 1/4in stereo jack connector, with an adapter to fit the mini-jack socket on most computer and portable devices. But since the US specialist company Headroom launched its Blockhead balanced headphone amplifier back in 2001, other specialists have followed suit, also offering to rewire existing 'phones with two three-pin XLR connectors. But despite their enthusiasm, there are few commercially-available headphones using this connection format. You can buy a balanced headphone amplifier and headphones from Oppo, for example, but this uses the simpler option of a single 4-pin Neutrik connector to give the necessary separated conductors for the left and right channels. Sennheiser also went for a 4-pin balanced connector on its HDVD 800 headphone amplifier, and has offered suitable balanced cables for its upper-range models. Essentially, there's still no industry standard for balanced headphone connections.

ABOVE: A reassuringly 'analogue' volume control governs the output from two 'combo' XLR/6.35mm headphone sockets. Gain and RCA/XLR inputs are switched via toggles

MX-HPA such a big cut above the couple of lower-cost headphone amplifiers I initially compared it with. I also felt that with the MX-HPA the Sennheisers gave a feeling of effortless bass power when the recording called for it, and offered more sheer bass extension than I would have expected.

If you wanted to relax with lush orchestration and romantic vocals, the MX-HPA could really deliver. When I put on 'Say It Over And Over Again' from Diane Panton's *Red* [Inakustik INAK 9129 CD], the whole package was put over beautifully. The singer was close-up and intimate, complete with her delicate Stacey Kent-like vibrato and endearingly nasal nuances.

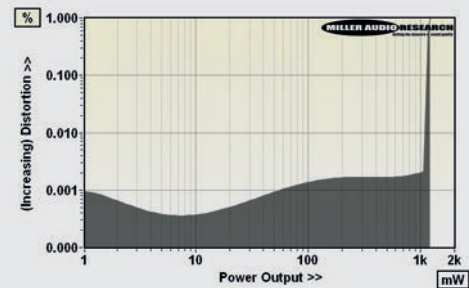
Patricia Barber's *The Cole Porter Mix* [Blue Note 50999 5 01468 2 6] includes one of the songs covered by Panton: 'You're The Top', although her version could hardly be more different. On Barber's own song 'Snow', which starts just with voice and piano, her voice is presented naked and free of any artifice, and I could only marvel at the subtlety and mastery of harmony and dynamics in her deceptively simple piano accompaniment. Listening to the whole album with the MX-HPA brought a fresh appreciation of Barber's individuality and the rapport she has with her tight-knit group.

With a beautifully-produced album like Eric Bibb's *Get Onboard* [Telarc CD-83675], the MX-HPA could give a truly natural, satisfying sound, with a deep and richly-populated soundstage around the head. As usual, Bibb creates different instrumental colours for each song, starting with the combination of spooky gospel choir and grungy guitar on 'Spirit I Am.' On every track you would appreciate the little extras that help tell the story in an appealing way, from the distant slide guitar on 'Promised Land' to the muted harmonica, electric piano, clarinet and banjo that sneak in ➔

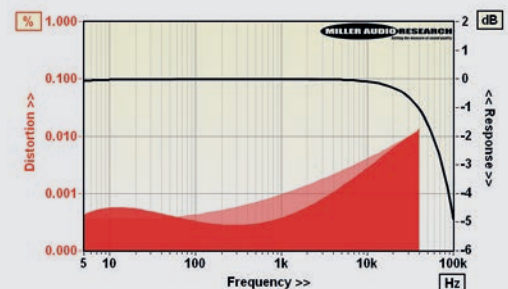
MUSICAL FIDELITY MX-HPA

We may have uncovered some 'over-specification' in the power output of Musical Fidelity's lower-cost V90-HPA [*HFN* Jan '14] but the fully-balanced MX-HPA tested here realises a far more realistic – and capable – technical performance. There are two gain settings, notionally +18dB and +24dB, that equate to +7.7dB and +13.7dB respectively when driven balanced XLR in/single-ended 6.35mm out. The maximum voltage output is 9.3V, available for the highest impedance 'phones, while the maximum power output into our standard 25ohm load (representative of the 'average' headphone) is a sharply defined 1.22W [see Graph 1, below]. Incidentally, there is no appreciable variation in maximum power output, S/N or output impedance between the low and high gain settings.

Output impedance is moderate at 3.5-4ohm (20Hz-20kHz), equivalent to a loss of about 1dB into 25ohm and still high enough to cause response variations with some low impedance 'phones, but the A-wtd S/N ratio remains extremely wide at 99dB (re. 0dBV). The default response is deeply extended into the subsonic (-0.1dB/5Hz) and very gently, but sensibly, rolled-off to -0.3dB/20kHz and -4.9dB/100kHz. Channel balance is within 0.2dB while separation declines with frequency from 93dB/20Hz to 66dB/1kHz and 39dB/20kHz. Distortion is fabulously low and only slightly affected by loading, increasing from 0.0002%/10kohm to 0.0009%/25ohm at 1kHz (both at 1V output) – significantly lower than achievable by any current headphones, of course [see Graph 2, below]. Readers may view a comprehensive QC Suite test report for Musical Fidelity's MX-HPA headphone preamp by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Continuous power output versus distortion up to 1% THD into 25ohm 'headphone' load



ABOVE: Frequency response (black) from 5Hz-100kHz into 25ohm and distortion versus frequency (red, 1V; shaded, 40mW) from 5Hz-40kHz

HI-FI NEWS SPECIFICATIONS

Maximum output (re. 1% THD into 47kohm)	9.3V
Max. power output (re. 1% THD into 25ohm)	1.215mW
Output impedance (20Hz-20kHz)	3.58-4.05ohm
Maximum gain	+13.7dB (High gain mode)
A-wtd S/N ratio (re. 0dBV)	98.6dB
Frequency response (20Hz-20kHz/25ohm)	+0.00dB to -0.33dB
Distortion (20Hz-20kHz, re. 40mW)	0.00035-0.0065%
Power consumption	5W (<1W standby)
Dimensions (WHD) / Weight	220x53x240mm / 2.2kg



ABOVE: This is an analogue-only preamp so there are just two line-level inputs available – these on RCA (singled-ended) and XLR (balanced) connections

to build up Bibb's mythical band in 'New Beale Street Blues'.

Moving on to orchestral music, the MX-HPA could present big, sweeping sounds without losing inner detail and texture. Playing the 2003 LSO/Haitink recording of Brahms' Symphony No 1 [LSO Live LSO0045], I found myself irresistibly carried along as the first movement unfolded at its inexorably measured pace, set out at first by the insistent timpani, which possessed their full dramatic weight.

There was a really admirable clarity in the instrumental timbres of strings and woodwinds too. In the magical third movement, the clarinet, and then the other wind instruments which take up the theme, were beautifully poised against the strings and there was a sense of ease about the sound which made the music totally absorbing.

With Mitsuko Uchida's Debussy *Études* [Philips 422 412-2] the sound of her piano was precise and convincing, with a comfortable image spreading above my head and the torrents of notes sometimes dazzling but always clean and clear. The low registers were weighty and solid, while the ambience of the Snape Maltings was felt as much as heard until a pause after a loud passage would let you clearly hear the echoes coming back.

I don't think you could accuse the MX-HPA of being over-warm or soft around the edges, but with the well-balanced Sennheiser HD 650s it would often bring out the warmth and tenderness in the music. A great example was Georgie Fame's *Lost In A Lover's Dream* [Three Line Whip TLW009], a gentle, jazzy album recorded in Slovenia with just two musicians. He gets perfect support from Primož Grašič's lush, full guitar and Mario Mavrin's solid, spot-on electric bass lines, which showed that the MX-HPA could really get the HD 650s to go deep.

With this simple line-up, Fame's voice is totally exposed, especially

on headphones, and on the MX-HPA you could appreciate every detail, every breath sound, and above all, realise what a commanding, musical performer he is.

CATCHING EVERY DETAIL

Many 1950s jazz classics are recorded with a very left-right kind of stereo picture, and of course this actually suits headphone listening quite well. With *Art Pepper Meets The Rhythm Section* [Contemporary 0025218633826], I was impressed by the way the combination captured the beauty of Pepper's alto sax sound, full and gutsy in the lower register, smooth and almost creamy in the high notes – and once you started obsessing about the detail you could tune in to what remained just a very slight reverberation and an occasional slight sense of ringing from the microphone.

While Pepper is placed to the left, the famous rhythm team are grouped on the right. But pianist, bassist and drummer all clearly inhabited their own spaces, with Garland's piano farther out to the left than Chambers's full-bodied bass, and Jones's always snappy drums placed firmly at the rear three-quarter position. His cymbal sound was just great, and so, in fact, was the whole thing. ☺

HI-FI NEWS VERDICT

Competitors in this price range include amps with built-in DACs, including Musical Fidelity's own. But the compact MX-HPA sounds refined, engaging, silky-smooth but not soft or over-warm, and with a notably fine bass. Even if the balanced option is an attempt at future-proofing rather than a useful option for now, the MX-HPA really does provide great sound for the money and is heartily recommended.

Sound Quality: 83%

