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# iFi Audio Retro music system

by Chris Martens

A spin-off from the well-regarded British high-end audio company Abingdon Music Research, in a few short years iFi has earned a reputation for building affordable, palm-sized components whose room-filling sound belies their modest size. Given this, perhaps the last thing we might have expected would be something like the firm's new Retro music system—a system that is thoroughly contemporary yet conceived as a fond homage to an earlier period in the evolution of high-end audio.

At the heart of the system is the Retro Stereo 50, a full-sized valve-powered headphone amp/integrated amp with a built-in MM/MC phono stage, plus a high-resolution, multi-input, PCM/DXD/DSD-capable DAC. The Retro Stereo 50 is the first integrated amp iFi has ever offered. Apropos its name, the Retro Stereo 50 features a golden-hued faceplate whose appearance reminds us of classic Marantz integrated amps from the past. Adding to the retro theme, the Stereo 50 comes housed in an old-school-style cabinet artfully fashioned from laminated slabs of bamboo.

The Retro system also marks iFi's entry into another new product category: namely, mini-monitor-type loudspeakers. That's right: the Retro system comes with a pair of small, stand-mount, iFi-designed mini-monitors called the Retro LS3.5s, which are, in spirit if not in terms of actual frequency response curves, a modern-day take on the concept of the classic BBC LS3/5a monitors of yesteryear.

The LS3.5s are a two-way design with slot-loaded, P.G.A.H. Voigt-tuned enclosures. The speaker features wide-bandwidth, 115mm, lightweight treated paper-cone mid-bass drivers that operate as full-range transducers whose output is supplemented by a 28mm silk-dome 'super tweeter'. The enclosures of the LS3.5s are, like the case of the Retro Stereo 50, made of laminated bamboo, meaning that the Retro system's amp and speakers make for a very handsome trio indeed. The total price of the system is \$1,999 in the US or £1,650 in the UK.

The Retro Stereo 50 amplifier is based on a quartet of EL84x valves and a pair ECF82 valves and is specified to provide 'music' power output of '25W + 25W', the majority of which, says iFi, results from Class A operation. The term 'music power output' indicates that iFi uses a somewhat

uncommon method of measuring and rating the Retro Stereo 50's power output. Rather than testing the amplifier as it drives load resistors on a test bench, iFi instead connects the Retro Stereo 50 to the LS3.5 speakers, plays music through the system at the highest levels possible without inducing audible distortion, then tracks the amplifier's actual voltage swings via a recording oscilloscope. Using this data, iFi calculates an estimated power output figure for the amplifier under real-world music playback conditions. Bandwidth is an impressive 10Hz – 60kHz, while distortion—as valve-type amplifiers go—is comparatively low: < 0.2% @ 2.83v.1W.

The Retro Stereo 50 headphone amplifier section is capable of a stout 7,000mW of output, making this hands down the most powerful headphone amp iFi Audio offers and one of the higher powered headphone amps available on today's market. The amp offers a 'Turbo' output optimised for normal and/or power hungry full-size headphones, and a 'Normal' output optimised for high-sensitivity headphones, earphones, or CIEMs.

The integrated amp is fitted with precision 'studio grade' bass and treble controls that offer  $\pm$  8dB of emphasis or de-emphasis at 100Hz or 10kHz, respectively. Tone control settings are precise and repeatable thanks to click-indexed control knobs that offer ten boost and ten cut settings each. Alternatively, users can remove the tone controls from the signal path by engaging a 'Direct Input' switch. In addition to tone controls, the Retro Stereo 50 also provides two other 'analogue sound processing' circuits: namely, the firm's 3D Holographic sound and XBass low-frequency enhancement systems.

The 3D Holographic system was initially developed for use with headphones, but iFi has since gone on to create a speaker-optimised version of the circuit. The Retro Stereo 50 actually includes both versions of the circuit, engaging the headphone version when headphones are connected, but engaging the speaker version of the circuit whenever headphones are not present. iFi recommends using the lower of its two 3D Holographic enhancement settings for 'Normal Use' when driving the LS3.5s, but recommends the higher-level 3D Holographic setting when the speakers are closely spaced (that is, less than 1.5M apart). Purists can, if they wish, switch off the 3D Holographic circuit altogether.



The XBass system, too, was initially created for use with headphones, but the circuit has also proven beneficial for use with small mini-monitors that might benefit from low frequency enhancement. In fact, the Retro system manual states that, "the IFI Retro LS3.5 speakers are designed with the XBass function of the Retro Stereo 50 as part of (their) overall frequency response..." Thus, IFI recommends applying the lower of its two XBass settings for 'Normal Use' with the LS3.5s, and the higher of the Xbass settings whenever the LS3.5s are stand-mounted. The XBass circuit can, of course, be disengaged at the flick of a switch.

The Retro Stereo 50's phono stage is based on IFI's successful Micro iPhono phono stage and offers three gain settings: 38, 50, and 62 dB. Moreover, by applying specific settings of the Retro Stereo 50's click-incremented tone controls, the phono section can dial up any of six possible phono EQ curves: RIAA, CCIR/Teldec, Columbia, Decca, DMM, and EMI (options rarely offered in integrated amps or phono stages at this price point).

The Retro Stereo 50's DAC section is based upon IFI's Micro iDSD DAC, but with a few minor changes, one of which involves the addition of an aptX Bluetooth connectivity option.

Like the Micro iDSD, the Retro Stereo 50 DAC can decode PCM and DXD files at resolutions up to 32-bit/768kHz, and can also decode DSD 64, 128, 256, and 512 files. Some might argue these ultra high-res capabilities are probably of more theoretical than practical benefit, since there are few (if any) commercial sources for 768kHz PCM or DSD 256/512 digital audio files. Nevertheless, it's comforting to know the Retro Stereo 50 is ready for whatever high-resolution developments the future might hold.

The DAC section provides multiple digital filter settings that, in the Retro Stereo 50, are automatically selected in response to the playback contexts at hand. For example, if the Retro Stereo 50 is fed PCM files with sampling rates between 44.1 – 192kHz it will automatically apply a minimum phase/minimum ringing digital filter; however, for PCM files with sampling rates at or above 352kHz a 'Bit-Perfect' filter will be applied. Similarly, a 'pure analogue, no-ringing filter' is engaged whenever DXD/DXDx2 or DSD files are played. IFI says these filters reduce listener fatigue while addressing "the perception of digital audio as 'aggressive' (owing to) the high-frequency ringing and distortion inherent to all standard digital filters and most digital playback systems."



▶ Last but not least, the system comes with a minimalist remote volume control, plus a surprisingly complete set of accessory cables and adapters. Literally everything you need to go from zero to a fully operational music system is contained within the system's two shipping cartons.

The Retro Stereo 50 is a very fine and highly versatile headphone amplifier, phono stage, and DAC. After all, how many amps can you name that have sufficient power to drive any dynamic-type headphone you could name, are quiet enough for use with sensitive earphones and CIEMs, include hyper-flexible high-resolution DACs, and phono stages that can support MM and MC cartridges and almost any phono EQ curve imaginable? In terms of versatility, the Retro Stereo 50 is without equal and it offers headphonistas a sound that is refined, highly expressive, and very muscular (but never 'muscle-bound').

iFi components have traditionally opted for a sound that conveys natural, 'organic' warmth and that also focuses upon the over-arching sweep and flow of the music. In other words, iFi components take a 'music first' approach to sound that stands in sharp contrast to those products that relentlessly pursue ever-increasing levels of detail and definition at the expense of all else. iFi components, much like AMR's upper-tier products, are all about revealing the coherent musical whole—not a spectacular, but ultimately disjointed-sounding collection of musical pieces and parts

Even so, I found that the Retro Stereo 50 stretches the traditional iFi performance envelope in several important areas—in the process providing a more satisfying and complete musical experience. While not 'analytical', the Retro Stereo 50 does a better and more capable job of resolving fine, low-level details and sonic textures than any other iFi components I've encountered to date. I found the Retro Stereo 50 not only revealed more layers of valuable low-level information than previous iFi models did, but it also captured a wealth of previously obscured reverberant and spatial cues in recordings with the result that the sound became markedly more coherent and three-dimensional. These jumps in performance were discernible both through high-quality headphones and through the LS3.5 monitors.

iFi components have long been famous for 'punching above their weight class', but I discovered that in a qualitative sense, the Retro Stereo 50 also raises the bar for iFi amplifier performance. I say this because the Stereo 50 exhibits certain exuberant qualities of fluidity and quicksilver grace as it plays, so that dynamic contrasts and shadings stand out in sharp, crisp relief, yet at the same time—and somewhat paradoxically—the amp sounds remarkably relaxed and at ease with itself. iFi says the Retro Stereo 50's circuit topology was inspired by classic valve-powered designs from Leak and others and it may be that the old masters knew a thing or two about capturing the essence of the music that we all would ▶

*“Other top-class systems can also perform this sort of 3D disappearing act, but how many of them cost comfortably less than £2,000?”*



▶ do well to remember. In any event, the Retro Stereo 50 offers more dynamic clout than any sane headphone listener could ever want, and also delivers ample power for purposes of driving the LS3.5 mini-monitors (assuming you don't try to play the little fellows at head-banger volume levels in a large room).

I did not have a chance to try the amp with speakers other than iFi's own, since many of the other speakers I have on hand (e.g., Magnepan 3.7i's) are terribly power-hungry and thus not a good match for the Retro Stereo 50. But even though the Retro Stereo 50 is not the most powerful general purpose integrated amplifier around, nor is it likely to wow enthusiasts with its test-bench prowess, it is wonderfully well-suited for its dual roles as a high-end headphone amp/DAC and as the ideal companion power plant for use with iFi's purpose-built LS3.5s.

To hear some of the qualities I've just mentioned, try listening to the Retro Stereo 50 on Marilyn Mazur's lavishly textured percussion opus *Elixir* [ECM] through a set of superb (but tricky-to-drive) headphones such as the Abyss AB-1266 planar magnetic headphones. What you'll hear is some of the most richly detailed, harmonically convincing, and dynamically explosive percussion-centred jazz around, played with consummate ease, expressiveness, power, and grace.

Similarly, put on most any recording known for its inherent three-dimensionality, such as Christopher Roberts' otherworldly, Asian-influenced *Last Cicada Singing* [Cold Blue] and listen through the Retro systems LS3.5 mini-monitors. What you'll hear is a huge (and hugely compelling) 3D soundstage that effectively makes the rear wall of the listening room melt away, leaving in its place the believable acoustics of the recording venue itself. Granted, other top class systems can also perform this sort of 3D disappearing act, but how many of them cost comfortably less than £2,000—amp, DAC, phonostage, speakers, and even cables included?

iFi isn't kidding around when it says the LS3.5 were voiced with the assumption that the amplifier's XBass system would be used to enhance (and balance) the speaker's low-frequency output. Run the speakers without XBass support and they will tend to sound thin, lightly balanced, and lacking in foundational bass weight and warmth. But switch on the appropriate XBass setting for your speaker placement scenario and the sound immediately becomes

better balanced, more fully 'grounded', and blessed with a just-right amount of engaging warmth. While the LS3.5s will never set any records for deep bass extension (nor would the original BBC L3C/5a's have done), the bass they do produce is taut, agile, and offers quite good pitch definition. The only thing you'll need to remember is that you really must use iFi's XBass system as recommended in the manual in order to make the magic happen with these speakers.

Two other beguiling aspects of the LS3.5s involve their unforced sonic purity and delicacy. I attribute these qualities in large part to iFi's choice to run the LS3.5's 4.5-inch wideband driver as a more or less full-range transducer, with the 1.1-inch silk-dome tweeter rolled in via a first order crossover very high up, so as to act as a super-tweeter. These design decisions mean several things. First, just one drive unit handles the bulk of the music (including fundamentals, plus most partials and harmonics), with no crossover network (or other drive units) getting in the way. Second, this configuration makes for an inherently phase coherent loudspeaker, which helps reinforce timbral purity and the overall sense of focus. Third, iFi has done its homework with its silk-dome tweeter, which sounds very fast, yet also uncannily smooth and delicate. This makes for a scenario where the tweeter is there when you need it (and beautifully so), but that otherwise stays out of the way.

Some readers have already asked if iFi will sell the Retro Stereo 50 as a standalone amp/DAC/phonostage for those who do not require loudspeakers. In the US, at least, iFi will offer the Retro Stereo 50 for \$1,495 and the LS3.5s monitors for \$795/pair, for those who wish to purchase the components separately. Obviously, though, the complete system's bundled price affords buyers considerable savings.

The more I used the Retro system, the better I liked it. In small-to-mid-size rooms it produced a pure, beautifully focussed, and intensely three-dimensional sound that would do many a costly and complex high-end system proud. But happily the Retro system isn't absurdly costly nor is it complex; in fact, it offers what DaVinci might have called the 'sophistication of simplicity'. Bring the Retro system home and, within minutes, you can be enjoying refined and engaging sound through the system's speakers or through your choice of high-performance headphones. +

## TECHNICAL SPECIFICATIONS

### IFI Retro LS3.5 mini-monitors

**Type:** 2-way, two-driver stand-mount monitor with P.G.A.H. Voigt-tuned enclosure with rear firing slot port

**Driver complement:** One 115mm wide bandwidth paper-coned quasi-full-range driver, one 28mm waveguide-loaded, silk dome 'super tweeter'

**Accessories:** Rubber anti-slip mats, silicon rubber decoupling feet, two sets of removable grilles (beige and black), silver-plated OFHC copper speaker cables with Teflon insulators

**Frequency response:** 59Hz – 20kHz

**Crossover frequency:** The wide-bandwidth driver operates full-range (from approximately 59Hz to 8kHz) and thus requires no crossover; the super tweeter rolls in at approximately 10kHz via first-order crossover

**Impedance:** 4 Ohms

**Sensitivity:** 90dB/2.83V/1M

**Dimensions (HxWxD):** 268 x 146 x 226mm

**Weight:** 3.5kg/each

**Finishes:** Laminated natural bamboo

**Price:** \$795/pair if purchased separately; special bundled pricing if purchased as part of the iFi Retro system

### IFI Retro Stereo 50 headphone amp/integrated amp/phonostage/DAC

**Type:** A valve-powered headphone amp, integrated amp, phonostage, and high-res DAC

**Valve Complement:** 2 x ECF82, 4 x EL84x

**Accessories:** Rubber anti-slip mats, USB cable, two stereo analogue signal cables (one with RCA jack, one with 3.5mm mini-jacks), coaxial/optical mini-jack-type digital audio adapter, screw-on Bluetooth antenna, power cord and low-noise wall-wart-type power module

**Analogue inputs:** One MM/MC phono input (via RCA jacks – also user-configurable as a general purpose single-ended analogue input), up three single-ended line-level inputs (via RCA jacks or 3.5mm jack)

**Digital inputs:** One S/PDIF (configurable as either a coaxial or optical input), one USB port, aptX Bluetooth

**Analogue outputs:** One 'Normal' headphone output (via 3.5mm jack), one 'Turbo' headphone output (via 6.35mm jack), 4 – 16 Ohm-compatible stereo speaker taps

**Supported sample rates:**

- Coaxial and optical S/PDIF: 16-bit, 24-bit — 192kHz
- USB: 16-bit, 24-bit, 32-bit — 768kHz, 2xDXD, DSD512

**Analogue Signal Processing:** Studio-grade tone controls, 3D Holographic sound, XBass low-frequency enhancement system

**Headphone Amplifier Power Output:** Up to 7,000mW

**Integrated Amplifier Power Output:** >25 Wpc "music power" into the LS3.5's 4 Ohm load

**Bandwidth:** 10Hz – 60kHz (frequency response, 10Hz – 80kHz)

**Distortion:** < 0.2% (@2.83V/1W)

**Signal to Noise Ratio:**

- Amplifier: >101dB
- MM Phonostage: >90dB
- MC Phonostage: >80dB

**DAC Dynamic Range:** >113dB

**Phonostage Gain:** 38, 50, or 62dB

**RIAA Accuracy:** <0.5dB

**Phono EQ Curves:** RIAA, CCIR 56/Teldec, Columbia, Decca (FFSS), RIAA (DMM), EMI.

**Dimensions (HxWxD):** 146 x 268 x 226mm

**Weight:** 5.8kg

**Price:** \$1,495 if purchased separately; special bundled pricing if purchased as part of the iFi Retro system

### IFI Retro System comprising the Retro Stereo 50 amp/DAC and Retro LS3.5 mini-monitors

**Price:** £1,650, or \$1,999 US

**Manufacturer Information:** iFi Audio

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