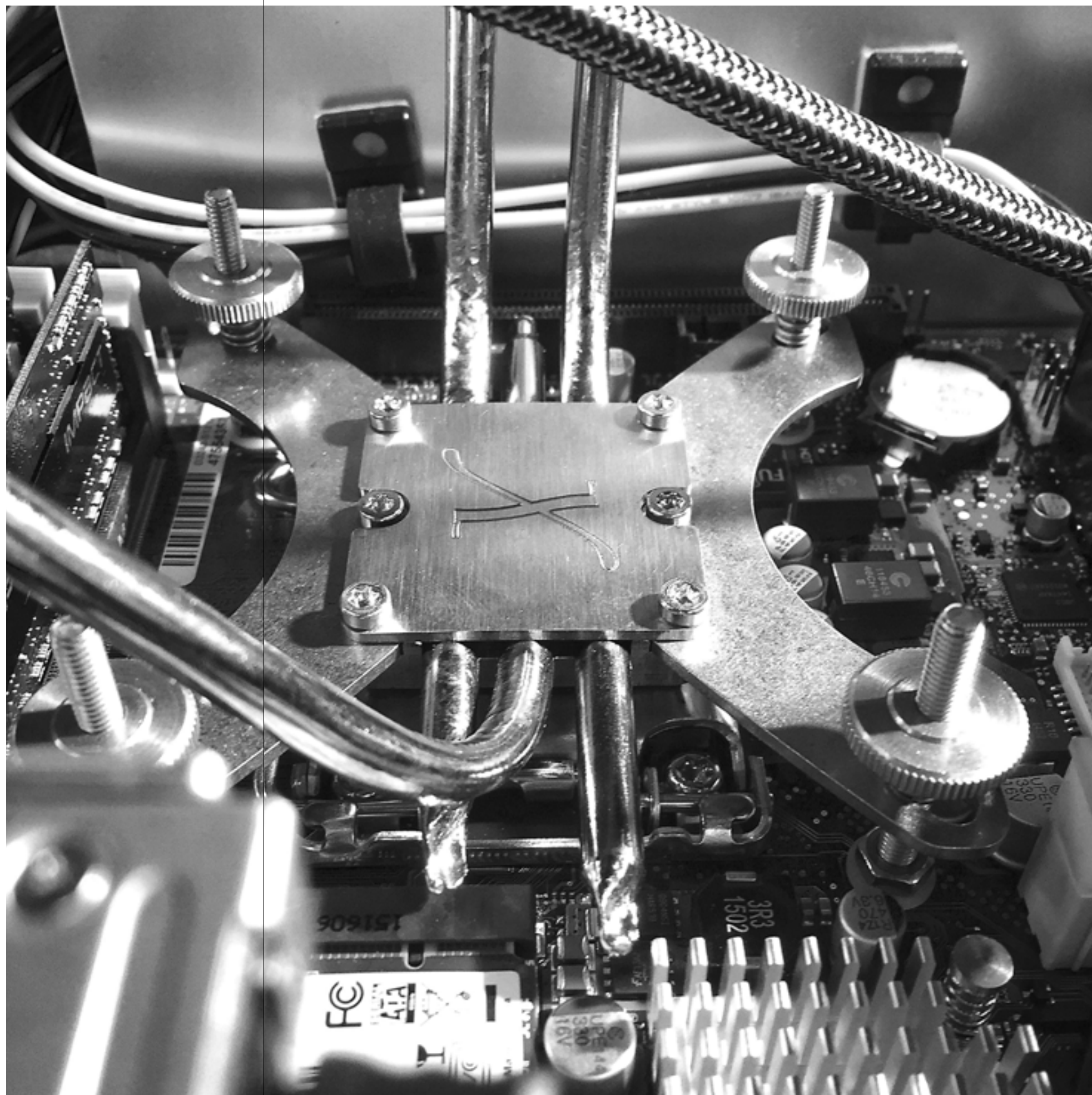# CHAR–ISMATIC HIGH-TECH HEAVY–WEIGHT

By Harald Wittig. Photos: Harald Wittig, Ingo Schulz

A newcomer to the scene, the xo|one is seeking to at-tract the attention of digital audiophiles—and has a long list of great arguments working in its favor.

▶

First and foremost, the xo|one is a music server that is capable of storing music files on an internal storage device (of at least 1 TB in size).

The massive heat sink fins ensure temperatures remain at an optimum level and permit almost completely silent operation.

CDs are ripped automatically and with high precision.

— Christof Poschadel is the mastermind behind x-odos, a relatively new company based in the German city of Freiburg. His primary goal is to create devices for digital audiophiles that correspond to cutting-edge standards. This is why the xo|one music server, the company's very first product, is designed to be controllable using an iPad or iPhone. No conventional remote control devices or control panels are provided. As the x-odos manager explains: "We did consider having a touchscreen initially, but this was quickly disregarded as too outdated. So the xo|one can be exclusively controlled via the network and our app". Although this app currently runs on Apple devices only, an Android version is already under development.

Unveiled at HIGH END in 2015, the version of xo|one we were able to test contained a number of modifications in comparison to the unit originally showcased at the fair. First and foremost, the xo|one is a music server that is capable of storing music files on an internal storage device (of at least 1 TB in size). The basic configuration with a 1 TB solid-state disk costs 6,000 euros, and you can choose between a silver, black or champagne-colored faceplate. According to Christof Poschadel, the champagne color is intended for "Accuphase fans". Although the device can handle music files from the network or external

storage devices, they need to have been stored on the internal hard disk before they can be played. The built-in drive looks like a normal CD player, but can be used exclusively for ripping music CDs. The xo|one has no digital-analog converter of its own, so you'll need a device of this kind before converting ones and zeros back into sound waves. Digital data can be output either in S/PDIF or—and this is an extremely recent addition—in the studio-level AES/EBU format. But development work at x-odos is ongoing in this area too. As Christof Poschadel explains: "We'll soon be able to provide a D/A converter as well—developed and manufactured in-house, of course. It'll be integrated into our upcoming streamer and also be available as a stand-alone device that can be added to our xo|one".

High-tech for hi-res

Let's move on to the test bundle we received, made up of xo|one, iPad and additional accessories, some of which were also brand new. After opening our package, we first took a good look at the music server itself—the star of the show. Weighing in at 14 kilos, the xo|one is a hefty yet elegant unit. Mainly responsible for this weight are the heavy heat

sink fins located on the left and right of the device and the faceplate of massive brushed aluminum. Although a music server is really a specialized type of computer, x-odos has decided against installing an active cooling system. Not wanting to spoil the musical enjoyment with noise from a fan, they decided to use passive cooling instead. The music files are stored on an internal solid-state drive (SSD), with our test server offering 1 TB of space. Unlike conventional hard disks, solid-state drives have no moving parts. This and the use of passive cooling means that the server operates almost completely silently. The SSD is used for storing music files only—the xo|one's operating system is located on a conventional hard disk.

Taking a critical look at the interior of the device, it becomes immediately clear that the server has been carefully assembled using high-quality components. The manufacturer has opted to install expensive, industry-grade mainboards, bringing long-term robustness and simplifying any necessary maintenance. The CD drive is on the right-hand side of the housing and can be used solely for bit-perfect ripping of CDs. The first xo|one models had TEAC drives, but our test device was equipped with one from Panasonic. "Both are equally good", explains Christof Poschadel. "Of these two drives, we install whichever

is more readily available at the time of manufacture. Each xo|one is built by hand, and every component is rigorously tested. We use only premium parts". CDs are ripped automatically. All you need to do is insert the CD into the slot. After the disc has been pulled in, the xo|one starts the ripping process, accompanied by a low humming sound. An album with 45 minutes of music takes around seven minutes to rip completely. The individual tracks are converted into the lossless FLAC format. These files require only a modest amount of disk space. According to the manufacturer, the 1 TB SSD can store up to 3,000 CDs. In the highest configuration level (with a 4 TB SSD, costing around 8,000 euros), the xo|one has room for some 12,000 albums.

A database for everyone

Neither network integration nor the operating app is necessary in order to rip CDs. However, this heavyweight from Freiburg has really been designed as a server for precise, bit-perfect and jitter-free digital music signals. Digital audiophiles use devices like this one to store and play what is known as hi-res music, i.e. high-resolution digital audio files. According to the accepted definition, this includes ▶

Brand new, the optional infrared transmitter can be used as a LAN interface to remotely control your hifi system from the operating app.

FIDELITY-Navigator: x-odos xo|one
This extremely high-quality music server comes with a CD ripper and boasts superb, user-friendly operation and interruption-free, wonderfully precise playback.

EUPHONIC
SONOROUS — AGILE
ANALYTICAL

© FIDELITY Magazin

CHALLENGING = ☐ A component is 100% intuitive if you can
INTUITIVE = ☐ exploit its potential to the full intuitively.

The xo|one can deal with all the common compressed and uncompressed formats, including DSD, up to a maximum of 24 bits (bit depth) and 192 kHz (sample rate).

ACCOMPANYING EQUIPMENT
D/A converters: Violectric DAC V800, Mytek Digital Stereo192-DSD DAC | **Active speakers:** Nubert Nu-Pro A 200, ME Geithain RL 906 | **CD recorder/player:** Fostex CR500 Master | **Cables:** Vovox, x-odos

any material that has a resolution higher than the usual CD quality (16 bit/44.1 kHz). The xo|one can deal with all the common compressed and uncompressed formats, including DSD, up to a maximum of 24 bits (bit depth) and 192 kHz (sample rate). In order to store files such as these on the xo|one's solid-state drive (and listen to them afterwards) the device must be integrated into the network, and the operating app is required for this. Set-up is generally pretty easy. The music server must be connected up to a vacant LAN port using the high-quality cable provided. Once it has been switched on, it should pop up on your computer (in Mac OS X-Finder or Windows Explorer) as a "PC server" under its own name. If this doesn't happen, restart the router (if necessary), set up a wifi connection to the iPad and then start the xo|one app.

Touch the radio symbol at the lower left of the screen to open the Connections window. That's it! You should now see the xo|one and can get started. The CD we ripped beforehand is already in the library. But because it was ripped while we were working offline, it is shown as an "unknown album". As this is not what we want, we delete the folder (working from the PC) and then insert the CD again. After touching the "xo|one" logo at the top right of the app, and "rip status" in the next menu, we can monitor the ripping process. The app consults the FreeDB and MusicBrainz databases, retrieving the CD's metadata and cover (if available). The hit rate was pretty good in the CDs we used: the app made a mistake with only one of our 10 test albums. And we assume that more powerful databases such as Gracenote or AMG will deliver even better results. Connections to these databases are planned, assuming x-odos and the providers can reach an agreement on licensing fees. Such fees can be a really "horrendous", says Christof Poschadel, especially for a small, relatively new company such as x-odos.

The app already has a built-in connection to the online shop of one of the leading providers of studio quality HD downloads—HighResAudio. xo|one owners who have set up an online account with this provider can purchase and download high-resolution material directly from the app. It's a simple and convenient process. You can listen to Internet radio from the app as well. Especially those music fans who've

had more than enough of mainstream offerings will find a whole new world of less widely played genres to rekindle their interest.

Because the xo|one also supports UPnP, its music library is available to other devices on the network, and it can be used as an NAS server. We tested this by playing Sinatra's Come And Fly With Me album using a MacBook Pro and Audirvana Plus. It worked perfectly.

The music library can be edited at any time from a networked computer using a standard web browser. All you need is the xo|one's IP address (available from the app). The connection is easy to use, even for those with limited knowledge of IT. You can also use this method to import and export data via the USB 3.0 interface. Making backups of your data on an external storage device is particularly easy. As an alternative, you can use the Mac OS X-Finder or Windows Explorer on your computer to copy files to connected disks or USB sticks. You can, of course, also copy data into the server's music library from other devices.
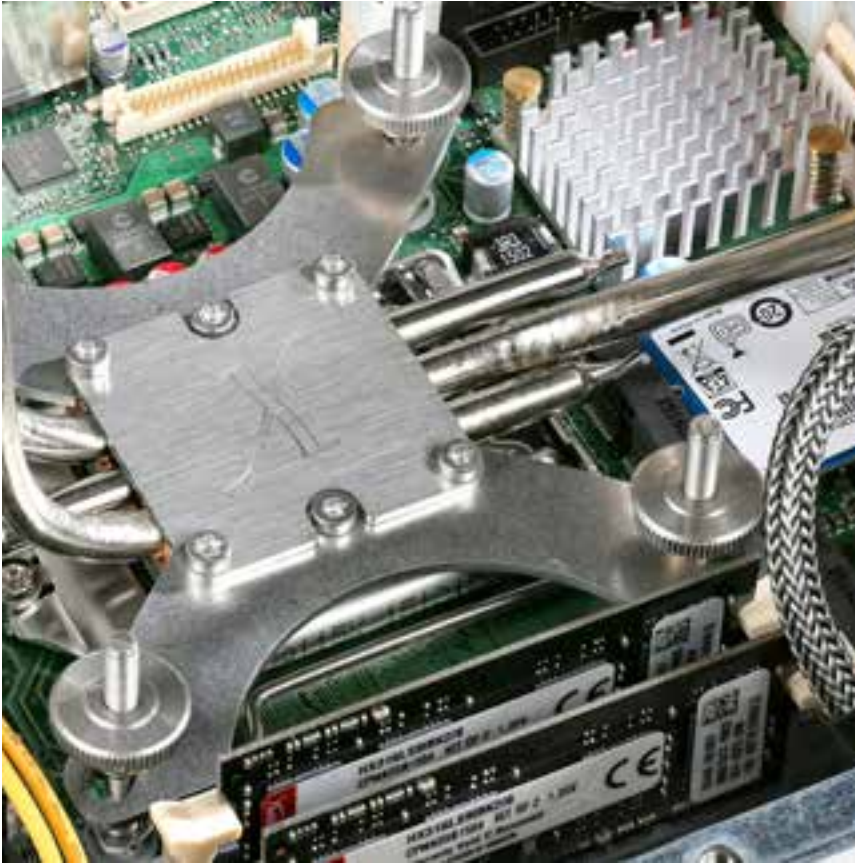
Turning data into sound

x-odos tries to make it as easy as possible for xo|one buyers to enjoy their music, and their app is exceptionally user-friendly. The company has developed a LAN infrared transmitter as an optional add-on (costing 200 euros). Shortly to go into series production, this device is able to remotely adjust the hifi system's amplifier via the app. Christof Poschadel provided set-up assistance by phone when we tested the pre-production model of this device. The series model will require no such assistance. Adjusting the volume from the app via the infrared interface is certainly convenient,

but you can definitely enjoy the xo|one without it as well. Once you have listened to a ripped CD from the xo|one and then play the album on a semi-professional CD player (both devices connected first to a Violectric DAC V800 and then a Mytek Digital Stereo192-DSD DAC), you will clearly hear the enormous difference in quality. I have never experienced the Dance of Fire ethno jazz album (by Aziza Mustafa Zadeh and her all-star backing group) in such precise depth and breadth, and with such finely controlled dynamism. The same ▶

Although a music server is really a specialized type of computer, x-odos has decided against installing an active cooling system.

can be said for the excellent Brazilian guitar duo of Martin Müller and Oscar Ferreira or the classical guitar version of Tubular Bells played by Duo Sonare. It quickly becomes evident that a CD is no match for bit-perfect and practically jitter-free digital data from a music server of this quality. Interestingly enough, heard over the AES/EBU port, the music appears to be even more expansive and three-dimensional than via the S/PDIF interface. It would seem that this new digital port is a true bonus for listeners.

Once high-resolution music is involved, the fun really starts for audiophiles. The 24 bit/88 kHz version of the A Capella I album from the legendary vocal group The Singers Unlimited is packed with so much volume and subtlety that I end up playing it three times over. And once I'd heard Oscar Peterson ticking his Steinway's ivories with such finesse on the DSD version of his MPS solo album My Favorite Instrument, the verdict was crystal clear: the xo|one is a high-tech device that's enormous fun to own, and, most importantly, is honey to the ears of discerning audiophiles. ▪

Music server **ℹ**

X-odos Xo|one

Functional principle: music server with automatic CD ripping and NAS function **| Connections:** 2 x digital out (AES/EBU, S/PDIF), USB 3.0 (file import/export via intranet), LAN **| Music data storage:** SSD, 1 to 4 TB (upgradeable) **| Compatible formats:** all formats up to 24 bit/192 KHz **| Special features:** own control app for iOS devices (Android version to follow) with integrated HiRes download shop and Internet radio, passive cooling, optional network infrared interface (200 euros) **| Casing:** front in silver, black or "champagne" **| Dimensions (W/H/D):** 45/14.5/33 cm **| Weight:** 14 kg **| Guarantee period:** 2 years (including online support) **| Prices:** starting from 6,000 euros

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