Hi-Res.grade Network Audio Components

fidata

Network Audio Server

HFAS1

fidata

The ultimate in audio quality, from a brand that lives up to the meaning of its name: “reliability”

Today’s high-resolution audio files deliver quality that approaches that of master recordings by incorporating an enormous amount of data. With the debut of network audio, consumers quickly have become familiar with the immersive experience made possible by that level of quality. Introducing fidata, a family of network audio components that lives up to the meaning of its name: “reliability.”
Welcome to the world of ultimate sound.

Transporting listeners to the stage or studio where music is born

In the world of high-resolution audio, components must realistically recreate every detail, right down to the performer's breaths, and the atmosphere of the studio or concert hall.
Today, a revolution in audio is making it possible to enjoy the overwhelming presence of original recordings in the comfort of your own home for a reasonable price.

An audio server engineered for use in high-end systems

The fidata HFAS1 is a network audio server that was engineered so that you can enjoy high-end audio.
You can see evidence of our meticulous, iterative approach from the materials chosen for the chassis to the design of the unit's circuit board and its individual components. This product is the cumulative result of numerous prototypes and countless trial listening sessions.
The result is an exceptional level of audio quality that befits the unit's high-end name, packaged in an impressive chassis from which every hint of waste has been pared.

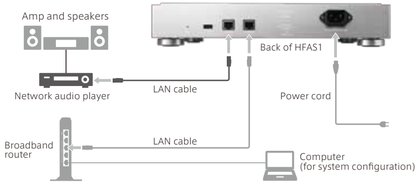
HFAS1-S10U
1.0TB SSD

Closing in on the ultimate in sound quality with high-resolution audio

The debut of high-resolution audio files that contain more than four times the data of CDs sparked great excitement and joy among all those who love music. The sound quality made possible by that immense amount of data goes far beyond the limits of CD media to deliver a difference that is clear and surprising by every measure, including sound image localization, transparency, and resolution.

Network audio: A new listening style

Anyone can now download high-resolution audio files with the ultimate level of quality from the Internet. With the debut of such files, we have moved into an era of “media-less” playback in which it is possible to download high-data rate music that has been freed from the recording capacity constraints of physical media such as CDs, store it on computer hard disks, and listen to it using dedicated players.
The shortcoming of this playback method is its interposition of a computer into the audio system. Computers pose a variety of issues for audio purists, ranging from difficult connections and settings to complex operation and intractable noise issues.
These problems were resolved with the advent of network audio components that play audio directly from hard disks that are connected to networks (network-attached storage, or NAS). Under this paradigm, audio files are stored in a library on an NAS device, and mobile handsets such as smartphones are used as controllers to intuitively download, manage, and play the files. In this way, network audio has exceeded the CD in terms of ease of use.
Instead of a rack of CDs, listeners can manage enormous libraries of audio file assets based on artist, album, genre, and other attributes using a software application (known as a media server). The fidata HFAS1 delivers the ultimate in network audio.



An uncompromising dedication to quality on par with the best in network audio

Take the chassis, for example.
The austere exterior, from which all traces of ornamentation—even a display—have been excised, represents an inevitable form that has reached the limits that come from a single-minded drive to recreate ideal sound. In each capacitor, in the circuit board layout: everywhere you look, you'll find thoughtful dedication to details. This is a network audio server that's not afraid to call itself high-end.

Aggressively counteracting vibration and noise

High-rigidity, all-metal chassis

A 4.0 mm thick aluminum top cover is fitted to thick, E-shaped aluminum side panels. A 2.3 mm thick copper plate weighing 2.2 kg has been used as the bottom of the chassis to give the unit weight and ensure it remains stable despite vibration. Built around a T-shaped layout with a partition that divides it into separate areas for the power supply/circuit board and storage devices, the chassis features internals that have been designed to reduce the amount of noise radiated from the latter. This design limits any adverse effects such noise may have on the power supply and circuit board.

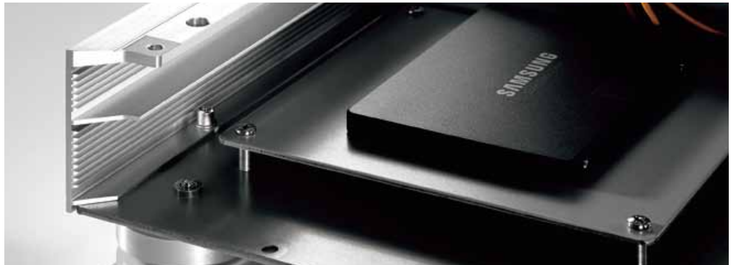
4.0 mm thick aluminum top cover

Machined aluminum insulators

The HFAS1 uses proprietary insulators to support the heavy chassis, which can be reconfigured from four to three supports as desired.


Four-support configuration


Three-support configuration



Dual SSDs

The HFAS1 incorporates two 850EVO high-reliability SSDs from Samsung. These drives utilize the manufacturer's 3D V-NAND flash memory to minimize voltage fluctuations through extended durability and reduced power consumption. Other design features such as an aluminum enclosure with excellent anti-noise characteristics give the 850EVO characteristics that are exceptionally well suited to audio applications. Additionally, use of flash storage without any moving parts makes it possible to deliver an almost silent listening environment.

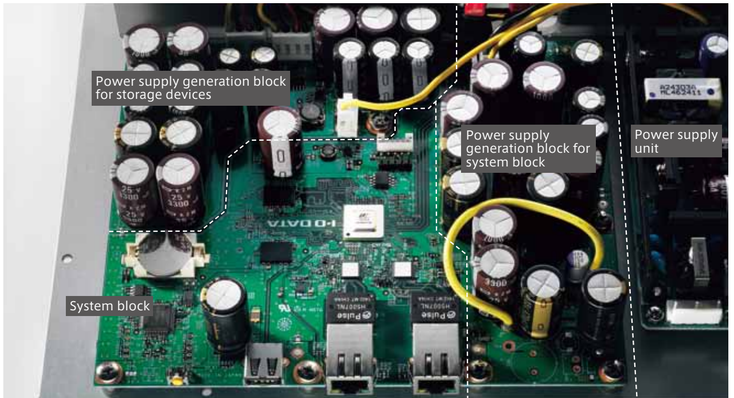
An uncompromising circuit design focused on minimizing noise and maximizing transmission quality through extensive use of high-grade parts

Two independent circuit blocks

The circuits that power the main circuit board's system hardware and its storage devices are completely isolated to keep power supply noise from the latter from adversely affecting the former. In this way, we have aggressively eliminated the effects on system circuitry of noise generated during drive access.

Single-point ground to prevent noise generation, leakage, and introduction

Counteracting noise is the single greatest issue in the design of audio devices. The HFAS1 features an optimized pattern design and a single-point ground configuration that grounds circuitry via a single connection to the unit's copper base. This arrangement allows it to generate an exceptionally stable supply of power from which common impedance has been eliminated.



High-capacity electrolytic capacitors

The HFAS1's circuit board incorporates an optimal arrangement of low-ESR electrolytic capacitors that includes some audio-grade components. This design implements a high-quality, stable power supply.

25 MHz low-phase-noise crystal oscillator

The HFAS1 uses a vacuum-type crystal oscillator with low phase-noise characteristics. In addition to limiting clock jitter, this design implements high-precision network transmission using a clock generated by a high-precision crystal.

Link separation system

The HFAS1 provides two LAN ports, one for audio and one for networking. The "for Audio" port is designed to be connected to a network audio player, while its "for Network" counterpart is designed to be connected to the user's home network, enabling the high-quality signal generated by the unit to be transmitted directly to the player.

LAN connectors with exceptional contact performance

The two LAN connectors have been oriented with the signal terminals at the top in order to ensure stable contact with the LAN cables' terminals. In addition, the DIP-type LAN connectors used by the HFAS1 each feature a mechanically robust, 14-point connection to the circuit board. This design prevents the connector and terminals from becoming misaligned in order to preclude any adverse effects from vibration.

LED-off function to counteract noise

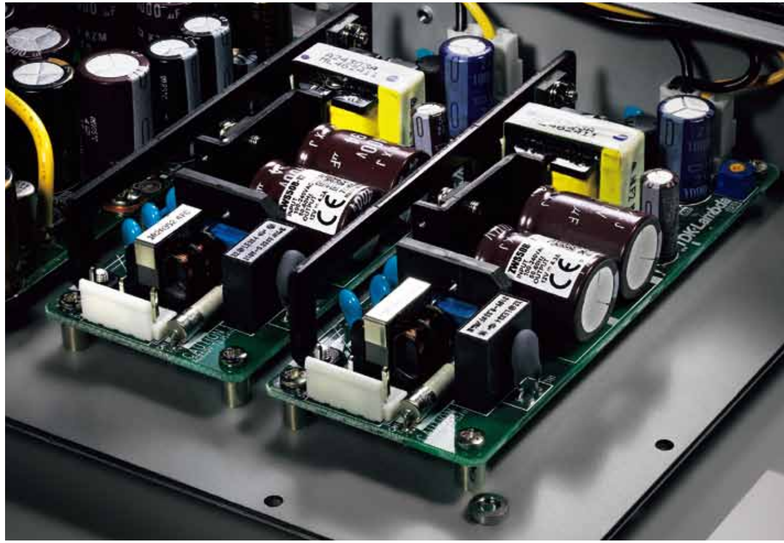
The two LAN ports incorporate LED lamps that flash or illuminate continuously to indicate information such as the connection status and communications speed between the HFAS1 and other audio devices and the router. However, users can disable these lamps on the setup screen in order to minimize any noise resulting from their operation.

Power Supply

Two power units supply clean, stable power.

Dual high-quality, high-reliability 50 W switching power supplies

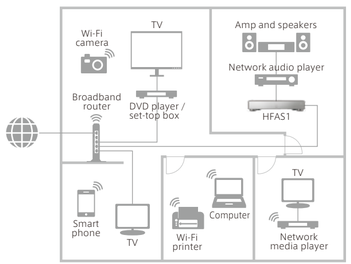
Because the power supply plays a key role in enabling high-quality audio playback, the HFAS1 incorporates two dedicated TDK-Lambda 50 W power supplies (for a total of 100 W), one for the main unit and one for the drive unit. Use of independent power supplies for the system and storage blocks keeps noise from one block from adversely affecting the other.



A truly intuitive interface designed specifically for audiophiles

DLNA certified

The Digital Living Network Alliance (DLNA) has formulated a series of guidelines to simplify audio and video playback using audiovisual components as well as computers, smartphones, tablets, and other network-connected devices from various manufacturers. Music files stored on the HFAS1 can be played back on multiple DLNA-compliant devices connected to users' wireless and wired networks. For example, a user could enjoy music stored on an HFAS1 in the living room on a network audio player in another room.



Customized Twonky Server 7 for enhanced ease of use

The HFAS1 uses Twonky Server 7, the de facto standard for music management, transmission, and distribution. The software is highly compatible with various manufacturers' network players and known for its ease of use. Twonky Server 7's extensive functionality includes a navigation tree function that facilitates fine-grained sorting of large numbers of music files as well as the ability to display high-resolution album art. The HFAS1's version of the server has been customized to properly display song and artist names and to display songs and album tracks in the proper order. The software delivers a level of ease of use and scalability that were unthinkable during the age of disc media such as CDs.

Twonky Server: A media server that provides various methods for searching for songs

Extensive selection of categories so you can easily find the songs you're looking for

- ·Folder
- ·Recently added
- ·Artist
- ·Artist index
- ·Album
- ·Album index
- ·Composer
- ·Format
- ·Date
- ·Artist/album
- ·Genre/album
- ·Genre/artist/album
- ·Genre/song
- ·Playlist
- ·Personal rating
- ·All music
- ·Title index

Display of high-resolution album art in the standard configuration

The HFAS1's implementation of Twonky Server is designed for use in audio applications and comes configured to distribute high-resolution album art in its standard configuration. Users can enjoy beautiful album art on supported devices whose compatibility has been confirmed without needing to make any difficult settings.

Typical low-resolution display

High-resolution display

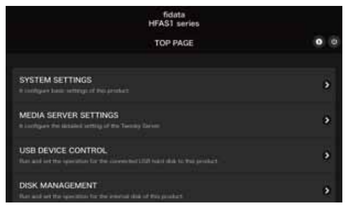
Support for DSD files as well as WAV and FLAC

Twonky Server 7 adds support for DSD (DFF and DSF) files at bitrates of up to 11.2 MHz to existing support for PCM (WAV) and FLAC files at bitrates of up to 384 kHz (32-bit resolution).

*As of April 2016

Simple and smart: Setup that's easy for everyone

To set up the HFAS1, you need only connect it to a network audio player and router with LAN cables. Additional settings can be configured on a computer, tablet, or smartphone using the Magical Finder management software, which allows users to access setup screens simply by selecting devices in response to dialog-style prompts.



Power-based switchless on/off

Since the HFAS1 releases system cache data to the drives as necessary, it can be turned off simply by cutting off its AC power supply without corrupting system or audio data, as long as data isn't being written when it is turned off. The unit can be turned off by cutting off its power supply in the same manner as other audio devices.

USB DAC connection function

Combine the HFAS1 with a USB DAC unit in order to use it as a network player with a built-in server!

You can use the HFAS1 as a PCM/DSD-compatible network audio player with a built-in server by connecting it to an audio device with a USB DAC (for example, a standalone unit, CD player amp, or headphone amp). In this configuration, you can choose tracks and control playback from a DLNA- or OpenHome Media-compliant controller app on a smartphone or tablet. Build the system that's right for you by picking a DAC to handle the sound and a controller to handle the user interface… now there are even more possibilities for enjoying your music.

Get the sound you're after by choosing the USB DAC you want!

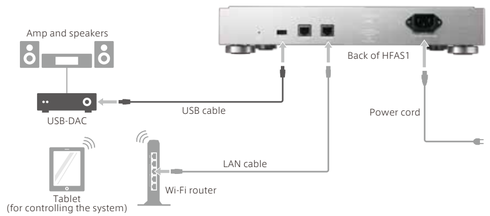
The HFAS1 can be combined with any of a number of USB Audio Class 2.0-compliant USB DACs whose compatibility has been confirmed. Since you can choose a DAC that has the sound characteristics you like, you can build a unique network audio system that suits your own usage environment.

Using existing devices to deliver network audio

By adding the HFAS1 to their setups, listeners who have been wavering over whether to buy a high-grade network audio player can enjoy network audio while using the USB DAC they already have. With robust server and playback functionality at a reasonable price, the HFAS1 is the ideal choice for listeners who are looking into the world of high-resolution audio for the first time.

High-quality audio data output, even over a USB connection

USB DACs are typically used with ordinary computers, which aren't generally designed from an audio perspective, so listeners may not be able to enjoy the full benefit of the DAC's capabilities. Since it's designed as an audio device, the HFAS1 delivers high-quality data output, including from its USB port. The unit taps the latent capability of USB DACs, without difficult settings.



Example of USB DAC device support

Standalone USB DAC

Combine the HFAS1 with a standalone USB DAC and use it as a network player.

CD player with a USB DAC

Combine the HFAS1 with a CD player that has a USB DAC and use it as a CD and network player.

Headphone amp with a USB DAC

The HFAS1 is ideal for listeners who prefer headphones. Use a smartphone or tablet to choose tracks and control playback.

USB Audio Class 2.0 support

Simply connect a standard USB Audio Class 2.0-compliant USB DAC to the HFAS1's USB port. The unit will automatically recognize the DAC, allowing the HFAS1 to function as a network audio player.

*See I-O DATA's website for a list of models whose compatibility has been confirmed.

Network renderer function

The HFAS1 provides two playback modes (OpenHome and DMR) from which the user can select on the setup screen.

・OpenHome mode

This mode allows use of OpenHome Media-compliant controller apps.

・DMR mode

This mode allows use of DLNA-compatible digital media controller (DMC) apps.

PCM output

The HFAS1 can output 16-bit/24-bit and 32-bit float/integer PCM data at a maximum sampling rate of 384 kHz, enabling it to output WAV, AIFF, FLAC, and M4A (Apple Lossless) audio data without degradation.

*Playback performance depends on the USB DAC used.

DSD output

The HFAS1 supports native DSD output using DoP (DSD Audio over PCM Frames), allowing it to generate 2.8 MHz, 5.6 MHz, and 11.2 MHz DSD output. This capability allows the unit to output DSD audio data (in both DSF and DFF formats) without degradation.

*Playback performance depends on the USB DAC used.

On-device playlists

In OpenHome mode, on-device playlist support allows playlists to be saved on the HFAS1. Even if the controller app is exited during playback, the HFAS1 will continue playback based on the playlist.

Gapless playback

When used with a compatible application, the HFAS1 supports gapless playback, allowing natural playback of live recordings and other audio recorded without gaps between tracks.

*Supported file formats: wav, aiff, m4a (alac) , flac, dsf, and dff.
*Gapless playback is limited to tracks of the same file format, bit depth, and sampling rate.
*Gapless playback is not supported for 11.2 MHz DSD files (as of March 2016).

Supported file formats (extensions)
wav, aiff, aif, m4a, flac , dff, dsf, mp3, aac, ogg
Output formats (sampling rates)
PCM format (44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz, 176.4 kHz, 192 kHz, 352.8 kHz, 384 kHz)　DSD format (DoP) (2.8 MHz, 5.6 MHz, 11.2 MHz)
Output formats (bit depth)
PCM format (16-bit, 24-bit, 32-bit), DSD format (DoP) (1-bit)

☐ Operating environment

Computers	
Supported operating systems	Windows 10 (32-/64-bit) Windows 8.1 (32-/64-bit) Windows 8 (32-/64-bit) Windows 7 (32-/64-bit) OS X 10.7 to 10.10
Supported browsers	Internet Explorer 9/10/11 Microsoft Edge 25 Safari 6/7/8/9

Smartphones	
Supported operating systems	iOS 7.0.4 ～ 9.3.1 Android 4.1 ～ 6.0.1
Supported browsers	As embedded in the operating system

Supported file formats (extensions)
wav, mp3 , wma , m4a , m4b , ogg , flac , aac , mp2 , ac3 , mpa , aif , aiff , dff , dsf

☐ Hardware specifications

LAN interface	Transmission standards Connectors	1000BASE-T/100BASE-TX/10BASE-T RJ-45 × 2 (Auto MDI/MDI-X compatible)
USB ports	Connectors	USB2.0 x1
Networking	Standard compliance	UPnP AV、DLNA 1.5
Supply voltage		AC100V-240V 50/60Hz
Power connector		3-pin inlet
Power consumption		Rated for 25 W
External dimensions (excluding protruding parts)		Approx. 350 (W) × 350 (D) × 64 (H) mm
Weight		Approx. 6 kg
Operating temperature range		5°C to 35°C
Operating humidity range		20% to 85% (non-condensing)
Accessories		Power cords (3 types), user manual
Product warranty		2 year from date of purchase

fidata website: http://www.iodata.jp/fidata/

I-O DATA DEVICE, INC.

I-O DATA