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DAC



LEAD AUDIO

LA-100

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The Background of LA-100

This astonishing sound quality of DAC LA-100 was designed by Mr. Søren Mac Larsen, who had worked in Hi-Fi Audio field in Denmark for more than 20 years as a designer and chief technical officer. Mr. Søren Mac Larsen has developed many remarkable Digital Algorithms for Hi-Fi Audio and has been involved in designing high end products such as Hi-Fi CD players, amplifiers and groundbreaking Digital Room Compensation unit (DRC) in famous Danish Audio product companies.
Along with his admiring previous digital and analog Audio products, Mr. Søren Mac Larsen has created another high fidelity of sound from his recently introduced product DAC to show his respect to Hi-Fi world. Please enjoy the details of high fidelity sound from LA-100.

Characteristics of the LA-100

LA-100 is the first model of the audio product series of LEAD AUDIO ApS. It is a top-of-the-line DAC (Digital to Analog Converter) plus Headphone Amp product in its class, and was built using the 25+ years of accumulated knowledge and know-how of Mr. Søren Mac Larsen regarding circuit design, product plan, architecture, production and quality management.
The rapidly expanding digital sound sources, when played through the existing PC sound cards and low quality CDP/DVDs, suffered a significant loss of sound quality due to noise and signal distortion and were unable to meet the needs of consumers who wanted high quality sounds. In order to satiate these needs, LA-100 boldly incorporated parts and techniques that are often only seen in high-priced Hi-Fis.

1. Utilization of audio parts that are used in expensive Hi-Fi products. (Burr Brown's PCM 1796 DA Converter, German Wima Condenser for the power source area, etc.)
2. Circuits designed using Denmark's high tech noise reduction know-how (Collpitts oscillator , 2-step buffering clock)
3. In order to remove the terrible jitter noise that occurs when playing sound sources, the sample rate converting technique, which are found in high-end Hi-Fi products, was used.
4. Used DC coupled circuits for the output of high quality sound.



By using aforementioned parts and techniques, we were able to realize the best sound quality that cannot be compared with products in the same price range, and the product is designed from the customer's perspective, allowing many different output method selections such as USB, CD, Optical and Coaxial in order for customers to enjoy high quality sounds.
The front part was built on an aluminum base using sanding methods, black color anodizing, hairline production method to ensure a high-quality design and safety, and a user-friendly interface was realized through the use of microcontrollers. Furthermore, the external case was built using aluminum and SCP to ensure the durability against the product's radiation of heat, vibration, shock and ESD (The KCC certification number on the back of the product guarantees this).

In order to accommodate the user's usage needs, we allowed the input/output mode to be fully manipulated using the keys on the front of the product.

Finally, the motto of LEAD AUDIO ApS is "Reasonable price, High quality, everybody". This means that we would like everyone to be able to enjoy high quality sounds at a reasonable price.

Product Specification

- INPUT:
  USB 2.0 compatible to PC
  S/PDIF RCA 75ohm input (Coax) to CDP/DVD
  S/PDIF Toslink input (Optical) to CDP/DVD
  (Toshiba component for Toslink are used, safety & quality are maximized)

- OUTPUT:
  Line to amplifiers
  Phones to headphones



DA Converter	Burr Brown 24bit/192KHz
Digital Input Sampling Frequency	USB: 44.1KHz to 48KHz Digital Input: 20KHz to 216 KHz Frequency Response: dc to 20KHz
THD at 1KHz	<0.001% by design
S/N Ratio	>120dB by design (A weighting)
Jitter	<100ps by design (ASR)
Line Output Level	1V RMS max. 600R Load
Headphone Output Level	max. 3.6V RMS in 600ohm max. 0.5V RMS in 32ohm (zout = 25ohm)
Power Consumption	<5W

**the specification might be changed without prior notice*

Message from Designer



Thank you for choosing the DAC (Digital to Analog Converter) LA-100. We are confident that you will derive endless auditory pleasure using it. The compact form of the DAC is possible due to the use of surface mount devices and an external power adapter.

The DAC LA-100 is a truly innovative design with...

- 192kHz/24bit upsampling DAC (Burr Brown)
- Professional grade sample rate converter for removing audio jitter
- Low phase noise Colpitts clock reference with AT cut Crystal
- The analog output signal is DC coupled, meaning no sound degrading capacitors in LA-100 series with the analog signal path
- The analog power supply is both a series and a shunt design with very low noise
- The analog signal processing is done by ultra low noise and distortion type opamps (allows its performance with far better than the normally used NE5532/34)
- High efficiency power supply design for saving the environment

There are three possible inputs on the DAC LA-100; USB, SPDIF Optical and Coaxial.
The USB input enables the DAC LA-100 to be connected to a PC and acts as a very high-end DAC/Soundcard, offering real Hi-Fi quality playback from your desktop PC, media PC, etc. This is a "no driver" design; drivers are already in your system. Simply connect your DAC LA-100 to the PC, wait until the PC detects the DAC LA-100 and accepts the drivers. Then, start your PC player!
Two other Digital inputs are for SPDIF Optical (Toslink) and Coaxial (RCA). They are used when you want to use a CD or a DVD player.

We are proud of this product, and hope you enjoy using it.

Søren Mac Larsen
Chief Technical Officer of LEAD AUDIO