



NORTHERN FIDELITY



NF DAC

NF DAC is the third generation of DAC (Digital to Analog Converter) plus Headphone Amp introduced by Lead Audio with 24 Bit and 192 KHz of Sample Rate.

After the introduction of the first generation of 24 bit and 48 KHz DAC named LA-100 in the Hifi market, Lead Audio attracted worldwide Hifi users with its natural, precise fidelity and heartwarming tone of sound. With its remarkably beautiful tone, Swedish Hifi magazine "Hifi & Musik" awarded LA-100 as the best DAC of the year in 2010/2011. NF DAC succeeded the design fundamentals of LA-100 but upgraded its features and quality for the Lead Audio customers who have always encouraged, urged and waited for the next generation of DAC. However, it is not only for the users who already know the beauty of Lead Audio's sound but also for the new users who are ready to explore the new tone and timbre.

USER ORIENTED DESIGN

NF DAC is a true user oriented DAC. It has various inputs such as USB, Optical and Coaxial and has various outputs such as Headphone, Balanced Line-out and Unbalanced Line-out to meet all different tastes of user's selections. User can enjoy high-class of sound with his/her own selective input and output method with comfort.

Front panel has high-class of out looking with sanding, hairline and anodizing process of Aluminum material. NF DAC realizes convenient user interface with input/output selection by microcontroller and master volume control by remote controller.

Input and output mode is selected from key operation in the front panel to meet user environment aggressively.

Northern Fidelity is a Platform of Lead Audio composed of DAC (NF DAC), Analog AMP (NF AMP-A) and Digital AMP (NF AMP-D) introduced in 2013. Feature of Northern Fidelity is 192 KHz of USB resolution and professional design with beautiful tone.

FEATURES OF NF DAC

Lead Audio aggressively adapted high precision of components for NF DAC which normally used for expensive High-end audio.

- Audio components with high performance used for expensive Hifi instruments. PCM 1796 DA Converter from TI (Burr Brown) and Wima Condenser.
- 1 ppm of TCXO used for high precision of broadcasting equipment.
NF DAC realizes Low Noise Master Clock with top-class of 1 ppm TCXO adaptation which has been used only for broadcasting equipments and uses double multiplication of frequency to secure 50% of Duty of Master clock. It fundamentally removes Jitter and Noise from the Clock so that the reproduction of the original sound becomes more substantial.
- Adaptation of special noise reduction technology know-how with Collpitz Oscillator and 2 steps buffering clock.
- Adaptation of Sample rate converting technology used for top-class of Hifi Audio to remove Jitter noise which is fatal to sound quality.
- Adaptation of DC Coupled circuit for the high quality of sound which fundamentally eliminates the degradation of the sound quality from the usage of capacitor.

With all technologies above, NF DAC realizes top-class of sound quality gets abreast of more expensive High-end products.

INPUT

USB 2.0 Compatible → to PC
S/PDIF RCA 75 Ohm Input (coax) → to CDP/DVD
S/PDIF Toslink Input (Optical) → to CDP/DVD

OUTPUT

Phone → to Head Phone
(Front Vol Control, Remote Vol Control)
Line 1 → to Amplifier
(Front Vol Control, Remote Vol Control)
Line 2 → to Amplifier (Remote Vol Control)
XLR → to Amplifier (Remote Volume Control)

CONNECTION AND OPERATION

First, please connect the provided adapter with DC input jack on the back panel.

PACKAGE CONTENTS

Main body
Adaptor (12VDC/1A)
USB Cable, Operation manual



CONNECT WITH PC

Switch ON the power on the front panel after connecting PC and NF DAC with USB cable enclosed in the packing box. Please don't use USB Hub but connect PC and NF directly to get the best sound quality. Operate Input key on the front panel and confirm USB LED is ON. To make operation by PC exactly, X-MOS driver should be installed. Please install the driver following the guidance appeared on the PC screen.

CONNECT WITH DVD PLAYER

Connect Output socket (Coax Out / Optical Out) of a DVD player with the matched socket (D1 or D2) on the back panel of NF DAC with the appropriate cable. Operate Input key on the front panel and confirm D1 or D2 LED is ON. (Cable is not enclosed. Please contact a dealer to purchase appropriate cable suit to your favorite). Please set the Output of DVD Player with 2 Channel PCM. NF DAC doesn't support Dolby Digital 5.1 or DTS.

CONNECT WITH CD PLAYER

Connect Output socket (Coax Out / Optical Out) of a CD player with the matched socket (D1 or D2) on the back panel of NF DAC with the appropriate cable. Operate Input key on the front panel and confirm D1 or D2 LED is ON. (Cable is not enclosed. Please contact a dealer to purchase appropriate cable suit to your favorite)

CONNECT WITH AMPLIFIER

Connect Var-out or Out on the back panel of NF DAC with RCA Input (Line-in) of Amplifier with the appropriate cable. Operate Output key on the front panel and confirm Var-out or Out LED is ON. (Cable is not enclosed. Please contact a dealer to purchase appropriate cable suit to your favorite).
Var-out is a variable output and the Volume control is available by the Volume knob of the front panel and by the Remote controller. Out is a fixed output and the Volume control is available by Remote controller.

CONNECT WITH HEADPHONE

Connect the Headphone terminal to the phone jack of front panel. Operate Output key on the front panel and confirm Phone LED is ON.

PRODUCT SPECIFICATION

- DA Converter: TI (Burr Brown), 24Bit/192KHz
- Digital Input Sampling Frequency:
USB: 44.1/ 48/ 88.2/ 96/ 176.4/ 192KHz
Digital Input: 20KHz to 216KHz
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 Out Level : 2.7V RMS max 600 Ohm Load
- Headphone Output Level:
Max 3.6V rms in 600 Ohm or
0.5V rms in 32 Ohm
Z out=25 Ohm
- Power Consumption : < 5 Watts

