



USB dac32

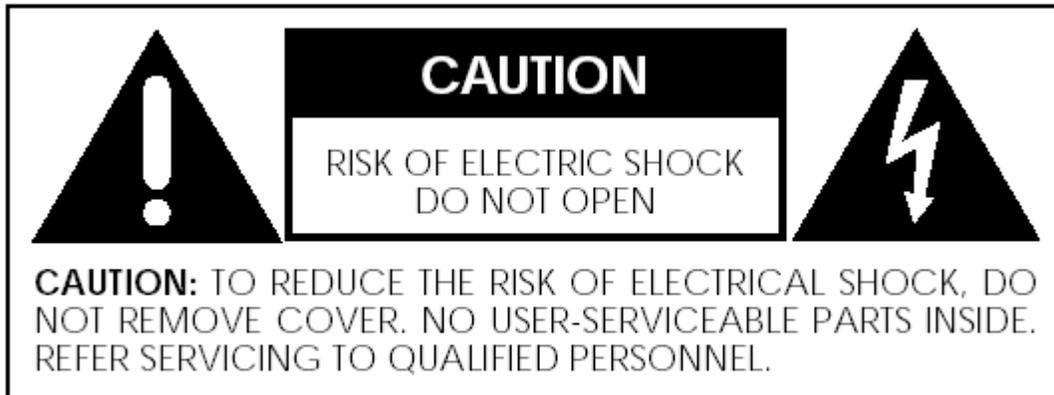
Operating Manual

North Star Design®

USB dac32

192kHz/32bit USB DAC

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Marking by the “CE” symbol (shown left) indicates compliance of this device with the EMC (Electromagnetic Compatibility) and LVD (Low Voltage Directive) standards of the European Community.

Important Safety Instructions

Please read all instructions and precautions carefully and completely before operating your North Star Design® USB dac32.

1. **ALWAYS** disconnect your entire system from the AC mains before connecting or disconnecting any cables, or when cleaning any component.
2. This product must be terminated with a three-conductor AC mains power cord which includes an earth ground connection. To prevent shock hazard, all three connections must **ALWAYS** be used.
3. AC extension cords are **not** recommended for use with this product.
4. **NEVER** use flammable or combustible chemicals for cleaning audio components.
5. **NEVER** operate this product with any covers removed.
6. **NEVER** wet the inside of this product with any liquid.
7. **NEVER** pour or spill liquids directly onto this unit.
8. **NEVER** bypass any fuse.
9. **NEVER** replace any fuse with a value or type other than those specified.
10. **NEVER** attempt to repair this product. If a problem occurs, contact your North Star Design® retailer.
11. **NEVER** expose this product to extremely high or low temperatures.
12. **NEVER** operate this product in an explosive atmosphere.
13. **ALWAYS** keep electrical equipment out of the reach of children.
14. **ALWAYS** unplug sensitive electronic equipment during lightning storms.

RoHS Compliant Information

This statement clarifies North Star Design srl product compliance with the European Union directive 2002/95/EC, or, *RoHS* (Restrictions of Hazardous Substances).

As of July 01, 2006, All North Star Design products placed on the European Union market are **compliant** (containing quantity limit weight less than or equal to 0.1% (1000 ppm) of any homogeneous Lead (Pb), Mercury (Hg), Hexavalent Chromium (Cr VI), and flame retardant Polybrominated Biphenyls (PBB) or Polybrominated Diphenyl Ethers (PBDE)).

Introduction

Welcome to the North Star Design “family” and congratulations on your purchase of what is unquestionably one of the world’s finest audio Digital-to-Analogue converter. With its combination of features, precision electronic circuitry and accurately machined chassis components throughout, your USB dac32 will offer you many years of musically satisfying enjoyment. Please take a few moments to read the remainder of this Operating Manual. A thorough understanding of the operational features will allow you to gain the maximum performance and ease of use for which this DAC was designed.

Enjoy the music!

North Star Design s.r.l.
Via Lenin, 132
56017 San Giuliano Terme (PI)
ITALY
Phone/Fax +39-050-859166
e-mail: info@northstar.it
website: www.northstar.it

Initial Inspection

Inspect the shipping container for damage. If the shipping container, packing material, DAC or accessories are damaged or missing, notify your dealer and the shipper (if a claim is to be made). Note: Many shippers require notification and an inspection within twenty-four (24) hours of delivery to ascertain the nature of damages incurred.

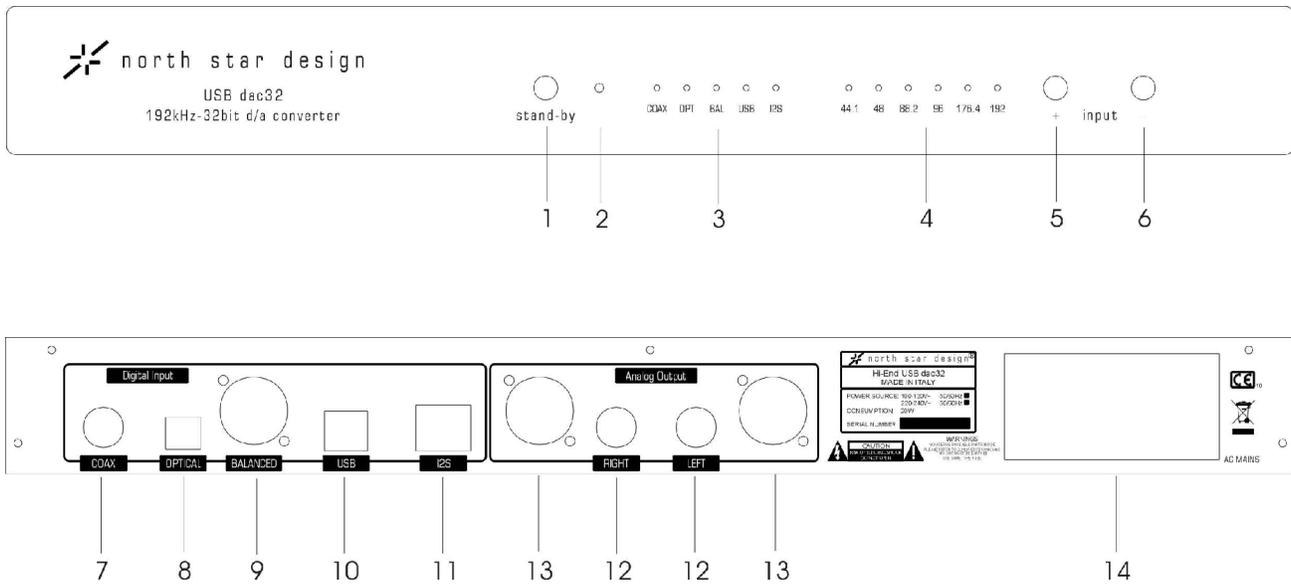
Your USB dac32 has undergone extensive performance evaluations, listening tests, quality control inspections and a minimum twenty-four (24) hour burn-in period prior to shipment and should be in a perfect operational condition upon receipt. If the DAC does not operate correctly, please notify your dealer immediately.

We strongly suggest that you save all packing materials. If the DAC is returned to your dealer the original packing materials must be used for shipment. Neither North Star Design nor the shipper can be held responsible for damages incurred during transit if the original factory packing is not used. All factory returns require that a Return Authorization number be issued by North Star Design prior to shipment.

Contents

Ensure that all of the auxiliary components listed below are enclosed into the box.

- 1** One (1) Operating Manual
- 2** One (1) AC power cable
- 3** One (1) USB2.0 cable
- 4** One (1) CD-ROM with drivers
- 5** One (1) warranty card (in some countries warranties are provided by the respective importer)



Installation

Locate the USB dac32 as close as possible to its final installation point. Allow access to the rear panel for making connections.

Front & Rear Panel Function Controls

Before attempting any system interconnection, please familiarize yourself with the front and rear panel controls of the USB dac32. The descriptions below refer to the numbers and letters associated with the features in the diagram above.

Front Panel

1 STAND-BY PUSHBUTTON

When in stand-by mode, push to switch in Operate mode. When in Operate mode, push to switch in Stand-by mode.

WARNING: Always put in stand-by the DAC before switch-off the unit by rear panel switch.

2 STAND-BY LED INDICATOR

The **Stand-by LED** show the operating mode of your converter:

Glows red when the DAC is in Stand-by.

Off the DAC is ready to use.

If the DAC will not turn on, you may want to check the **rear panel AC**

mains switch , your AC connections, or have your dealer inspect the rear panel fuses.

3 INPUT LED INDICATOR

One of the LEDs glows blue when an input is selected. The LED flash when a signal is not present at the input selected. If a digital input signal is present the input led glows blue and the frequency led will show the signal frequency.

When the USB dac32 enter in operating mode the USB and the I2S input are checked for the signal presence; if a computer is connected via USB input the USB dac32 automatically select this input; if the CD-Transport is connected with I2S cable, and a computer is not connected via USB input, the USB dac32 automatically select the I2S input.

4 FREQUENCY LED INDICATOR

One of the LEDs glows blue when a digital signal whit a recognized frequency is present at the input. The recognized frequency are: 44.1kHz, 48kHz, 88,2kHz, 96kHz, 176,4kHz, 192kHz. If a digital signal with a different frequency is present at the input, the digital receiver will lock but the frequency will not displayed.

5 INPUT + PUSHBUTTON

Push this button to select an higher input.

6 INPUT - PUSHBUTTON

Push this button to select a lower input.

Rear Panel

Caution!

Switch Off the USB dac32 when you need to connect or disconnect any cables.

7 COAX INPUT (COAX 1)

Use this input to connect the DAC to the digital output of a source (CD transport, DAT tape, DVD player), using a 75 Ohm digital cable provided with RCA connectors (not shipped with the equipment).

8 OPTICAL INPUT (TOSLINK)

Use this input to connect the DAC to the digital output of a source (CD transport, DAT tape, DVD player), using a digital fiber optic cable (not shipped with the equipment).

9 BALANCED INPUT (AES/EBU)

Use this input to connect the DAC to the digital output of a source (CD transport, DAT tape, DVD player), using a 110 Ohm digital cable provided with XLR connectors (not shipped with the equipment).

10 USB INPUT

Use this input to connect the DAC to the USB2.0 port of a computer (PC/MAC) using a certified USB2.0 cable (shipped with the equipment).

11 I2S DIGITAL INPUT

Use this input to connect the DAC to the digital I2S output. (North Star Design CD-Transport).

12 UNBALANCED ANALOGUE OUTPUT

Use this output to connect the DAC to the input of a preamplifier or integrated amplifier using interconnect provided with RCA connectors (not shipped with the equipment).

13 BALANCED ANALOGUE OUTPUT

Use this output to connect the DAC to the input of a preamplifier or integrated amplifier using interconnect provided with XLR connectors (not shipped with the equipment).

The USB dac32 is equipped with hi-quality connectors. To take full advantage of the USB dac32 sonic quality, we recommend using high-quality interconnection cables; ask your North Star Design dealer.

14 AC MAINS INLET AND AC MAINS SWITCH

Standard IEC power cords is provided with the USB dac32. High quality power cords will improve the sonic performances; ask your North Star Design dealer.

The North Star Design USB dac32 has been safety-tested and is designed for operation with a three-conductor power cord. Do not defeat the “third pin” or earth ground of the AC power cord.

An **AC mains switch** is located adjacent to the power cord on the rear panel of the amplifier. This switch may be used to disconnect the power supply from the AC mains without having to actually unplug the dac from the wall outlet. If you plan to be away for an extended period, or have any other reason to turn the dac completely off, you may use the **AC mains switch**.

One slow-blow 315mA (220-240V), 630mA (100-120V) fuses is located inside a small drawer in the AC main inlet. If you suspect that your AC fuse have blown, disconnect the DAC from the AC mains and contact your North Star Design dealer for assistance.

Danger! Potentially dangerous voltages and current capabilities exist within the USB dac32, when connected to the AC mains. Do not attempt to open any portion of the DAC cabinet. There are no user-serviceable parts inside the USB dac32. All service of this product must be referred to a qualified North Star Design dealer or distributor.

Driver Installation

The USB dac32, in USB mode configuration, need proprietary drivers to be installed in the PC/MAC.

Drivers are available for different Operative Systems:

PC	XP, Vista/Win7 (both 32 and 64 bits)
MAC	Snow Leopard 10.6, Leopard 10.5, Tiger 10.4

PC installation

- 1) connect the USB dac32 input at one of the USB2.0 port of your PC
- 2) your PC will search for new drivers
- 3) insert the CD-ROM with drivers supplied with the unit
- 4) the drivers will be installed automatically
- 5) select in the Audio preferences of the OS, like preferred output device, the North Star Design USB Hi-Speed Interface

MAC installation

- 1) insert the CD-ROM in the drive
- 2) select the driver for your MAC OS
- 3) click on the file to install
- 4) restart the MAC
- 5) connect the USB dac32 with the USB cable
- 6) select in the audio devices the North Star Design HS USB Interface

After the driver installation you can play music via USB and the USB dac32.

There are many players for music at the moment; we will explain how to made the configuration on a dedicated website www.usbdac32.com (coming soon / will be active in short time).

PC – Foobar2000

This, at the moment, for us is the most audiophile free player available for the PC platform. It is important to correctly configure the player in conjunction with the USB dac32

- 1) install the latest version of Foobar2000 from the official website www.foobar2000.org
- 2) download the **Kernel Streaming Support** from the **Components** section of the website. This allows you to have a bit-perfect transfer via USB. Decompress the file and copy the decompressed file in the directory **components** of the **foobar2000** directory created by the previous installation (1)
- 3) start the foobar2000 program
- 4) in the **File-→ Preferences, Playback → Output** to select the Output Device select the **KS : North Star design USB Hi-Speed interface**
- 5) set the Buffer Length to more than 4000ms and the output data format to 32bit
- 6) select the file and play

KEEP ALWAYS THE PLAYER VOLUME AT THE MAX LEVEL TO AVOID ANY LOST IN RESOLUTION.

With Foobar2000 you can also use the iPhone/iPod touch like a remote control if you have a WiFi network with PC and iPhone/iPod Touch connected

- 1) install the Remote software on iPhone/iPod Touch
- 2) Download the dll foo_touchremote from http://wintense.com/plugins/foo_touchremote
- 3) Decompress the file and copy the decompressed file in the directory **components** of the **foobar2000** directory
- 4) Now start foobar2000 and select the **File→ Preferences, Tools iPhone/iPod Touch Remote**
- 5) Start the procedure to **Pair with a new device**.
- 6) At the end of the procedure your iPhone/iPod Touch can control Foobar2000

MAC – iTunes

This Player is the most know and used music player on MAC; very easy to use and remote controlled by Remote software on iPhone/iPod Touch.

The only limit of iTunes is the output frequency setting. Is not automatic. You need to set in the output preferences of the audio device the output frequency. The recommendation is to set an output frequency equal to the file frequency to have the better bit transfer. If the frequency are different, iTunes play normally the file but made a downsampling/upsampling (depending of the frequency difference) action before to send the music on USB.

MAC – Amarra

Visit the <http://www.sonicstudio.com/amarra/>

This player made an automatic hardware sample rate adjustment on MAC platform.

This are only a few examples of the endless possibilities of music reproduction from a computer. After testing we will publish on the dedicated website www.usbdac32.com our experiences with other software players.

Update for our drivers will be available online.

SPECIFICATIONS

DIGITAL INPUT FREQUENCY	32kHz to 192kHz, up to 32 bit
DYNAMIC RANGE	126dB (24 bit input)
S/N RATIO	112dB
INPUT	2 S/PDIF (1 RCA coax, 1 TOSLINK), 1 XLR AES/EBU, 1 USB2.0, 1 I2S RJ45)
OUTPUT UNBALANCED	1 pair per channel (RCA)
OUTPUT BALANCED	1 pair per channel (XLR)
MAIN VOLTAGE/CONSUMPTION	230/115V 50/60Hz 25VA
DIMENSIONS	17 in (W) x 7.5 in (D) x 2.7 in (H) 43.5 cm (W) x 17 cm (D) x 6 cm (H)
WEIGHT	11,5 lbs. (5,0 Kg)

Driver installation disk

NOTES



NORTH STAR DESIGN s.r.l.
VIA LENIN, 132
56017 SAN GIULIANO TERME (PI)
ITALY
PHONE/FAX: +39-050-859166
E-MAIL: info@northstar.it
WEB: www.northstar.it