



Incanto

# Operating Manual

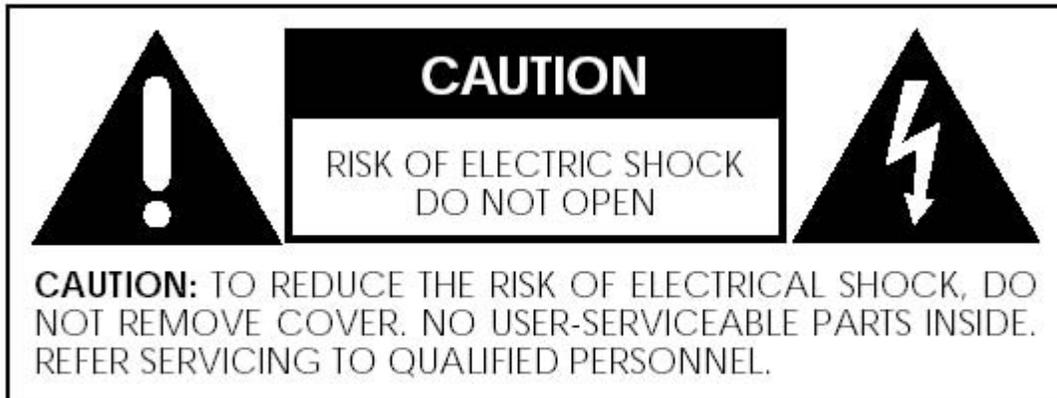
North Star Design®

Incanto

384kHz/32bit-DSD 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® *Incanto*.

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 flameretardant 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 *Incanto* 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!

## 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.

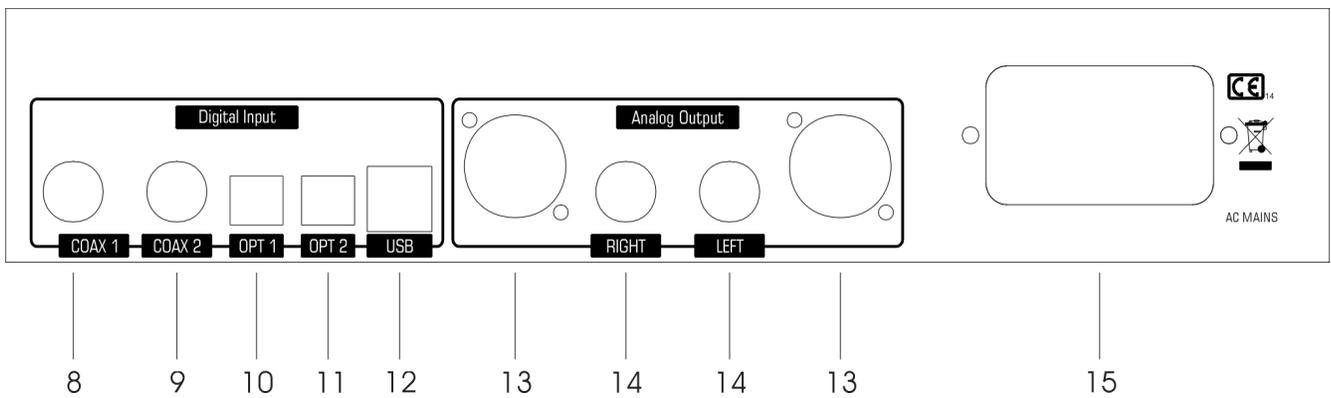
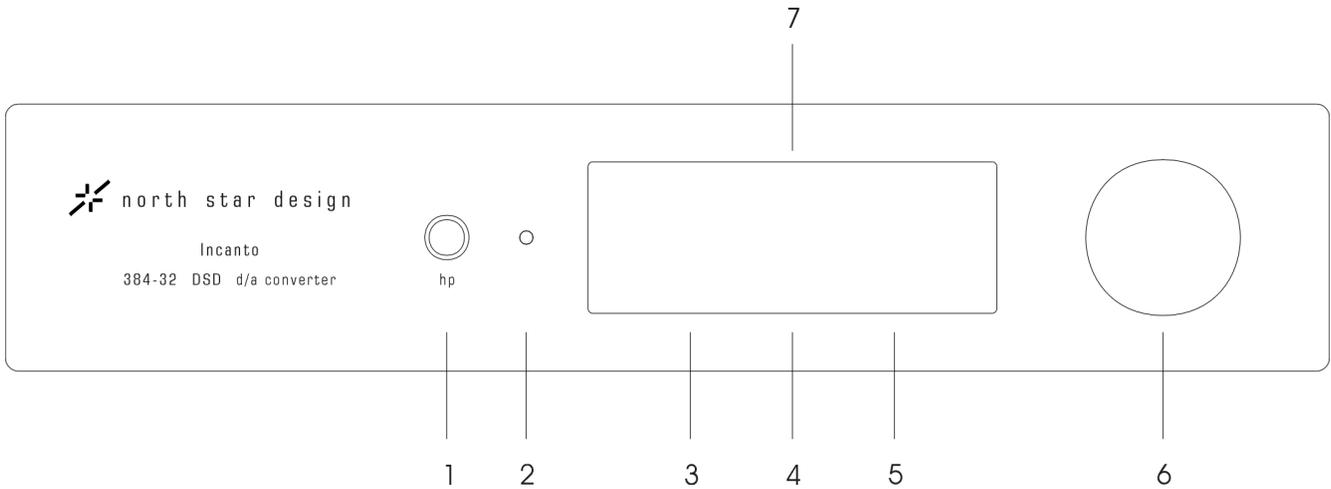
Your *Incanto* has undergone extensive performance evaluations, listening tests, quality control inspections and a minimum twenty-four (24) hour burn-in period prior to shipment and should be in a perfect operational condition upon receipt. If the DAC does not operate correctly, please notify your dealer 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) Configuration Audio Players Manual
- 3** One (1) Remote Control
- 4** One (1) AC power cable
- 5** One (1) USB2.0 cable
- 6** One (1) CD-ROM with drivers
- 7** One (1) warranty card (in some countries warranties are provided by the respective importer)



## Installation

Locate the *Incanto* as close as possible to its final installation point. Allows 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 *Incanto*. The descriptions below refer to the numbers and letters associated with the features in the diagram above.

## Front Panel

### 1 HEADPHONE OUTPUT CONNECTOR

Plug here your headphone. Refer to SETUP section to correctly select the headphone output level.

### 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 VOLUME/SETUP DISPLAY

Three digit display shows the attenuation level in operative mode and the available configurations in setup mode.

### 4 HEADPHONE LED INDICATOR

When the led glows blue, indicates the headphone output is active.

### 5 FREQUENCY/INPUT/SUBSETUP DISPLAY

The three digit display shows the sampling frequency of the track playing in operative mode, or the available configurations in the setup mode. The recognized frequency in PCM mode are: 44.1kHz, 48kHz, 88,2kHz, 96kHz, 176,4kHz, 192kHz, 352.8kHz, 384kHz. While in DSD mode are recognized native x64 x128 x256 (352.8kHz, 384kHz and native DSD only on USB).

### 6 VOLUME/INPUT/SETUP KNOB

In Stand-by – pressing the knob for some seconds the DAC enter in SETUP mode (see the SETUP section). Pressing newly the knob the DAC will back in stand-by status (see the KNOB CONTROL section).

In Operative mode – turn left/right the knob to decrease/increase the volume. Pressing the knob the DAC enter in INPUT MODE. Turn left/right the knob to decrease/increase the input. Pressing again to exit from INPUT MODE (see the KNOB CONTROL section).

### 7 REMOTE SENSOR

## Rear Panel

**Caution! Switch Off the *Incanto* when you need to connect or disconnect any cables.**

### **8 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).

### **9 COAX INPUT (COAX 2)**

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).

### **10 OPTICAL INPUT (OPT 1)**

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).

### **11 OPTICAL INPUT (OPT 2)**

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).

### **12 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).

### **13 BALANCED ANALOGUE OUTPUT**

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

### **14 UNBALANCED ANALOGUE OUTPUT**

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

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

### **15 AC MAINS INLET AND AC MAINS SWITCH**

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

**The North Star Design Incanto 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 converter. 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** .

Two slow-blow 500mA (220-240V), 1A (100-120V) fuses are located inside a small drawer in the AC main inlet. If you suspect that your AC fuses 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 Incanto DAC, 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 Incanto DAC. All service of this product must be referred to a qualified North Star Design dealer or distributor.**

## SETUP

In **STAND-BY** mode, press the knob for some seconds - you will enter in SETUP mode. There are 13 different setups for the *Incanto*:

A 0 Analog gain 1Vrms @0dB Headphone output OFF - Line output ON  
A 1 Analog gain 2Vrms @0dB Headphone output OFF - Line output ON  
A 2 Analog gain 4Vrms @0dB Headphone output OFF - Line output ON

AH0 Analog gain 1Vrms @0dB Headphone output ON - Line output OFF  
AH1 Analog gain 2Vrms @0dB Headphone output ON - Line output OFF  
AH2 Analog gain 4Vrms @0dB Headphone output ON - Line output OFF

### AH0 Submenu

Lo	Low gain	Headphone output
Mid	Mid gain	Headphone output
Hi	High gain	Headphone output

### AH1 Submenu

Lo	Low gain	Headphone output
Mid	Mid gain	Headphone output
Hi	High gain	Headphone output

### AH2 Submenu

Lo	Low gain	Headphone output
Mid	Mid gain	Headphone output
Hi	High gain	Headphone output

### NOTE:

By setting Lo/Mid/Hi you have the same basic submenu configuration for AH0/AH1/AH2.

d 0 Analog gain 1Vrms @0dB Headphone output OFF	DIRECT (no volume control)
d 1 Analog gain 2Vrms @0dB Headphone output OFF	DIRECT (no volume control)
d 2 Analog gain 4Vrms @0dB Headphone output OFF	DIRECT (no volume control)

**NOTE:**

**By setting d0/d1/d2 should be used connecting an external preamp!**

*PCM* filter characteristics

Hi high slope of digital filter  
Lo low slope of digital filter

*DSD* filter characteristics

47 47kHz -3dB  
50 50kHz -3dB  
60 60kHz -3dB  
70 70kHz -3dB

*Ph* Submenu

0 degree output phase (Normal mode)  
180 degree output phase

*PLL* bandwidth

Lo lowest locked bandwidth  
Mid medium locked bandwidth  
Hi highest locked bandwidth

**NOTE:**

**In PCM, DSD, Ph, PLL menu you cannot exit from setup mode. You have to return to others menu (A0..2, AH0..2,d0..2)!**

Optimal setting selection.

The *Incanto* Analog gain need to be set to allows a right listening level for a volume fews dB below the reference 0,00dB. Set the right output level to match correctly the poweramp, active loudspeakers sensitivity. Set the AH0, AH1, AH2 to set the correct volume for the headphone.

After you have selected one of the settings, press the knob again for a few seconds. You return to the stand-by mode again.

**KNOB CONTROL**

When *Incanto* is in Stand-by:

- with a small pressure of the knob the DAC enter in operative mode. On frequency/input display appears "nsd" written.
- with a pressure of some seconds the DAC enter in SETUP mode. The last configuration appears

on setup and subsetup display.

When *Incanto* is in Setup:

- moving the knob to the right/left you scan the different configurations appearing on setup display. For some configuration (AH0..2,PCM, DSD, Ph, PLL) is provided a submenu setup in which you can enter with a small pressure of the knob. At this point you can observe the selected option blinking on subsetup display. When you confirm with a small pressure of the knob the option appears again stable on display. To exit from setup press again some seconds the knob.

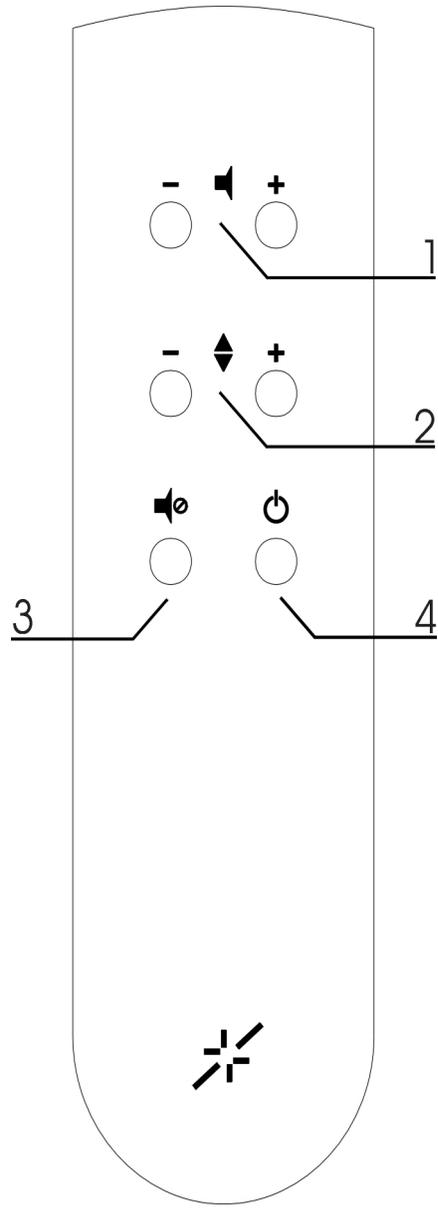
When *Incanto* is operative:

- press one time the knob to enter in input mode. Move the knob to right/left for changing input. On frequency/input display appears the selected input in a stable mode, then press again one time to confirm. When on the chosen input there is connected a source, you can rotate the knob to right/left for increasing/decreasing volume (not in direct mode). If there is no signal on selected input a rotation of knob has no effect in variation of volume. To return in Stand-by press the knob for some time.

**NOTE: If you are in input mode you can't return in Stand-by. Therefore a long press of the knob has only the effect to confirm the displayed input.**

## REMOTE CONTROL

1. Volume UP/DOWN; use the +/- Volume button to change the output level of *Incanto*
  2. Input UP/DOWN; use the +/- Input button to change the input source.
  3. Mute button; use this button to mute (40 dB attenuation) the *Incanto* output. Press newly the Mute button or change the volume to exit from mute.
  4. Standby button; use this button to toggle the *Incanto* between the standby and operation state.
- Replacing remote control battery. Unscrew the 3 screws on the back of the remote control. Insert a fresh battery. Be careful to follow the + and – polarity indications at the bottom of the battery compartment. Battery: 1 x CR2025



## Driver Installation

The *Incanto*, in USB mode configuration, need proprietary drivers to be installed in the PC. Drivers are available for different Operative Systems:

PC                    XP, Vista/Win7/Win8 (both 32 and 64 bits)

### Installation

- 1) connect the *Incanto* 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 PCM-DSD USB Audio Interface

For Mac Users are not required any Drivers.

## TECHNICAL SPECIFICATIONS

DIGITAL INPUT FREQUENCY	44.1 kHz to 384kHz, up to 32 bit – native DSD x64 – x128 - x256 (352,8-384kHz and native DSD on USB only)
DYNAMIC RANGE	126dB
DISTORTION	0,0003% 0dB
DIGITAL INPUT	4 S/PDIF (2 RCA coax, 2 TOSLINK) 1 USB2.0
ANALOGUE OUTPUT UNBALANCED	1 pair per channel on RCA connectors
ANALOGUE OUTPUT BALANCED	1 pair per channel on XLR connectors
HEADPHONE ANALOGUE OUTPUT	¼" Headphone Jack
MAIN VOLTAGE/CONSUMPTION	230/115V 50/60Hz 20W – Stand-by 0,5W
DIMENSIONS	12in (W) x 7.5in (D) x 2.7 in (H) 30cm (W) x 17cm (D) x 7cm (H)
WEIGHT	8,56lbs. (3,8Kg)

## CD-ROM installation drivers

NOTES



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