NADAC D

TRUE ONE BIT AUDIO DIGITAL TO ANALOG CONVERTER

USER MANUAL

MASTER FIDELITY

www.master-fidelity.com

First of all, thank you for choosing

NADAC D

TRUE ONE BIT AUDIO DIGITAL TO ANALOG CONVERTER !

About the Functional Description of the Current NADAC D Version

The current NADAC D version does not have network audio (RAVENNA) input function.

Therefore, for the sections related to the network audio (RAVENNA) input function in this user manual, the following explanations are provided:

1. The RAVENNA (RJ45) network port on the rear panel will not be installed temporarily and will be covered with a blind board.(manual page 4-2)
2. The button for selecting Ravenna as the input source on the input settings page is temporarily unavailable, and there is no response when pressing this button. (manual pages 5-8, 7-14)
3. The button for selecting network parameter settings on the system settings page is temporarily unavailable, and there is no text displayed in the button box. (manual pages 5-9, 7-23)
4. You are temporarily unable to access the system - network sub page, which will not be displayed. (manual pages 5-12, 7-28 to 7-32)
5. RAV display will not appear in the input display pane, and PTP display will not appear in the sync display pane. (manual page 5-15)

Contents

1. Important Safety and Installation Instruction

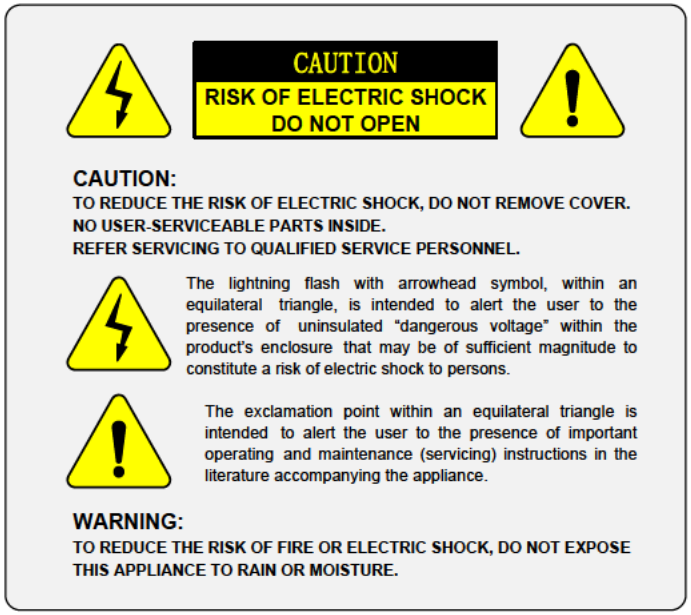
1.1 Important Instructions to Prevent Possible Fire, Electric Shock and Other Personal Injury

WARNING – The following are basic precautions that should be followed when using electrical products. Please read the following information very carefully before attempting any installation and use. Failure to follow instructions strictly may result in damage to the unit, resulting in fire, electric shock, or personal injury.

1). Read all of the safety instructions thoroughly. Read the installation instructions and understand the explanations of all graphic symbols used in the manual and on the unit before using this unit.

2). This unit is not equipped with a power supply cord. The user should use a power supply cord with a grounding connection according to the latest standards of the country or region of use in accordance with all local codes and ordinances. This unit must be grounded properly, otherwise it could malfunction, breakdown or cause electrical shock. This unit should be grounded using a power cord with the smallest ground resistance, proper current rating and shortest length to reduce the risk of electric shock or malfunction.

DANGER – This warning cannot be overstated: Improper connection of this unit-grounding can result in the risk of an electric shock. Do NOT use power cords that are inconsistent with local power outlet standards for a grounded 3 prong power cord with 2 blades and 1 earth ground. Also do not use an adapter that defeats the function of the equipment-grounding conductor (earth ground). If you are in doubt as to whether this unit is properly grounded, check with a qualified serviceman or electrician prior to use.



THE DEVICE MUST BE GROUNDED – Do not remove any protective grounding or shielding connections of signal cables to avoid ground loops. Any such removal or disconnection is not advised by MASTER FIDELITY and will result in the invalidation of electromagnetic compatibility certification, safety certification, and warranty terms.

3). Do not use this unit in a damp environment or close to any exposed water sources.

4). Care should be taken so that objects do not fall on this unit and liquids are not spilled into any opening on the enclosure. Liquids spilled on this unit or inside this unit could result in electrical shock, malfunction or unit breakdown.

5). This unit installation height should be within 2 meters from the ground.

6). Whether this unit is installed in a rack or placed in another location, the user shall provide good ventilation with adequate heat dissipation.

7). This unit should be located away from heat sources such as radiators, heat registers, or other equipment that produces direct or indirect heat.

8). This unit should be serviced by qualified service personnel when:
A). The power supply cord or plug has been damaged.
B). Objects have fallen on this unit, or liquid has spilled into this unit.
C). This unit has been exposed to rain.
D). This unit does not appear to be operating normally or exhibits a marked change in performance.
E). This unit has been dropped, or the enclosure damaged.

9). The power-supply cord(s) of this unit should be unplugged from the AC outlet when this unit is expected to be left unused for long periods of time.

When unplugging the power cord(s), do not pull on the cord(s), but grasp them by the plug. Protect the power cord(s) from beIng walked upon or pinched- particularly at plugs interfaces at the AC receptacles and the point where they attach to this unit.

10). **WARNING** - Do not place objects on the power supply cord(s), or place this unit in a position where anyone could trip over, walk on, or roll anything over cord(s). Do not allow this unit to rest on or be installed over cord(s) of any type. Improper installations of this type create the possibility of a fire hazard and/or personal injury.

11). Do not attempt to service this unit beyond that described in the user maintenance instructions. All servicing should be referred to qualified professional service technical.

1.2 Static Electricity Danger Notice

Please be aware that this device contains fragile electronic components which may be damaged or even completely destroyed by static electricity. It is imperative to take all necessary precautions to avoid discharging static electricity when touching any connectors on this device.

1.3 Product Safety Compliance

This unit has been tested and verified to comply with the following safety regulations:

(1) European Union (CE): **Verification of LVD Compliance**

Applicable standard: EN 62368-1:2014/A11:2017 Audio/video, information and communication technology equipment - Safety requirements - Part 1: Safety requirements (IEC 62368-1:2014, modified).

(2) Japan (PSE): **Verification of Safety**

Applicable standard: IEC 62368-1:2014; J62368-1 (H30).

1.4 Product EMC Compliance

This unit has been tested and verified to comply with the following EMC regulations:

(1) European Union (CE): **Verification of EMC Compliance**

Applicable standard: EN 55032: 2015, EN 55035: 2017, EN 61000-3-2: 2014 and EN 61000-3-3: 2013

EN 55032: 2015 Electromagnetic compatibility of multimedia equipment - Emission requirements.

EN 55035: 2017 Electromagnetic compatibility of multimedia equipment - Immuni requirements.

EN 61000-3-2: 2014 Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissons (equipment input current ≤16 A per phase).

EN 61000-3-3: 2013 Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤ 16 A per phase and not subject to conditional connection.

(2) United States (FCC):

Applicable standard: FCC CFR Title 47 Part 15 Subpart B Section 15.107 and Section 15.109.

Federal Communications Commission - Electronic Code of Federal Regulations (e-CFR);

Title 47. Telecommunication; Part 15. Radio frequency devices; Subpart B. Unintentional radiators;

Section 15.107. Conducted limits and Section 15.109. Radiated emission limits.

(3) Japan (PSE):

Applicable standard: J55032 (H29) Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

Electromagnetic Compatibility Notices: MASTER FIDELITY **NADAC D** complies with Class B of FCC regulations.

FCC Class B notice

This unit complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This unit may not cause harmful interference.
2. This unit must accept any interference received, including interference that may cause undesired operation.

1.5 Environmental Limits

Parameter Limits

Operating Temperature +5°C to + 45°C with the maximum rate of change not to exceed 10°C per hour.

Non-Operating Temperature -40°C to +70°C.

Non-Operating Humidity 95%, non-condensing @ 30°C.

2. Overview

2.1 Overview

Mastering the Art of Sound with NADAC D

The launch of MASTER FIDELITY's **NADAC D** has heralded a new era in audio technology, introducing an innovative breakthrough in True 1-bit decoding. This advanced method of processing sound signals brings a level of clarity and fidelity previously unattainable, setting a new standard for audiophiles and music lovers alike.

For years, the audiophile DAC has navigated between two main paths: utilizing commercial DAC chips from well-known manufacturers like AKM, ESS, or CS, or crafting bespoke DAC systems with FPGA/CPLD and custom logic components. Although commercial DAC chips are reliable and widely used, they often don't meet the exacting standards of audiophiles who demand the utmost in sound quality. On the other hand, custom-built DACs offer unparalleled audio fidelity but are often hindered by the high costs and scarcity of specialized components required for top-tier performance..

NADAC D by MASTER FIDELITY breaks through these limitations with its state-of-the-art True 1-bit decoding technology. It achieves this by focusing on precision in every aspect of hardware performance, from ensuring the most accurate timing of sound signals (clock accuracy) to maintaining the highest standards in power delivery (power quality). Multiple custom-designed ASIC chips further enhance this precision, making **NADAC D** a milestone in audio excellence..

What sets **NADAC D** apart is its exceptional ability to reproduce sound with unmatched linearity. This means that every note and nuance is delivered with absolute accuracy, free from the distortions that can mar the listening experience. Achieving such perfection in sound reproduction requires not just advanced technology but also a commitment to overcoming challenges such as the need for sophisticated mathematical algorithms like Sigma-Delta Modulation (SDM), extreme clock precision, and the use of high-quality power supplies.

By addressing these challenges head-on and meticulously selecting only the most suitable components, MASTER FIDELITY has not only navigated the complexities of audio engineering but has also redefined what's possible in sound reproduction. The result is a listening experience that captures the full emotional range and depth of music, allowing listeners to hear their favorite compositions as if for the first time.

NADAC D is more than just a technological achievement; it's an invitation to experience music in its purest form, bringing the concert hall into your home. Whether you're an audiophile seeking the pinnacle of sound quality or a music lover looking to be moved by every note, **NADAC D** delivers unparalleled audio fidelity that must be heard to be believed.

3. Front Panel

3.1 Touch Screen

① Touch Screen

All operational statuses, parameter settings, and user operations of the **NADAC D** are conducted through this touch screen.

3.2 headphones Output Port

② Unbalanced stereo headphones output port

6.35mm TRS connector, output impedance of 1 ohm, used for plugging in unbalanced stereo headphones.

③ Balanced stereo headphones output port

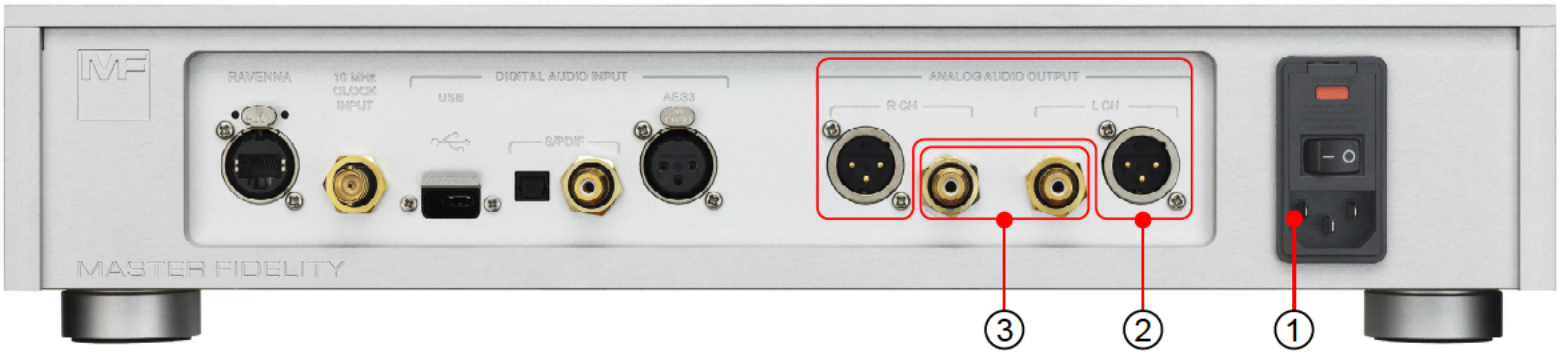
4.4mm Mini headphones connector, output impedance of 1 ohm, used for plugging in balanced stereo headphones.

3.3 Infrared Remote Control Receiver

④ Infrared remote control receiver

An infrared receiving sensor, used to receive remote control signals emitted by the infrared remote control provided with the **NADAC D**.

4. Rear Panel



4.1 AC Power Connector, AC Input Voltage Selector, AC Power Switch, and Fuse

① **AC power connector, AC power input voltage Selector, AC power switch, and fuse.**

Compliant with IEC 60320 C14 standards, equipped with an input voltage selector, power switch, and a single fuse for the AC power input socket.

The AC input voltage ranges from 100 V to 120 V or 200 V to 240 V, with a frequency of 50 or 60 Hz.

The type of fuse is a slow-blow, with dimensions of 5 x 20 mm.

4.2 Analog Audio Output Connector

② **Stereo balanced output connector**

The connector specification is XLR-3-M (a pair), for balanced transmission.

③ **Stereo unbalanced output connector**

The connector specification is Phono (RCA) (a pair), for unbalanced transmission.

4.2 Digital Audio Input Connector

④ RAVENNA input connector

The connector specification is RJ45. Supported digital audio formats and sampling rates include:

PCM digital audio: 44.1 kHz / 88.2 kHz / 176.4 kHz / 352.8 kHz, 16 bit / 24 bit / 32 bit;
48 kHz / 96 kHz / 192 kHz / 384 kHz, 16 bit / 24 bit / 32 bit.

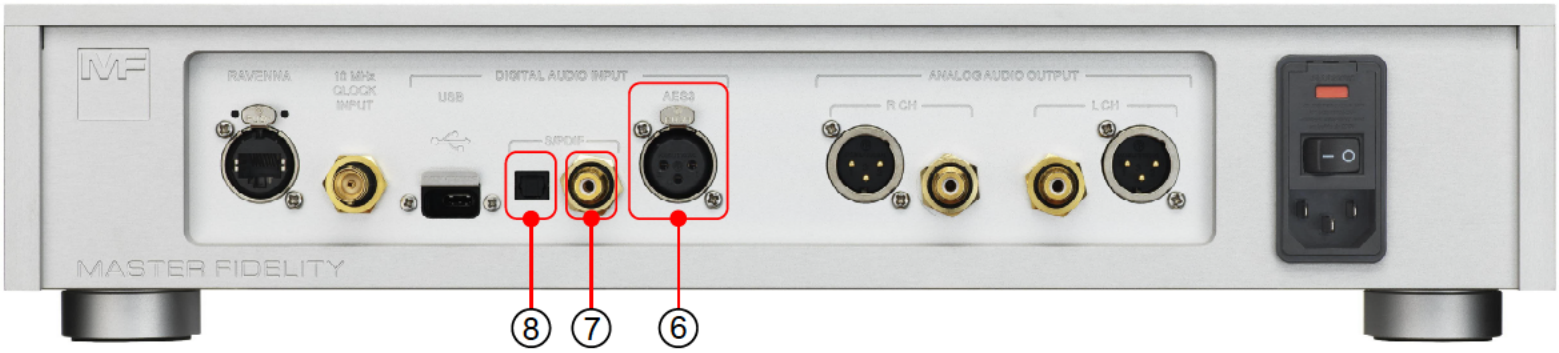
DSD digital audio: 2.8224 MHz (DSD64) / 5.6448 MHz (DSD128) / 11.2896 MHz (DSD256) /
22.5792 MHz (DSD512), 1 bit.

⑤ USB input connector

The connector specification is USB Type-C 2.0. Supported digital audio formats and sampling rates include:

PCM digital audio: 44.1 kHz / 88.2 kHz / 176.4 kHz / 352.8 kHz, 16 bit / 24 bit / 32 bit;
48 kHz / 96 kHz / 192 kHz / 384 kHz, 16 bit / 24 bit / 32 bit.

DSD digital audio: 2.8224 MHz (DSD64) / 5.6448 MHz (DSD128) / 11.2896 MHz (DSD256) /
22.5792 MHz (DSD512), 1 bit.



⑥ AES3 balanced input connector

The connector specification is XLR-3-F, impedance 110 ohm, for balanced transmission. Supported digital audio formats and sampling rates include:

PCM digital audio: 44.1 kHz / 88.2 kHz / 176.4 kHz, 16 bit / 24 bit;
48 kHz / 96 kHz / 192 kHz, 16 bit / 24 bit.

DoP digital audio: DoP64, 16 bit / 24 bit.

⑦ S/PDIF coaxial input connector

The connector specification is RCA (Phono), impedance 75 ohm, for coaxial transmission. Supported digital audio formats and sampling rates include:

PCM digital audio: 44.1 kHz / 88.2 kHz / 176.4 kHz, 16 bit / 24 bit;
48 kHz / 96 kHz / 192 kHz, 16 bit / 24 bit.

DoP digital audio: DoP64, 16 bit / 24 bit.

⑧ S/PDIF optical input connector

The connector specification is TosLink, for optical transmission. Supported digital audio formats and sampling rates include:

PCM digital audio: 44.1 kHz / 88.2 kHz / 176.4 kHz, 16 bit / 24 bit;
48 kHz / 96 kHz / 192 kHz, 16 bit / 24 bit.

DoP digital audio: DoP64, 16 bit / 24 bit.

4.4 10 MHz Clock Input Connector

⑨ 10 MHz clock input connector

The connector specification is BNC, with an impedance of 50 ohms and is also compatible with 75 ohm impedance.

5. Touch Screen and Its Display Pages

5.1 Touch Screen

The display screen used by **NADAC D** is a 5-inch color LCD touchscreen, with a display area of 109.5 (width) x 61.5 (height) mm, and a pixel matrix of 854 (RGB) x 480.

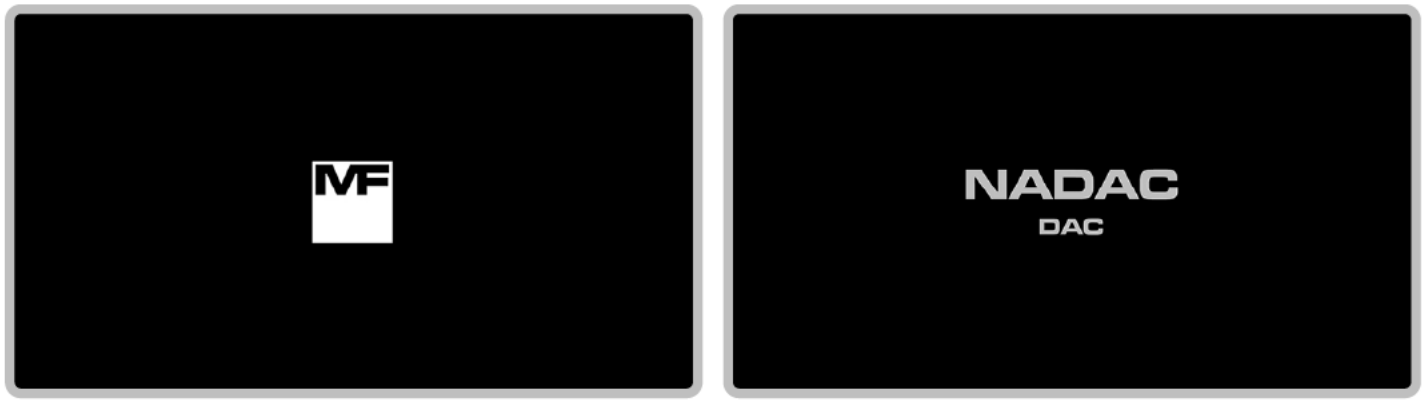
5.2 Display Pages of the Touch Screen

The display of the **NADAC D** touchscreen is divided into a boot page, warm up page, working page, and settings page.

5.2.1 Boot Page

The boot page is the screen briefly displayed by **NADAC D** when the power is turned on.

The boot page consists of two pages: the company logo and the device name.



5.2.2 Warm Up Page

After the boot page, the touchscreen enters the warm-up page. The warm-up page is divided into an initial warm-up page and a gradual stabilization warm-up page, indicating the two stages of the complete warm-up process.

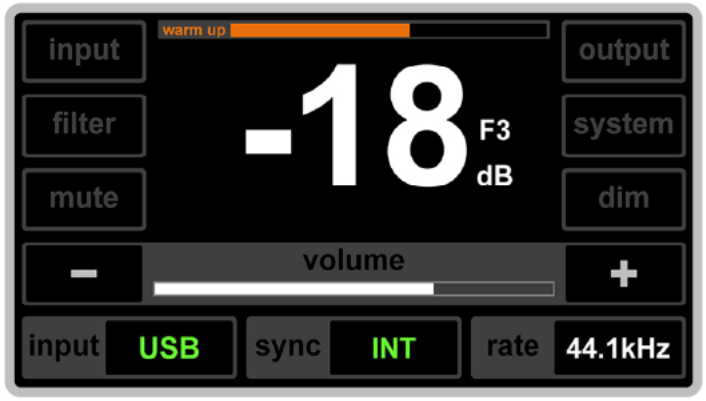
5.2.2.1 Initial Warm Up Page

Under this page, **NADAC D** is in the initial warm-up period after starting up.

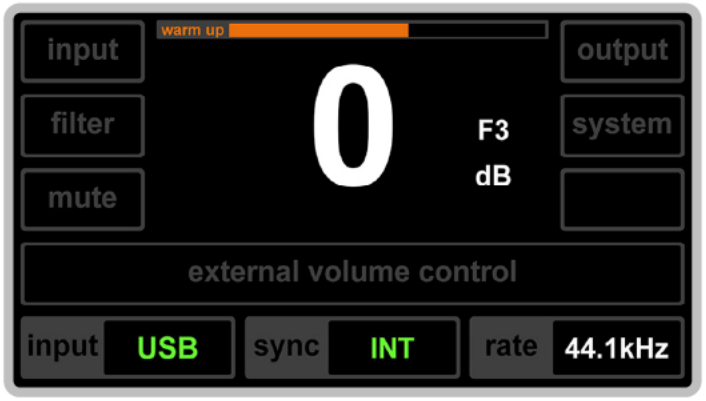
5.2.2.2 Gradual Stabilization Warm Up Page

The gradual stabilization warm-up page is formed by overlaying the gradual stabilization progress bar on top of the working page of **NADAC D**. When transitioning from initial warm-up to gradual stabilization, the progress bar may overlay one of the following four working pages, presenting as the gradual stabilization warm-up page:

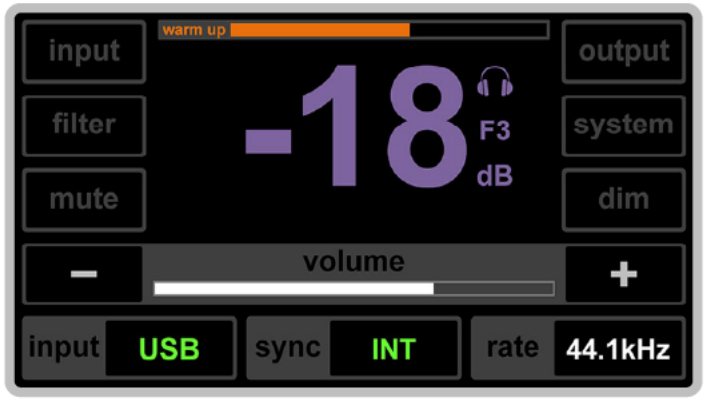
Internal Volume Control Mode and line (speakers) Output



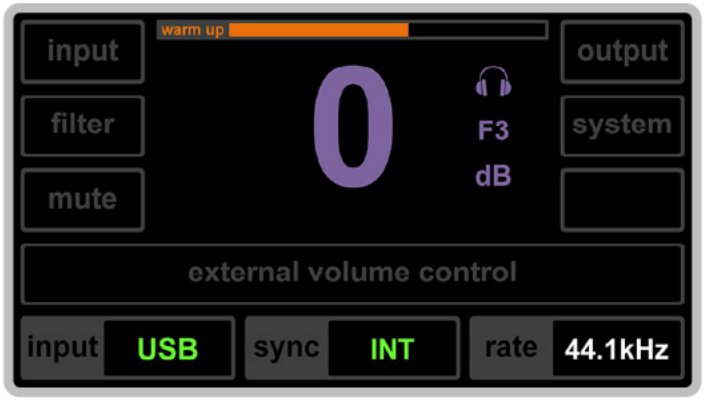
External Volume Control Mode and line (speakers) Output



Internal Volume Control Mode and headphones Output



External Volume Control Mode and headphones Output



Which working page the progress bar overlays is determined by the working page settings stored at the last shutdown.

Under the gradual stabilization warm up page, **NADAC D** will be in the process of gradually stabilizing. During this period, all functions of **NADAC D** can be operated and used.

Note: Although **NADAC D** can be used for playback during the gradually stabilizing warm up period, the sound quality at this time will have a certain gap compared to the sound quality after entering normal working state.

5.2.3 Working Page

After completing the boot, initial warm-up, and gradual stabilization warm-up, the touchscreen transitions to the working page.

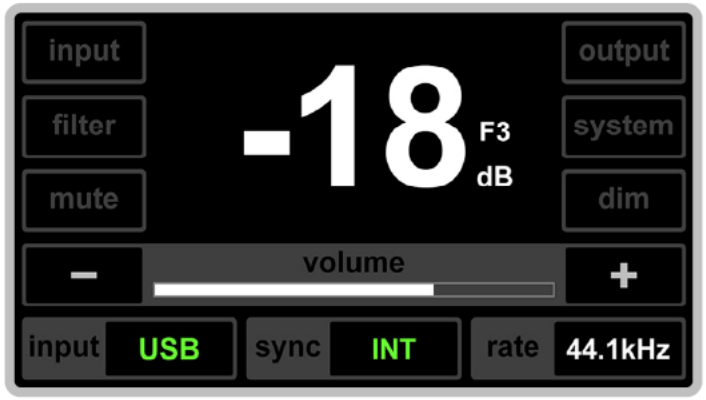
The working page is the normal page for **NADAC D**, divided into internal volume control mode and external volume control mode based on different volume control settings.

5.2.3.1 Internal Volume Control Mode Working Page

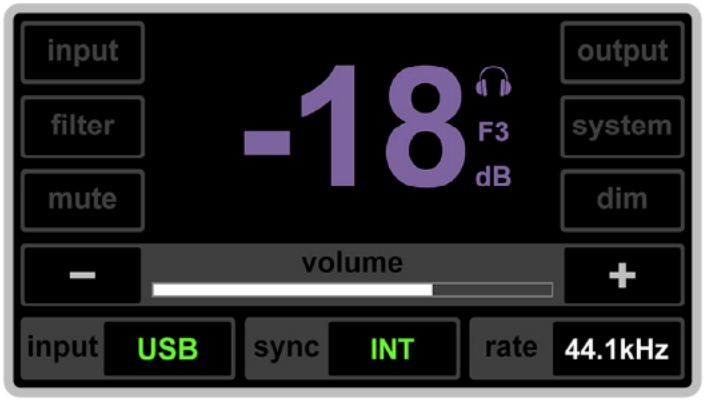
Internal volume control mode is where volume adjustment is made using **NADAC D**'s internal volume controller.

This mode has separate working pages for line (speakers) output and headphones output.

Internal Volume Control Mode Working Page for line (speakers) Output



Internal Volume Control Mode Working Page for headphones Output

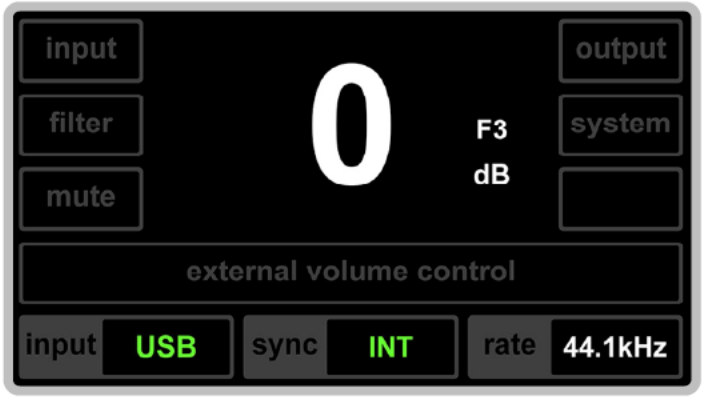


5.2.3.2 External Volume Control Mode Working Page

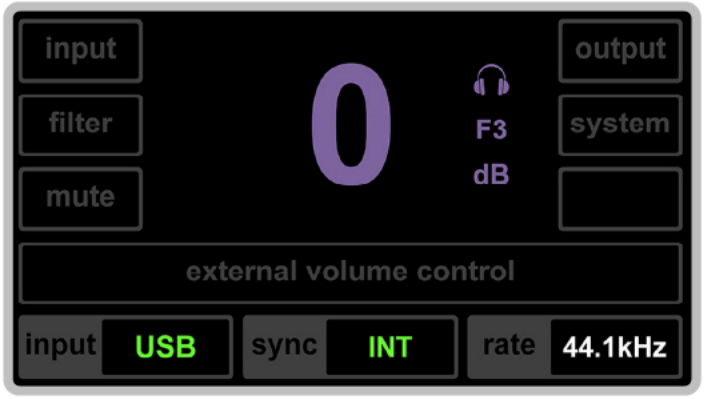
External volume control mode is designed for users with an external standalone preamplifier. In this mode, **NADAC D**'s internal volume controller is bypassed, outputting an undiminished 0 dB.

This mode also has separate working pages for line (speakers) output and headphones output.

External Volume Control Mode Working Page for line (speakers) Output

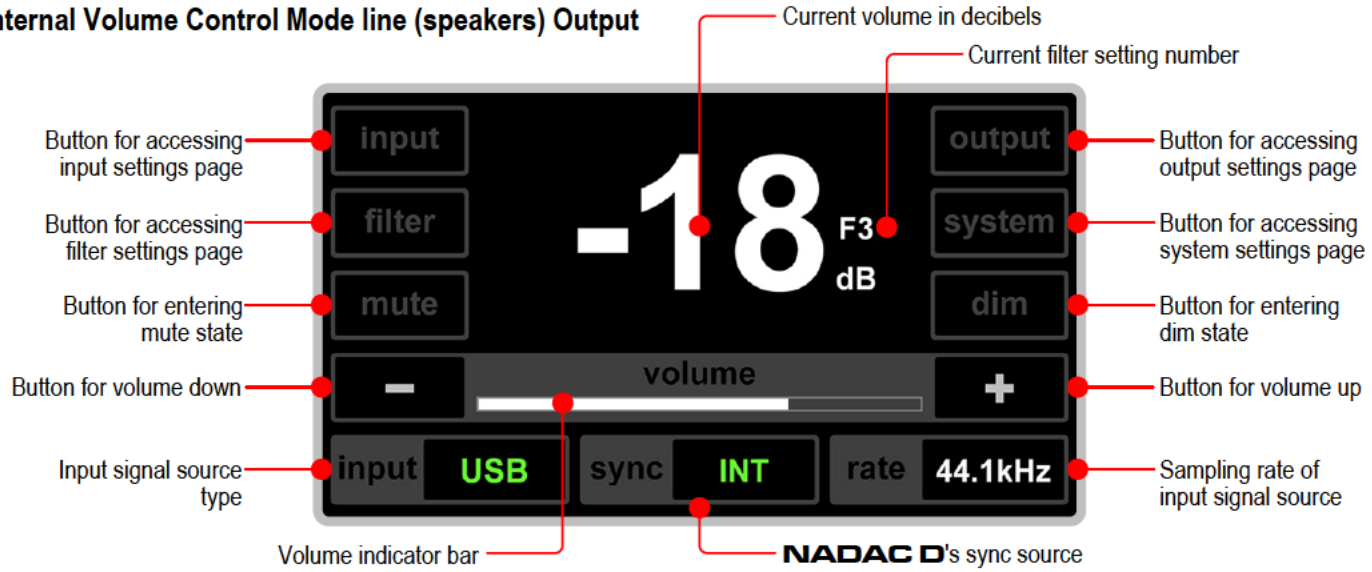


External Volume Control Mode Working Page for headphones Output

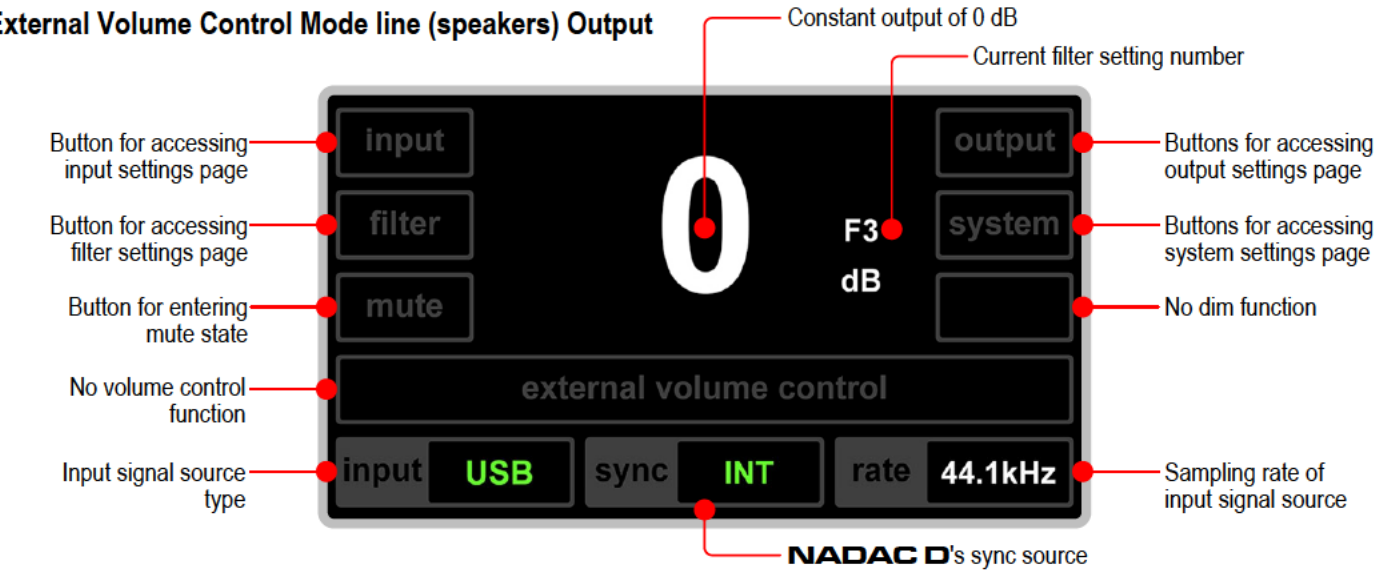


5.2.3.3 Composition and Function of Working Page

Internal Volume Control Mode line (speakers) Output



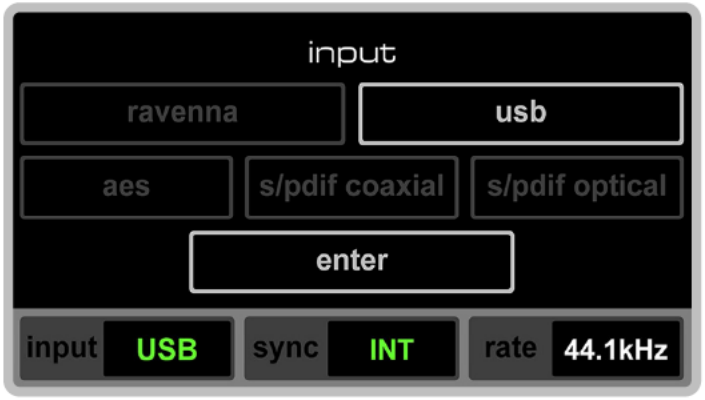
External Volume Control Mode line (speakers) Output



Explanation: The composition and function of the headphones output work page are exactly the same as the line (speakers) output.

5.2.4 Settings Page

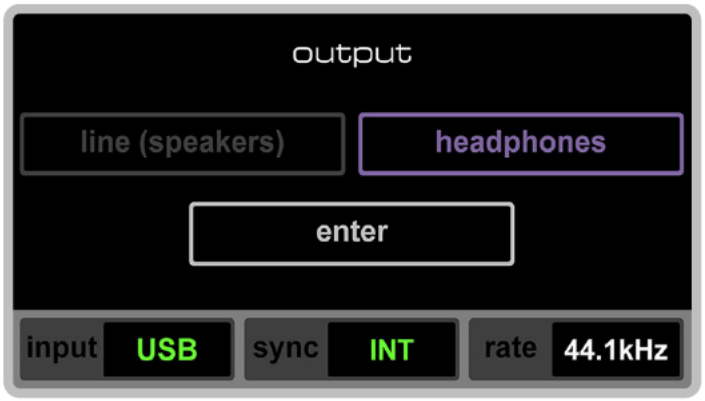
5.2.4.1 Input Settings Page



Entered by clicking the **input** button on the working page.

This page used for selecting input sources (i.e., setting signal input ports).

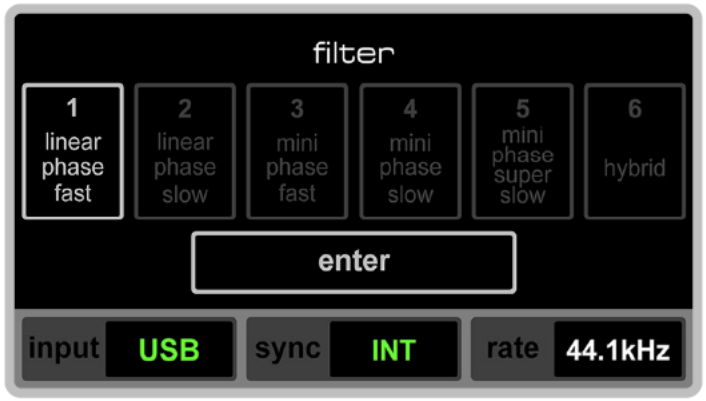
5.2.4.2 Output Settings Page



Entered by clicking the **output** button on the working page.

This page used for selecting output settings as line (speakers) or headphones.

5.2.4.3 Filter Settings Page

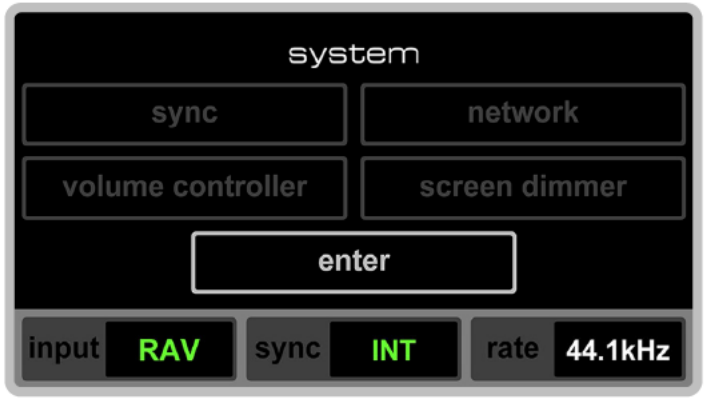


Entered by clicking the filter button on the working page.

This page offers six different types of filters to choose from.

Note: The filter selection and setting only apply to PCM format digital audio signals.

5.2.4.4 System Settings Page

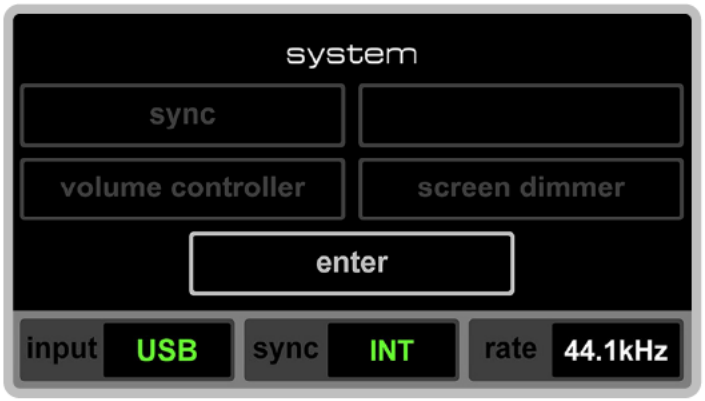


Entered by clicking the system button on the working page.

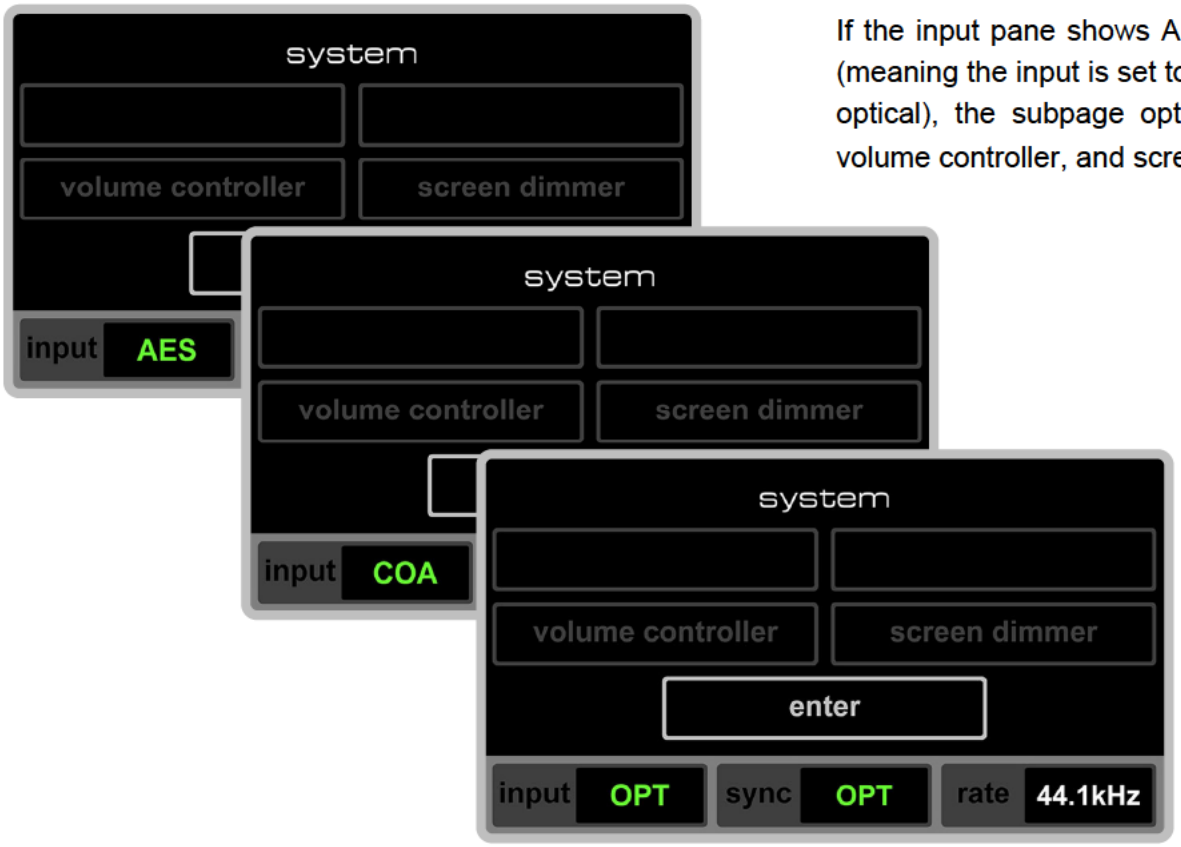
This page used to select one of the subpages under system settings.

Note: The subpage options that appear on the system settings page are related to the input settings on the input settings page.

For instance, if the input pane in the bottom left corner of the screen shows RAV (meaning the input is set to ravenna), the subpage option buttons include sync, network, volume controller, and screen dimmer.



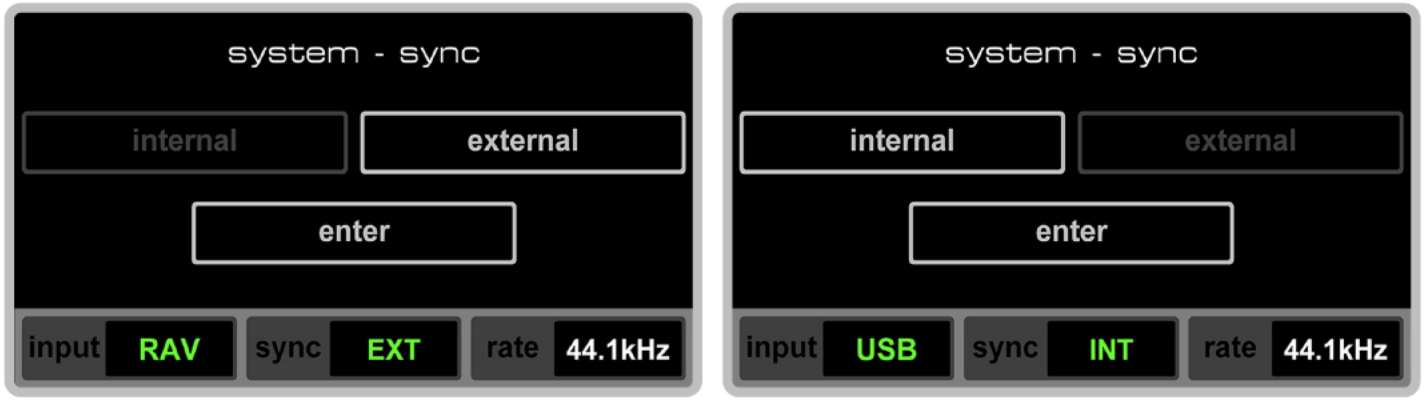
If the input pane shows USB (meaning the input is set to USB), the subpage option buttons include sync, volume controller, and screen dimmer.



If the input pane shows AES or COA or OPT (meaning the input is set to AES3 or coaxial or optical), the subpage option buttons include volume controller, and screen dimmer.

5.2.4.5 Subpages under System Settings

5.2.4.5.1 Synchronization Subpage

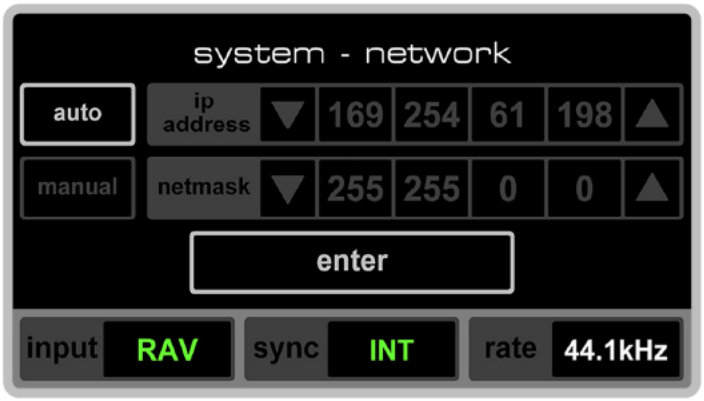


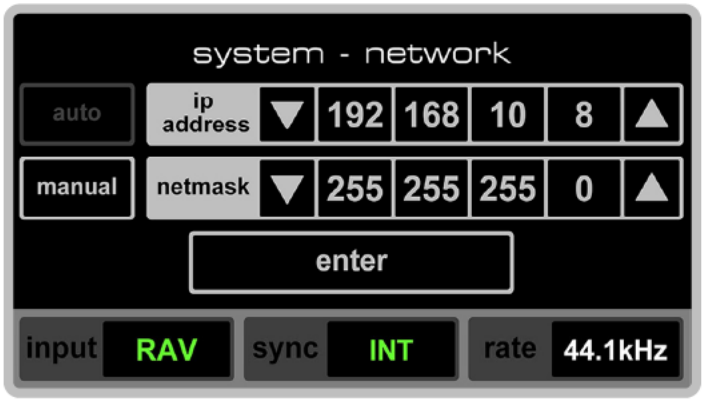
Accessible only when the input is set to RAV or USB, after that allows setting the sync source as internal (INT) or external (EXT).

Example: Left figure shows EXT sync source setting for RAV input, right figure shows INT sync source setting for USB input.

Note: To set the sync source as external (EXT), the input must be RAV or USB and a correct sync signal must be connected to the 10 MHz CLOCK INPUT connector on the rear panel of **NADAC D**, otherwise, **NADAC D** will always be in an internal (INT) synchronization state.

5.2.4.5.2 Network Subpage





Accessible only when the input source is set to **RAV**. This page used for setting IP address and network mask for ravenna input, with options for automatic or manual setting.

Example: Left figure shows **auto** setting, right figure shows **manual** setting.

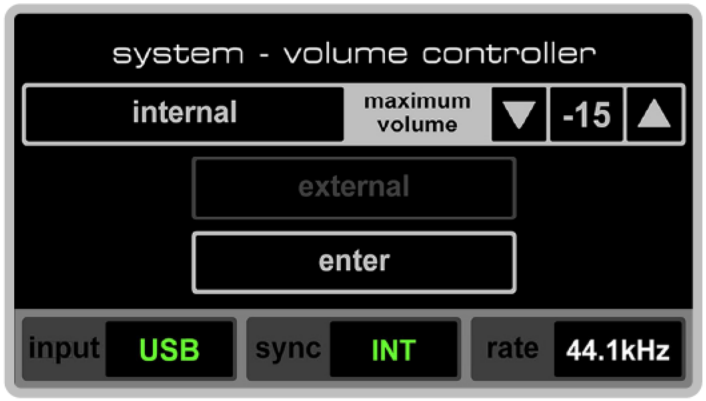
Note: After completing network settings and confirming with the enter button, **NADAC D** will restart.

Displaying a restarting page during the process.

Explanation:

After the restart is completed, **NADAC D** will immediately return to the previous work page without repeating the warm-up process.

5.2.4.5.3 Volume Controller Subpage

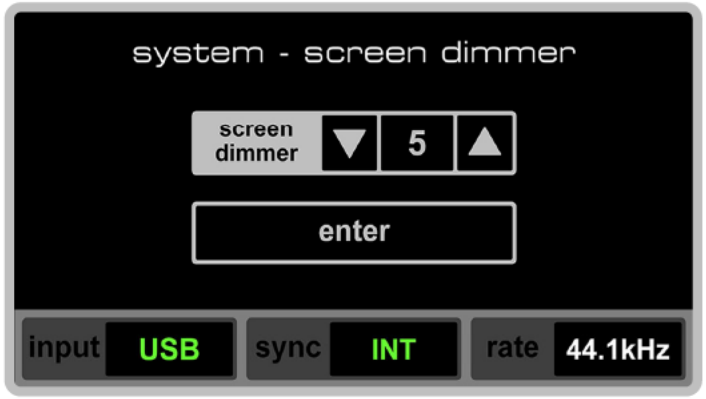


Available for any input source.

On this page, allows choosing and setting the use of either the internal volume controller, an external standalone volume controller, or a preamplifier.

Additionally, when using the internal volume controller, the maximum volume limit can be set.

5.2.4.5.4 Screen Dimmer Subpage



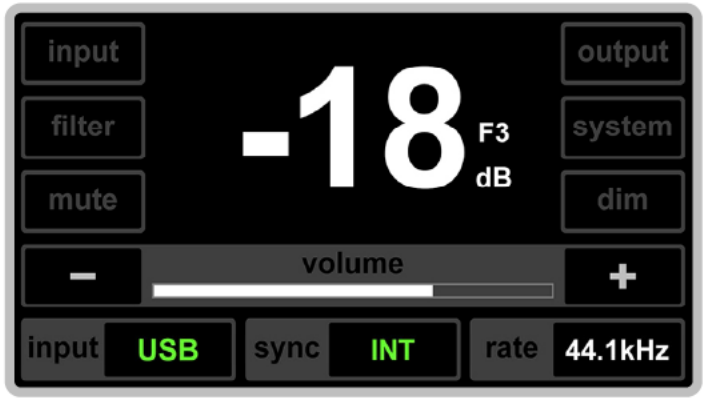
Available for any input source.

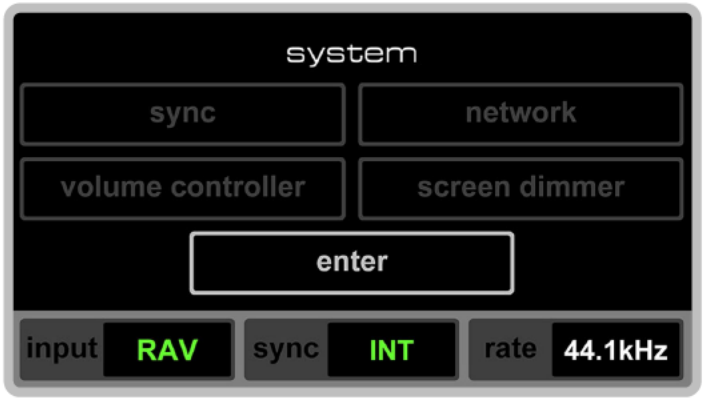
On this page, allows adjusting the brightness of the touchscreen.

5.2.5 Three Current Setting and Working Status Display Panes

The three display panes at the bottom of the screen, from left to right, are input (showing the current input setting), sync (showing the current sync source setting and status), and rate (showing the format and sampling rate of the current audio signal).

These panes are fixed in position on all pages, whether it's a working page or a settings page.





input pane displays inputs:

RAV	RAVENNA
USB	
AES	AES3
COA	S/PDIF COAXIAL
OPT	S/PDIF OPTICAL

sync pane displays sync sources:

INT	Internal
EXT	External
PTP	Precision Time Protocol
AES	AES3
COA	S/PDIF COAXIAL
OPT	S/PDIF OPTICAL
N / L	Not Locked

rate pane displays sampling rates:

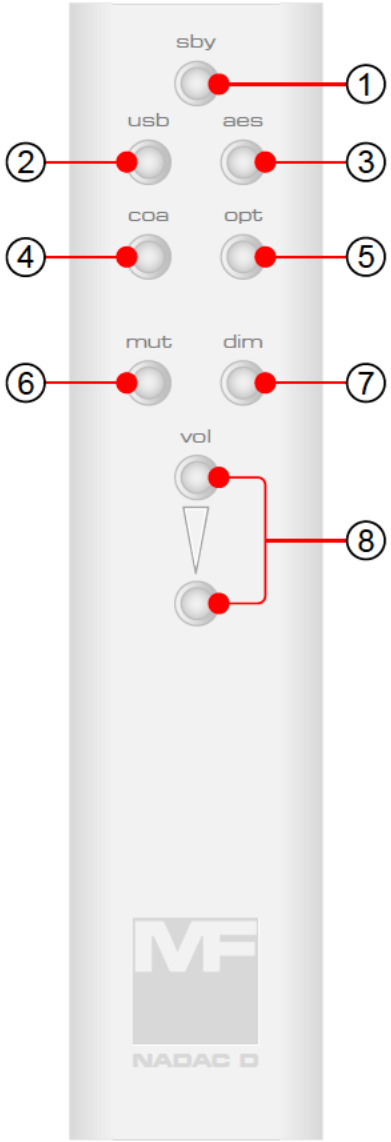
On this pane, with different colors indicating different digital audio formats and their sampling rates.

PCM formats based on 44.1 kHz and its multiples:	44.1 kHz	88.2 kHz	176.4 kHz	
PCM formats based on 48 kHz and its multiples:	48 kHz	96 kHz	192 kHz	384 kHz
DXD format based on 352.8 kHz:	352.8 kHz			
DSD formats based on 2.8224 MHz and its multiples:	2.8 MHz	5.6 MHz	11.2 MHz	22.5 MHz
DSD formats based on 3.072 MHz and its multiples:	3 MHz	6.1 MHz	12.2 MHz	24.5 MHz
DoP format based on 2.8224 MHz:	2.8 MHz			
DoP format based on 3.072 MHz:	3 MHz			
DoP format based on 3.072 MHz:	N / S	Not Supported		

6. Infrared Remote Controller

6.1 Infrared Remote Controller

The **NADAC D** is equipped with an infrared remote controller.



① **sby (standby)** — Standby button. Each press of this button toggles the **NADAC D** between working and standby states.

② **usb (USB)** — Input source selection button. Pressing this button selects the USB port as the input source for the **NADAC D**.

③ **aes (AES3)** — Input source selection button. Pressing this button selects the AES port as the input source for the **NADAC D**.

④ **coa (coaxial)** — Input source selection button. Pressing this button selects the S/PDIF coaxial port as the input source for the **NADAC D**.

⑤ **opt (optical)** — Input source selection button. Pressing this button selects the S/PDIF optical port as the input source for the **NADAC D**.

⑥ **mut (mute)** — Mute button. Each press of this button toggles the **NADAC D** between mute and normal output.

⑦ **dim (dim)** — Dim button. Each press of this button toggles the **NADAC D** between dim and normal volume.

⑧ **vol (volume)** — Volume adjustment button. Continuous clicking or keep pressing the upper (lower) volume button, gradually increases (decreases) the volume of the **NADAC D** until the click is stopped or the press is released or the maximum (minimum) volume is reached.

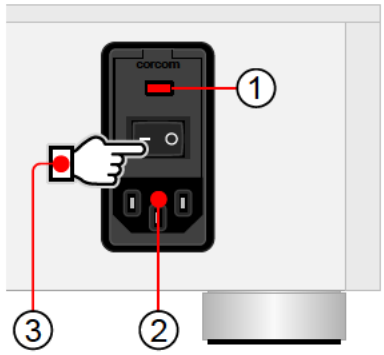
Explanation:

The maximum volume value is 0 dB or a certain preset value, and minimum volume value is -57 dB.

The power supply for the infrared remote controller is two 1.5V AAA batteries.

7. Operating

7.1 Insert and Connect AC Power



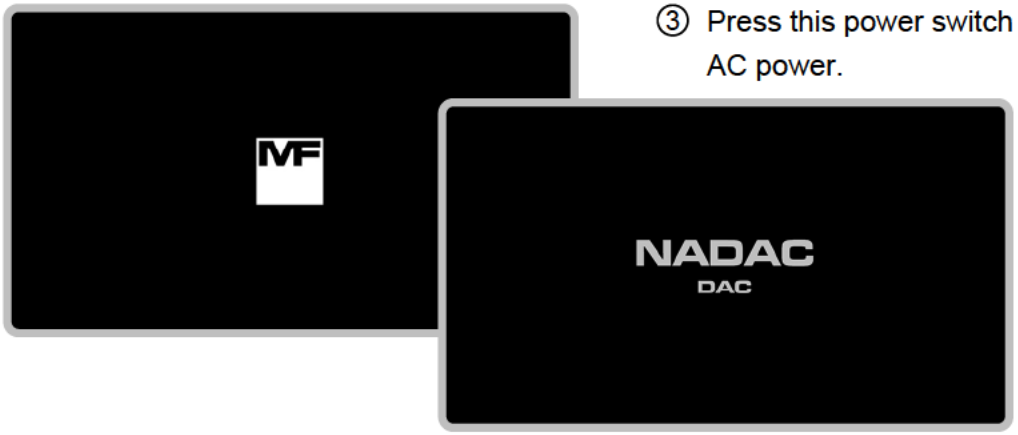
① The AC power voltage for **NADAC D** is 100-120 V or 200-240 V, switchable. **Before first connecting the NADAC D to AC power, users must confirm in this red window that the set voltage matches the mains voltage of the country or region.** The indication for 100-120 V in the red window is 115 V, and for 200-240 V, it's 230 V.

Important Note: If the voltage setting is incompatible, open the power socket to change the voltage. If users are unsure about correctly performing this voltage change, they should contact the seller of **NADAC D** or a qualified electrical engineer. Damage caused by incorrect operation is not covered by MASTER FIDELITY's warranty. MASTER FIDELITY is also not responsible for electric shock or other personal injuries resulting from improper operation.

② Insert the AC power cord here. The connector at the end of the AC power cord that plugs into the **NADAC D** should conform to the IEC-60320 C14 standard, and the connector that plugs into the power outlet should comply with the safety standards of the country or region.

Note: The AC power cord is not included with the **NADAC D**.

7.2 Power On



③ Press this power switch to connect the **NADAC D** to AC power.

Upon powering on, the boot page is first displayed. The boot page consists of two pages: the company logo and the product name, each displayed for 3 seconds.

7.3 Warm Up

As the **NADAC D** is designed as a high-precision and high-quality digital-to-analog converter, its power unit is designed as a constant temperature power supply. This design provides strong support and a solid foundation for the low noise index and sound quality performance of the **NADAC D**.

Due to the presence of the constant temperature power supply, the **NADAC D** requires a warm up time when powered on.

The warm up process of the **NADAC D** consists of an initial and gradual stabilization two stages.

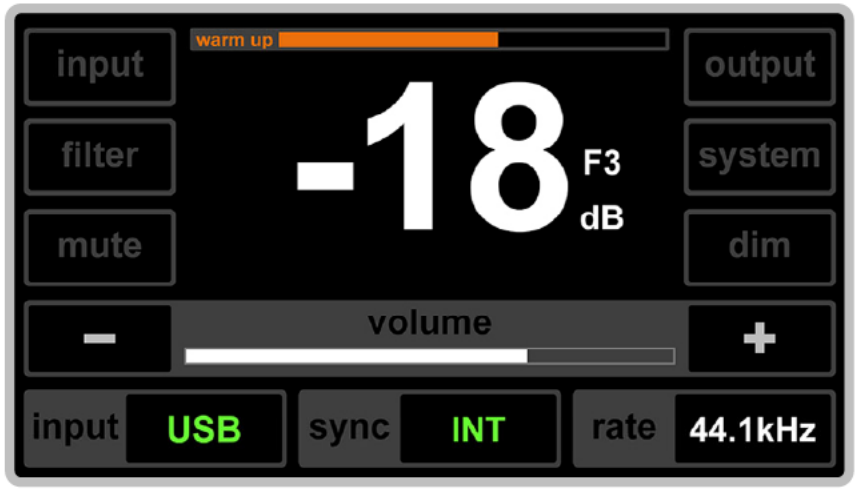
7.3.1 Initial Warm Up

After the boot screen display ends, the power unit of the **NADAC D** enters the initial warm up stage, which lasts for two minutes. At this time, the screen displays the initial warm up page as shown in the left figure.

7.3.2 Gradual Stabilization Warm Up

After the initial warm up is completed, the power unit enters the gradual stabilization warm up stage. This stage refers to the entire process from the completion of the initial warm up until the temperature of the constant temperature power supply stabilizes.

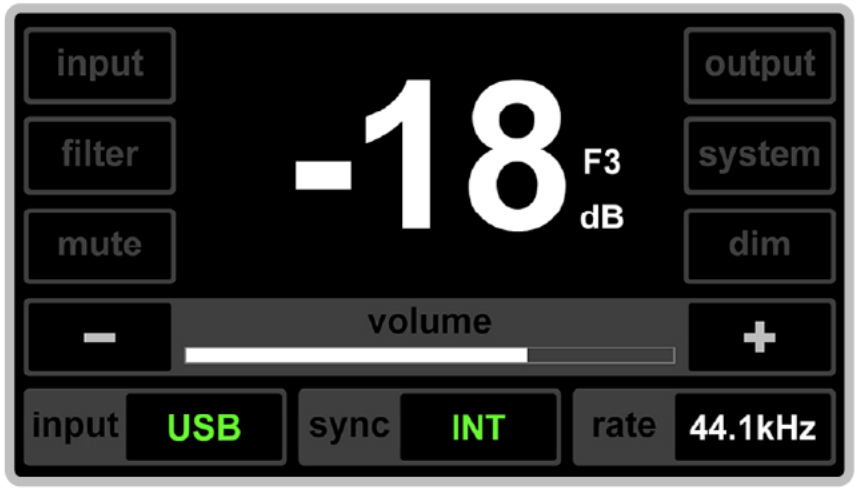
Note: Although the **NADAC D** can output audio during the gradual stabilization warm up stage, the sound quality has not yet reached its intended standard as the output of the constant temperature power supply is still stabilizing.



Upon entering the gradual stabilization warm up stage, the screen switches to the gradual stabilization warm up page, which overlays an orange progress bar for gradual stabilization on the working page.

The time for gradual stabilization warm-up is related to the ambient temperature of the **NADAC D**. Usually, at a room temperature of 25°C, this takes about 15 minutes. When the orange warm-up progress bar reaches the right end, the gradual stabilization warm up is complete.

Note: The working page entered during the gradual stabilization warm up stage is the same as the last shutdown, including all settings (such as volume control mode, volume value, input, output, filter, sync, screen brightness, etc.). Therefore, this working page could be in internal volume control mode or external volume control mode; the output might be line (speakers) or headphones.



After the gradual stabilization warm up is complete, the progress bar disappears, and the **NADAC D** enters normal operating status.

7.4 Volume Control

7.4.1 Modes of Volume Control

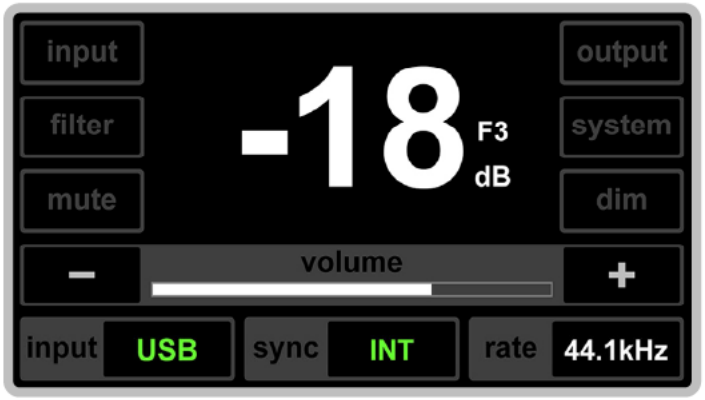
There are various modes of volume control for the **NADAC D**, including:

1. Internal mode using **NADAC D**'s internal volume controller;
2. External mode using an external volume controller or preamplifier (external volume controller or preamplifier is user-provided);
3. Remote control mode using the infrared remote controller in internal volume control mode.

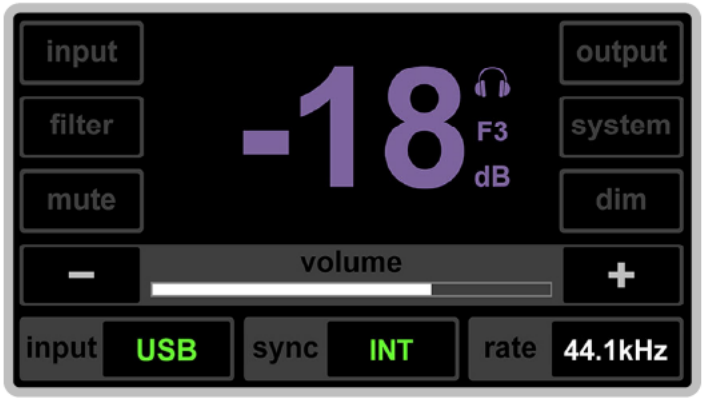
7.4.1.1 Internal Volume Control Mode

This mode uses **NADAC D**'s internal volume controller for adjusting the volume. In this mode, the volume control for speaker or headphones is the same.

Internal Volume Control Mode
line (speakers) Output Working Page

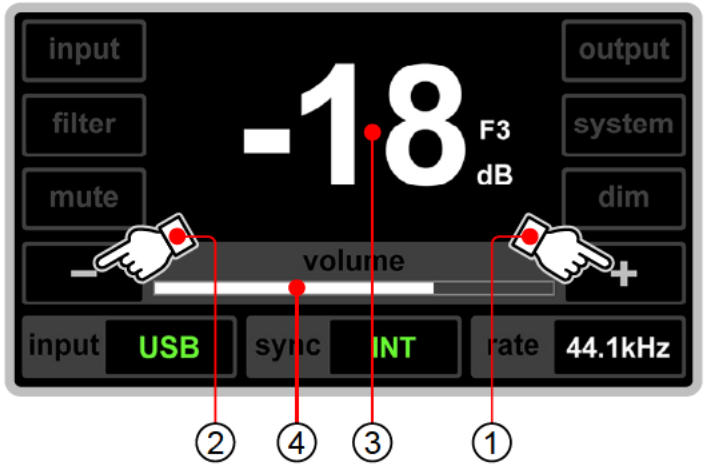


Internal Volume Control Mode
headphones Output Working Page

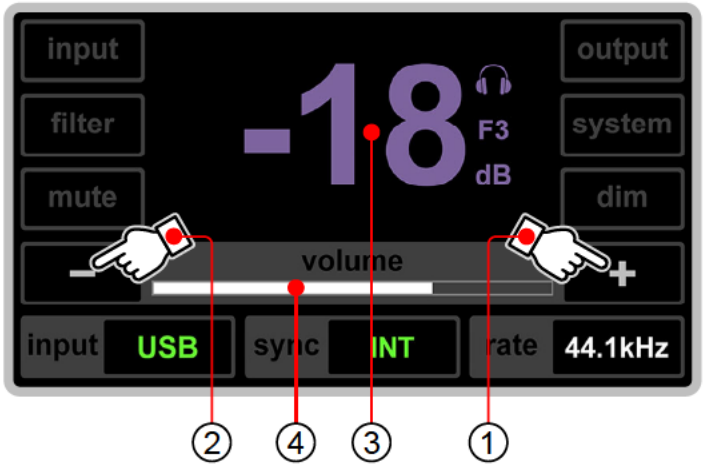


7.4.1.1.1 Adjust Volume Using Touch Screen

Adjustment for line (speakers) Output Volume



Adjustment for headphones Output Volume



① Increase volume using the + button at the right end of the volume indicator bar. Each click increases the volume by one step. You can also keep pressing the + button to continuously increase the volume until you release the button or reach the maximum value.

② Decrease volume using the - button at the left end of the volume indicator bar. Each click decreases the volume by one step. You can also keep pressing the - button to continuously decrease the volume until you release the button or reach the minimum value.

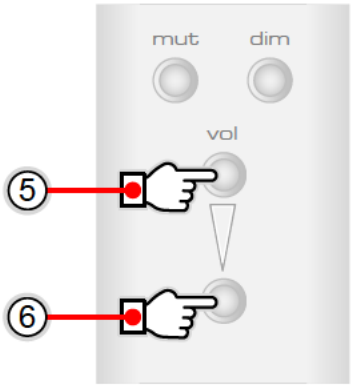
③ The large number in the center of the screen represents the volume in decibels (dB). The dB value changes as you adjust the volume. Its range varies from -57 dB (minimum volume) to 0 dB (maximum volume), with a total of twenty steps of 3 dB each for increasing or decreasing the volume.

④ Also, the volume indicator bar on the screen is divided into twenty segments, displaying the change in volume from low to high from left to right synchronously.

7.4.1.1.2 Adjust Volume Using Infrared Remote Controller

⑤ Increase volume using the upper button of vol on the remote controller. Each press increases the volume by one step. You can also keep pressing this button to continuously increase the volume until you release the button or reach the maximum value.

⑥ Decrease volume using the lower button of vol on the remote controller. Each press decreases the volume by one step. You can also keep pressing this button to continuously decrease the volume until you release the button or reach the minimum value.



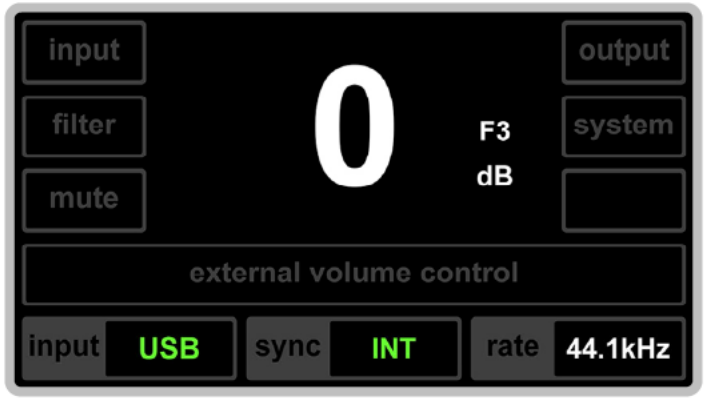
When adjusting the volume step by step or continuously using the infrared remote controller, the changes in the volume dB value and volume indicator bar on the screen are exactly the same as when operating on the touchscreen.

7.4.1.2 External Volume Control Mode

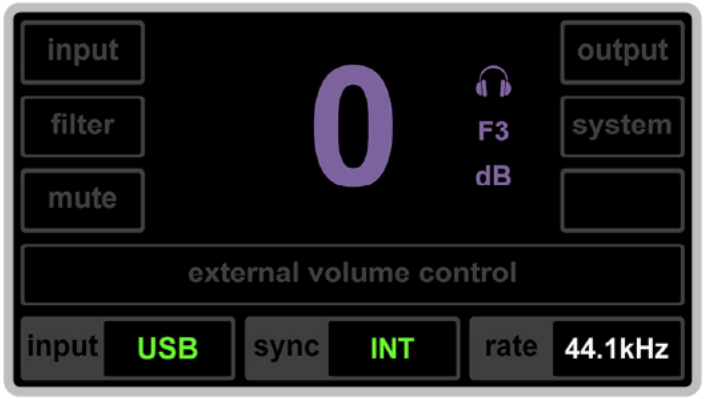
The external volume control mode is designed for users who already have a volume controller or preamplifier in their sound system. In this mode, the internal volume controller of the **NADAC D** is bypassed, and the output is at 0 dB. This means that in this mode, the **NADAC D** does not have volume control functionality and outputs at its maximum unattenuated volume. Therefore, the volume value in the center of the screen will always display as 0 dB.

Both line (speakers) and headphones outputs can be set to external volume control mode.

External Volume Control Mode
line (speakers) Output Working Page

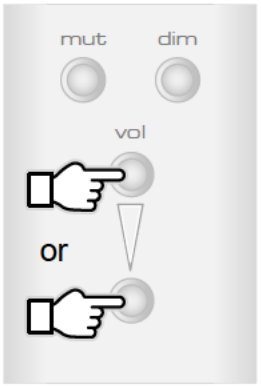


External Volume Control Mode
headphones Output Working Page



In external volume control mode, since the volume of the **NADAC D** is controlled by an external device, the volume control functionality of the infrared remote is also unavailable.

In this mode, pressing the vol volume buttons on the remote control will display an ⊘ (operation unavailable) prompt on the screen for 1 second, as shown in the right figure.

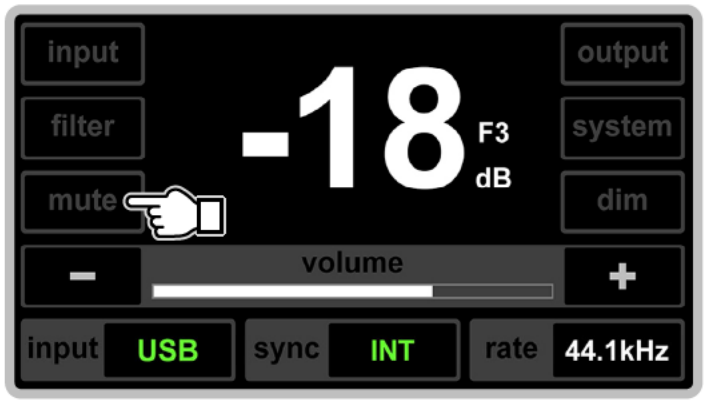


7.5 Mute

In mute state, the input signal is completely not sent to the output ports.

Note: When the entire sound system is powered on, placing the **NADAC D** in mute state for plugging and unplugging the input signal cable is the safest for the system.

7.5.1 Enter Mute and Unmute



Press the mute button on any working page, or the mut button on the infrared remote control, and the **NADAC D** will immediately enter mute state.

At this time, the volume dB value in the center of the screen remains unchanged but turns red. The border and text of the mute button on the page also turn red, and the text changes to muted.

Since the dim function is meaningless in mute state, the dim text in the right side dim button frame disappears when entering the mute working page.

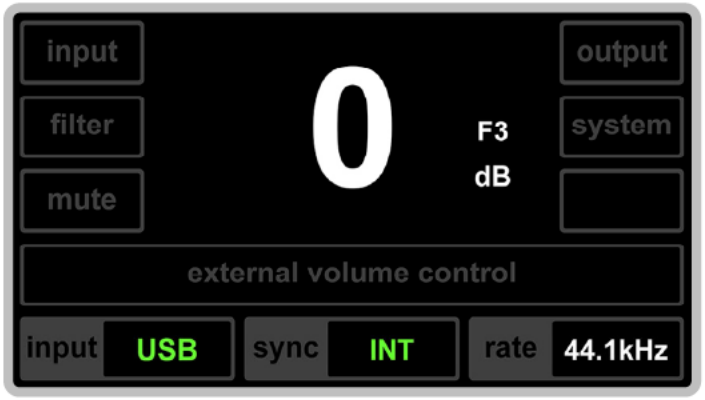
To unmute, simply click the muted button on the page again or press the mut button on the infrared remote control, and the mute will be immediately released.

7.6 Dim

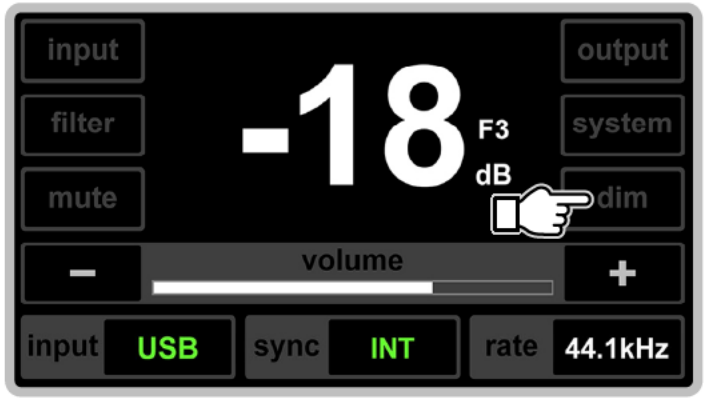
After clicking the dim button, the playback volume will immediately decrease according to a preset value. In **NADAC D**, this preset value is -20 dB.

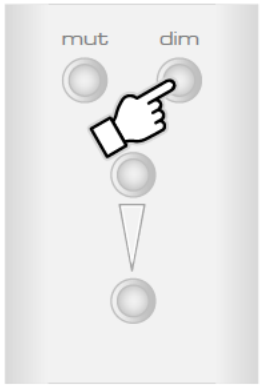
Explanation: Dim is a very practical feature. For example, when listening to music and needing to answer a phone call or have a brief conversation, you can use the dim function to reduce the current volume by 20 dB. After the conversation, pressing the dim button again immediately restores the volume to its level before dim.

Note: The dim function is only available in internal volume control mode. In external volume control mode, there is no text in the dim button frame (left figure below), and it has no functionality. Pressing the dim button on the remote control in external mode will display an ⊘ (operation unavailable) prompt for 1 second (right figure below).

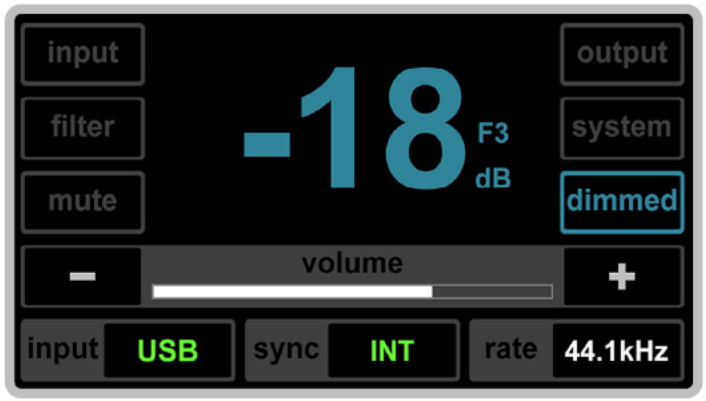


7.6.1 Enter Dim and Deactivate Dim





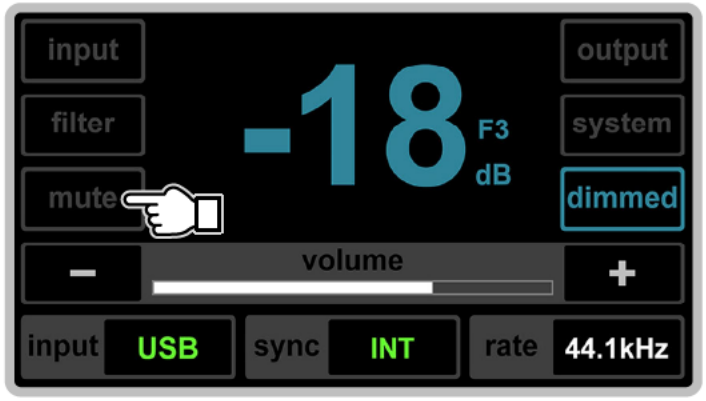
Directly press the dim button on the internal volume control mode working page, or the dim button on the infrared remote control, and the **NADAC D** will immediately enter dim state.



At this time, the volume dB value in the center of the screen remains unchanged but turns blue-gray. The border and text of the dim button on the page also turn blue-gray, and the text changes to dimmed.

To deactivate dim, simply click the dimmed button on the page again or press the dim button on the infrared remote control, and the dim will be immediately released.

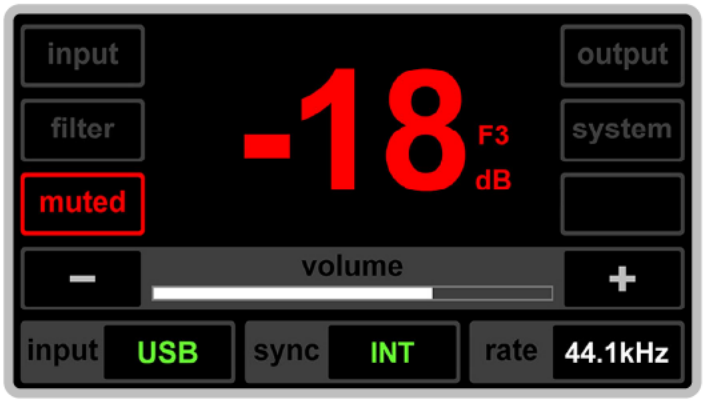
7.6.2 Relationship Between Dim and Mute

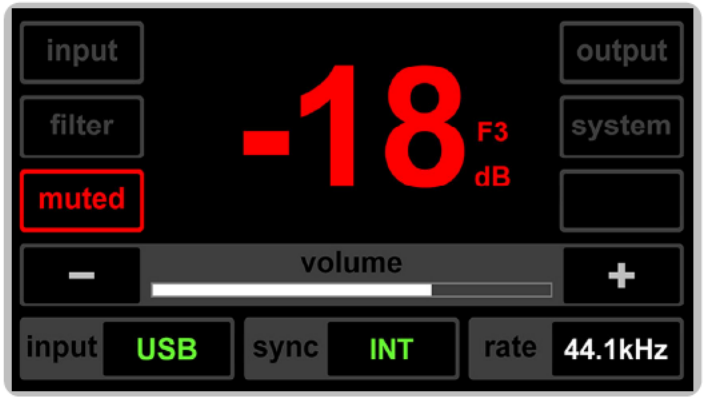


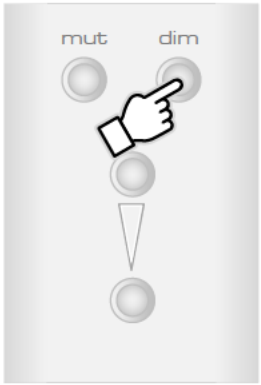
When in internal volume control mode, the **NADAC D** can enter mute state by pressing the mute button on the page or the mut button on the infrared remote control, even after entering dim state.

At this time, the volume dB value in the center of the screen remains unchanged but turns red. The border and text of the mute button on the page also turn red, and the text changes to muted. The dimmed button on the right side of the page continues to display in blue-gray, indicating that the **NADAC D** is currently in a muted state following dim

Note: Although you can enter mute state from dim, entering dim from mute state is not possible, as it would be meaningless. Therefore, in a pre-mute state, there will be no text displayed on the dim button on the page.

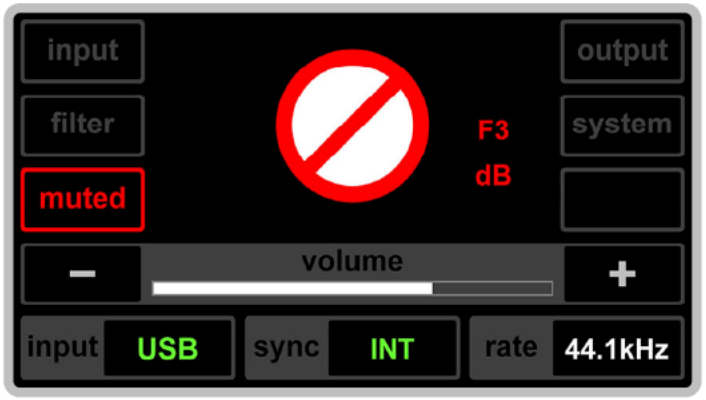






If you press the dim button on the infrared remote control while in mute state,

an ⊘ (operation unavailable) prompt will appear on the screen for 1 second.



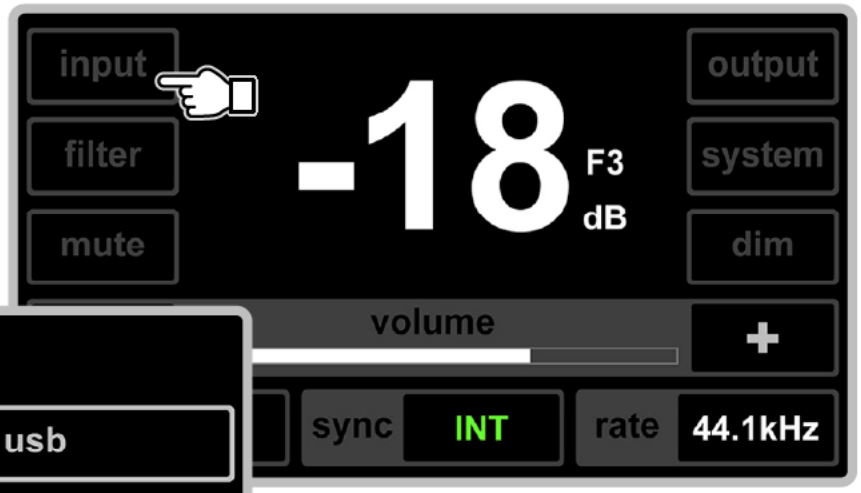
7.7 Input Settings

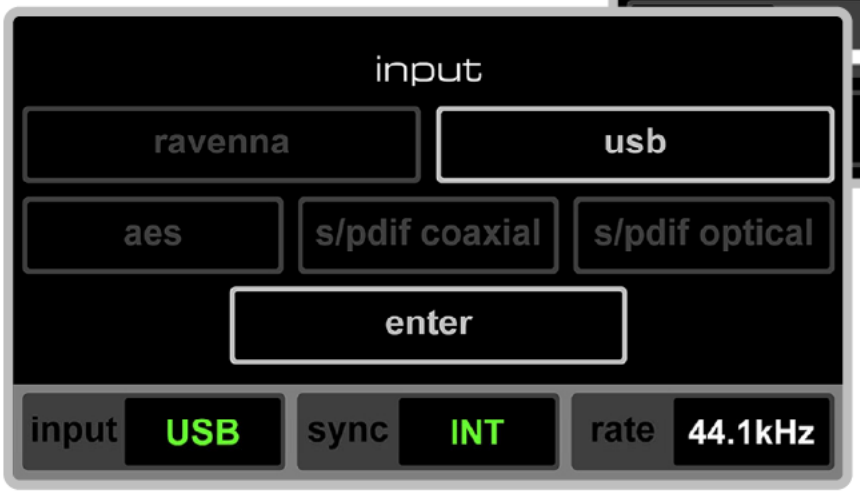
The **NADAC D** offers five input options: 1. ravenna (IP network); 2. usb (USB); 3. aes (AES3); 4. s/pdif coaxial; 5. s/pdif optical.

7.7.1 Set Input Source on Touch Screen

7.7.1.1 Enter Input Settings Page

In either internal or external volume control mode, on any line (speakers) or headphones output working page, you can enter the input settings page by clicking the input button.





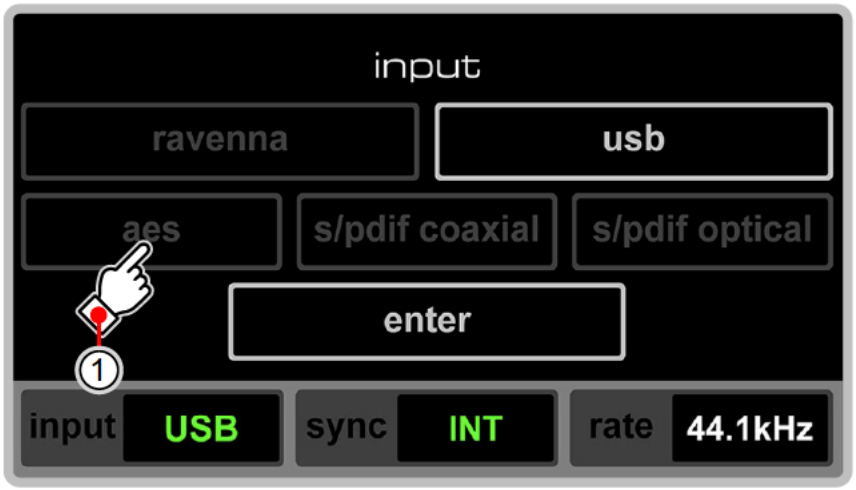
Upon entering the input settings page, the button of the current input setting and the enter button will be highlighted.

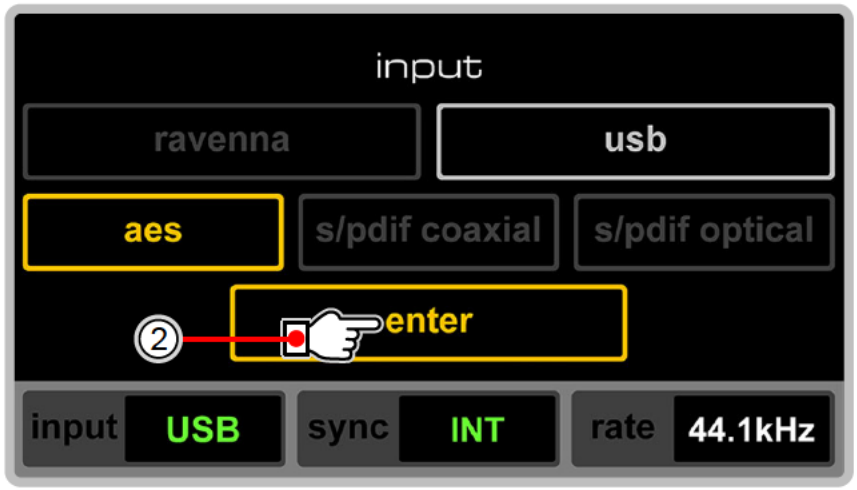
The right figure example shows the current input as usb.

If you decide not to change the input after entering the input settings page, you can directly click the enter button to return to the working page. Additionally, if no action is taken for 10 seconds on the input settings page, it will automatically return to the working page before entering the settings page.

7.7.1.2 Change Input Source (e.g., from usb input to aes input)

① Click the aes button on the input settings page.





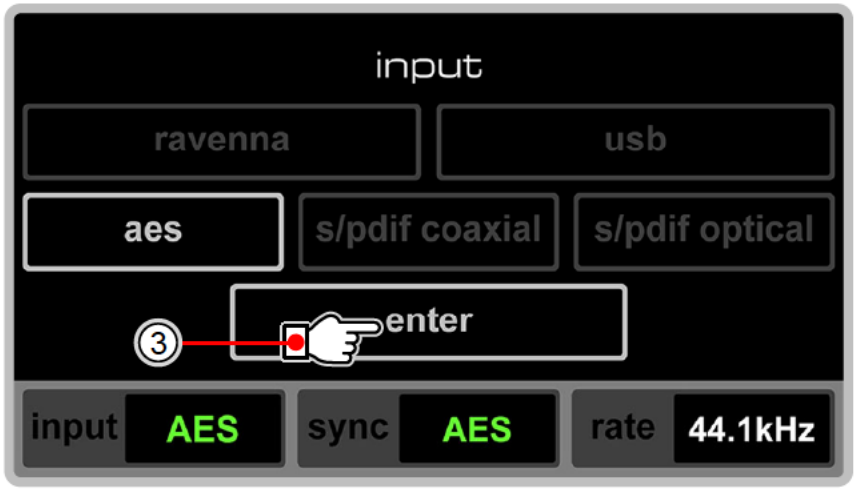
After clicking, the aes button and the enter button will turn yellow, indicating a confirmation page. Meanwhile, the usb button remains highlighted, and the input pane at the bottom left of the screen continues to display USB, indicating that the current input is still USB.

② To confirm the change to aes input, click the enter button.

You can also select another input option by clicking its button while aes and enter are in yellow confirmation state. The newly selected input button will turn yellow, and the previously selected one will turn dark gray.

After the change, the usb button dims, and both the aes and enter buttons become highlighted, the display of the input and sync pane at the bottom of the screen has also changed to AES , indicating the current input setting as AES.

③ Clicking the enter button again will return you to the working page before entering the input settings page.

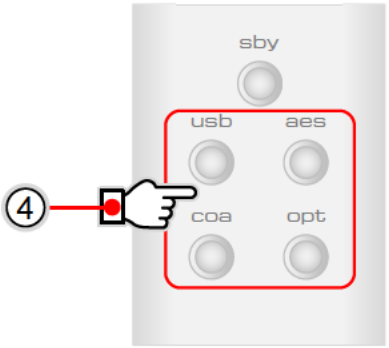


Regardless of the state of the input settings page, if no action is taken for 10 seconds, the page will return to the previous level, up to the original working page.

Note: The method and steps for changing from any current input to any other input are the same as described above for changing from usb to aes. The only difference is that when changing to RAV or USB, the sync pane will display INT or EXT according to its actual setting in system - sync. When changing to COA or OPT, the sync pane will display COA or OPT respectively.

7.7.2 Set Input Source on Infrared Remote Controller

Directly press the desired input button on the infrared remote controller, and the input of the **NADAC D** will immediately switch to that port.



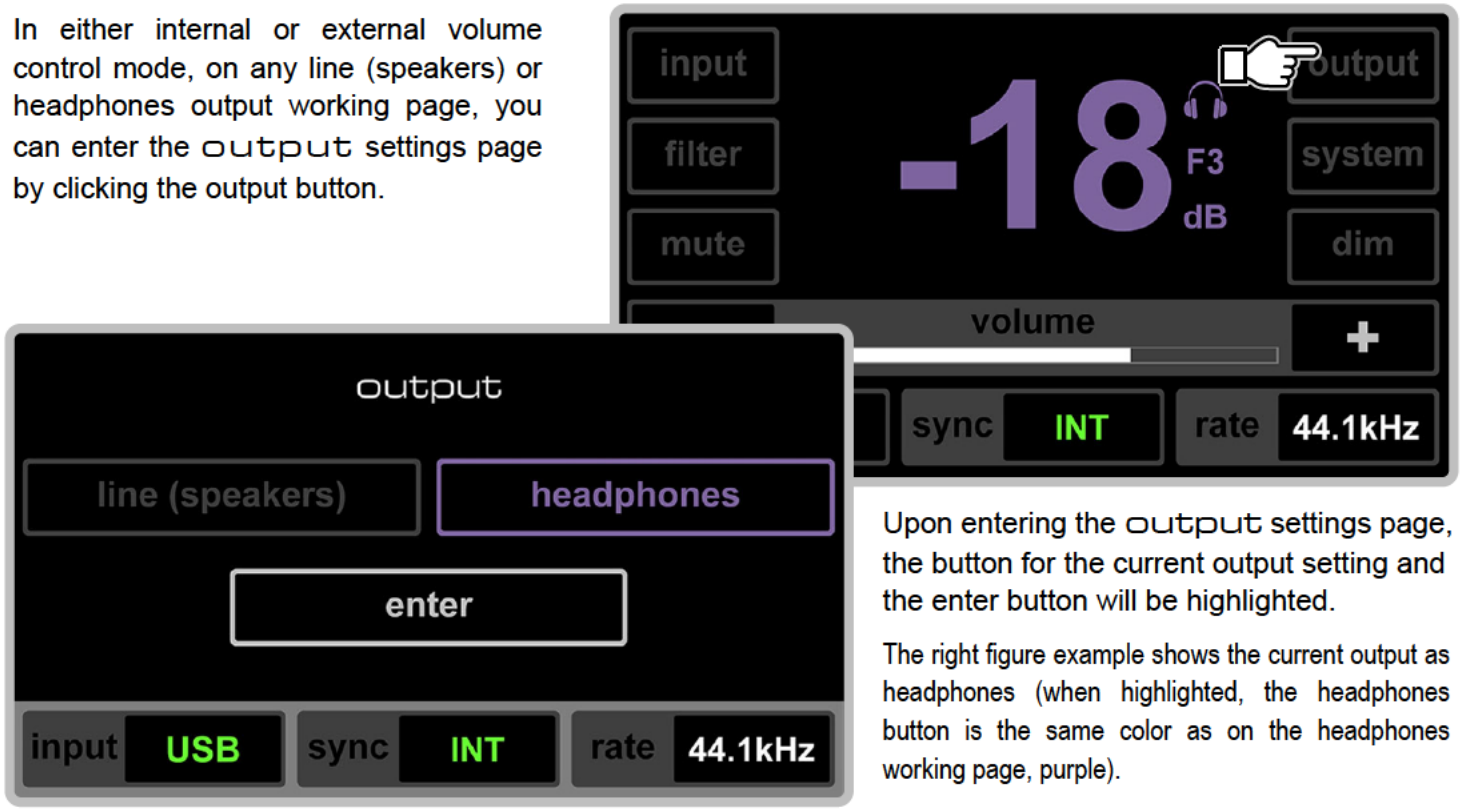
7.8 Output Settings

The **NADAC D** has two output paths to choose from: 1. line (speakers); 2. headphones.

7.8.1 Set Output on Touch Screen

7.8.1.1 Enter Output Settings Page

In either internal or external volume control mode, on any line (speakers) or headphones output working page, you can enter the output settings page by clicking the output button.



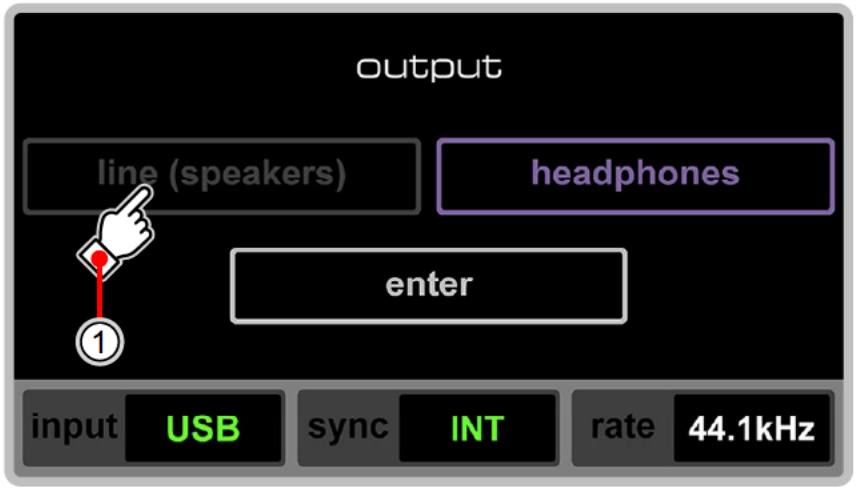
Upon entering the output settings page, the button for the current output setting and the enter button will be highlighted.

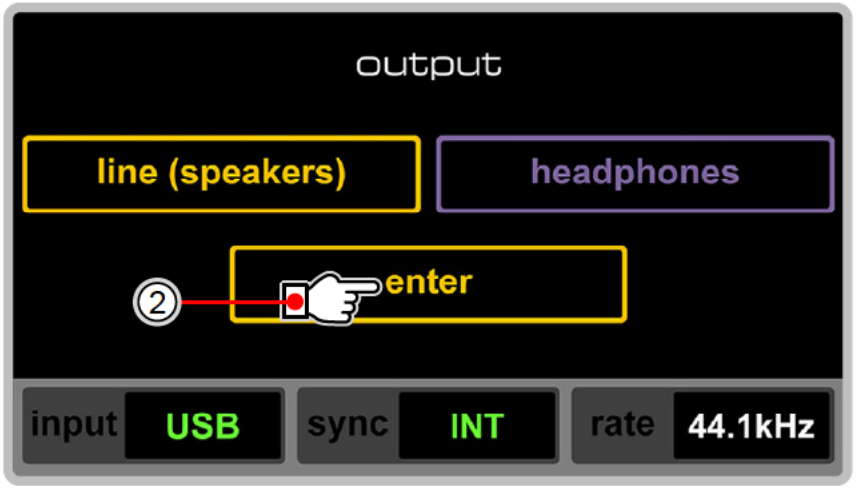
The right figure example shows the current output as headphones (when highlighted, the headphones button is the same color as on the headphones working page, purple).

If you decide not to change the output after entering the output settings page, you can directly click the enter button to return to the working page. Additionally, if no action is taken for 10 seconds on the output settings page, it will automatically return to the working page before entering the settings page.

7.8.1.2 Change Output (e.g., from headphones Output to line (speakers) Output)

① Click the line (speakers) button on the output settings page.



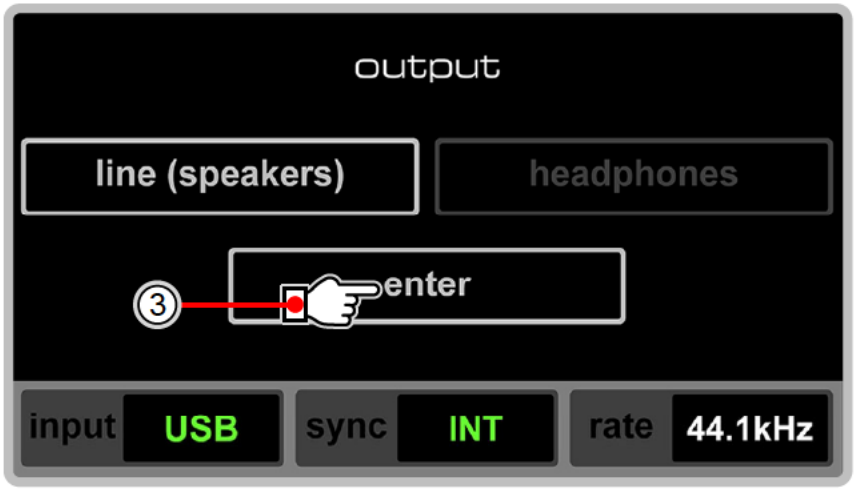


After clicking, the line (speakers) button and the enter button will turn yellow, indicating a confirmation page. Meanwhile, the headphones button remains highlighted.

② To confirm the change to line (speakers) output, click the enter button.

You can also reselect the output by clicking the headphones button again while line (speakers) and enter are in yellow confirmation state. The reselected headphones button will turn yellow, and the previously selected line (speakers) button will turn dark gray.

After the change, the headphones button dims, and both the line (speakers) and enter buttons become highlighted, indicating the current output setting as line (speakers).



③ Clicking the enter button again will return you to the working page before entering the output settings page.

Regardless of the state of the output settings page, if no action is taken for 10 seconds, the page will return to the previous level, up to the original working page.

Note: Conversely, the method and steps for changing from line (speakers) output to headphones output are the same as those described for changing from headphones output to line (speakers) output.

Attention: There is no functionality for selecting and setting output on the infrared remote controller. The selection and setting of outputs can only be completed on the touchscreen.

7.9 Filter Settings

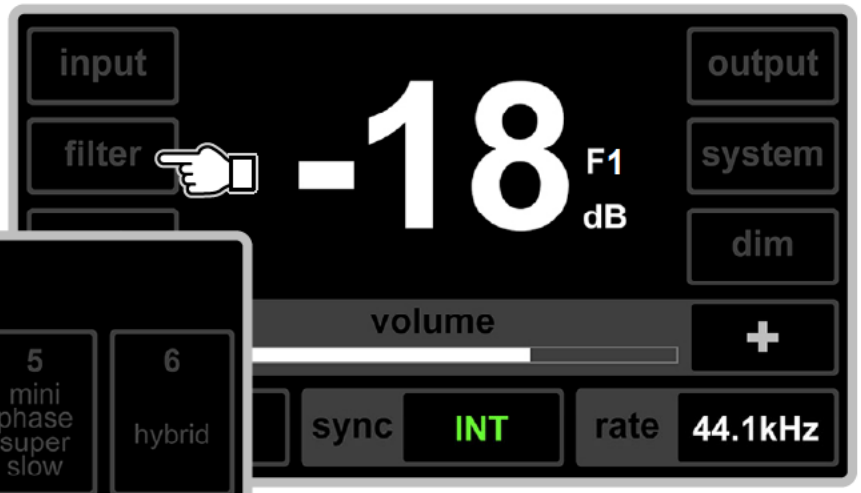
The **NADAC D** offers six preset filters for selection: 1. linear phase fast; 2. linear phase slow; 3. mini phase fast; 4. mini phase slow; 5. mini phase super slow; 6. hybrid.

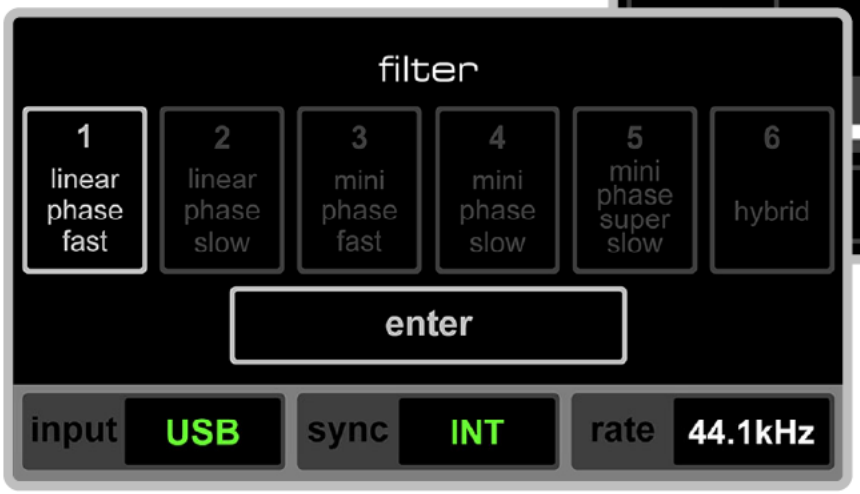
Note: Filters are only effective for PCM format digital audio.

7.9.1 Set Filter on Touch Screen

7.9.1.1 Enter Filter Settings Page

In either internal or external volume control mode, on any line (speakers) or headphones output working page, you can enter the filter settings page by clicking the filter button.





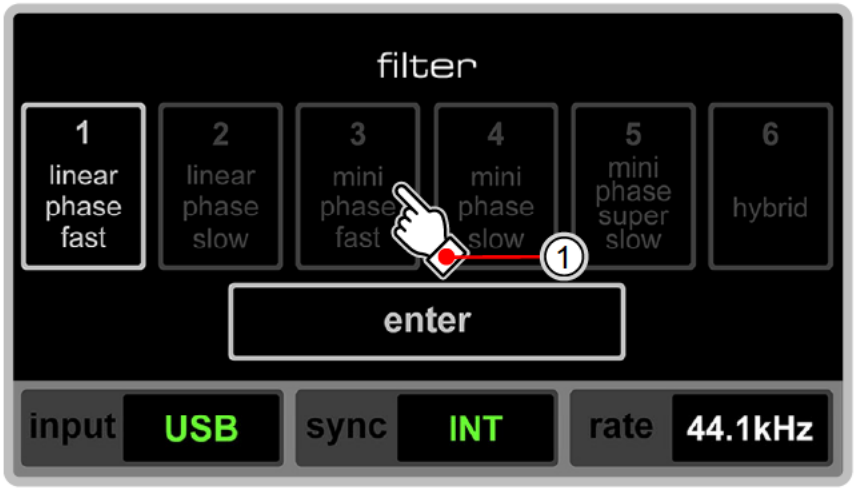
Upon entering the filter settings page, the button for the currently selected filter and the enter button will be highlighted.

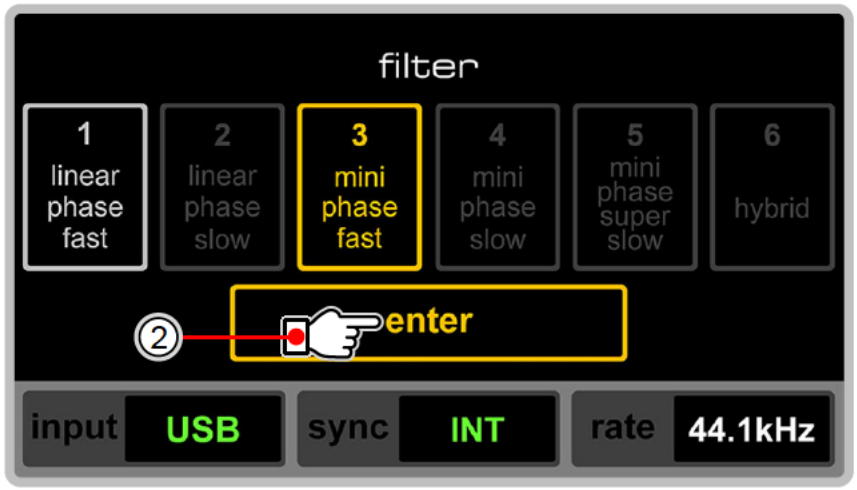
The right figure example shows the current filter selection as 1.

If you decide not to change the filter after entering the filter settings page, you can directly click the enter button to return to the working page. Additionally, if no action is taken for 10 seconds on the filter settings page, it will automatically return to the working page before entering the settings page.

7.9.1.2 Change Filter (e.g., from 1 to 3)

① Click the 3. Mini phase fast button on the filter settings page.



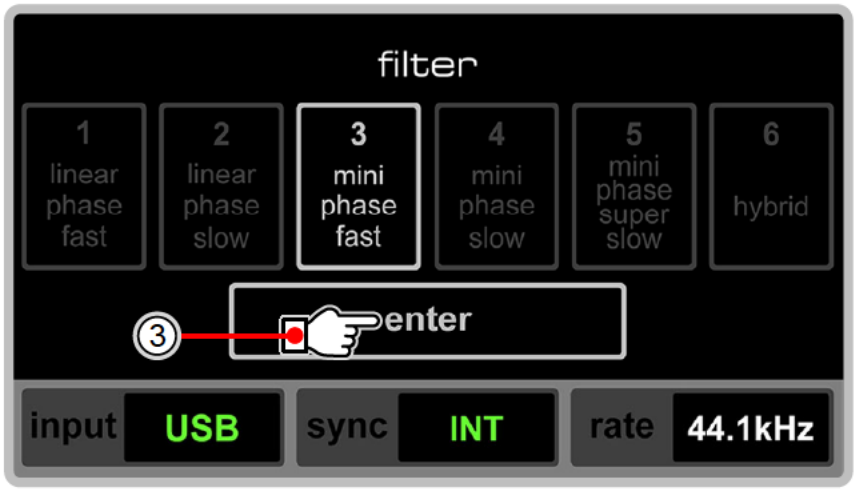


After clicking, the 3 mini phase fast button and the enter button will turn yellow, indicating a confirmation page. Meanwhile, the 1 linear phase fast button remains highlighted.

② To confirm the change to 3 Mini phase fast, click the enter button.

You can also reselect the filter by clicking another filter option button while 3 mini phase fast and enter are in yellow confirmation state. The reselected filter button will turn yellow, and the previously selected filter button will turn dark gray.

After the change, the 1 linear phase fast button dims, and both the 3 mini phase fast and enter buttons become highlighted, indicating the current filter setting.



③ Clicking the enter button again will return you to the working page before entering the filter settings page.

Regardless of the state of the filter settings page, if no action is taken for 10 seconds, the page will return to the previous level, up to the original working page.

Note: The method and steps for changing from any current filter to any other filter are the same as those described for changing from Filter 1 to Filter 3.

Attention: There is no functionality for selecting and setting filters on the infrared remote controller. The selection and setting of filters can only be completed on the touchscreen.

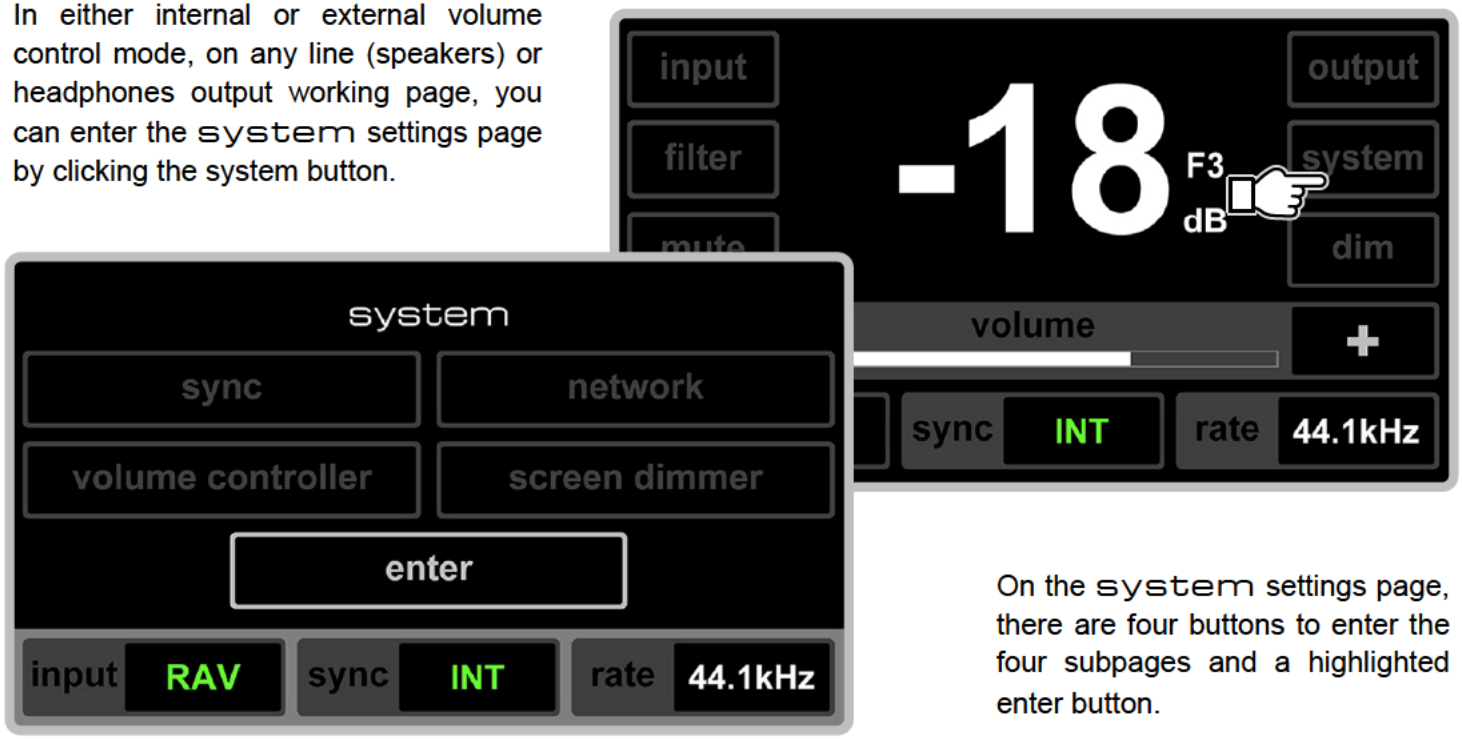
7.10 System Settings

The **NADAC D**'s system settings page contains four subpages: 1. sync (synchronization); 2. network; 3. Volume controller; 4. screen dimmer.

7.10.1 Set System on Touch Screen

7.10.1.1 Enter System Settings Page

In either internal or external volume control mode, on any line (speakers) or headphones output working page, you can enter the system settings page by clicking the system button.



On the system settings page, there are four buttons to enter the four subpages and a highlighted enter button.

If you decide not to change system settings after entering the system settings page, you can directly click the enter button to return to the working page. Additionally, if no action is taken for 10 seconds on the system settings page, it will automatically return to the previous working page.

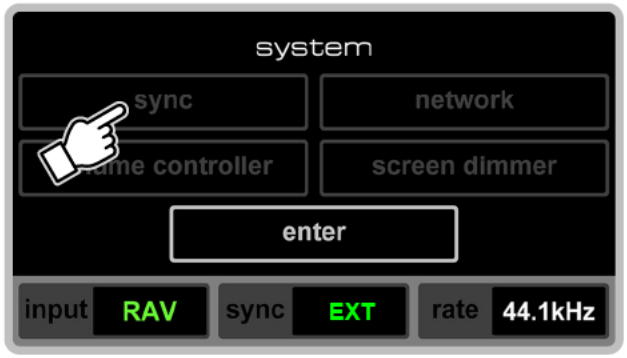
You can enter the respective subpages by clicking any of the four buttons on the system settings page.

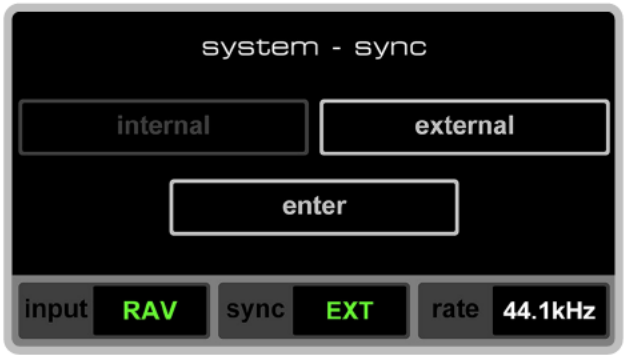
Note: The subpages under system settings are related to input settings. That is, the sync subpage is only accessible and effective when the input is set to ravenna or usb; the network subpage is only accessible when the input is set to ravenna. For AES, COA, and OPT inputs, sync and network are not available, only volume controller and screen dimmer are applicable to all input options.

7.10.1.2 Enter Synchronization Settings Subpage

The button to enter the sync subpage appears on the system settings page only when the **NADAC D**'s input is set to ravenna or usb (RAV or USB displayed in the input pane on the bottom left corner of the system settings page).

For RAV input - Click the sync button on the system settings page to enter the system-sync settings subpage.

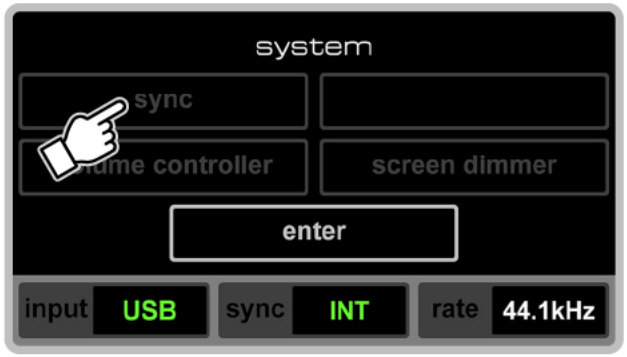


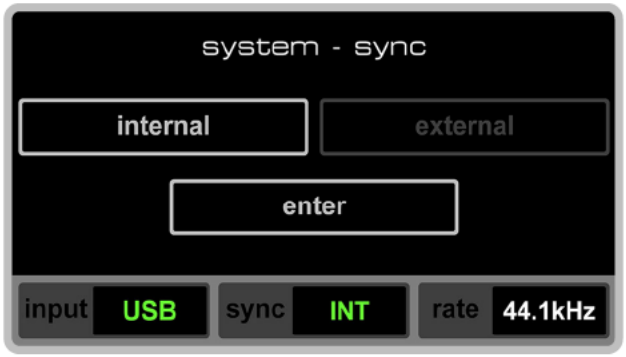


The current synchronization setting is shown as external in the right figure example.

When entering the system-sync subpage, the currently set synchronization button and the enter button will both be highlighted.

For USB input - Click the sync button on the system settings page to enter the system-sync settings subpage.





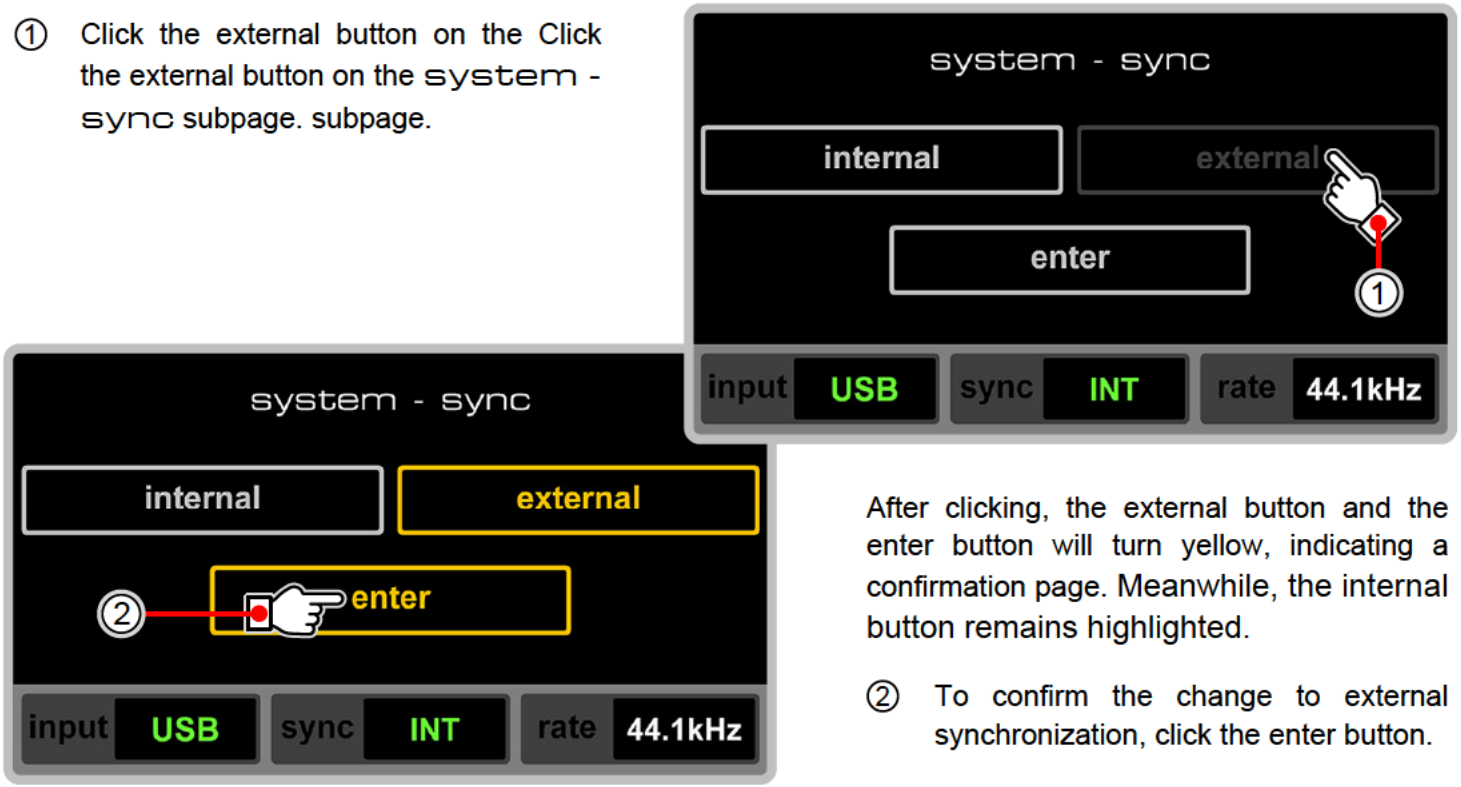
The current synchronization setting is shown as internal in the right figure example.

When entering the system-sync subpage, the currently set synchronization button and the enter button will both be highlighted.

After entering the system-sync subpage, if you decide not to change synchronization settings, you can directly click the enter button to return to the previous level of system settings. Additionally, if no action is taken for 10 seconds on the system - sync subpage, it will automatically return to the previous level.

7.10.1.2.1 Change Sync Source (e.g., from internal to external under USB input)

① Click the external button on the Click the external button on the system - sync subpage. subpage.

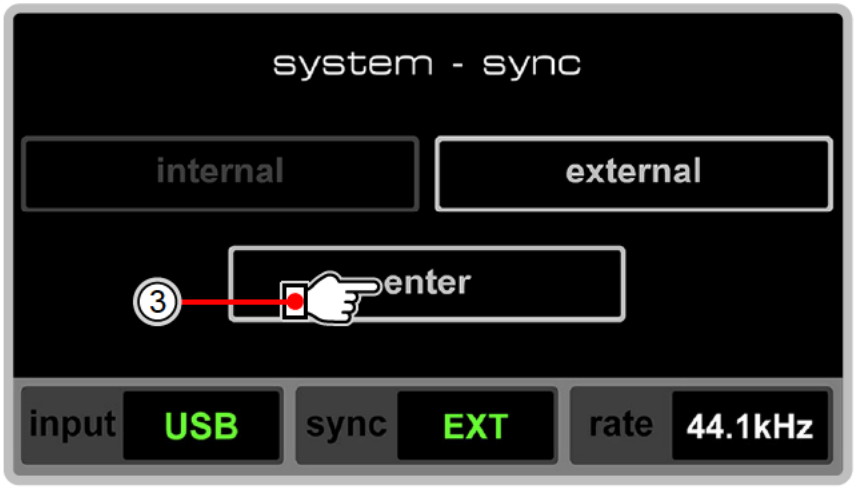


After clicking, the external button and the enter button will turn yellow, indicating a confirmation page. Meanwhile, the internal button remains highlighted.

② To confirm the change to external synchronization, click the enter button.

You can also reselect the synchronization option by clicking the internal button again. The reselected internal button will turn yellow, and the previously selected external button will turn dark gray.

After the change, the internal button dims, and both the external and enter buttons become highlighted, indicating the current synchronization setting.



③ Click the enter button again to return to the syste settings page before entering the system-sync settings page.

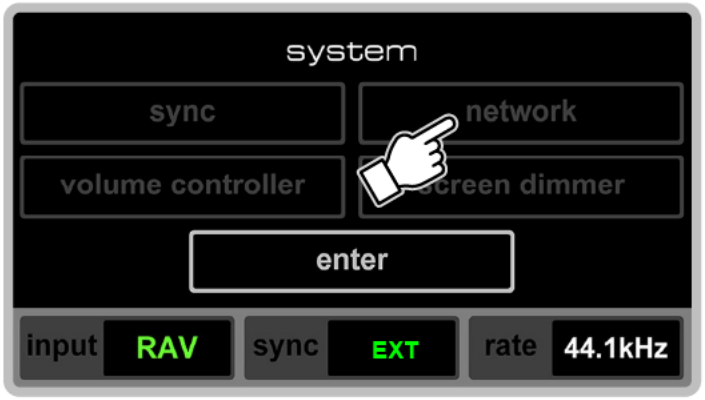
Regardless of the state of the system - sync settings page, if no action is taken for 10 seconds, the page will return to the previous level, up to the original working page.

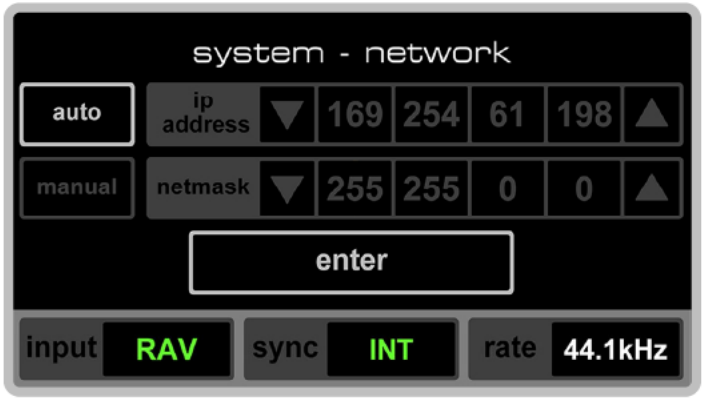
7.10.1.3 Enter Network Settings Subpage

The network settings subpage is for setting the IP address and mask for the **NADAC D**'s network connection.

Note: The button to enter the network subpage appears on the system settings page only when the **NADAC D**'s input is set to ravenna (RAV displayed in the input pane on the bottom left corner of the system settings page).

For RAV input — Click the network button on the system settings page to enter the system-network subpage.





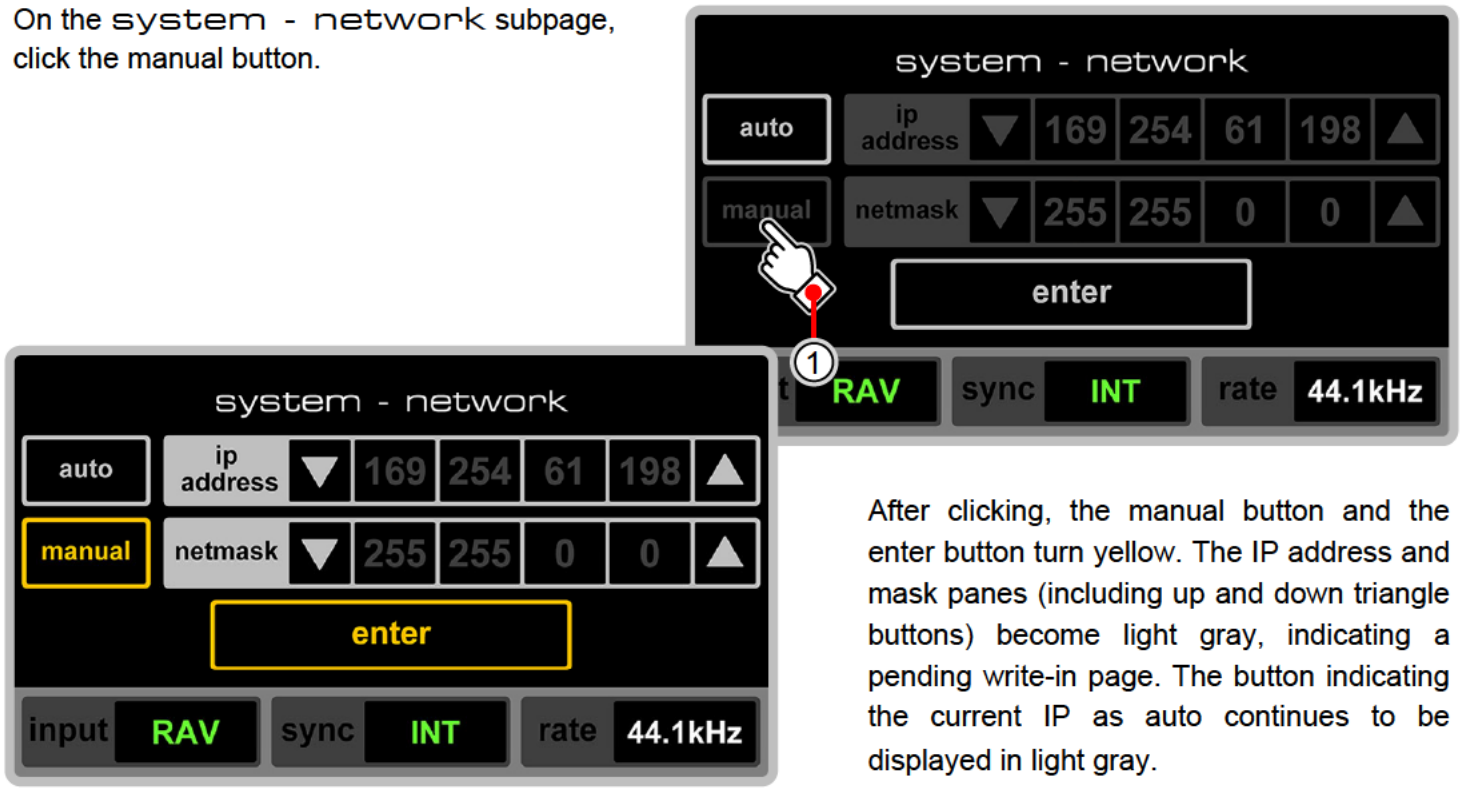
IP address and mask settings can be either automatic or manual. In the right figure above, the auto and enter buttons on the system-network subpage are highlighted, indicating the current IP address and mask are set automatically.

In automatic mode, the IP address and mask do not need to be set. Therefore, the data and its panes for automatic IP and masks are dark gray, and they are not editable.

If you decide not to change settings after entering the system-network settings page, you can directly click the enter button to return to the previous level of systemsettings page. Additionally, if no action is taken for 10 seconds on the system-network subpage, it will automatically return to the previous level.

7.10.1.3.1 Change Addressing Mode (e.g., from auto to manual mode)

On the system - network subpage, click the manual button.



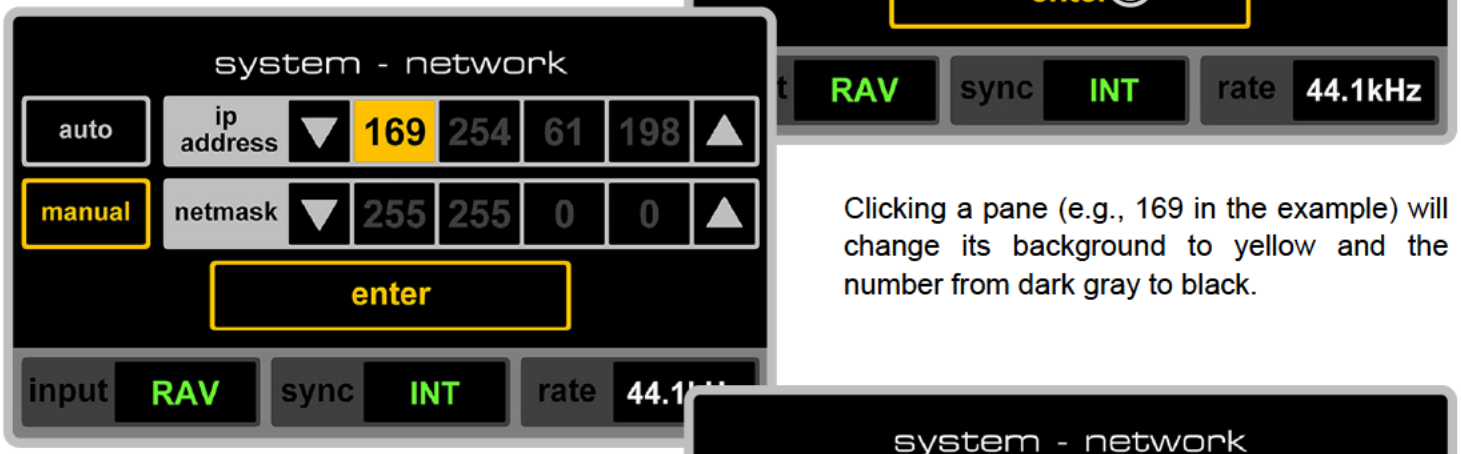
After clicking, the manual button and the enter button turn yellow. The IP address and mask panes (including up and down triangle buttons) become light gray, indicating a pending write-in page. The button indicating the current IP as auto continues to be displayed in light gray.

If you confirm the change to manual addressing, refer to section 7.10.1.3.2 for further steps to set or change the IP address and mask.

While the manual and enter buttons are in yellow confirmation state, you can reselect the addressing mode by clicking the auto button again. The reselected auto button will turn yellow, while the previously selected manual button will turn dark gray.

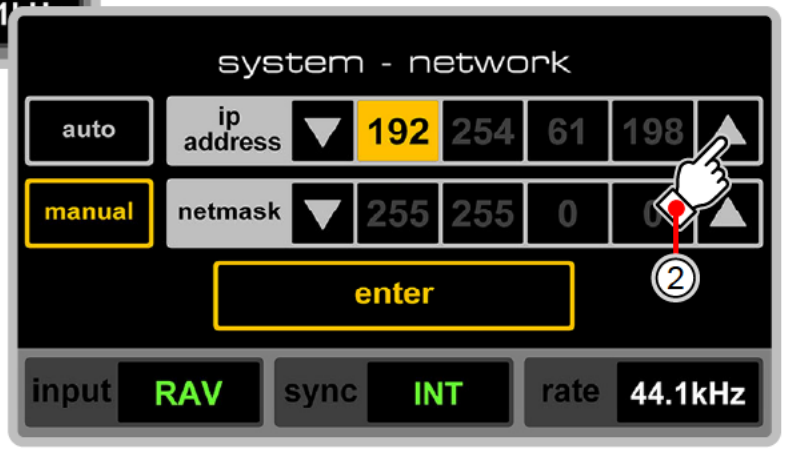
7.10.1.3.2 Set or Change IP Address and Mask

① In the confirmation state with the manual and enter buttons displayed in yellow, if you need to write in IP data, you can click any of the four panees for the IP address or mask. Typically, you start with the IP address from left to right, followed by the mask from left to right, to complete the IP data entry.



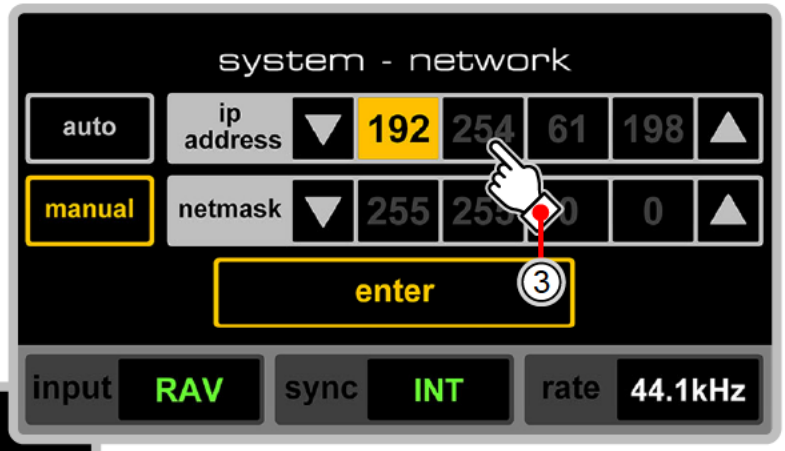
Clicking a pane (e.g., 169 in the example) will change its background to yellow and the number from dark gray to black.

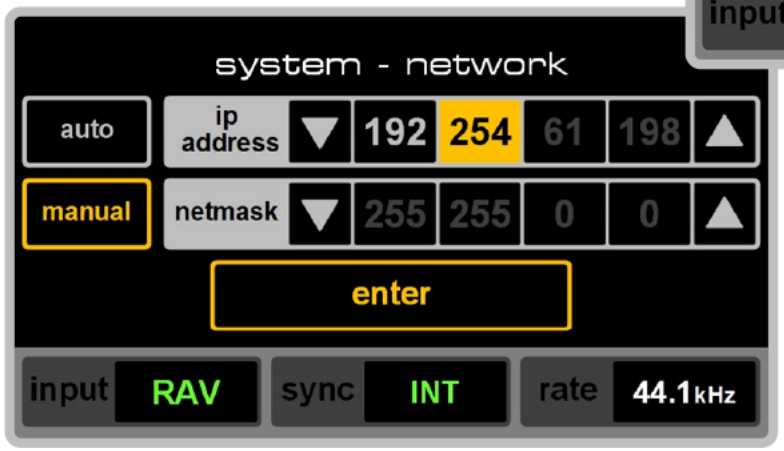
② Use the down triangle on the left side or the up triangle on the right side of the pane to modify the number. The range for each pane is 0 - 255. You can click the triangles to adjust the value by 1 incrementally or hold them down for continuous change until the value reaches the ends of the range.



For example, to adjust the first (leftmost) pane of the IP address from 169 to 192.

③ Then click another pane to modify its value. For example, click the second pane (254) of the IP address.

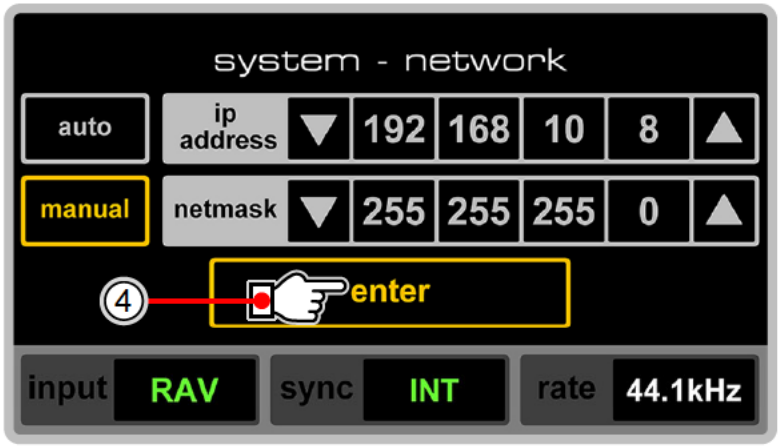




After clicking, the background of this pane turns yellow, and the number 254 changes from dark gray to black. The first pane's background returns to black, and the number 192 is displayed in light gray, indicating the value is set.

Continue using the same method and steps to modify all values of the IP address and mask.

For example, if the manual IP address is 192.168.10.8 and the mask is 255.255.255.0, the page after completing all modifications would look like the right figure.



The page is now in a final confirmation state for all IP data settings, but the current IP address and mask are still in automatic mode.

Further modifications can still be made by clicking any pane.

The modifications will not take effect until confirmed. If no action is taken for 10 seconds or the page is not confirmed, it will return to the system settings page.

④ If no further modifications are needed, click the enter button to confirm. After confirmation, the **NADAC D** will restart.

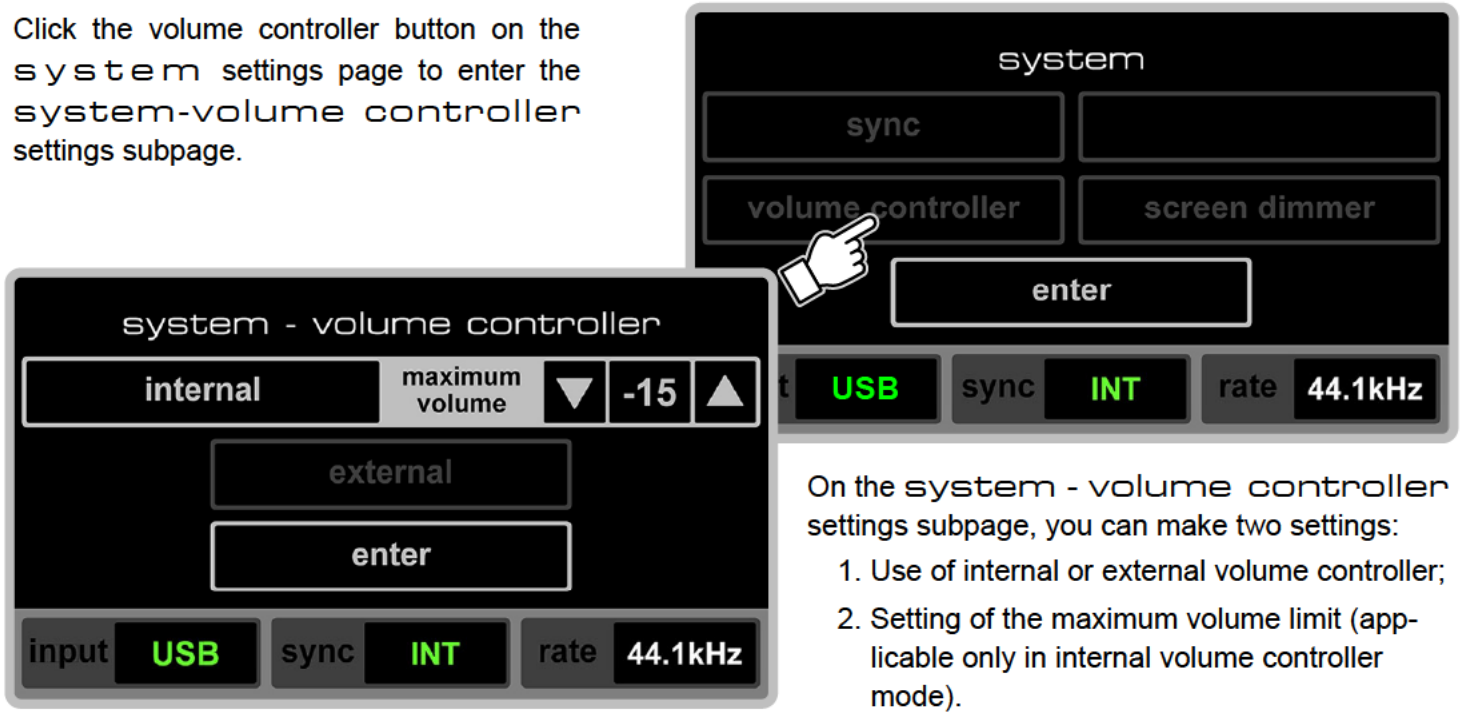
The display during restart is shown in the left figure.

After restarting, the **NADAC D** will skip the initial and gradual stabilization preheat phases and go directly to the last working page before entering the system settings page. Only then will the manually set IP address and mask become effective.

7.10.1.4 Enter Volume Controller Settings Subpage

The **NADAC D** can enter the volume controller settings subpage for any input source.

Click the volume controller button on the system settings page to enter the system-volume controller settings subpage.



On the system - volume controller settings subpage, you can make two settings:

1. Use of internal or external volume controller;
2. Setting of the maximum volume limit (applicable only in internal volume controller mode).

The current volume controller setting and the enter button are highlighted on the system-volume controller subpage.

Note: In the example above, the current volume controller setting is internal, with a maximum volume limit of -15 dB.

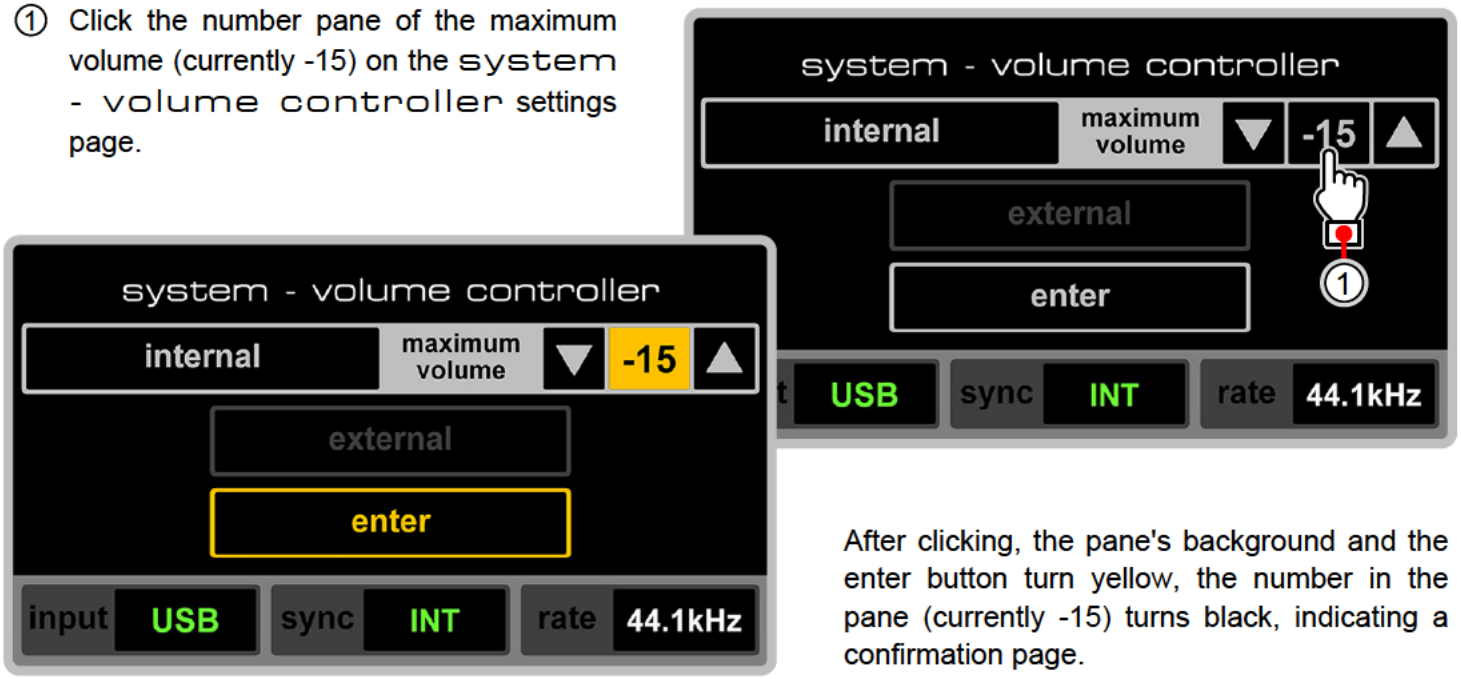
If you decide not to change the volume controller after entering the system - volume controller subpage, you can directly click the enter button to return to the working page. Additionally, if no action is taken for 10 seconds on the system - volume controller subpage, it will automatically return to the previous level.

7.10.1.4.1 Set Maximum Volume Limit (e.g., from -15 dB to 0 dB)

The function of setting the maximum volume limit is mainly to ensure a correct volume output preset for the **NADAC D** when connected to different audio systems, preventing distortion or damage to the system due to improper volume control by the user.

Note: The function of setting the maximum volume limit is only effective when the volume controller is set to internal. The effect is the same for both line (speakers) and headphone outputs under the internal volume controller.

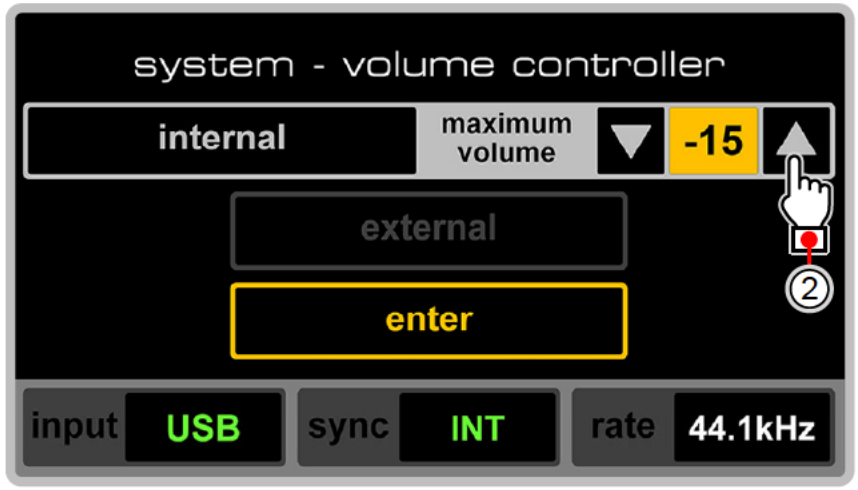
① Click the number pane of the maximum volume (currently -15) on the system - volume controller settings page.



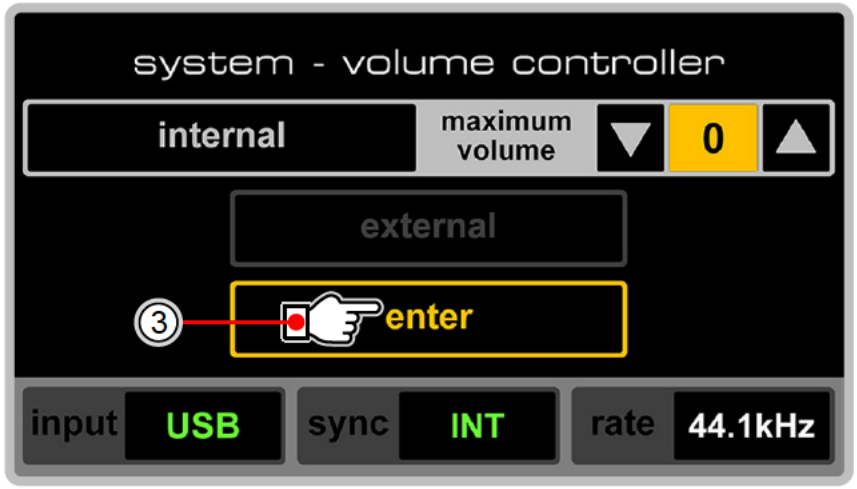
After clicking, the pane's background and the enter button turn yellow, the number in the pane (currently -15) turns black, indicating a confirmation page.

On this confirmation page, if you decide not to change the maximum volume setting, you can directly click the enter button to maintain the original value. If no action is taken for 10 seconds, the page will automatically cancel the confirmation status.

Use the up and down triangle buttons on either side of the pane to adjust the value. The range is from -15 to 0. Click the triangles to adjust the value in steps of 3 dB, or hold the triangles for continuous adjustment until the desired value is reached.



② In this example, click or hold the up triangle until the value is 0.



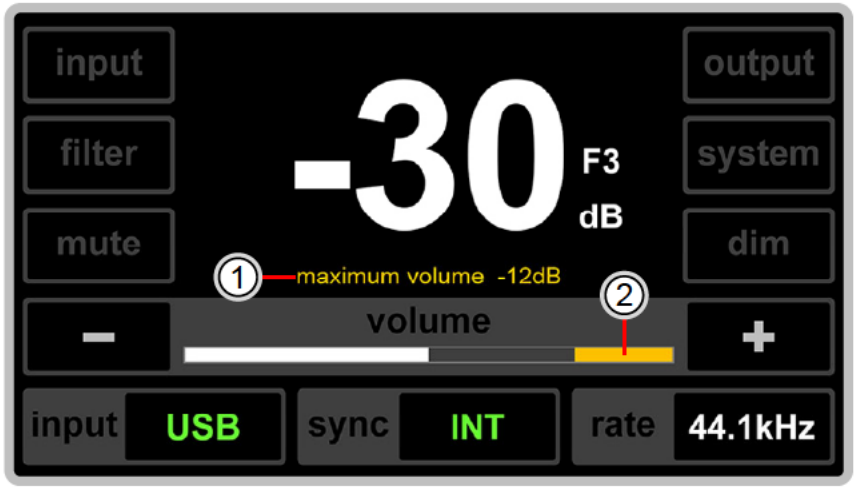
③ If you confirm the changed value, click the enter button to complete the change.

You can also readjust the maximum volume limit by clicking the triangle buttons again while the maximum volume value pane and the enter button are highlighted in yellow.

7.10.1.4.2 Display of Maximum Volume Limit on Working Page

The maximum volume limit set in the system - volume controller settings page is displayed on the working page in two ways:

In the figure on the right, setting the maximum volume limit to -12 dB will be used as an example to illustrate the two forms of display.



① In the middle of the screen, "maximum volume" is displayed in yellow text, followed by the value (e.g., -12 dB in the example), which is the maximum volume limit set on the volume controller settings page.

This text appears only during volume increase operations (whether using the touchscreen or infrared remote) and disappears 5 seconds after stopping the volume increase. Thus, it's hidden during the normal display on the working page.

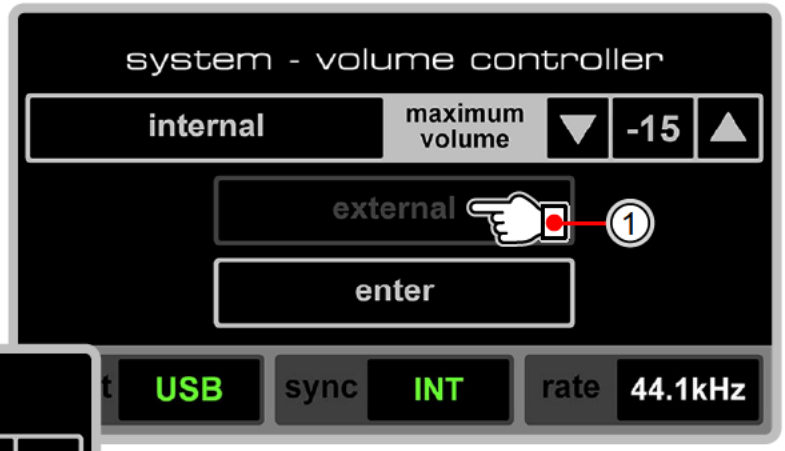
② On the volume indicator bar of the working page, the maximum volume limit is shown by filling from the right end towards the left in yellow, corresponding to the limit set on the volume controller settings page, with each filled segment representing 3dB. Without a set limit, there's no yellow fill.

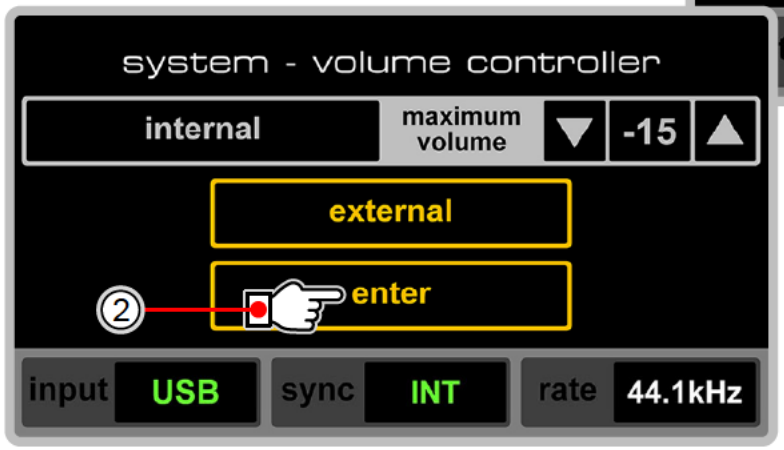
As the volume increases (whether using the touchscreen or infrared remote), the white volume indicator bar extends towards the right end until it touches the yellow limit bar, indicating the maximum volume limit is reached and cannot be increased further. If there's no maximum volume limit set, the white bar can extend to the very right end, i.e., 0dB position.

Note: These two display forms are the same for both line (speakers) output and headphone output working pages.

7.10.1.4.3 Set Internal / External Volume Controller (e.g., from internal to external)

① On the system - volume controller settings page where the volume controller is set to internal mode (with the internal / maximum volume and enter buttons highlighted), click the external button.





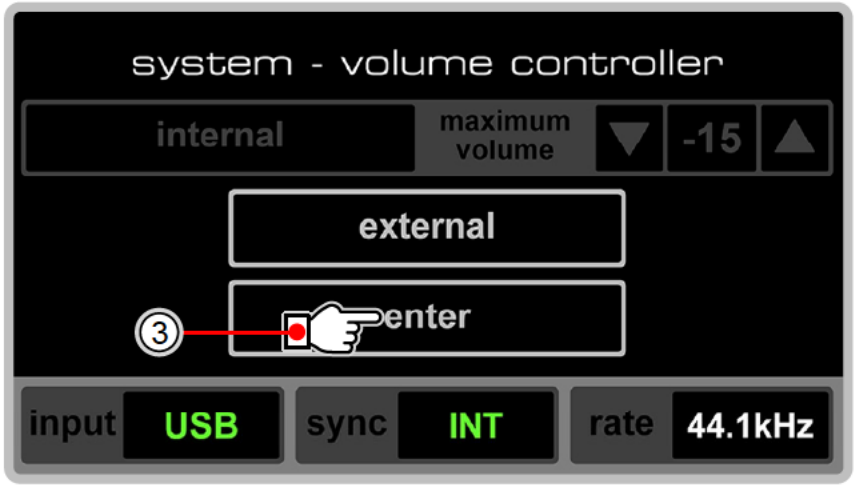
After clicking, the external button and the enter button turn yellow, indicating a confirmation page, while the internal / maximum volume button remains highlighted.

② To confirm the change to external, click the enter button.

You can also reselect the controller option by clicking the internal button again, which will turn yellow, while the previously selected external button will turn dark gray.

After the change, the internal / maximum volume button dims, and both the external and enter buttons become highlighted, indicating the current volume controller setting.

③ Click the enter button again to return to the system settings page before entering the system - volume controller settings page.

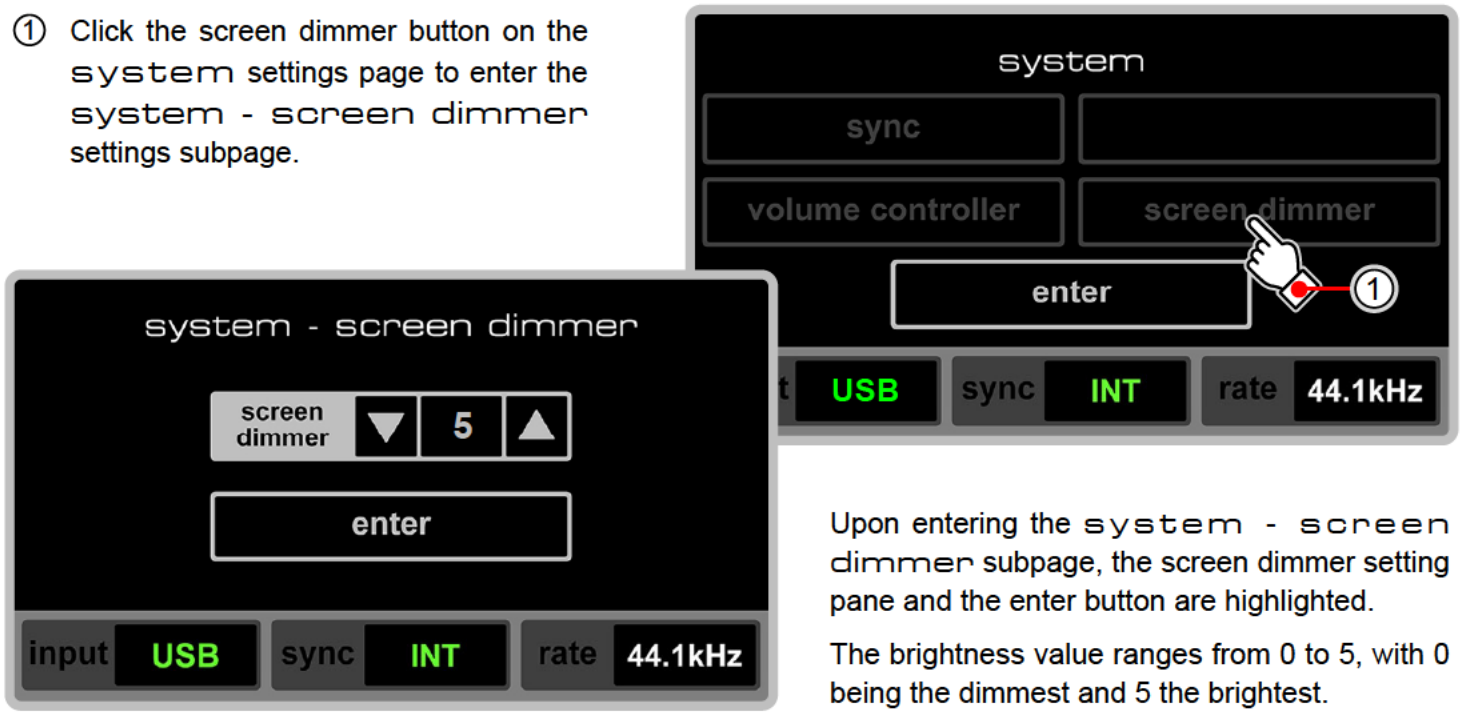


Regardless of the state of the system - volume controller settings page, if no action is taken for 10 seconds, the page will return to the previous level, up to the original working page.

7.10.1.5 Enter Screen Dimmer Settings Subpage

The **NADAC D** can enter the screen dimmer settings subpage for any input source.

① Click the screen dimmer button on the system settings page to enter the system - screen dimmer settings subpage.



Upon entering the system - screen dimmer subpage, the screen dimmer setting pane and the enter button are highlighted.

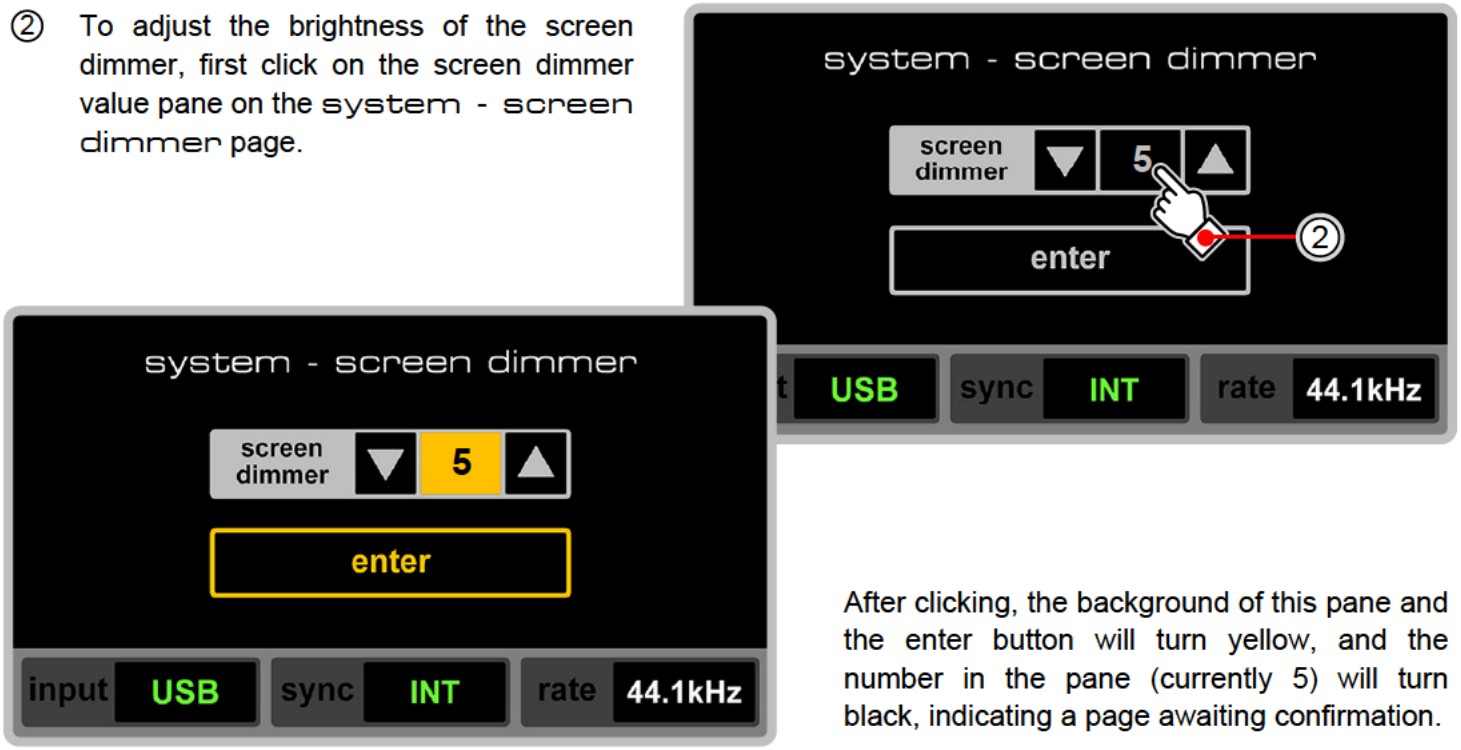
The brightness value ranges from 0 to 5, with 0 being the dimmest and 5 the brightest.

Note: In the example above, the current screen dimmer setting is at brightness level 5.

If you decide not to change the dimmer brightness after entering the system - screen dimmer subpage, you can directly click the enter button to return to the working page. Additionally, if no action is taken for 10 seconds on the subpage, it will automatically return to the previous level.

7.10.1.5.1 Adjust Screen Brightness (e.g., from 5 to 3)

② To adjust the brightness of the screen dimmer, first click on the screen dimmer value pane on the system - screen dimmer page.

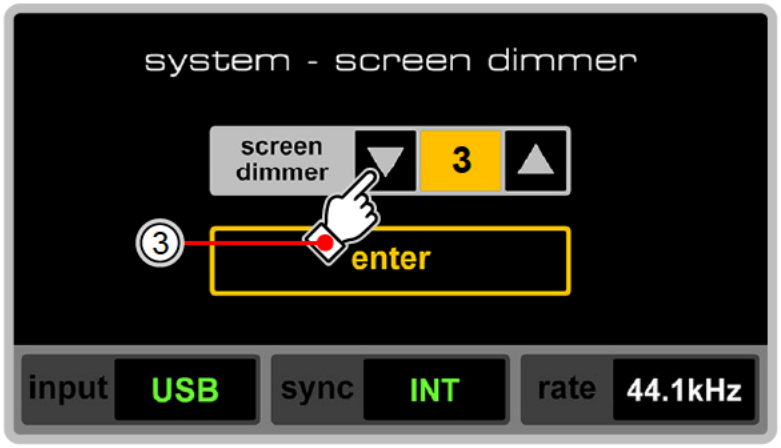


After clicking, the background of this pane and the enter button will turn yellow, and the number in the pane (currently 5) will turn black, indicating a page awaiting confirmation.

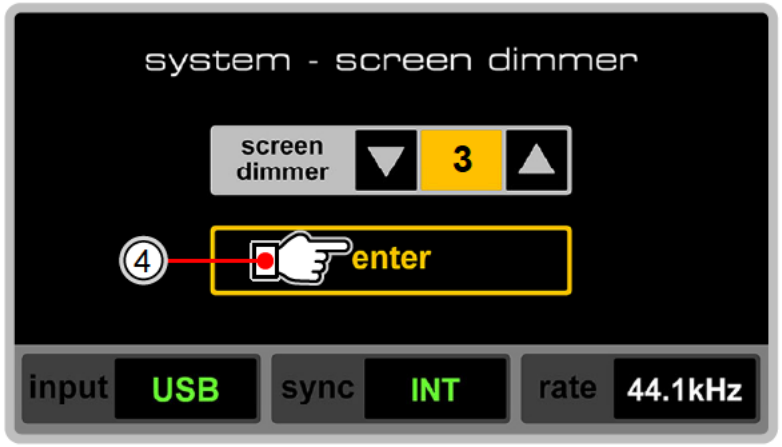
On this confirmation page, if you decide not to change the setting and want to maintain the original value, you can directly click the enter button. Additionally, if no action is taken for 10 seconds, the page will automatically cancel the confirmation status.

Adjust the value in the pane using the up and down triangle buttons on either side of the pane. The range of adjustment is from 0 to 5. You can click the triangles to adjust the brightness value incrementally by 1, or hold down the triangles for a continuous increase or decrease until the value reaches either end of the range.

③ In this example, you should click or hold down the down triangle button until the brightness value is adjusted to 3.



As you adjust, the screen brightness will change in real-time according to the value.



④ If you confirm the changed value, click the enter button to complete the change.

You can also readjust the screen brightness by clicking the up and down triangle buttons again while the screen dimmer brightness value box background and the enter button are in yellow on confirmation state.

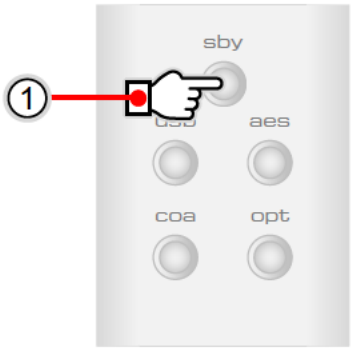
7.11 Standby and Shutdown

7.11.1 Enter Standby State (Soft Shutdown)

① In normal operating mode, pressing the sby button on the infrared remote control will put the **NADAC D** into standby mode.

When entering standby mode, a standby display as shown in the left figure will appear on the screen.

To exit standby mode, simply press the **sby** button on the infrared remote control again, and the **NADAC D** will immediately return to normal operating mode.



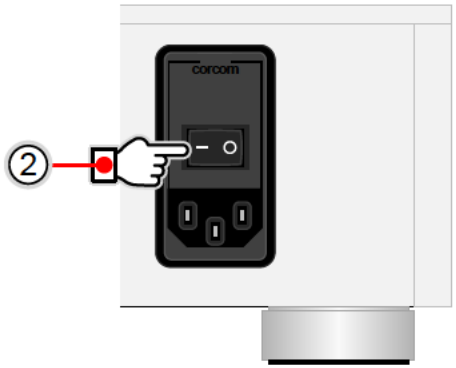
Note: The **NADAC D** can only be put into and taken out of standby mode via the infrared remote control.

7.11.2 Turn Off AC Power (Hard Shutdown)

② Press the power switch on the back panel.

WARNING:

Although turning off the power switch on the back panel in normal operating mode will not damage the **NADAC D**, it is still **strongly recommended to follow the process of soft shutdown before a hard shutdown!!!** This is to prevent damage to downstream equipment and speakers due to noise output caused by directly turning off the **NADAC D** without first shutting down the power amplifier.



8. Specifications

8.1 General Specifications

Power Supply

Voltage and Frequency	AC 100 - 120 V or 200 - 240 V changeable (change through the AC power socket on the rear panel); 50 / 60 Hz
Power Consumption	Maximum ＜ 80 W; Stable 46 W (Typical)
Connector	IEC 60320 C14
Fuse	3.15 A, 5 x 20 mm Slow Blow

Dimensions and Weight

Dimensions	435 mm (W) x 95 mm (H) x 390 mm (D)
Weight	10.7 kg

8.2 Audio and Clock Specifications

Input / Output Specifications

RAVENNA (Net) Input	Audio Format	Temporarily unavailable 44.1 / 88.2 / 176.4 / 352.8 kHz; 48 / 96 / 192 / 384 kHz; 16 / 24 / 32 bit. Native DSD64 / DSD128 / DSD256; True 1 bit
	Connector	Temporarily unavailable Neutrik etherCON (RJ45) x1
USB Input	Standard	UAC2.0
	Supported OS	**Windows**: 7 / 8.0 / 8.1 / 10 / 11; 32 / 64 bit, **Mac OS**: X 10.9 and above; **Linux**: UAC2 Supported Linux Core
	Audio Format	44.1 / 88.2 / 176.4 / 352.8 kHz; 48 / 96 / 192 / 384 kHz; 16 / 24 / True 32 bit. Native DSD64 / DSD128 / DSD256 / DSD512; True 1 bit
	Connector	Neutrik mediaCON (USB Type-C) x1
AES3 Input	Audio Format	44.1 / 88.2 / 176.4 kHz; 48 / 96 / 192 kHz; DoP64; 16 / 24 bit
	Impedance	110 ohm; @ Balance
	Connector	XLR-3-F x1
S/PDIF Input (Coaxial)	Audio Format	44.1 / 88.2 / 176.4 kHz; 48 / 96 / 192 kHz; DoP64; 16 / 24 bit
	Impedance	75 ohm; @ Unbalance
	Connector	Phono (RCA) x1
S/PDIF Input (Optical)	Audio Format	44.1 / 88.2 / 176.4 kHz; 48 / 96 / 192 kHz; DoP64; 16 / 24 bit
	Connector	TosLink
Analog Balance Line Output	Level	+12 dBV (4 Vrms)
	Source Impedance	200 ohm
	Connectors	XLR-3-M x2
Analog Unbalance Line Output	Level	+6 dBV (2 Vrms)
	Source Impedance	100 ohm
	Connectors	Phono (RCA) x2
Analog Balance Headphones Output	Power	300 mW;
	Impedance	@ 32 ohm;
	Connector	4.4 mm mini x1
Analog Unbalance Headphones Output	Power	100 mW;
	Impedance	@ 32 ohm;
	Connector	6.35 mm Stereo Phone x1
Clock Input	Frequency	10 MHz
	Impedance	50 ohm (Compatible with 75 ohm)
	Connector	BNC x1

Audio and Clock Specifications (Room Temperature, Typical)

THD+n	0.0003% @ 4 V rms / 1 kHz Tone / 10 Hz - 20 kHz Bandwidth 0.0003% @ 1 V rms / 1 kHz Tone / 10 Hz - 20 kHz Bandwidth 0.0006% @ 0.35 V rms / 1 kHz Tone / 10 Hz - 20 kHz Bandwidth
SNR	120 dBA @ 10 Hz - 20 kHz Bandwidth / A - Weight
Flatness	＜ +/- 0.2 dB @ 10 Hz - 20 kHz
Analog Volume Control	Attenuation 3 dB / Step, Total 20 Steps (0 / -3 / -6 / -9 / -12 / -15 / -18 / -21 / -24 / -27 / -30 / -33 / -36 / -39 / -42 / -45 / -48 / -51 / -54 / -57 dB)
Channel Attenuation Error	＜ 0.1 dB @ Any Attenuation Step
Channel Phase Error	＜ 0.1 Deg @ 10 Hz - 20 kHz
Channel Separation	＜ 120 dB @ 10 Hz - 20 kHz
USB Internal Clock Source Jitter	＜ 800 fS @ 10 Hz - 100 kHz Bandwidth
USB Internal Clock Source Frequency Accuracy	＜10 ppm @ 5 - 45 C
USB External Clock Source Frequency Accuracy	Fully Follow External 10 MHz Clock Accuracy
Digital Audio Input Jitter Attenuation	＞ 80 dB @ ＞ 50 Hz Sine Jitter ＞ 60 dB @ Windband Random Noise Jitter
Digital Audio Input Locking Range	＜ +/- 120 ppm
Digital Audio Input Clock Data Recovery Setting Time	＜ 1200 mS
Digital Audio Input Clock Data Recovery Intrinsic Jitter	＜ 1 pS @ 10 Hz - 100 kHz Bandwidth

8.3 Infrared Remote Specifications

Infrared Receiver

Peak Wavelength	940 nm
Reception Distance	Minimum 15 Meter @ ray axis 0 degrees; Minimum 7.5 Meter @ ray axis 45 degrees;
Half Angle	45 degrees

Infrared Remote Controller

Peak Wavelength	940 nm @ I_F = 20 mA
Viewing Angle	45 degrees @ I_F = 20 mA
Control Function	Standby; Input selection (Ravenna Temporarily unavailable; USB; AES; S/PDIF Coaxial; S/PDIF Optical); Mute; Dim; Volume.
Power	2x AAA Batteries
Dimensions	40 mm (W) x 21 mm (H) x 180 mm (D)
Weight	0.19 kg (Excluding batteries)

8.4 USB Cable Plug Pinout

Plug	Pin	Signal	Signal Description	Signal	Pin	Plug
USB Type-C 2.0	A1	GND	Ground	GND	4	USB Type-A 2.0
	A6	D +	USB 2.0 differential pair, positive	D +	3	
	A7	D -	USB 2.0 differential pair, negative	D -	2	

Specifications are subject to change without notice.

Disclaimer

Master Fidelity is committed to delivering the “Native True 1-bit" digital audio experience.

As all aesthetic choices come with certain trade-offs, some ergonomic and/or lifestyle features, common in modern Hi-Fi, might ultimately not be feasible within this format, as it has its own rules regarding interfacing with the outside world. Converting the pure signal into something more compatible would inevitably compromise the sound performance, and Master Fidelity's artistic mission does not allow for that. However, we are constantly working on innovative solutions to ensure seamless integration of the superior bitstream format in every high-end digital audio chain.

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