

DELTA-NEO N2H USER MANUAL

Version 1.7



DELTA Δ CAST

ABSTRACT

This document is the user manual of DELTA-neo NDI® to HDMI™ converter product.

DOCUMENT CHANGE LOG

Issue	Date	Author	Sections Affected	Relevant Information
1.0	April,1 st 2019	Julien MERCENIER	All	First document version.
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1 DISCLAIMERS, WARRANTY, SAFETY INSTRUCTIONS

Thank you for purchasing a DELTACAST DELTA-neo N2H unit. Please read this manual carefully to ensure safe and correct operation. If, on reading this manual you still have questions on using the unit, please contact DELTACAST via the support website at <http://www.deltacast.com>.

1.1 DISCLAIMERS

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DELTACAST does not assume responsibility for loss or damage resulting from errors, omissions or inaccuracies herein. DELTACAST products are not authorized for use in safety-critical applications (such as life support) where a failure of the DELTACAST product would reasonably be expected to cause severe personal injury or death.

DELTACAST reserves the right to make corrections, modifications, enhancements, improvements and other changes to this document at any time without notice.

NDI® is registered trademark of NewTek in the United States and other countries. The terms HDMI™ and HDMI™ High-Definition Multimedia Interface, and the HDMI™ Logo are trademarks or registered trademarks of HDMI™ Licensing LLC in the United States and other countries. HDCP is a trademark or registered trademark of Digital Content Protection.

All other trade names that appear in this material are for identification purposes only and are acknowledged to be trademarks or registered trademarks of their respective companies.

1.2 WARRANTY

The product has been designed and manufactured to be of the highest quality. However, should the unit develop a fault during the warranty period, please return to your local agent for repair.

WARRANTY EXCEPTIONS

DELTACAST is not responsible for free service during the warranty period under the following conditions:

- Incorrect voltage applied to the unit.
- Incorrect power adapter used.
- Repair of the unit by non-DELTA-CAST approved agent.
- Repair of damage caused by third-party products.
- Repair of damage caused by improper use.
- Repair without proof of purchase.
- Fire, natural disaster.

1.3 IMPORTANT SAFETY INFORMATION

This manual contains information and warnings that must be followed by the user for safe operation and to keep the product in a safe condition.

Use the product only as specified. Review the following safety precautions to avoid injury and prevent damage to this product or any products connected to it.

When incorporating this equipment into a system, the safety of that system is the responsibility of the assembler of the system.

Use a proper power cord. Use only the power cord specified for this product and certified for the country of use. Do not use the provided power cord for other products.

Use a proper AC adapter. Use only the AC power adapter shipped with the unit. It may be connected to any AC power source between 100-240VAC, 50/60Hz. To avoid fire or shock hazards, observe all ratings and markings on the product before making connections. Do not use a damaged AC cable with the unit as it may cause a shock or fire hazard.

Do not operate in wet/damp conditions. Be aware that condensation and moisture may occur if a unit is moved from a cold to a warm environment which can cause malfunction or damage the unit. Allow the unit to sit for 30 minutes without power applied to reduce any possibility of condensation.

Do not operate in an explosive atmosphere.

Keep product surfaces clean and dry.

Operating temperature. The unit should only be operated between 0 and 40°C. If the unit is operated at a higher temperature this will lead to malfunction and there is a possibility of a fire hazard.

Provide proper ventilation. Slots and openings are provided for ventilation and should never be covered or otherwise obstructed. Do not push objects into any of the openings.

When not in use. Disconnect the unit from the power supply and AC power source when not in use.

Maintenance. Remove the power supply from the unit and turn OFF before cleaning. Wipe the case gently with a soft cloth, lightly dampened with a neutral cleaning agent. Do not allow any water or other liquid to enter the unit while cleaning.

2 GETTING TO KNOW DELTA-NEO N2H

DELTA-neo is DELTACAST product range dedicated to format conversion in heterogeneous production environments.

DELTA-neo N2H fills an important gap for all video content viewing applications across the NDI® ecosystem. It allows you to decode and visualize any NDI® stream on a wide range of HDMI™ 2.0 displays devices, TV screens, and video projectors.

DELTA-neo N2H automatically detects the NDI® stream format, decode and converts it to HDMI™ with embedded audio. As opposed to the computer-based system, its hardware-based signal processing delivers stability, low latency, and a small form factor not previously met on the market.

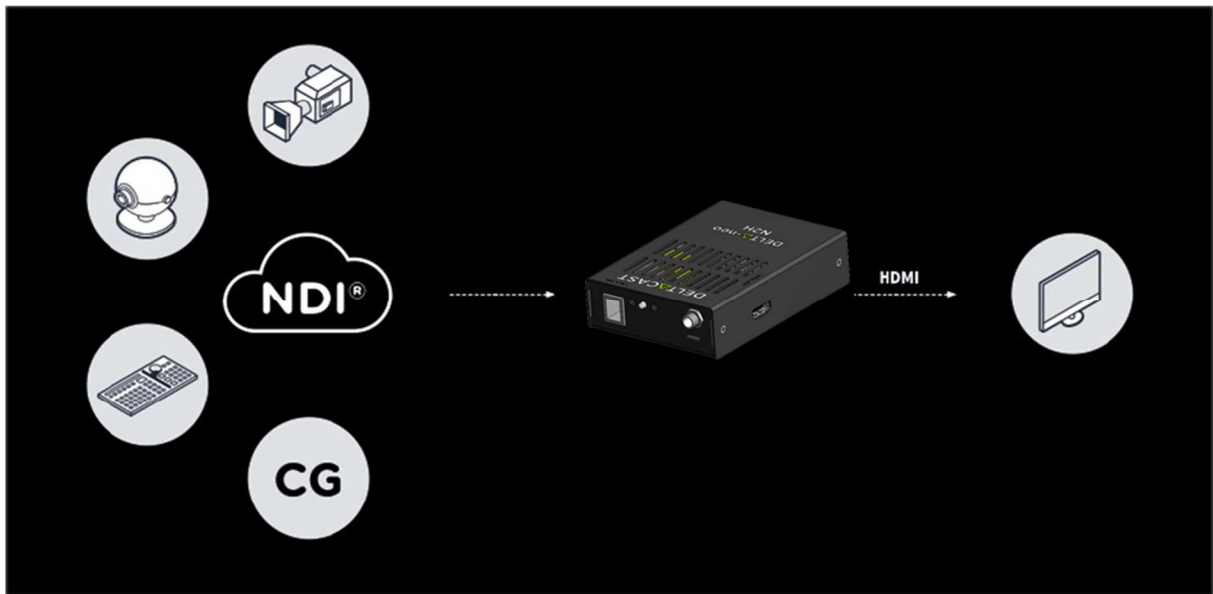


Figure 1 DELTA-neo converter

DELTA-neo N2H lets you convert from NDI® coming over a LAN to uncompressed HDMI™ 2.0 in SD and HD formats up to 1080p59.94 while de-embedding audio to HDMI™.

- Automatic power-on through DC connector or PoE Ethernet connector. No on/off switch button.
- System automatically selects the last configuration (IP static/dynamic, and last NDI® stream reception).
- NDI® Source selection is done through the web interface or by clicking the source switch button on the converter.

Controller boot time is around ~30s from power on to drive of the HDMI™ display output.

Several converters can be used on the same LAN; each of them being uniquely identified can be accessed through a different web address.

2.1 NDI® NETWORK INTERFACE – AUDIO/VIDEO INPUT

- NDI® and NDI® |HX video stream live receiving (UDP and TCP) and decoding;
- NDI® zero configuration discovery (mDNS, multicast) and registration;

- Automatic source detection;
- Audio decoding for 44.1kHz and 48kHz.

2.2 HDMI™ INTERFACE – AUDIO/VIDEO OUTPUT

- HDMI™ uncompressed output interface;
- Support of embedded audio in 44.1kHz and 48kHz;
- Unprotected (no HDCP support) output;
- Easy connect to LCD displays, TVs or projectors.

2.3 SUPPORTED FORMATS

- Video Formats
 - SD : NTSC 480i/59.97, PAL 576i/50
 - HD : 720p 50/59.94/60
 - HD : 1080i 50/59.94/60
 - HD : 1080p 25/29.97/50/59.94/60
 - WGA : 1280x800p 59.94/60, 1440x900p 59.94/60, 1680x1050p 59.94/60, 1920x1200p 59.94/60
 - UHD : not supported
- Video Codecs
 - YUYV/YUV(420), SHQ0 highest bandwidth (Speed HQ 420 Highest bandwidth)
 - YUYV/YUV(420), SHQ0 lowest bandwidth (Speed HQ 420 Lowest bandwidth)
 - YUYV/YUV(422), SHQ2 highest bandwidth (Speed HQ 422 Highest bandwidth)
 - YUYV/YUV(422), SHQ2 lowest bandwidth (Speed HQ 422 Lowest bandwidth)
 - YUYV/YUV(4224), SHQ7 highest bandwidth (Speed HQ 4224 Highest bandwidth)
 - YUYV/YUV(4224), SHQ7 lowest bandwidth (Speed HQ 4224 Lowest bandwidth)
 - H.264 NDI®|HX: Profiles Baseline, Main and High up to 2.1, bitrate (CBR and VBR) from 1Mbps to 50Mbps and GOP length from 1 frames to 128 frames.
- Audio Formats & Codecs
 - PCM audio (any sample rate)

2.4 FEATURES

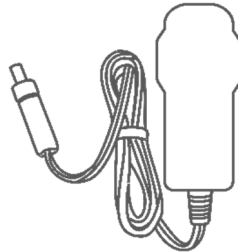
- Remote configuration through web interface
- Non-volatile configuration
- Dedicated factory restore button
- Boot time ~30s
- Firmware update through web interface
- Failsafe upgrade interface in case of firmware bricked

2.5 PACKAGE CONTENT

1. DELTA-neo N2H



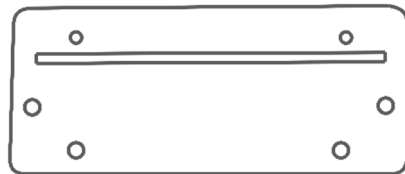
2. AC/DC Wall Mount Adapter



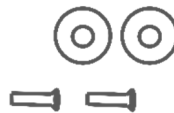
3. Interchangeable AC Plugs



4. VESA Mount Support



5. VESA Mount Mechanical Set



2.6 PHYSICAL CONNECTORS

1. DC Input (5V)
2. Activity Led (Blue)
3. Power Led (Red)
4. Push Button
5. HDMI™ Output
6. NDI® Input / (Ethernet 1Gbps) / PoE DC Input

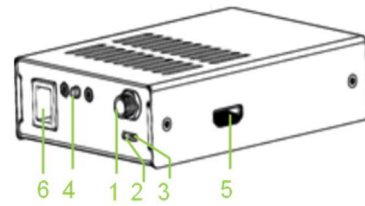


Figure 2 Product Connectors Overview

Note: The Ethernet connector LEDs do not show the “activity” and “line speed” of Ethernet link. The yellow LED (left) shows the presence of input **48V IN** (turned on when the power is detected from the plugged Ethernet cable) ; the green LED (right) tells that DeltaNEO is powered from PoE.

3 STARTING DELTA NEO N2H

3.1 NETWORK

Several DELTA-neo N2H devices, with distinct IP addresses, can be connected to the same network.

DELTA-neo N2H can be configured to use a static IP address, which removes the need for a DHCP server. If your DELTA-neo converter is configured in DHCP and no DHCP server is present on the network, the fallback IP settings (fallback default IP address: **192.168.220.220**) will be used. By default, every DELTA-neo N2H have the same fallback IP settings. There is a risk to have several devices with the same IP address connected together to the same network. So, if fallback IP settings were not modified, it is recommended to connect one DELTA-neo N2H at a time to the network to modify its static and/or fallback IP addresses.

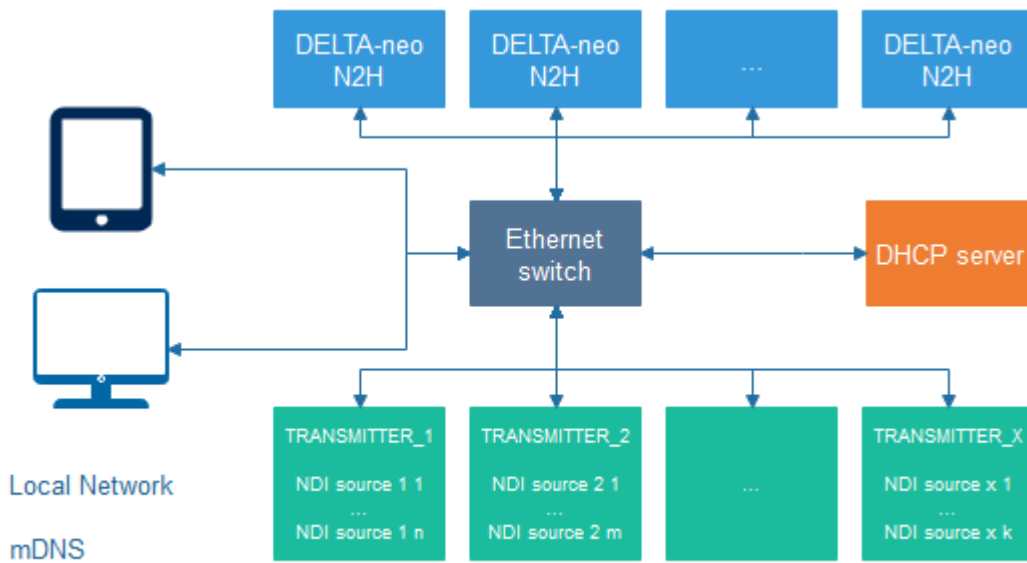


Figure 3 Network without DNS server

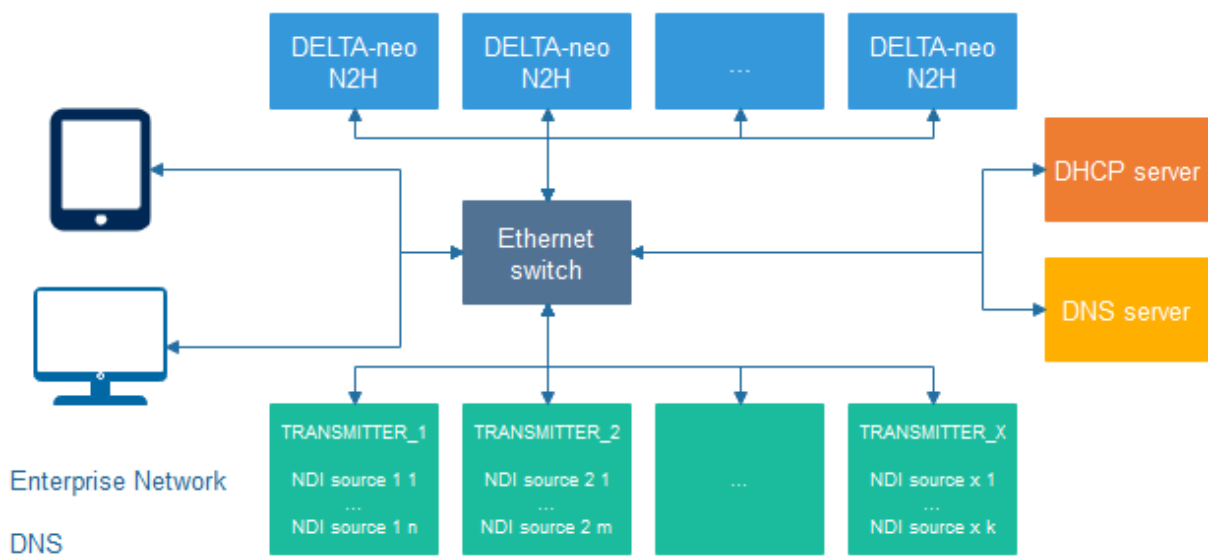


Figure 4 Network with DNS server

3.2 POWERING

DELTA-neo N2H can be powered using the AC/DC Wall Mount Adapter or the Ethernet connector on a PoE-enabled network (IEEE 802.3af). It is highly recommended to use only accessories delivered with DELTA-neo N2H package.

3.3 BOOTING

Once the DC Input is plugged in, the Power Led (Red) and the Activity Led (Blue) turn on. After several seconds, the Activity Led starts blinking.

Once the DC Input is plugged in, DELTA-neo N2H output screen displays a black screen for several seconds (1), followed by its logo image for several seconds (2). Then, depending on the Ethernet connection state, the previous configuration, and the NDI® sources availability, it displays a “source not found” image (3), an “unsupported format” image (4), or the currently selected NDI® source (5). If no NDI® source is selected, it still displays the logo image.

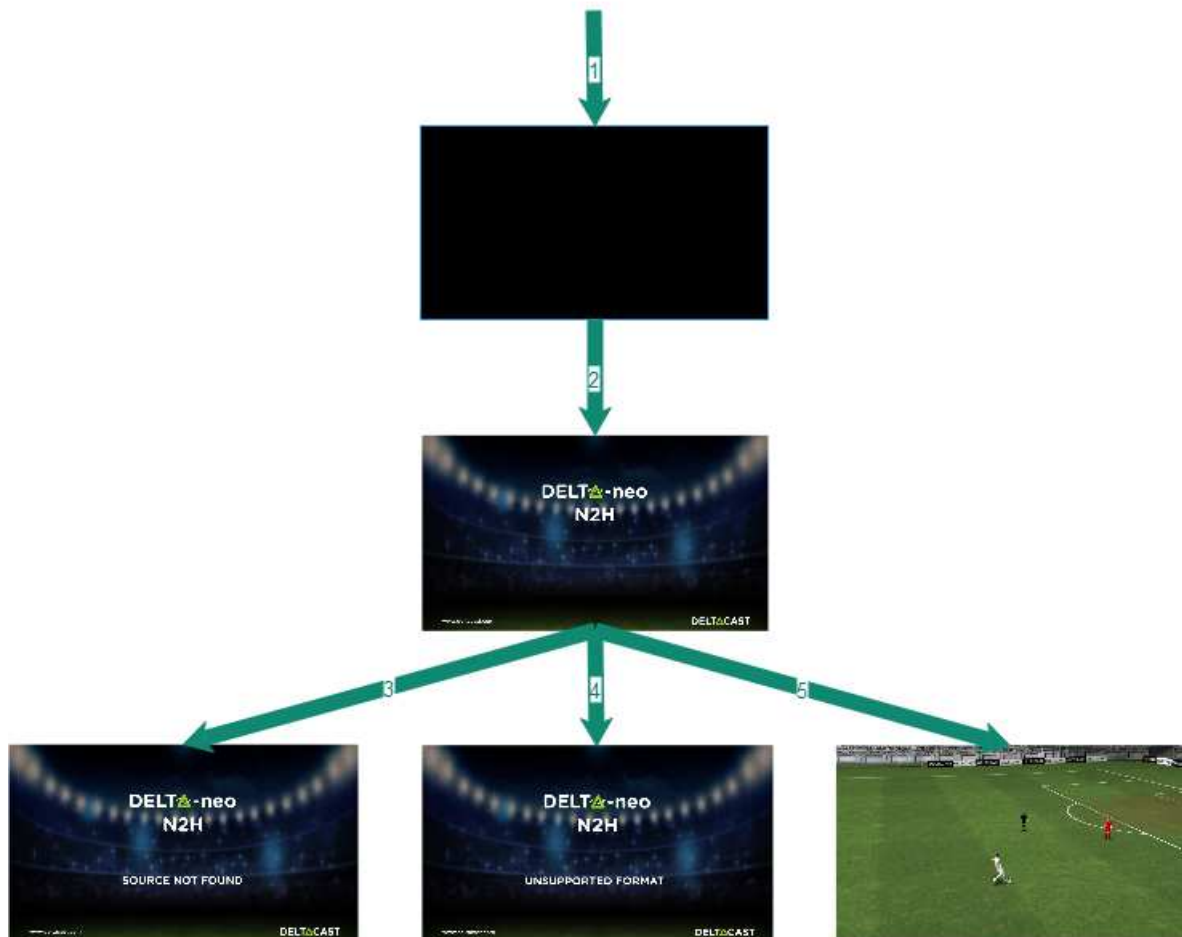


Figure 5 Display during boot sequence

Note: Each image of this sequence could be changed if the user has already customized its own splash screens.

4 ACCESSING DELTA NEO N2H

4.1 CONNECTING TO THE WEB INTERFACE

DELTA-neo N2H configuration and statuses are remotely accessible through a web interface. Read [Configuring DELTA neo N2H](#), [Operating DELTA neo N2H](#), and [Monitoring](#) chapters for more details.

Use a web browser to access DELTA-neo N2H using its Hostname (example: <http://deltacast-73104.local>).

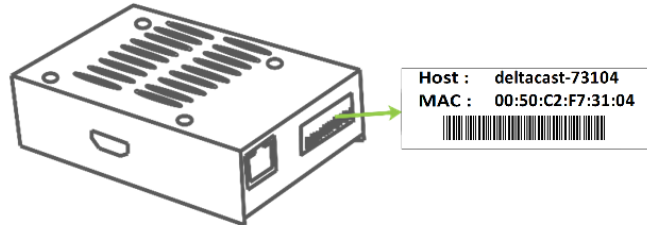


Figure 6 DELTA-neo N2H identification sticker

First, the user must log in using the default Password which is the Hostname of the converter (**deltacast-73104** (in tiny case) in this example). It is highly recommended to change DELTA-neo N2H password as described in [Credentials/Password management](#) chapter.

4.2 NETWORK HOSTNAME RESOLUTION

The multicast Domain Name System protocol (mDNS) resolves hostnames to IP addresses within small networks that do not include a local name server.

Linux[®]: it is recommended to install/use `avahi-daemon`, `libavahi-client3` and `avahi-utils` packages to enable mDNS hostname resolution.

Windows[®]: it is recommended to install/use Apple[®] Bonjour[®] Print Services on the user system to enable mDNS hostname resolution.

macOS[®]: The software Apple[®] Bonjour[®] Print Services comes built-in with macOS[®].

5 CONFIGURING DELTA NEO N2H

5.1 CREDENTIALS/PASSWORD MANAGEMENT

First, the user must log in using the default Password which is the Hostname of the converter (**deltacast-73104** in this example)

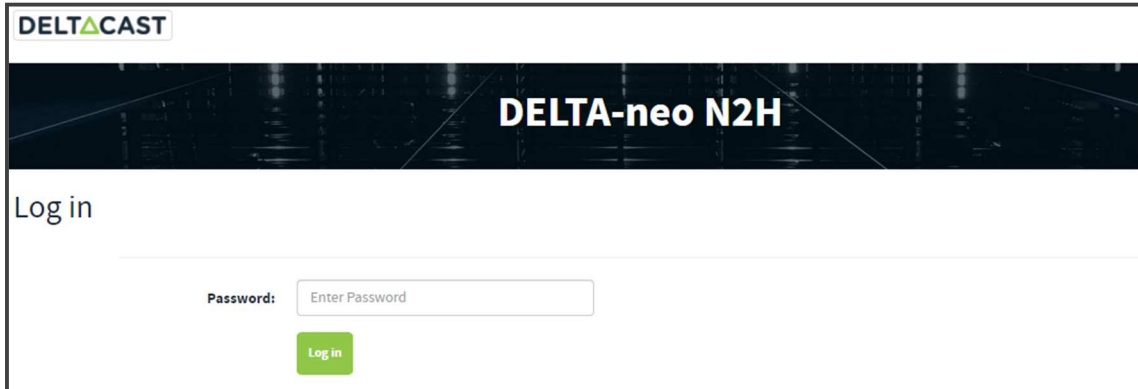


Figure 7 Webpage login

The default password is to be used only for the first login or after a failsafe upgrade. Note that **it is highly recommended to modify the password** using the ADMIN web page.

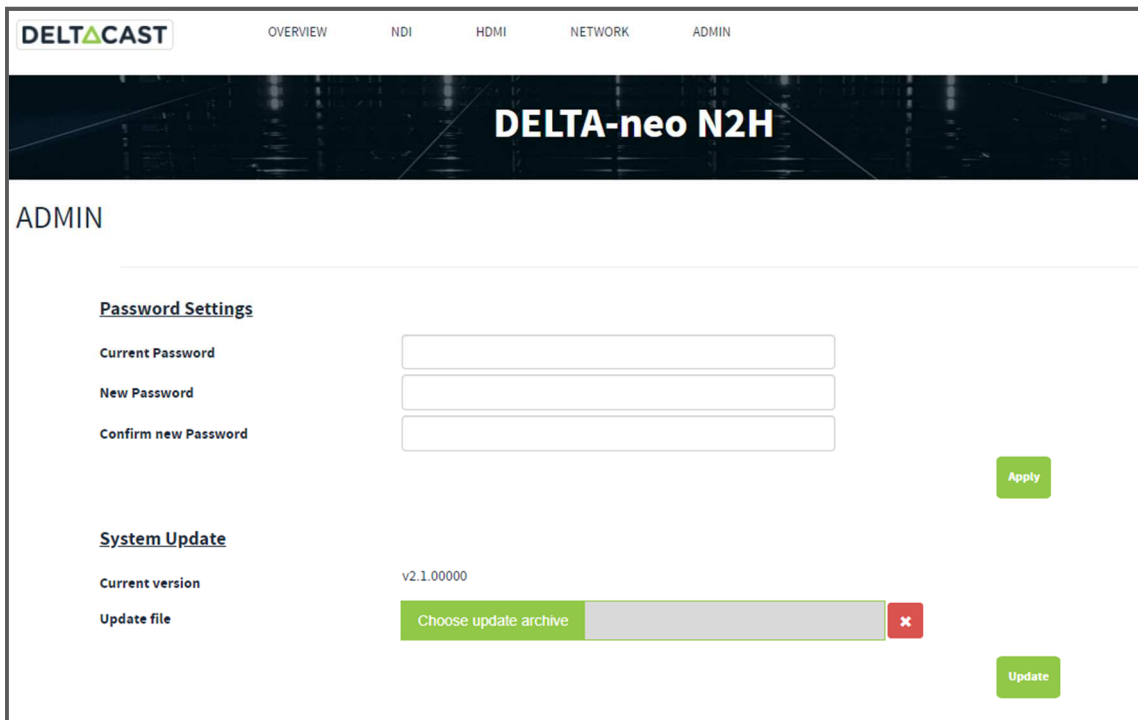


Figure 8 ADMIN webpage: change password

5.2 SPLASHSCREEN CUSTOMISATION

A set of splash screens are used to make the DELTA-neo experience more enjoyable. All of these splash screens can be customized using the ADMIN web page. Each splash screen can be configurable individually by selecting a new image and clicking the Update button.

It is also possible to reset a specific splash screen by clicking the Reset to Default button for each of them.

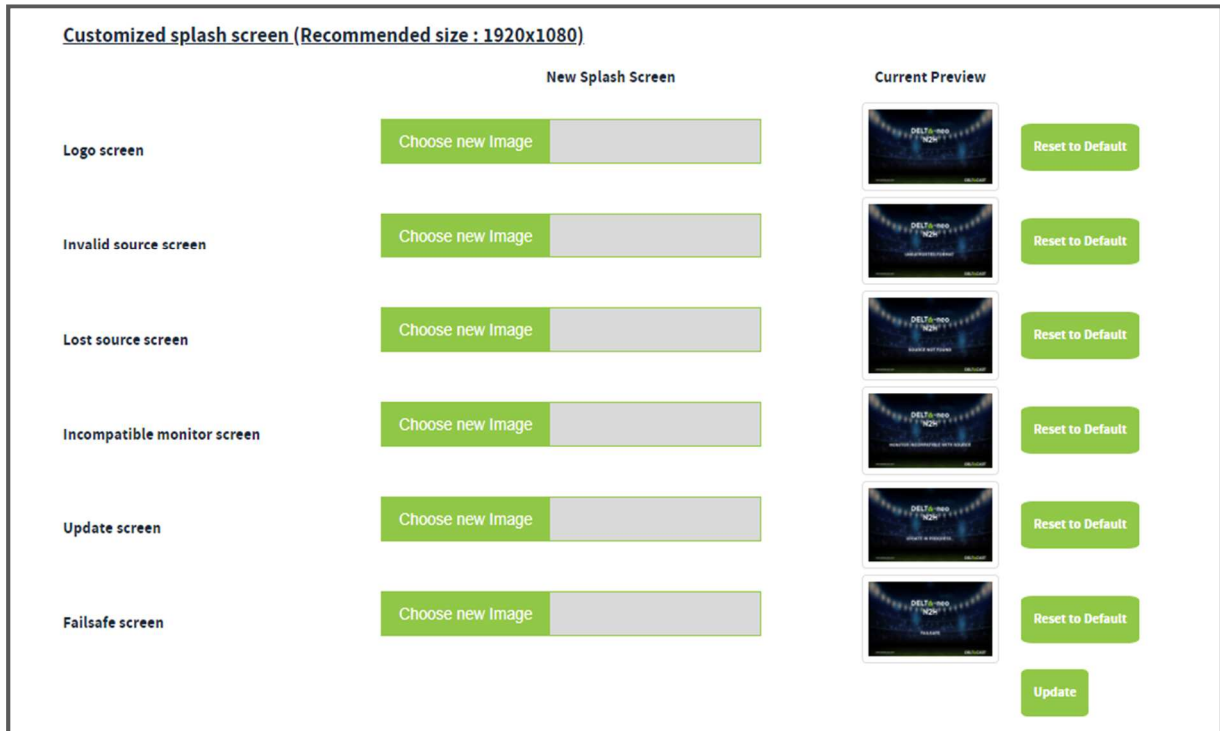


Figure 9 ADMIN webpage: customize splash screen

5.3 IP SETTINGS

By default, the IP settings are set with DHCP on. Using the NETWORK webpage, the user can also set the IP fallback settings used when DELTA-neo N2H failed to get its IP address using DHCP.

Moreover, below on this configuration page, it is possible to configure an address for an NDI® Discovery Server (available since NDI® 4.0 and only compatible with NDI® 4.0 and higher version). When this is used, mDNS is no longer used by senders in order to advertise their existence and, instead, the make a connection to the NDI® Discovery Server and register with it. Here, this parameter allows the DELTA-Neo to only connect with the discovery server to discover a set of additional sources.

The user can also set a series of extra IP addresses that are, after configuration, discoverable without being on the local subnet. This mechanism uses mDNS. Each extra IP can be manageable individually with the delete button visible for each line.

The screenshot shows the DELTACAST NETWORK configuration page. At the top, there is a navigation bar with 'DELTA CAST' on the left and 'OVERVIEW', 'NDI', 'HDMI', 'NETWORK', 'ADMIN', and 'LOG OFF' on the right. Below the navigation bar is a dark banner with 'DELTA-neo N2H' in white text. The main content area is titled 'NETWORK' and contains several sections:

- Configuration**: Includes 'Address Mode' with 'Static' and 'DHCP' buttons (DHCP is selected), and 'Device Name' with the value 'deltacast-73105'.
- DHCP fallback**: Includes 'Timeout' (30), 'Fallback Ip Address' (192.168.220.220), 'Fallback Network Mask' (255.255.255.0), 'Fallback Gateway Address', and 'Fallback DNS Address', each with a corresponding input field.
- Discovery Server**: Includes 'Discovery Server' (172.16.25.64) with an input field.
- Additional Ip Addresses**: Includes 'Extra Ip' with an input field.

There are two green buttons: 'Apply' and 'Add Extra Ip'.

Figure 10 NETWORK webpage: DHCP and DHCP fallback

The screenshot shows the DELTACAST NETWORK configuration page. At the top, there is a navigation bar with 'DELTA CAST' logo and menu items: OVERVIEW, NDI, HDMI, NETWORK, ADMIN, and LOG OFF. Below the navigation bar is a dark banner with 'DELTA-neo N2H' in white text. The main content area is titled 'NETWORK' and contains several sections:

- Configuration:** Includes 'Address Mode' with 'Static' (selected) and 'DHCP' buttons, and 'Device Name' with the value 'deltacast-73105'.
- IP settings:** Includes input fields for 'Ip Address', 'Network Mask', 'Gateway', and 'DNS'. An 'Apply' button is located to the right of these fields.
- Discovery Server:** Includes a 'Discovery Server' input field with the value '172.16.25.64'.
- Additional Ip Addresses:** Includes an 'Extra Ip' input field and an 'Add Extra Ip' button.

Figure 11 NETWORK webpage: Static IP settings

5.4 HDMI™ OUTPUT SETTINGS

Using the HDMI™ web page, the user can check the display properties and configure its HDMI™ output. The user can:

- Enable/Disable the video or the audio;
- Force format not listed in the screen EDID;
- Decide to display only Alpha channel from the displayed source;
- Select a specific audio pair;
- Configure the audio reproduction offset in regards to the video - lip-sync settings [0..500 ms];
- Configure a maximum network jitter [0..500 ms].

The modifications are taken into consideration once the Apply button is pressed.

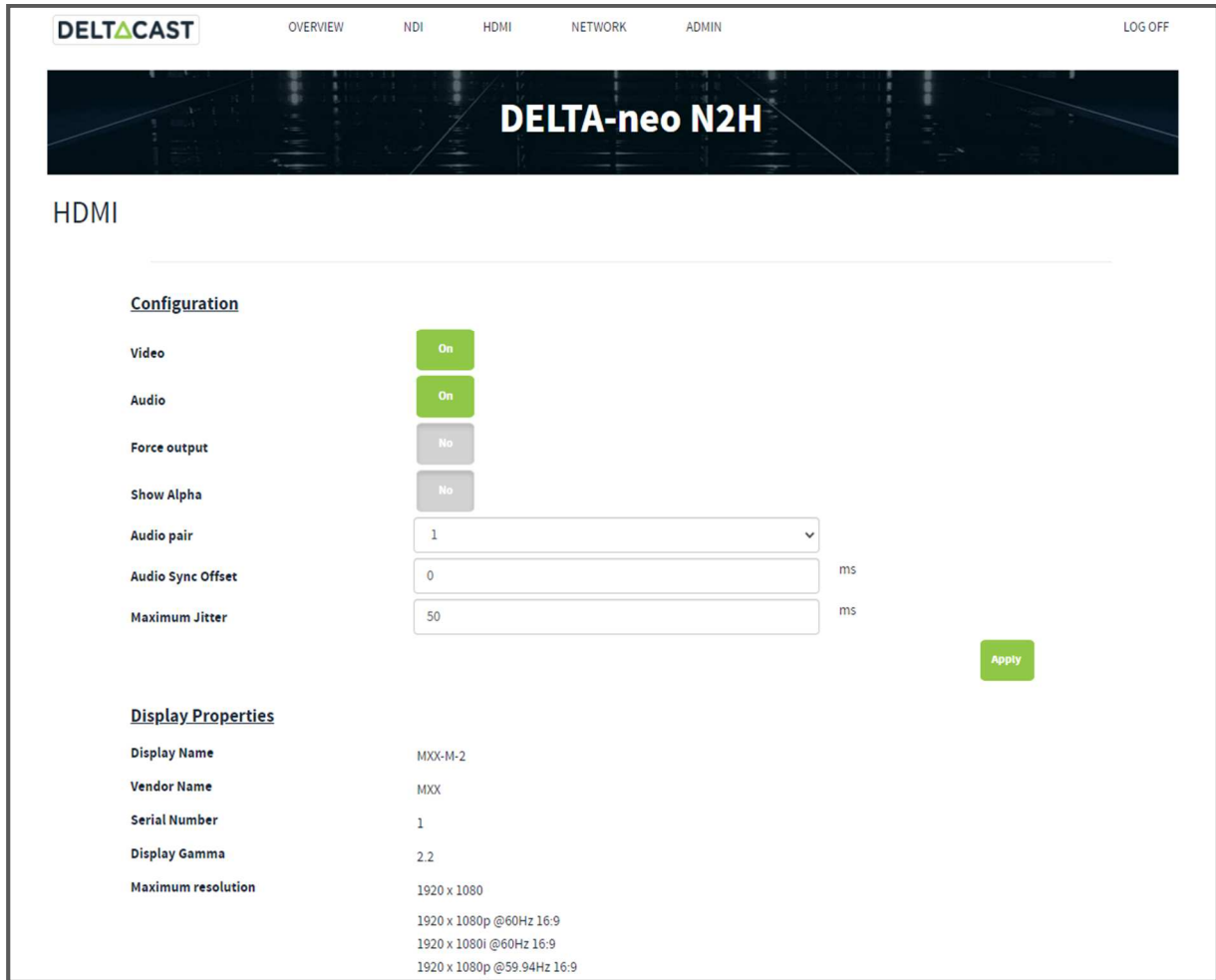


Figure 12 HDMI™ webpage: output settings

WARNING: The maximum jitter parameter represents the max variation tolerated regarding network stream data availability; it is used to tailor the internal buffer size of the application. This parameter depends on the network and on the stream emitter characteristics. A too high value increases the reproduction delay unnecessarily, and a too low value can increase the reproduction error rate (video frames repeated/dropped). The value of this setting can be seen as a tradeoff between “latency” and “quality” of the reproduction. The default value is 50 milliseconds.

Using the HDMI™ web page, the user can check the detected display properties and capabilities. If no HDMI™ display is connected or detected, the display properties fields are empty.

6 OPERATING DELTA NEO N2H

6.1 NDI® INPUT SELECTION

6.1.1 WEB

Every 5 seconds, DELTA-neo N2H makes a discovery of the NDI® sources available in the network and lists them in the Sources available list in the NDI® web page.

Note that the Sources available list can list invalid sources (e.g. source with an invalid format, a source that is not streamed anymore on the network and not already detected as disconnect).

The maximum number of discovered NDI® sources is **512**. The user can select one of those available sources by clicking on it, or by typing its name in the Selected Source field and click on the Select button. Once selected, the source name becomes green.

The user can unselect a source, without selecting another one, by clicking on the green source name in the Sources available list, or erasing the name in the Selected Source field and clicking on the Select button.

The Default NDI source text box allows the user to select a source to stream at the device boot. Without that, the selected source is not persist.

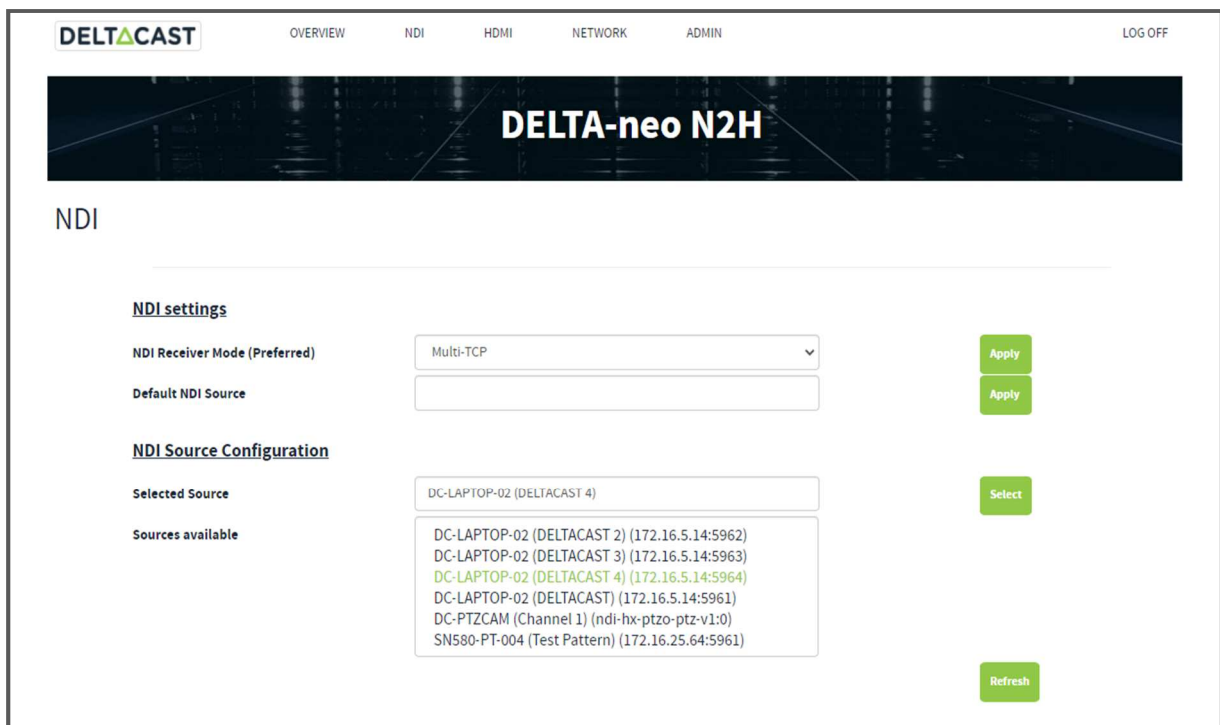


Figure 13 NDI® webpage: select an NDI® source

The user can also select an undiscovered source by typing its name in the Selected Source field and click on the Select button. This leads to a displayed “Source not found” splash screen until the source is discovered and streamed.

It is also possible, since NDI® 4.0, to select the Preferred Receiver Mode as UDP or TCP.

6.1.2 BUTTON

A short press (less than 2 seconds) on DELTA-neo converter push button selects the next NDI® source available in the list.

7 MONITORING

7.1 WEB

Using the *OVERVIEW* web page, the user can see the DELTA-neo N2H properties:

- **System properties**

- System activity indicator is green when the application is running. If the indicator is red, there is a problem referenced in the troubleshooting chapter;
- device name as written on the box sticker;
- MAC address;
- firmware version;
- Update in progress indicates the percentage of the installation of a new firmware during and upgrade process;
- Last Update Error Code indicates the code of the error if an error has occurred during the last upgrade process;
- Last update Error Description indicates the description of the error if an error has occurred during the last upgrade process.

- **NDI® source properties**

- Name as in the *Selected Source* field in the NDI® webpage;
- Url is the IP address and the port of the selected source;
- video/audio input formats;
- input encoding mode (SHQ0, SHQ2, SHQ7 or H264);
- Lock status is Locked when the selected source is valid, Unlocked when the selected source is not valid or not displayed yet (e.g. invalid format, not discovered source, ...);
- NDI® Receiver Mode is the selected NDI® Receiver mode.

If no valid NDI® source is selected, those fields are empty.

- **HMDI output properties**

- output audio/video format Corresponds to the current HDMI™ settings;
- selected audio pair Corresponds to the current selected audio pair;
- audio sync offset Corresponds to the current audio offset;
- Bits Depth is the configured bits depth for the output image;

- Maximum Jitter is the configured jitter use for the buffer depth.

If no HDMI™ displays is connected or detected, those fields are empty.

- **Network properties**

- IP address Corresponds to the current IP of the converter;
- Network Mask Corresponds to the current network mask of the converter;
- Gateway Address Corresponds to the current gateway settings of the converter ;
- DNS Address Corresponds to the current DNS settings of the converter;
- NDI® Discovery Server Corresponds to the current configured NDI® Discovery server;
- NDI® Extra IPs Corresponds to the list of the configured extra IP.

The screenshot shows the DELTACAST web interface for the DELTA-neo N2H device. The navigation menu includes OVERVIEW, NDI, HDMI, NETWORK, ADMIN, and LOG OFF. The main heading is DELTA-neo N2H. The OVERVIEW section is active and displays the following information:

System Status

- System Activity : ●
- Device Name : deltacast-73105
- Mac Address : 00:50:c2:f7:31:05
- Switch Button : ●
- Firmware Version Info : v2.1.00000
- Loader Version Info : v2.1.00000
- Web Interface Version Info : v2.1.00000

NDI Status

- Name : DC-LAPTOP-02 (DELTACAST 4)
- Url : 172.16.5.14:5964
- Input Video Format : 1280 x 720p @59.94Hz 16:9
- Input Audio Format : 48.0KHz Signed 16 bit 2ch
- Input Encoding Mode : SHQ7
- Locked : Locked
- NDI Receiver Mode : Multi-TCP
- NDI Default Source :

HDMI Status

- Output Video Format : 1280 x 720p @59.94Hz 16:9
- Output Bits Depth : 32 bits
- Output Audio Format : 48.0KHz Signed 16 bit 2ch
- Selected Audio Pair : 1
- Audio Sync Offset : 0 ms
- Maximum Jitter : 50 ms

Figure 14 OVERVIEW (part 1) webpage: selected source has a valid format

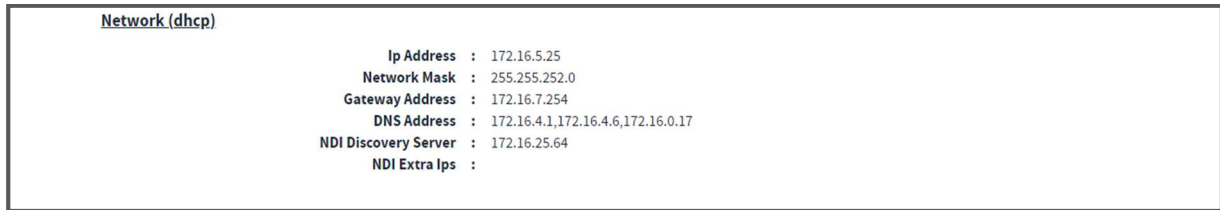


Figure 15 OVERVIEW (part 2) webpage: selected source has a valid format

Using the *HDMI™* web page, the user can check the detected display properties and capabilities. If no *HDMI™* display is connected or detected, the *display properties* fields are empty.

8 SUPPORTED FORMATS

DELTA-neo N2H does not perform any format conversion.

8.1 VIDEO

- Supported : YUYV/YUV(420), SHQ0 highest bandwidth (Speed HQ 420 Highest bandwidth profile)
- Supported : YUYV/YUV(420), SHQ0 lowest bandwidth (Speed HQ 420 Lowest bandwidth profile)
- Supported : YUYV/YUV(422), SHQ2 highest bandwidth (Speed HQ 422 Highest bandwidth profile)
- Supported : YUYV/YUV(422), SHQ2 lowest bandwidth (Speed HQ 422 Lowest bandwidth profile)
- Supported : YUYV/YUV(4224), SHQ7 highest bandwidth (Speed HQ 4224 Highest bandwidth profile)
- Supported : YUYV/YUV(4224), SHQ7 lowest bandwidth (Speed HQ 4224 Lowest bandwidth profile)
- Supported: H. 264 NDI®|HX, Profiles Baseline, Main and High up to 2.1, bitrate (CBR and VBR) from 1Mbps to 50Mbps and GOP length from 1 frames to 128 frames.

DELTA-neo N2H Supported video formats

1920x1200p @60Hz 16:10
 1920x1200p @59.94Hz 16:10
 1920 x 1080p @60Hz 16:9
 1920 x 1080i @60Hz 16:9
 1920 x 1080p @59.94Hz 16:9
 1920 x 1080i @59.94Hz 16:9
 1920 x 1080p @50Hz 16:9
 1920 x 1080i @50Hz 16:9
 1920 x 1080p @30Hz 16:9
 1920 x 1080p @29.97Hz 16:9
 1920 x 1080p @25Hz 16:9
 1920 x 1080p @24Hz 16:9
 1920 x 1080p @23.976Hz 16:9
 1680x1050p @60Hz 16:10
 1680x1050p @59.94Hz 16:10
 1440x900p @60Hz 16:10
 1440x900p @59.94Hz 16:10
 1280x800p @60Hz 16:10
 1280x800p @59.94Hz 16:10
 1024x768 @60Hz 4:3
 1024x768 @59.94Hz 4:3
 1280 x 720p @60Hz 16:9
 1280 x 720p @59.94Hz 16:9
 1280 x 720p @50Hz 16:9
 800x600 @60Hz 4:3
 800x600 @59.94Hz 4:3
 720 x 576i @50Hz 16:9
 720 x 480i @59.94Hz 16:9
 640x480 @60Hz 4:3
 640x480 @59.94Hz 4:3

Table 1 DELTA-neo N2H supported video formats

By default, DELTA-neo N2H will only output formats that are supported by the monitor. A specific unsupported format splash screen is displayed when a source is selected having a format not supported by

the monitor. When using the **Allow Monitor Unsupported Format** control in the HDMI™ webpage, the converter tries to output the source even if its format is not supported by the monitor.

Note: 4:3 formats can be streamed with a fractional clock but DELTA-neo outputs them with an integer clock.

8.2 AUDIO

Multi-channel audio is supported for 44.1kHz and 48kHz. If the audio sample rate of the source is not supported, the converter display only the video.

8.3 ALPHA

When Alpha is supported (*e.g. SHQ7 encoding format*), the Show Alpha option is visible and allows the user to switch between Alpha output and regular output.

9 DEVICE RESET

9.1 SETTINGS RESET

The user can reset DELTA-neo N2H configuration to the factory default configuration whether by pressing more than 3 seconds the converter button or by clicking on the Reset to factory defaults button in the ADMIN webpage.

Note that in this case, the user password is reset.

The switch button described in point 6 can be disabled only for switching source by selecting the toggle button and by applying the change.



Figure 16 ADMIN webpage: Reset settings to factory settings

9.2 FACTORY RESET

This function is only available for DELTA-neo N2H firmware lower than 2.0.

In case of firmware bricked or forgotten password, the user can perform a complete factory reset by pressing the converter button during the whole booting sequence. When running this failsafe firmware (version 1.3.0), the user can make a system firmware update (see [Firmware update](#)) to set DELTA-neo N2H to the latest firmware versions.

9.3 FAILSAFE MODE

This function is only available for DELTA-neo N2H firmware greater or equal than 2.0.

In case of firmware bricked or forgotten password, the user can perform a failsafe mode recovery by pressing the converter button during the whole booting sequence. The user can release the button once the splash screen "Update in progress" is displayed.

At the end of the recovery, a "Failsafe" splash screen is displayed and the failsafe webserver mode is active.

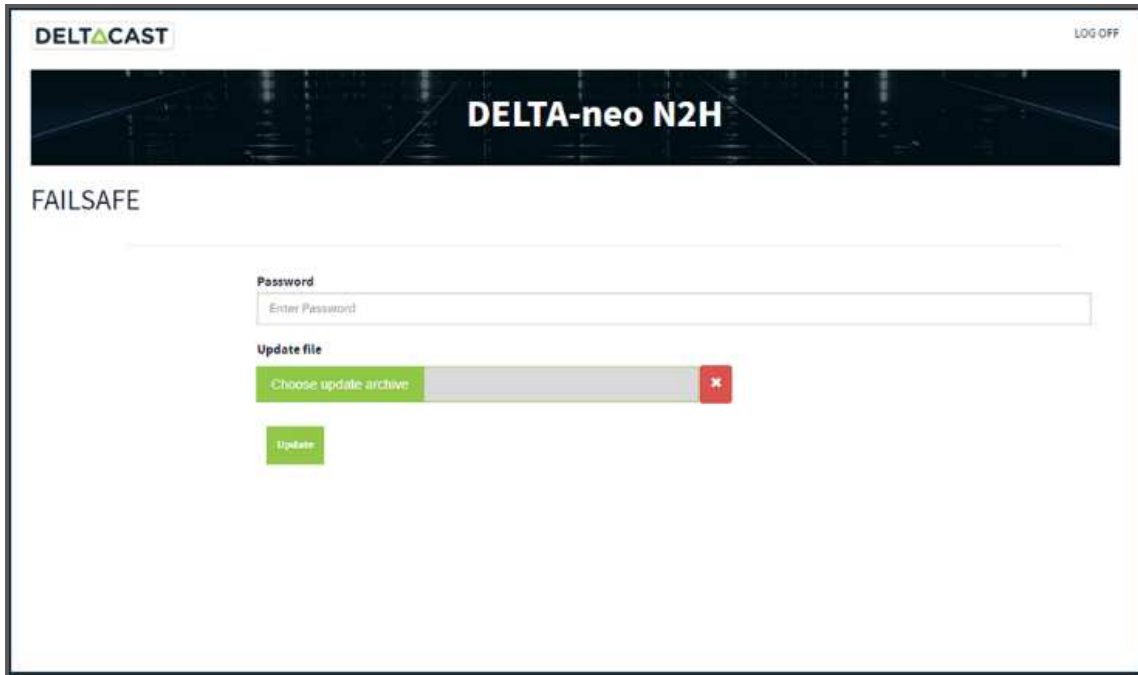


Figure 17 FAILSAFE webpage

This mode allows the user to upgrade a new firmware:

- By setting the default DELTA-neo password;
- By selecting an archive having a version number greater or equal than the 2.0.

The upgrade file name must be formatted as `n2h_upgrade_archive_*.tar.gz` and the password must be correct to allow firmware upgrade.

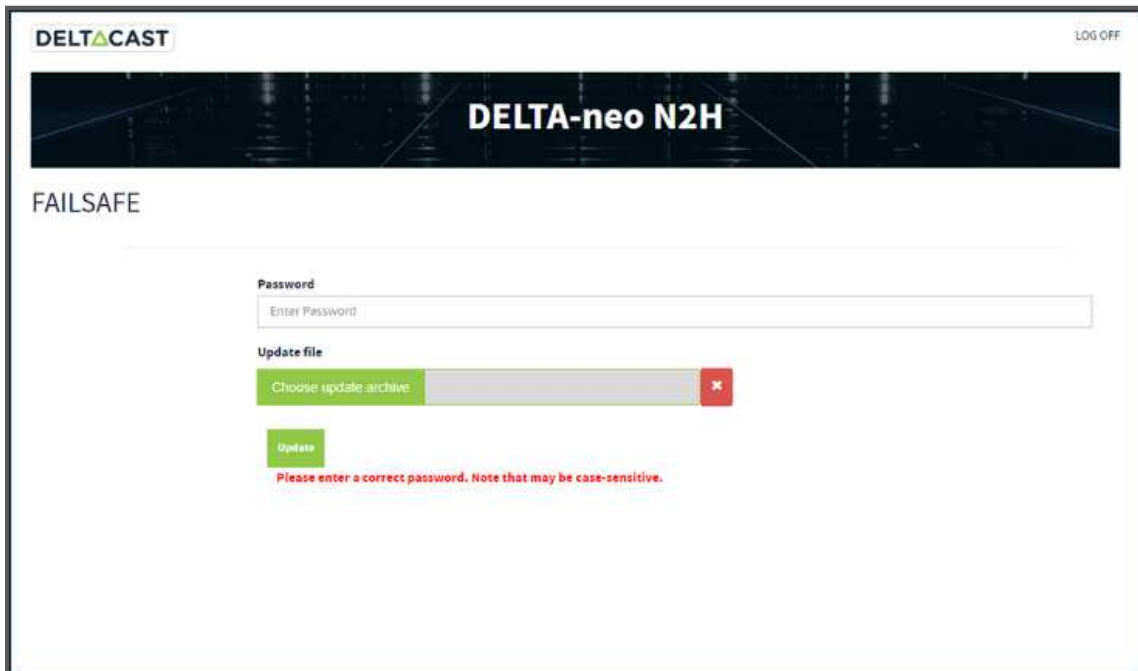


Figure 18 FAILSAFE webpage: invalid password

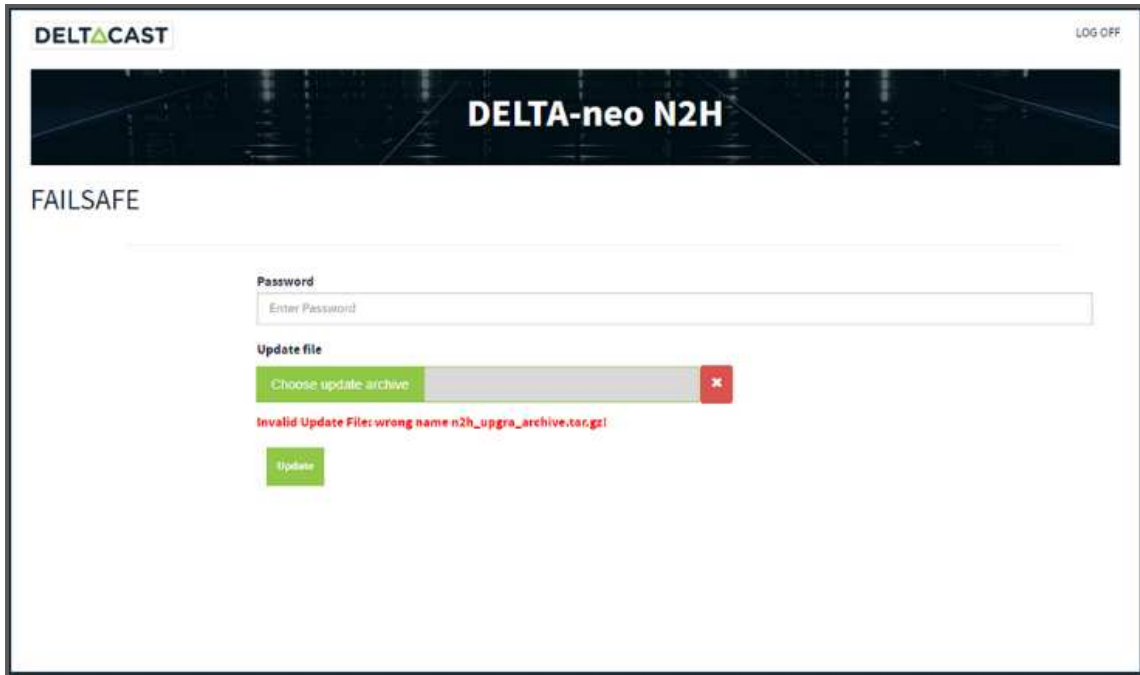


Figure 19 FAILSAFE webpage: invalid file name

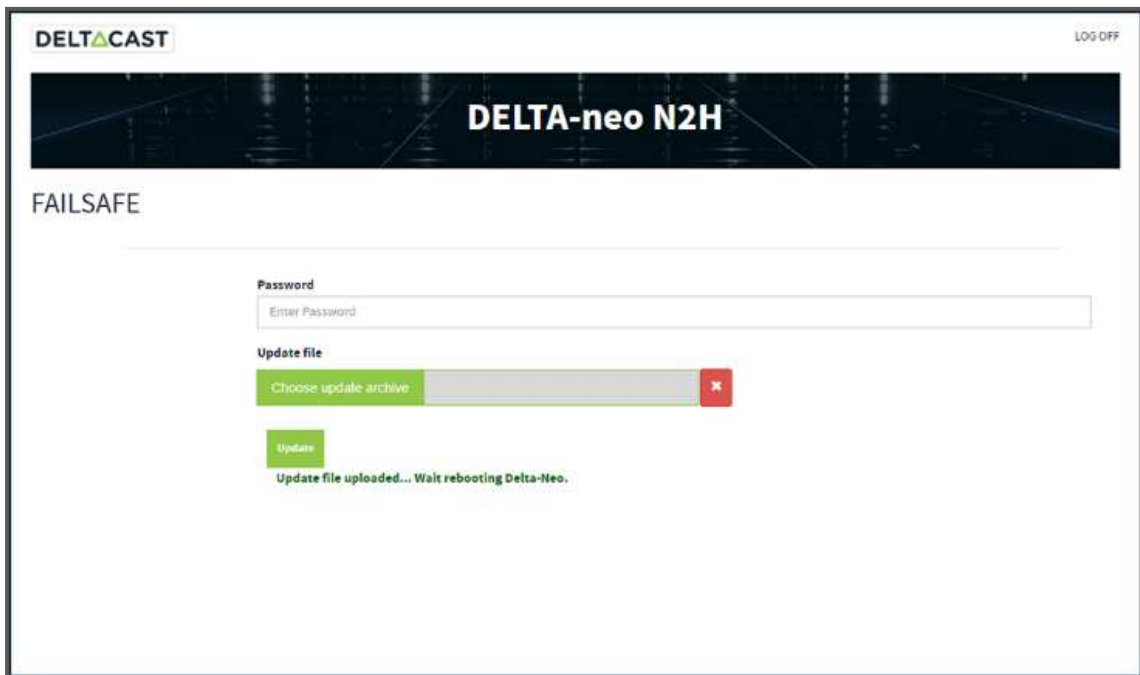


Figure 20 FAILSAFE webpage: file loaded

Once a correct file is loaded, the update process begins, displaying a “Update in progress” splash screen. **No manual reboot is needed.** The user must wait that the splash screen logo or an NDI® stream is displayed to know the update procedure is finished. This procedure can take several minutes (about 5 minutes).

10 FIRMWARE UPDATE

Since the release 2.0 of the DELTA-neo N2H, there exist two kinds of upgrade:

- Bootloader upgrade. Bootloader v2.0 is required to be able to install firmware 2.0 or higher;
- Firmware upgrade that migrates any version 1.X to 1.Y and any version 2.X to 2.Y.

10.1 BOOTLOADER V2.0

10.1.1 WARNING

- The bootloader 2.0 can be installed **from the firmware v1.5.0 only**. The bootloader upgrade operation set DELTA-neo N2H system state in [Failsafe mode](#) (ready for firmware 2.Y upgrade);
- The [failsafe mode](#) enables the installation of a firmware 2.Y.

10.1.2 PROCEDURE

In the ADMIN web page, the user can select an update archive named “n2h_upgrade_archive_v1.x_to_bootloader-2.0-*.tar.gz” and send it to the DELTA-neo N2H by clicking the Update button.

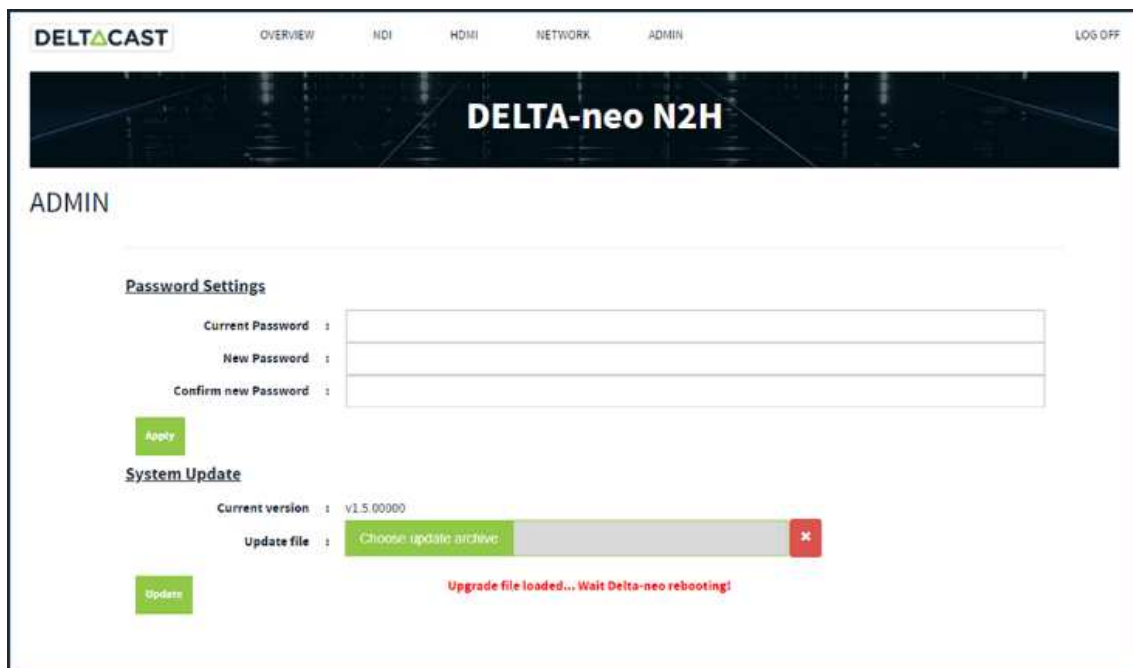


Figure 21 ADMIN webpage: Upgrade to Bootloader v2

Once this file is loaded, the upgrade process runs for a long time (this kind of upgrade can take about 30 minutes). An “Update in progress” splash screen is displayed during this operation. Don’t shut down the box during this process.

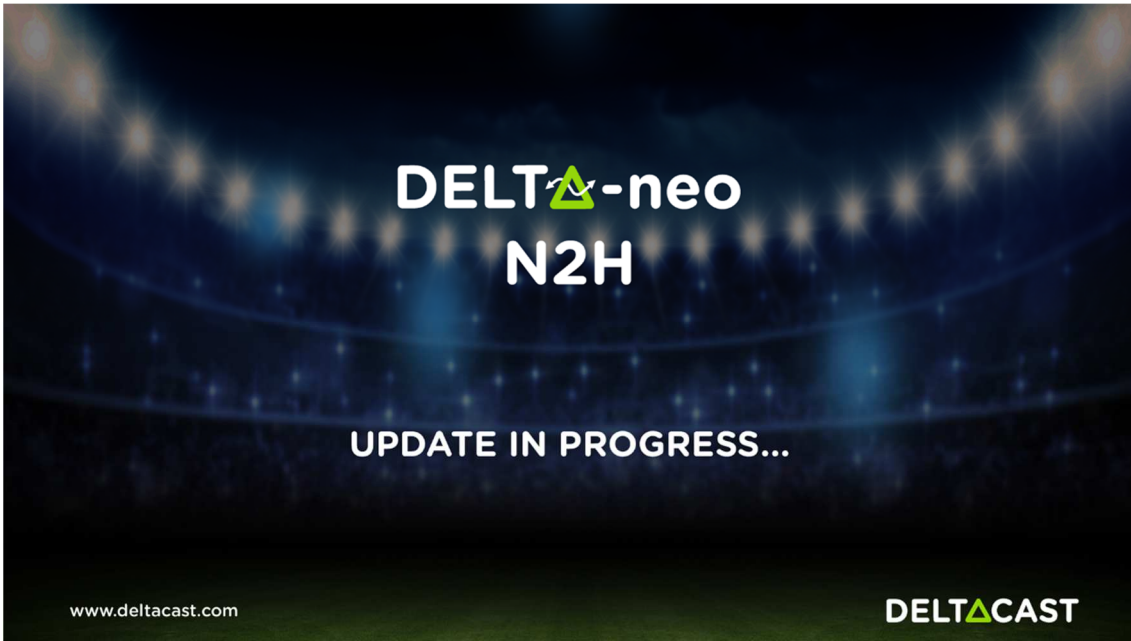


Figure 22 Update in Progress Splash Screen

At the end of this process, a “Failsafe” splash screen is displayed and the [Failsafe mode](#) web interface is accessible through the web address of the DELTA-neo N2H.

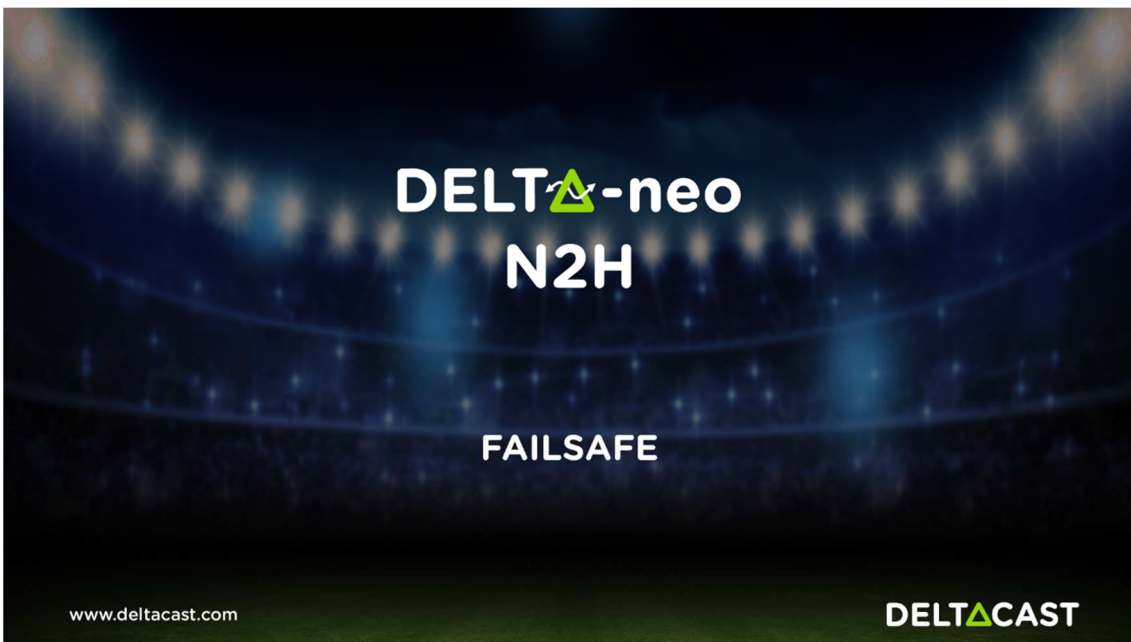


Figure 23 Failsafe Splash Screen

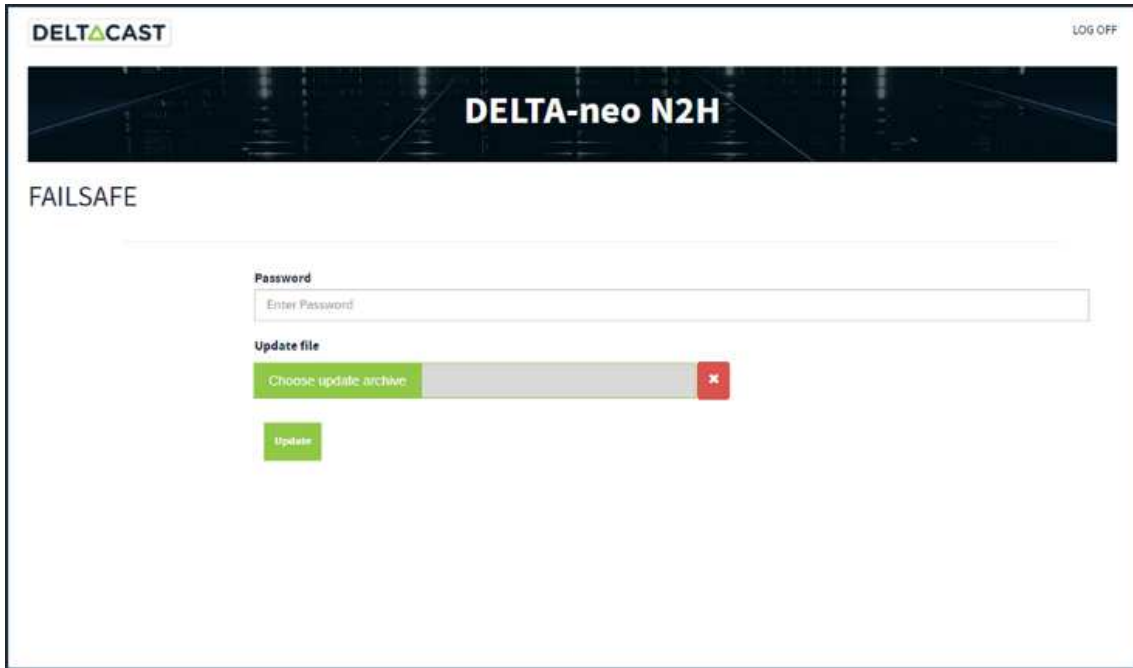


Figure 24 Bootloader 2.0 Webpage

10.2 FIRMWARE UPGRADE

10.2.1 WARNING

- This kind of update is only allowed only for version 1.X to version 1.Y or from version 2.X to version 2.Y, where Y is greater than X. No downgrade from version 2. to 1. is possible and no direct update from version 1. to 2. is possible. To do that, please refer to the [Bootloader V2.0](#) section.

10.2.2 PROCEDURE

In the ADMIN web page, the user can select an update archive n2h_upgrade_archive_*.tar.gz file and send it to DELTA-neo N2H by clicking on the Update button.

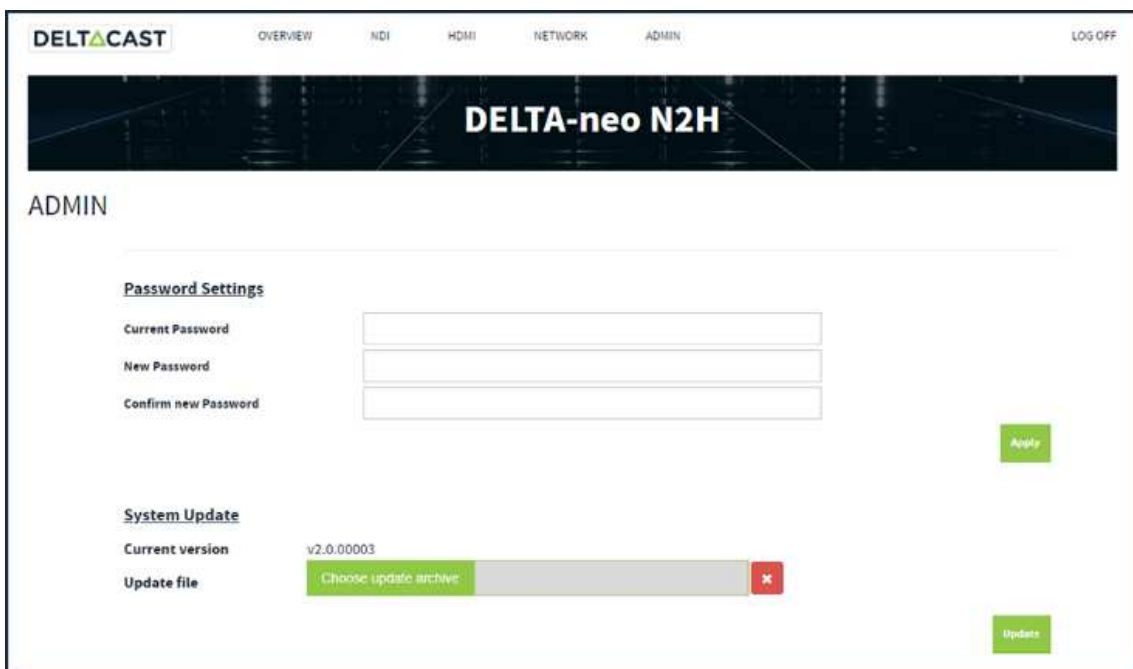


Figure 25 ADMIN webpage: Firmware update

Once a correct file is loaded, the update process begins, displaying “Update in progress” splash screen and **no manual reboot is needed**. The user must wait that the splash screen logo or an NDI® stream is displayed to know the update procedure is finished. This procedure can take several minutes (about 5 minutes).

11 REGULATORY COMPLIANCE

DELTACAST DELTA-neo N2H converter has been tested for compliance with appropriate CE and FCC rules and regulations. The AC power adapter has been tested for CE, FCC, UL, TUV regulations, and/or approvals.

This product and accessories are RoHS-2 compliant (European Regulation 2011/65/EU).

WEEE REGULATION



This symbol above indicates that this product complies with the applicable European Union requirements according to Directives 2012/19/EU and 2002/96/EC on waste electrical and electronic equipment (WEEE) and batteries.

For private households - Information on Disposal for Users of WEEE. This symbol above on the product(s) and/or accompanying documents means that used electrical and electronic equipment should not be mixed with general household waste. For proper treatment, recovery, and recycling, please take this product(s) to designated collection points where it will be accepted free of charge. Alternatively, in some countries, you may be able to return your products to your local retailer upon the purchase of an equivalent new product. Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, under your national legislation.

For professional users in the European Union - If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.

For disposal in countries outside of the European Union - This symbol is only valid in the European Union(EU). If you wish to discard this product please contact your local authorities or dealer and ask for the correct method of disposal.

11.1 FCC COMPLIANCE INFORMATION STATEMENT

Supplier's Declaration of Conformity - 47 CFR § 2.1077 Compliance Information.

This device complies with Part 15 Subpart B. of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Unique Identifier: DELTA-neo N2H
RESPONSIBLE PARTY located in the United States:
Violette Engineering Corporation
6731 Whittier Avenue
McLean, VA 22101
info@violettecorp.com

11.2 CHINA ROHS HAZARDOUS SUBSTANCE TABLE

DELTA-neo N2H – 有害物质名称和浓度表

DELTA-neo N2H - Table of hazardous substances' name and concentration

组件名称 Component Name DELTA-neo N2H	有害物质 Hazardous Substance					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr6+)	多溴联苯 (PBB)	多溴联苯醚 (PBDE)
印刷电路板组装 Printed Circuit Board Assembly	X	O	O	O	O	O
<p>此表是按照 SJ/T 11364 的规定编制。 This table is prepared in accordance with the provisions of SJ/T 11364.</p> <p>O: 表示该有害物质在该部件所有均质材料中的含量均在 GB / T 26572标准规定的限量要求以下 O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB/T 26572.</p> <p>X: 表示该有害物质至少在该部件的某一均质材料中的含量超出 GB / T 26572标准规定的限量要求 X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB/T 26572.</p> 						

12 TROUBLESHOOTING

12.1 FORGOTTEN PASSWORD

If the user forgot its password, he can make a factory reset as described [Factory reset](#). The password will be set to the default Password as described in [Connecting to the web interface](#).

12.2 FIRMWARE BRICKED

If DELTA-neo N2H firmware seems to be bricked, the user can make a factory reset as described [Factory reset](#). Note that the password will be set to the default Password as described in [Connecting to the web interface](#).

12.3 SYSTEM ACTIVITY

The *system activity* indicator in the OVERVIEW webpage shall be green when the application is running. If red, there is a problem requiring the user to restart DELTA-neo N2H.

If restarting DELTA-neo N2H does not solve the problem, the user may try first the *settings reset* as described in [Settings reset](#). If DELTA-neo N2H still does not work correctly, the user may perform a factory reset as described [Factory reset](#).

12.4 BOX NOT DETECTED

If a DELTA-neo N2H is not detected, i.e. its webpages are not accessible, the user may want to:

1. Check its Ethernet cable connection
2. Check, in case of a local network, that the right packages/services are installed on its machine as described in [Local network](#).
3. The user might want to check if his DELTA-neo N2H is listed in the mDNS devices. Run the command `dns-sd.exe -B _http._tcp` to list mDNS devices. The ones to look forward to are `deltacast-[id] NDI2HDMI`. Then, Try to ping the `deltacast-[id].local` (ex `deltacast-73104.local`)
4. Using the button, perform a *settings reset* as described in [Settings reset](#).
5. If DELTA-neo N2H still does not work correctly, perform a factory reset as described [Factory reset](#)

12.5 NDI® SOURCE LOST

When DELTA-neo N2H has lost its connection with the selected NDI® source, a “source not found” splash screen is displayed and the OVERVIEW page **locked status** is set to false.

The user may want to check its NDI® source emitter.

12.6 ACCESSING WEB PAGES WITH MICROSOFT® EDGE WHEN IN IP FALLBACK

When DELTA-neo N2H IP settings are the IP fallback settings, you must use the address “http://[IP address]” in place of “http://deltacast-[ID].local” if you use the internet web browser Microsoft® Edge.

12.7 ACCESSING WEB PAGES AFTER IP SETTINGS CHANGE

When changing DELTA-neo N2H IP settings, it might take some time to get the discovery mechanism back to work. For example, the command “ping deltagcast-[id].local” might work even if the following command doesn’t: “dns-sd.exe -B _http._tcp”.

Just wait a little more...

12.8 STREAM NOT REPRODUCED ON THE MONITOR

A source is selected in the web interface but it is not (correctly) reproduced on the monitor.

1. The monitor doesn’t supports the format of the selected source. Verify that the monitor is compliant with the source format.
2. The format of the source is not supported by the converter. Verify that the source format is supported by the converter (see [Supported formats](#)).
3. The source is not found. Verify that the emitter of the source is still available and streams correctly.

13 CONTACT/SUPPORT

See DELTACAST support [online](#).