NetworkHD Touch App
NetworkHD 100/200/SW Series

Reference Guide

Document Revision:	V1.1
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Supported Software Version:	Touch 2.0

Contents

1 Overview

WyreStorm's NetworkHD Touch is a free app for iPad that enables live video preview and control of an entire NetworkHD 100 or 200 Series system for single screen, video wall or multi-view applications. As the name suggests, it's a touch-based control app that literally places control of a users' AV system at their fingertips by giving them the ability to drag and drop the content on to each display.

This guide will walk you through the steps necessary to update the NetworkHD system to the required firmware version and configure the NetworkHD Console software ready for the NetworkHD Touch Application.

1.1   Before You Begin

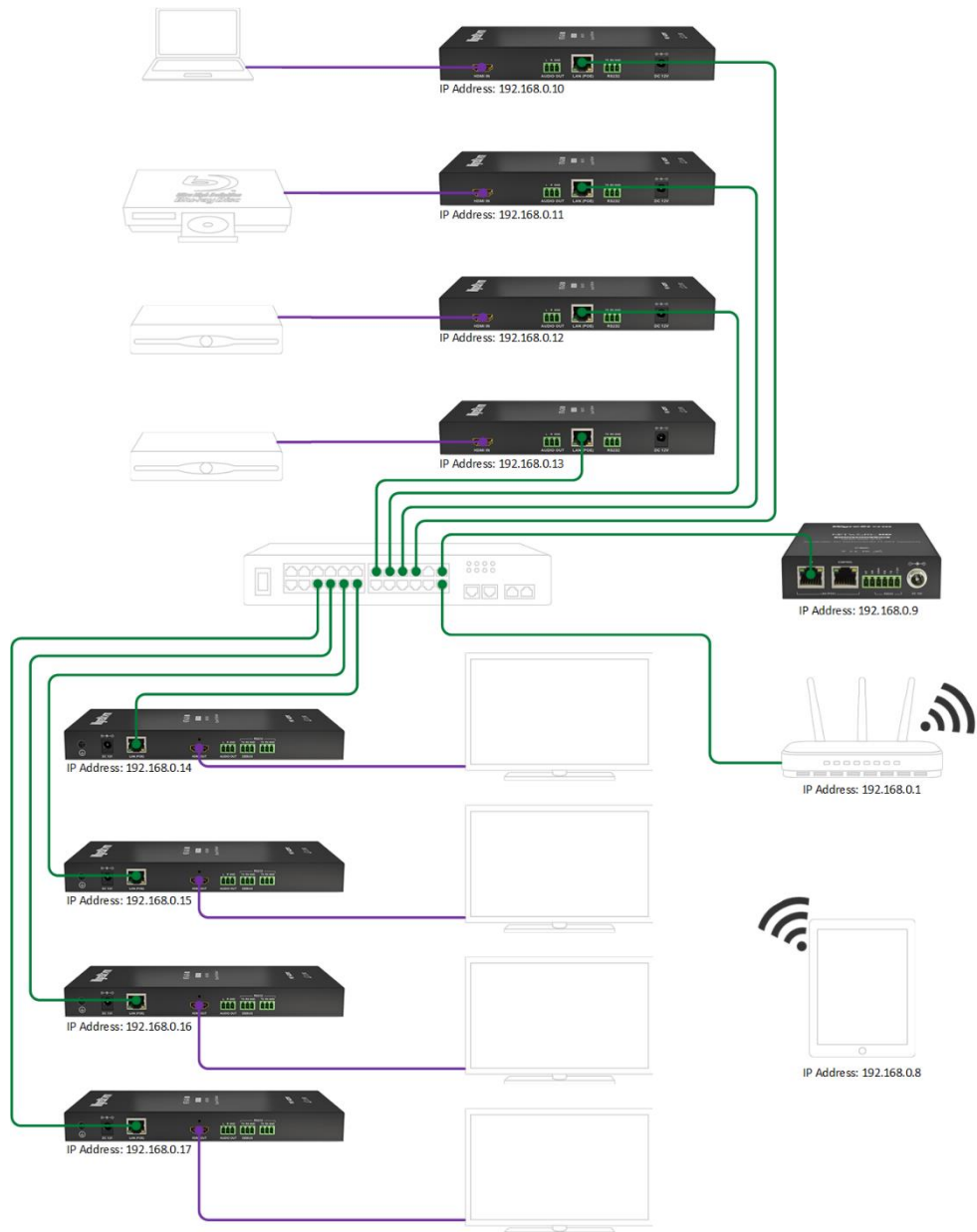Verify that the following items are on hand and that all documentation is reviewed before continuing.

NetworkHD Touch App (Free download from the App Store) .... ☐

Configured NetworkHD 100/200 System .... ☐

Configured Network Switch Approved by WyreStorm .... ☐
Refer to the NetworkHD Switch Recommendation Guide for a list of switches approved by WyreStorm.

Wireless Network Router or Access Point .... ☐
WyreStorm recommends the use of Dual Band 5GHz wireless to achieve maximum performance from NetworkHD Touch.

Windows PC running Windows 7 or higher .... ☐

iPad(s) running iOS 8 or higher .... ☐

Required Software and Firmware from WyreStorm.com .... ☐

- Management Suite Configuration Tool
- NetworkHD Switch Recommendation Guide
- NetworkHD IP Switch Mapping Worksheet
    - Letter US version
    - A4 International Version

2 Installation Process Overview

This guide assumes that the NetworkHD 000 Series system is installed, configured and working as per the user guide. It assumes that the network switches are WyreStorm recommended makes/models and that they have been configured as per the appropriate Switch Configuration Guides, which are available in the download section of NetworkHD products at WyreStorm.com.

1. Download and Install the WyreStorm Management Suite along with the update files for the Encoders, Decoders & NHD-000-CTL from WyreStorm.com
2. Launch the Management Suite and run the Maintenance Tool
3. Connect a PC (wired) to the same network switch as the NetworkHD components
4. Search for NetworkHD devices and upgrade the firmware accordingly
5. Log into the NHD-000-CTL and upgrade the firmware
6. Launch the 000 Console from the Management Suite menu
7. Search for devices and configure IP addresses, Aliases, Groups and Video Walls
8. Upload 000 Console configurations to NHD-000-CTL
9. Ensure the iPad is connected to same network as NetworkHD components
10. Launch the NetworkHD Touch app and select the gear icon to go into the settings
11. Navigate to Advanced Settings and enter the IP address of the NHD-000-CTL
12. Connect the app to the NHD-000-CTL and begin using the application

3 Basic Wiring Diagram

IP Address: 192.168.0.10

IP Address: 192.168.0.11

IP Address: 192.168.0.12

IP Address: 192.168.0.13

IP Address: 192.168.0.9

IP Address: 192.168.0.14

IP Address: 192.168.0.1

IP Address: 192.168.0.15

IP Address: 192.168.0.16

IP Address: 192.168.0.8

IP Address: 192.168.0.17

Please note: **The IP addresses shown in this diagram do not represent default configurations of NetworkHD components. Encoders, decoders and the NHD-000-CTL's IP addresses should match the requirements of your network. This guide provides a visual representation example of a NetworkHD Touch installation.**

4 5 Important Changes

There are three important changes NetworkHD Touch requires compared to previous documentation and trainings. First, the iPad needs to see the NHD-X00-TX devices via the Wi-Fi network, in order to view the video preview. Therefore, a small redesign of the network may be required. Secondly, the use of zero configuration auto IP addressing is no longer possible and lastly the configuration of the system is now done exclusively in the NetworkHD Console software, not in the CTL web UI.

Instead of the NHD-000-CTL separating the Control & AV networks as previously recommended, the networks must now be linked to enable the video preview from the Encoders to reach the iPad. Is most instances this will mean adding a CAT cable between the IP switch and the router.

Unlike previously recommended where the NetworkHD components were left on their default IP settings (169.254.x.x rages) all devices must now be set to static IP addresses in the same range of the network. In order to aid this a batch processing function has been added to the Console software. This also enables the setting of video formats to be done on multiple encoders simultaneously – saving a lot of time in larger installs. More details in this guide.

Although it is still possible to edit some resources in the CTL web UI, it should no longer be used for configuration and the NetworkHD Console Windows PC software should be used exclusively for configuration. The NetworkHD console is now available exclusively through the WyreStorm Management Suite available from WyreStorm.com.

Note: If the system is already fully operational no changes to the switch configuration need to be made, however the NHD-000-CTL will need to be completely reconfigured using the instructions in this guide. WyreStorm has recently changed the recommended configuration settings for some models of switch. Please re-download the switch configuration guide at WyreStorm.com to ensure you are have the correct configuration.

5 WyreStorm Management Suite

The WyreStorm Management Suite is an All-in-One tool that allows quick and easy access to the most used software applications for WyreStorm products, including NetworkHD. To get started configuring the system for use with NetworkHD Touch perform the following.

1. Download the Management Suite from WyreStorm.com
2. Install the Management Suite by extracting the contents of the zip file to your computer.
3. Run the BonjourSDKSetup.exe and complete the installation.
4. Run the WyreStormManagementSuiteSetup.exe and complete the installation.
5. Launch the WyreStorm Management Suite application.

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6 Firmware Update

To begin configuring your NetworkHD system for use with NetworkHD Touch it is essential that the Encoders, Decoders and the CTL all have the latest firmware installed. The latest firmware can be found in the download section of your product at WyreStorm.com.

In order to perform the firmware updates the NetworkHD encoders, decoders and CTL need to be powered and connected to a network switch. You will also want to connect your computer to the same switch.

Note: Always hardwire your laptop or PC to the switch and never upgrade NetworkHD components over Wi-Fi.

1.2 Updating Encoders & Decoders

1. Extract the contents of the NHD000Series_UpdateX.zip file to a location on your computer. You will need to change the IP address of your computer to match the same subnet as the NetworkHD Encoders and Decoders, which by default is 169.254.x.x. Use a subnet mask of 255.255.0.0.
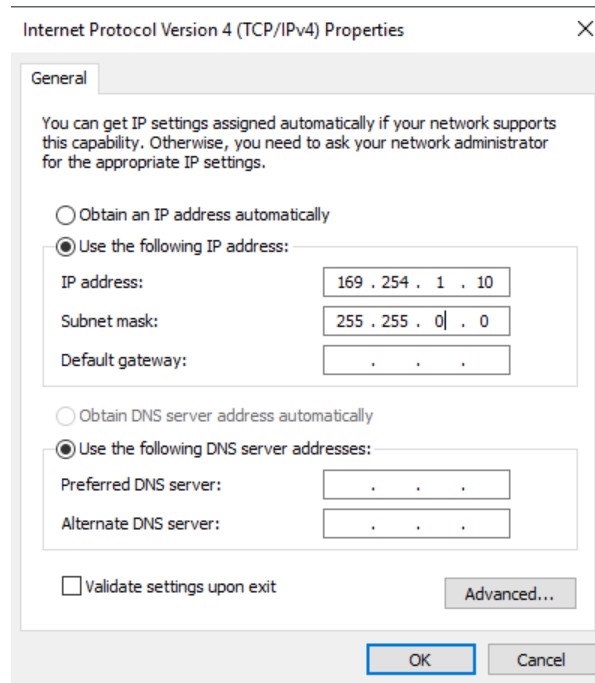
2. Run the NetworkHD Maintenance Tool application that can be found in the WyreStorm Management Suite and select Network as the connection option.
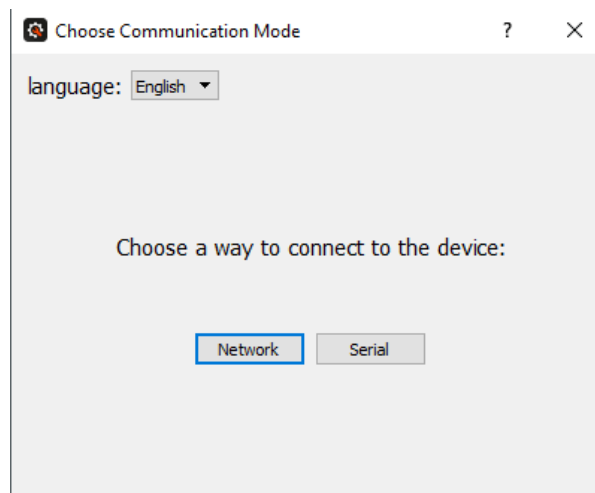
3. In the top left of the main application window, press the Search button to find available NetworkHD components.
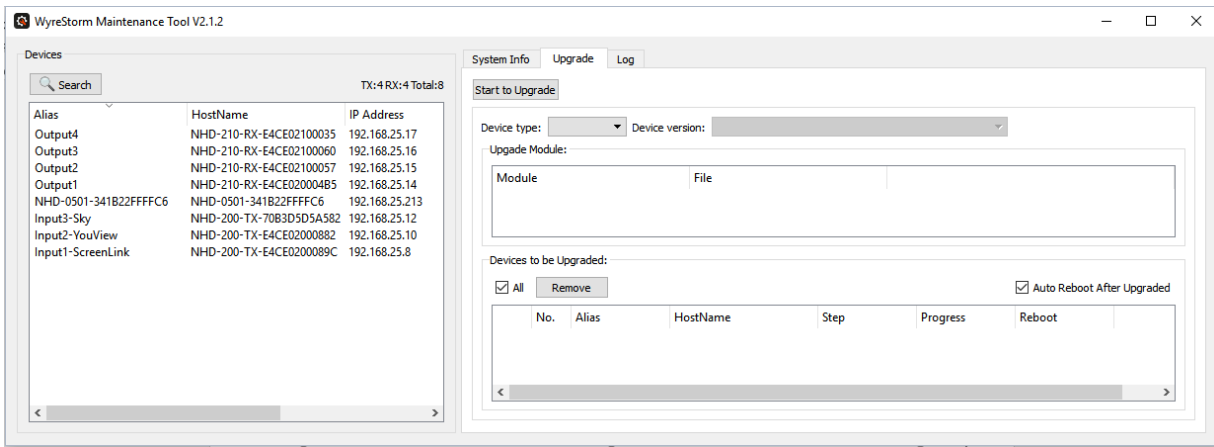

**Note:**   **If no devices are discovered follow these steps:**

- Ensure the BonjourSDK is installed
- Ensure the Software is allowed through the Windows firewall by checking you firewall settings and allowed applications
- Reboot your PC
- Ensure that your PCs IP address is in the same range as NetworkHD components

4. Press the dropdown menu next to Device Type and choose the Encoder or Decoder model you wish to update first.

Note: Devices of the same model can be upgraded simultaneously. For example, if you have 20, NHD-200-TX's, all 20 can be upgraded at the same time.
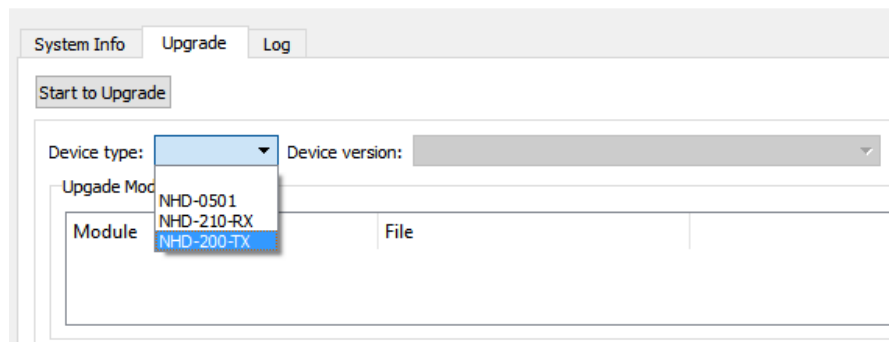
5. In the Upgrade Module box press the Open button – next to either Encoder or Decoder, depending on the device you are updating. Then select the appropriate .bin file.
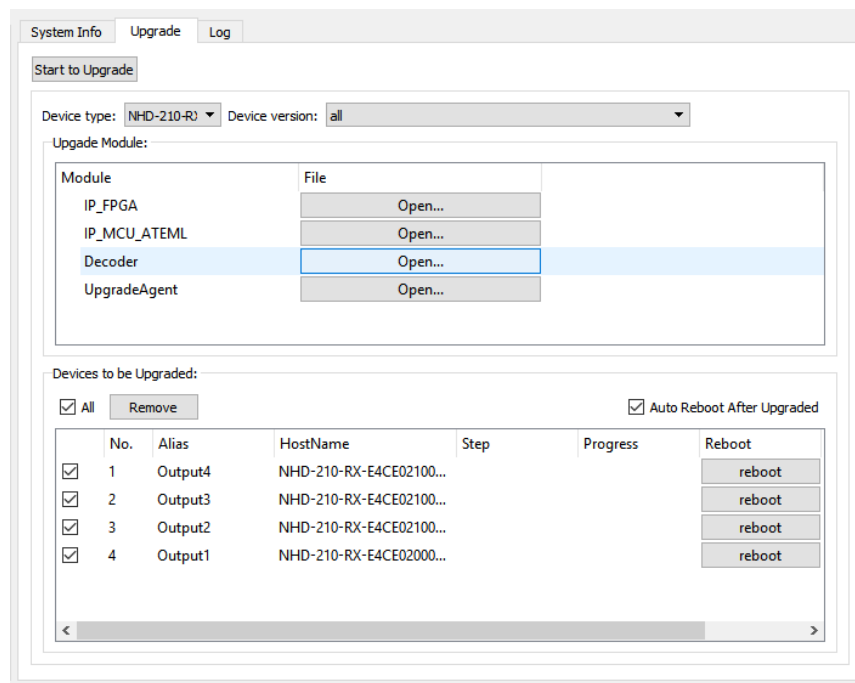
Note: Be vigilant in selecting the correct file for your device, installing the file for the wrong NetworkHD component could break the product. Ensure the correct series of NetworkHD component and correct model number are installed.

6. Ensure that you have selected Auto Reboot and the press Start to Upgrade at the top of the page.

You will be able to see the progress of each device as the update is performed. Encoders and decoders will reboot automatically when updated. Repeat the process until all of your devices have been updated.

1.3   Updating the NHD-000-CTL

1. Update the NHD-000-CTL by logging into the Web interface of the CTL. The default IP addresses are 192.168.11.243 (Control Port) or 169.254.1.1 (AV Port). The default username and password are both: admin.
2. Select the Controller Settings Tab and scroll down on the page until you reach the Software Upgrade section. Click browse and upload the Web and Adaptor module .bin files to their corresponding locations. Once both .bin files are selected click Upgrade.

Software Upgrade

Web Module   [   ] Browse...

Adapter Module   [   ] Browse...

(Attention) The system will be rebooted after upgrading finished.   Upgrade

The CTL will now perform the upgrade. The process will take a 3-4 minutes and a pop-up will appear at the top right of the screen indicating when it is complete.

Note: Do not refresh the web browser during this process and be patient while the CTL updates.

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7 NetworkHD 000 Console Software

The NetworkHD Console Software is the center for configuring encoders and decoders. It allows for the creating of video walls and groups, along with a number of further options to setup a NetworkHD system. To begin using the Console software perform the following.

1. Press the Search button and the Console will find and populate a list of all available devices. Decoders appear at the left of the Console and encoders, along with the NHD-000-CTL, appear at the right.
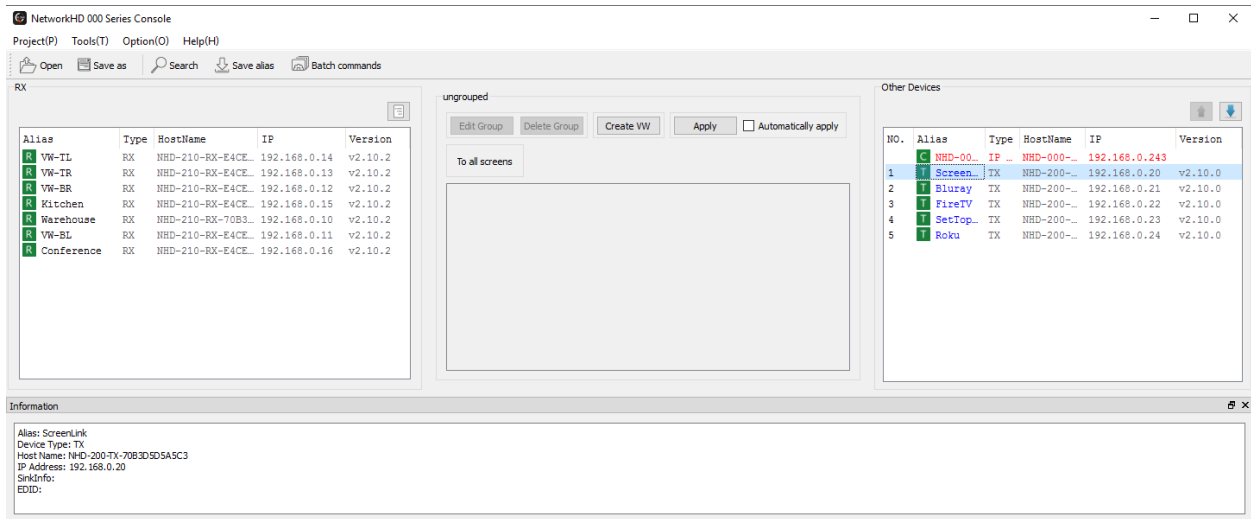
Note: **If no devices are discovered follow these steps:**

- Ensure the BonjourSDK is installed
- Ensure the Software is allowed through the Windows firewall by checking you firewall settings and allowed applications
- Ensure that your PCs IP address is in the same range as NetworkHD components
- Reboot your PC

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1.4   Configuring Encoder & Decoder IP Addresses

NetworkHD Touch requires the encoders to stream a preview to the iPad, therefore it is important that the encoder and decoders are set to the same IP address range as the rest of the network. You can change devices individually by right clicking the device and choosing Config. In larger systems you can change the IP addresses of multiple devices in one action using Batch Commands.

1. Press the Batch commands button and select the IP address tab.
2. In the left pane select the All checkbox.
3. Enter the required starting IP address of the encoders and decoders in the IP address begin field and the highest IP address in the IP address end field.
4. Ensure the Device Restart box is check and then click Apply.

Note: You may need to change the IP address of your PC in order for the Console to rediscover the devices on the network after changing the devices addresses. Online devices have green icons.

Once the encoder and decoder IP addresses have been changed the AV port of the CTL will also need to be changed into the same IP range as well so that it can properly communicate.

To change the AV port IP address perform the following.

1. Log into the Web GUI of the CTL and select the Controller Settings tab.

2. In the IP Setup [TX and RX communication] section change the IP address, Subnet Mask and Default Gateway to match the same configuration settings as the encoders and decoders.
3. Click Apply and allow the CTL to reboot.

Note: In a NetworkHD Touch installation it is only necessary to connect the AV port to the network switch. If both the AV and Control ports of the CTL are connected and configured to have an IP address in the same range it can cause a network loop. This will cause the CTL to become unstable and even unresponsive.

1.5   Configuring CEC & RS-232

The Batch Commands window can be used to configure decoders to send CEC or RS-232 commands to the attached displays. These commands can be triggered from the Touch app when the power on or off buttons are pressed.

CEC control can be found on most modern displays. If the display being controlled doesn't have CEC capability then RS-232 can be used as an alternative.

1. From the Batch Commands window select the Display Power tab.
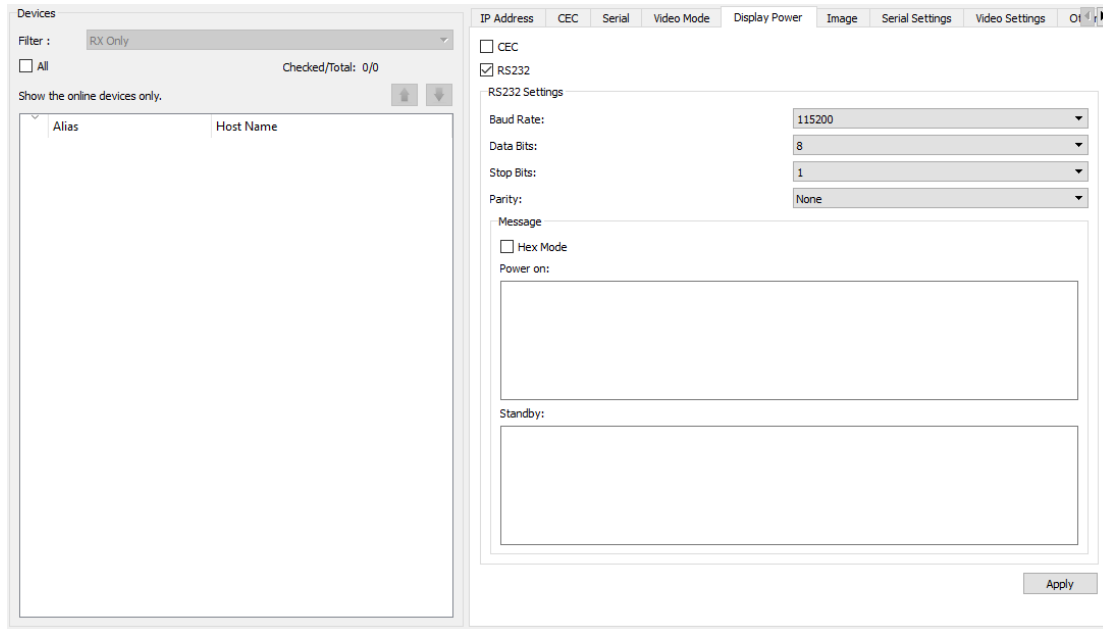
2. Select decoders from the list at the left. You can then choose to program these decoders to send CEC or RS-232 by select checking the CEC or RS232 boxes respectively.
3. For RS-232 control adjust the RS-232 Settings for the displays and enter in the serial commands in the Power on and Standby boxes respectively. It is important to note the format of the display's serial command
4. Click Apply for the settings to take effect.

1.6 Creating Aliases

1. Right click a decoder or encoder and select Config.
2. Enter in the desired alias.
3. Click Apply for the alias to take effect.

Note: If using a control system driver from WyreStorm alias names should start with "INX-" where X is number 1 or higher. If not using a control system any name can be used and this is the name that will be shown in the NetworkHD Touch UI.

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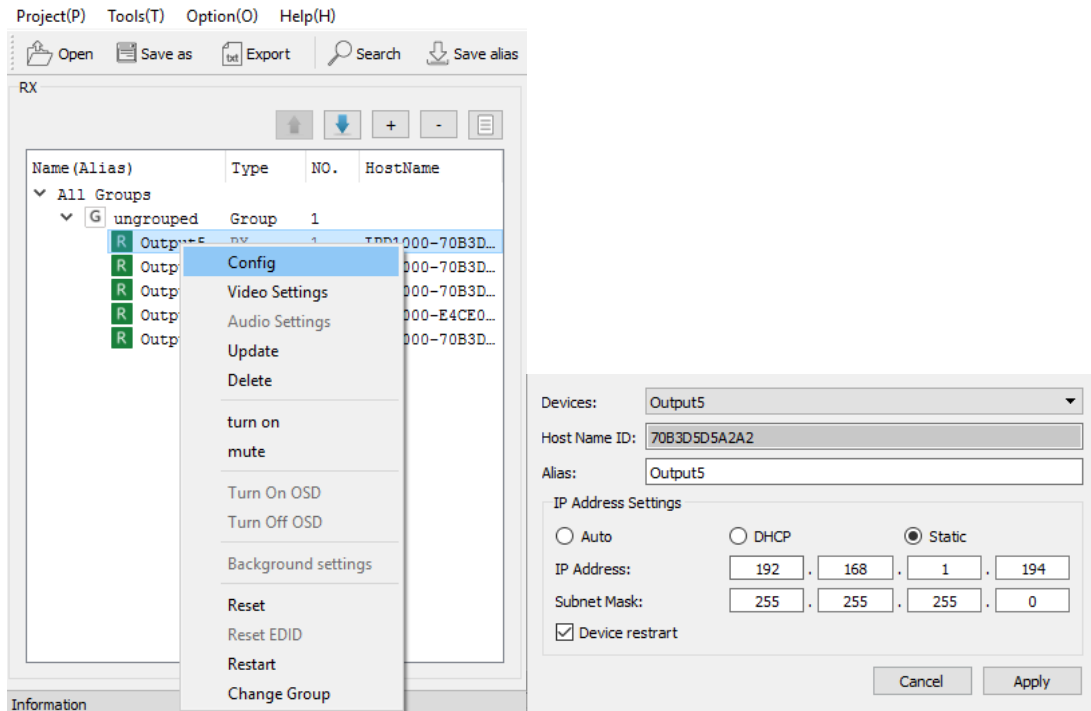
1.7 Creating Groups

Decoders can be organized in groups. These groups represent rooms, areas or video walls in the building. Each group can have any number of decoders as members. For example, for a sports bar you can create a group for the Bar, Dining and Waiting areas and another for the main video wall. These groups appear on the main screen of NetworkHD Touch and can have custom icons (these are configured in the app).

**By default, all devices are added to the Ungrouped Group**

1. Create a group by pressing All Groups in the RX area and then press Create Group button in the central area. In the pop up, enter a name and press OK.
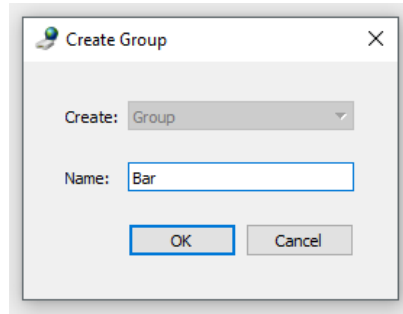
2. Add decoders to the group by right clicking them, select Change Group and then select the desired group.
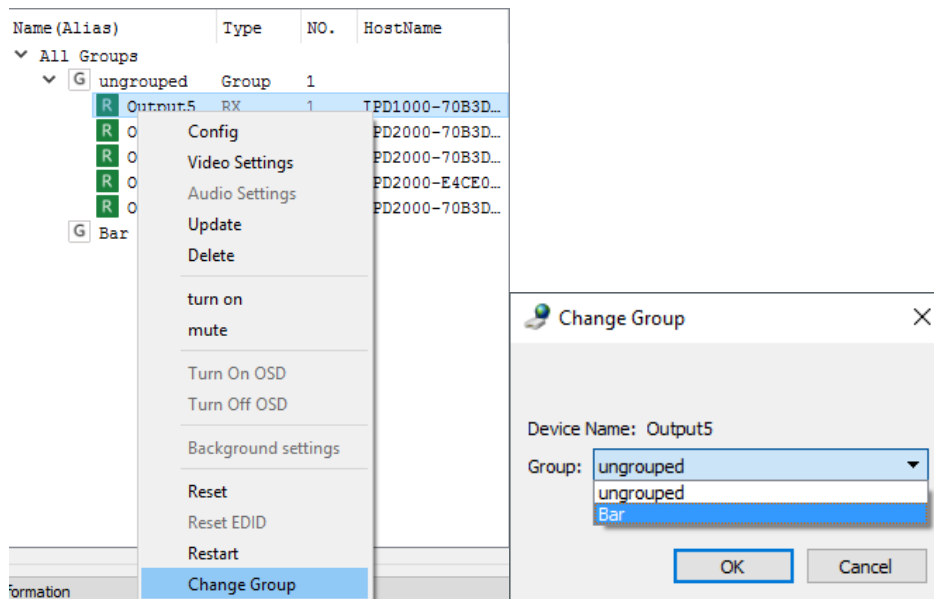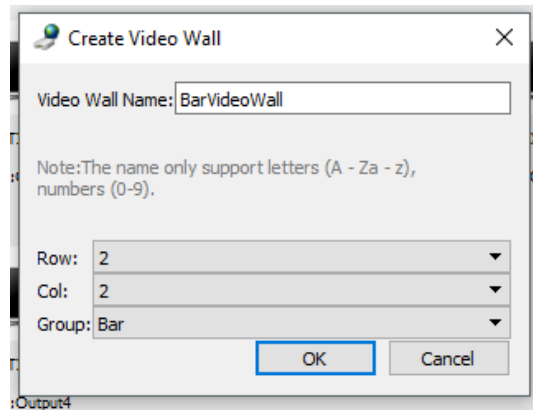

Bulk decoder group assignments can be accomplished by selecting the Batch Group Change option.
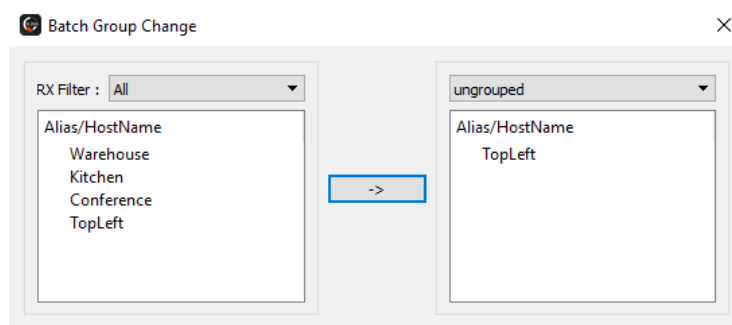
1.8   Creating Video Walls

1. Create a video wall in a group by pressing the Create VW button.
2. Give the video wall a name and choose its size.

Each video wall can have multiple layouts or scenes – for example a 4x4 video wall could show a single image, or 4 2x2 video walls or all individual displays. The possibilities are endless and the user can switch between these scenes at the touch of a button in the Touch app.

3. To create different layouts within the video wall, press the Create Layout button and name the layout.
4. Choose a name for the layout and press OK.

Note: Layout names must be alphanumeric and cannot include spaces or special characters (!@£$%^*\<+" etc.)

5. To create a layout where all screens show a single image: Right click a display and choose Select All, right click again and select Combine to join the required screens into a single wall.
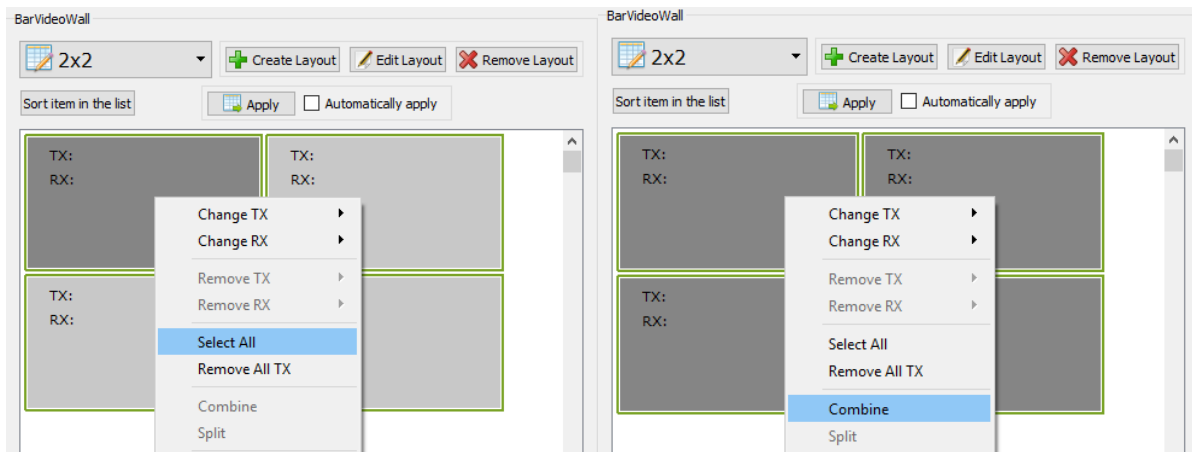

6. In another layout to select only a subsection of the wall, hold CTRL while clicking the panels you wish to be combined in to a single image. Then right click one of the panels and select Combine.

Note: Video walls must be a complete shape – ie. 2x1 or 2x2, 3x3 etc – They cannot be L or T shaped etc. It is recommended that walls are a 2x2, 3x3 or 4x4 size so that stretching does not occur.

It is possible to create 2x4 or 1x3 walls that show a subsection of the image in a correct aspect ratio – by creating a 4x4 wall or 3x3 respectively and only populating a subsection of the area.
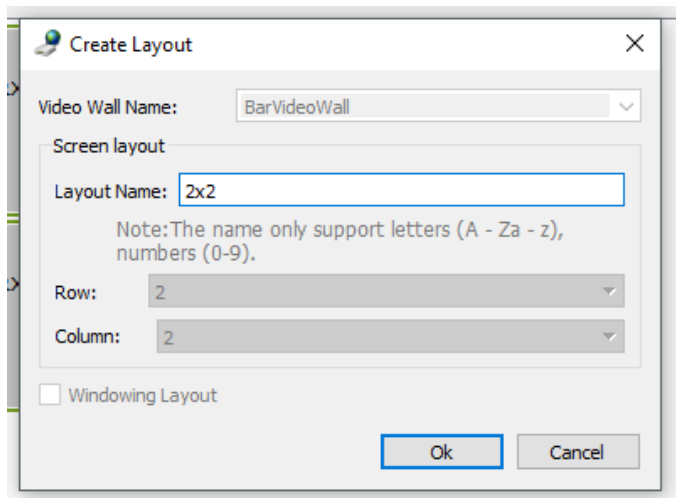

7. To populate the displays, drag and drop decoders and an encoder to the video wall layout to build the video wall.
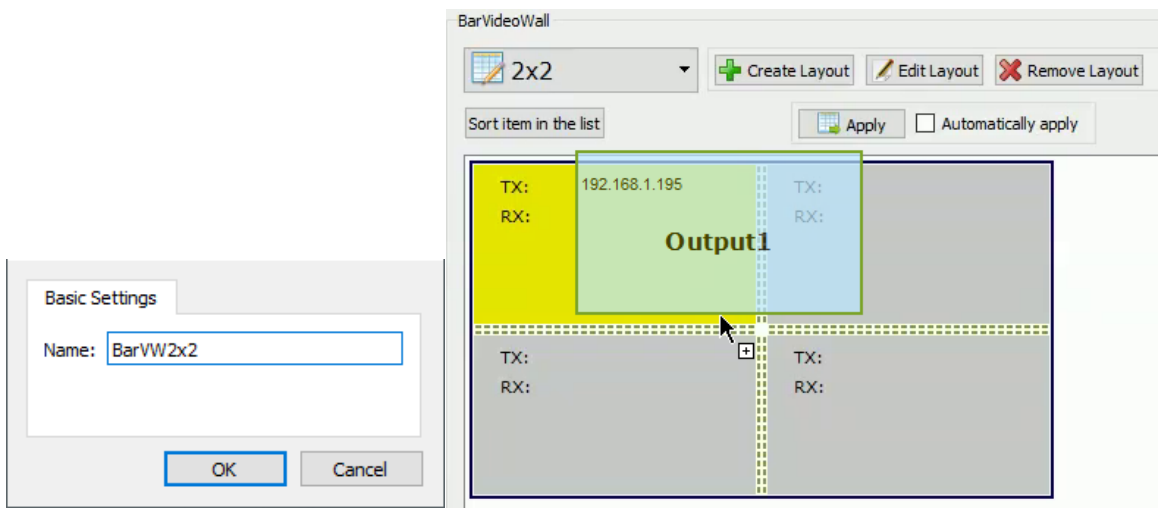
1.9   Adjusting Multi-View Options

The NHD-220-RX is a multi-view decoder allowing up to 8 streams to be shown on a single display simultaneously in a number of different layouts. To adjust which layouts are accessible in the NetworkHD Touch app and to create default source assignments perform the following.

1.   Right click a NHD-220-RX and choose Layout Settings
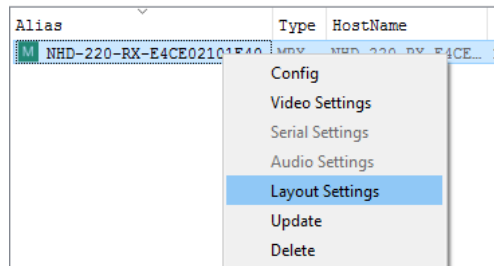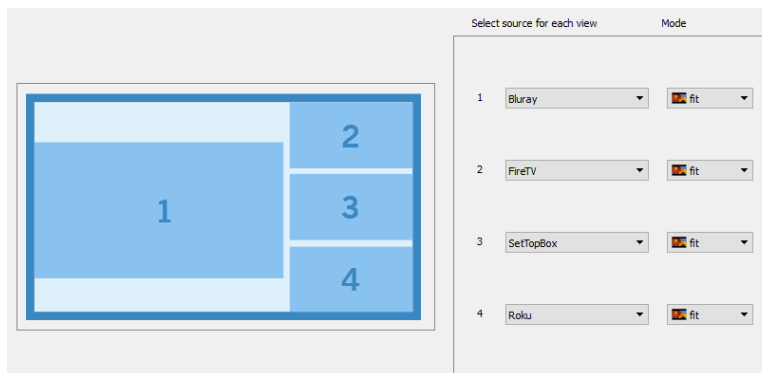

2.   Click the drop down menu and choose Edit
3.   Select the desired layouts to be accessible from the Touch app
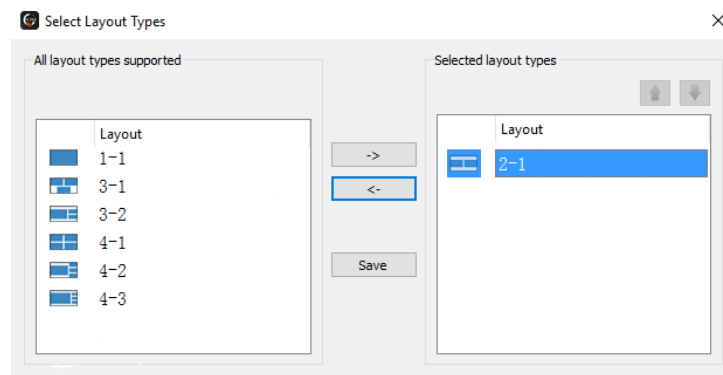

4.   Click the Save button

To assign default encoders to multi-view layouts perform the following.
1.   Select a layout from the drop down menu.
2.   Select a source for each location in the multi-view layout.
3.   Click the Save button.

1.10 Uploading Configurations to the NHD-000-CTL

When you have completed creating all required groups, video walls and layouts you can upload the configuration to the CTL directly from the Console software by right clicking the CTL in the top right of the console and pressing Upload. This will upload the configurations you have created in the Console Software to the configuration file of the CTL.
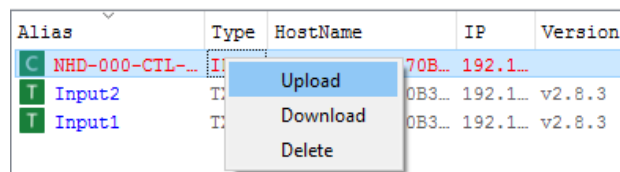

Once the configuration file has been uploaded to the CTL you can then open the NetworkHD Touch application.

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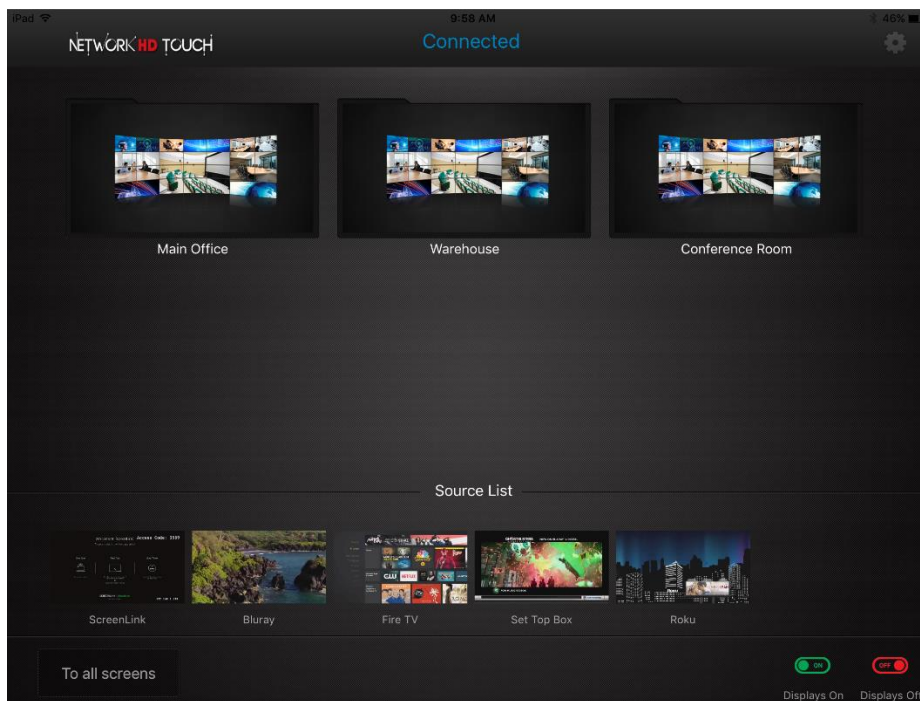
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1.11 Connecting to the NHD-000-CTL

When first launching the NetworkHD Touch app you will be asked to enter the IP address of the NHD-000-CTL. If this does not appear, press the Settings icon in the top right corner.

1. Select Advanced Settings. The default password is: admin
2. Tap Change NHD-CTL IP address and enter in the IP address configured for the CTL.
3. Tap the Connect to Controller button. NetworkHD Touch will now load the configuration file from the CTL.
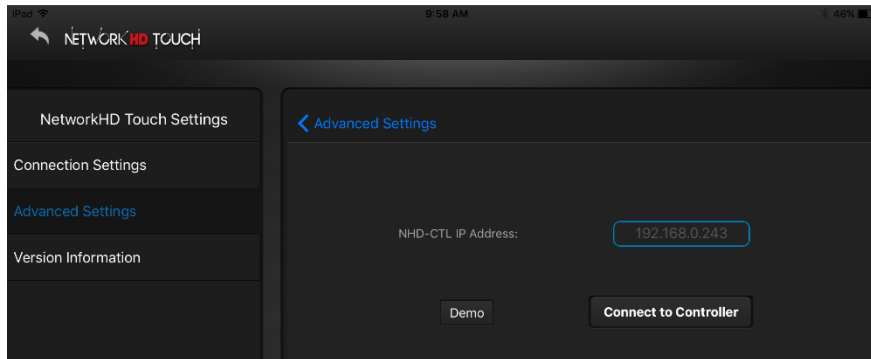

4. Navigate back to the home screen of NetworkHD Touch and you will see any groups that have been configured along will all encoders listed at the bottom.

## 1.12 Using the NetworkHD Touch Interface

The NetworkHD Touch user interface will adapt based upon decoder configurations for a group. There are three main group user interfaces, video wall, multi-view and matrix.

Video Wall UI
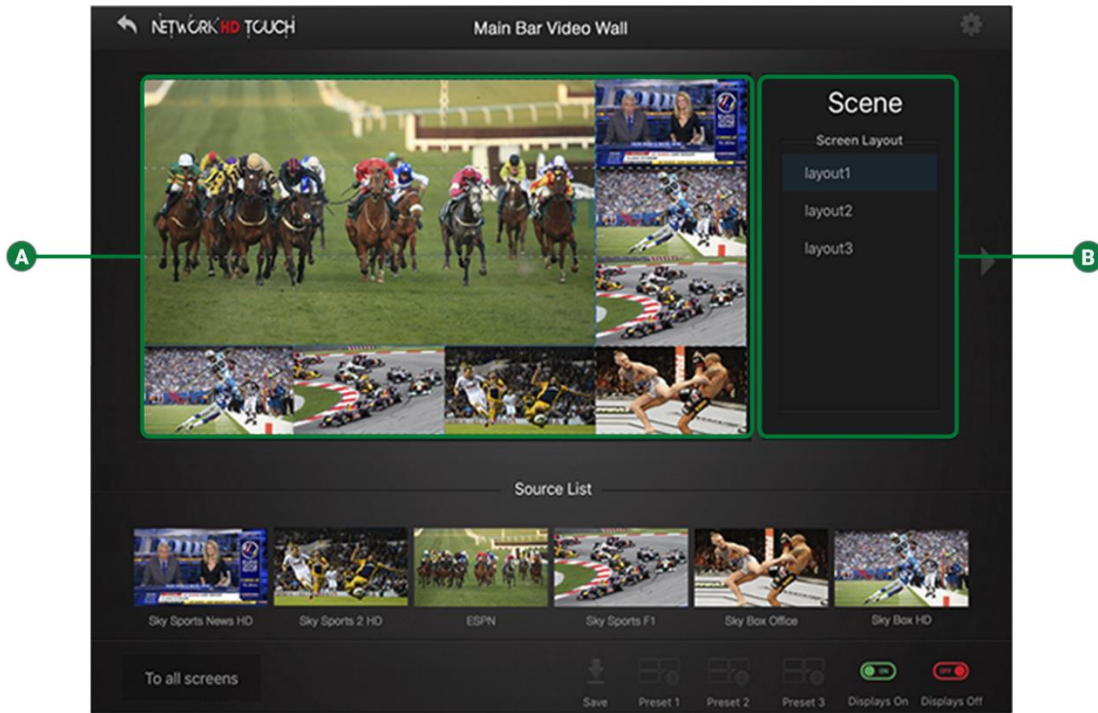
A	Video Wall Preview	Shows a live preview of current video wall and screen layout. Drag and drop from the Source List to the video wall to change content.
B	Layout Selection	Allows different layouts for a video wall or screens to be selected. These are configured using the Console software.

Multi-View UI
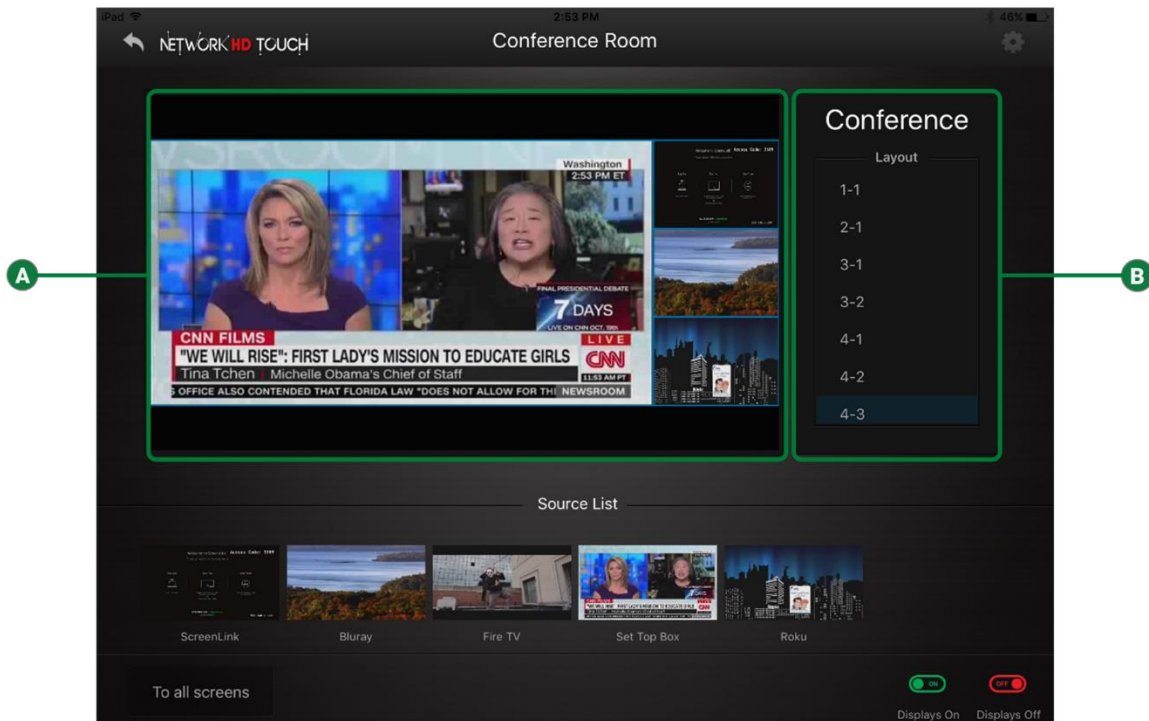
|		
A	Multi-View Preview	Shows a live preview of current multi-view layout. Drag and drop from the Source List to a section of the multi-view layout to change content.
B	Layout Selection	Allows different multi-view layouts to be selected. The layouts that are accessible in the Touch app can be adjusted from the Console software.

Matrix UI

(A)	**Matrix Previews**	**Shows a live preview of current matrix assignments. Drag and drop from the Source List to a display to change content.**

Powering On & Off Displays

To use CEC or RS-232 to power on or off displays simply press the Displays On **or** Displays Off **buttons at the bottom right of the UI. If you have navigated into a group Displays On and Displays Off buttons will only send on/off commands to displays located in that group.**

Note: For CEC commands to function the display needs to support CEC control and have it enabled.
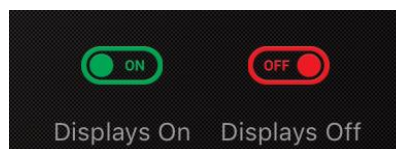

Adjusting Groups

If you wish to group Encoders perform the following.
1. Navigate to Settings > Advanced Settings and choose Encoder Settings.
2. Press Create encoder groups. From here you can create a group name and choose which Encoders to add.

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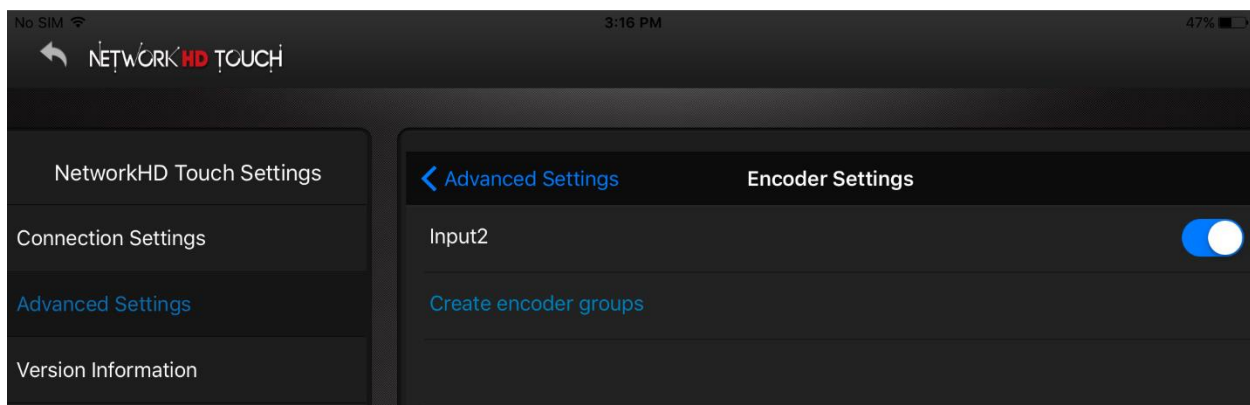
You may wish to hide certain groups or sources which can be done by navigating to the Decoder Group & Control Settings and switching the blue toggle to the off position.
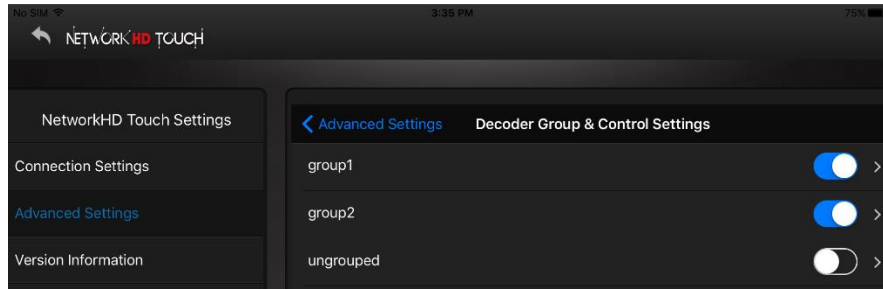
**Note:** It is highly recommended that the Ungrouped group is hidden.

The SMART Source option in Advanced Settings allows the app to maintain a displayed source when changing screen layouts. To enable SMART source simply enable the toggle switch.
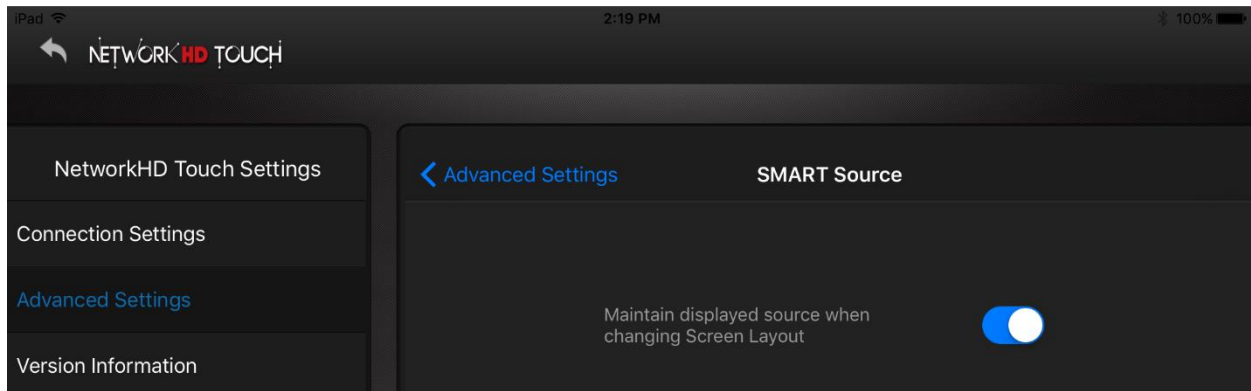
Demo Mode

The NetworkHD Touch application features a demonstration mode. In demo mode Touch will populate simulated sources and displays allowing a user to understand how the Touch UI functions. To access the demo mode perform the following.
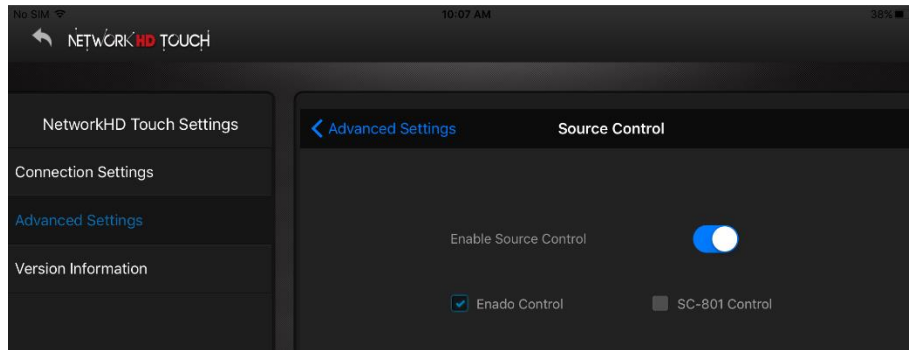
1. Navigate to Settings and select Advanced Settings
2. Enter in the password (default is: admin)
3. Tap Change NHD-CTL IP address and select the Demo button
4. Sources and groups will appear. Navigate into a group to drag and drop sources or change video wall layouts
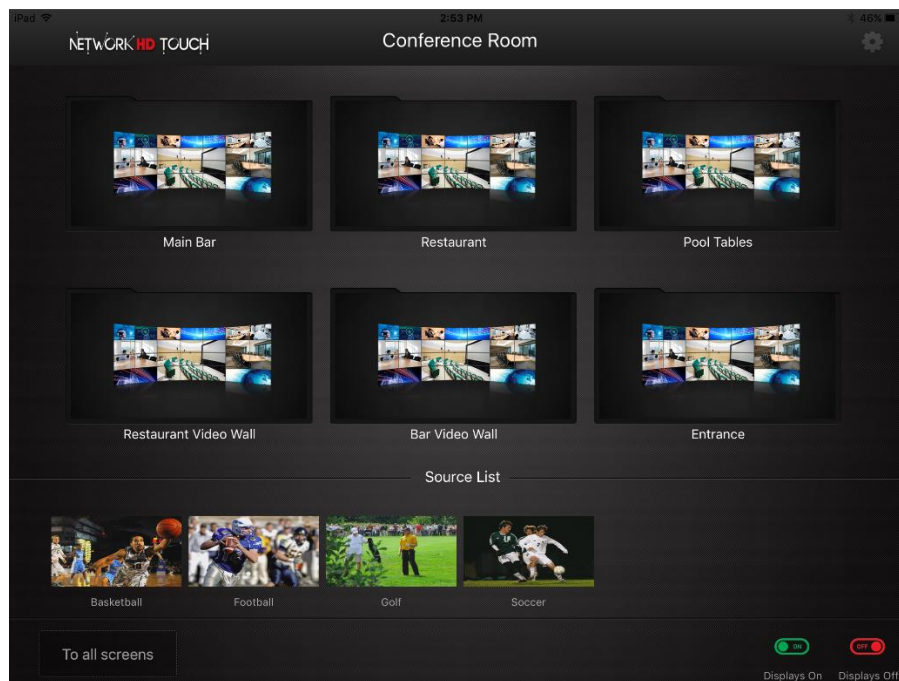
Launching Enado Source Control

NetworkHD Touch has built-in capability to launch the Enado User Interface. This allows the user to have full control over not only the NetworkHD system but sources as well.

1. Select the Settings icon and choose Advanced Settings. When prompted enter admin for the password.
2. Choose Source Control and enable the Enado Source Control toggle switch.
3. Check the box next to Enado Control.

4. Navigate back to the Advanced Settings page and select Decoder Groups & Control Settings
5. Select a group and then press the Environmental Control Web Address option.
6. From a separate device, such as a computer, log into the Configuration UI of Enado (http://x.x.x.x/enado/edit).
7. Navigate to the Project Menu and select Preview/Publish
8. Return to the NetworkHD Touch app and scan the QR code generated by Enado. A URL will then appear in the Environment Control Web Address section.
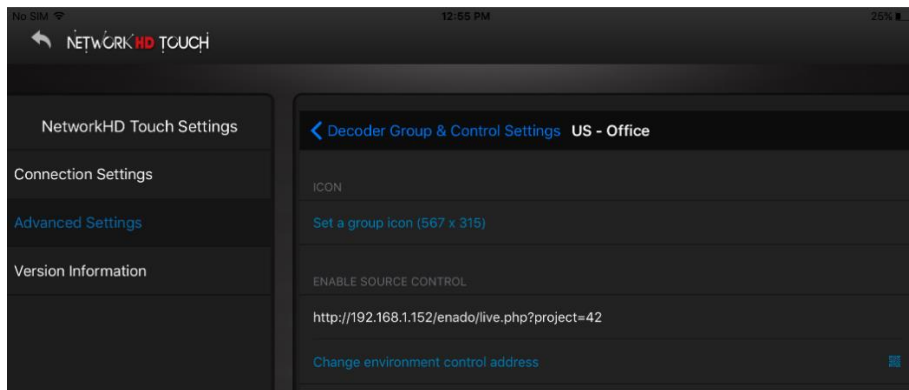
Enado control links can also be added to each source individually. This allows for direct navigation into Enado for a specific source rather than linking to an entire project. This can be accomplished by performing the following.

1. Navigate to Advanced Settings in the Touch app
2. Tap Encoder Settings and select an encoder
3. Tap the option to add an Environmental Control Web Address
4. From a separate device, such as a computer, login in to the Configuration UI of Enado (http://x.x.x.x/enado/edit).
5. Navigate to the Project Menu and select Links/QR codes.
6. Return to the NetworkHD Touch app and scan the appropriate Activity Link QR code.
7. Repeat this process for any additional sources/encoders.
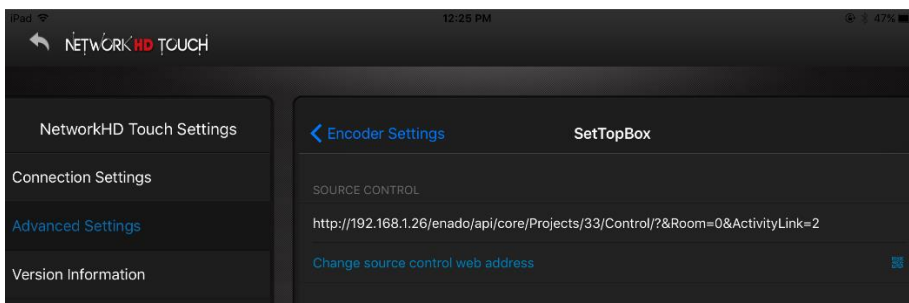
To access the Enado control link per group perform the following.

1. Navigate back to the home screen of NetworkHD Touch and proceed into the same group you selected in control settings.
2. Select the Source Control button at the bottom of the user interface to be navigated into the Enado UI.

To access the Enado control link for each source perform the following.
1. Press and hold on a source preview stream in the Source List section for a FULL 2 seconds.
2. The Enado link for that source will begin to load.

In order to easily navigate back into the NetworkHD Touch app from the Enado UI, a return button must be created. Perform the following steps.
1. Log into the Enado Configuration UI (http://x.x.x.x/enado/edit).
2. Navigate into a Room/Zone by double clicking its button.
3. Add a shortcut button by clicking the white plus sign located at the top right of the UI.
4. Click the newly added shortcut button and select Edit Properties.
5. Click the Edit button next to the Function field (Pencil Icon).
6. From the drop-down menu choose Launch Application
7. From the second drop-down menu choose NetworkHD Touch.
8. Click the Add Function button and then click Done.
9. Navigate to the Project menu and select Preview/Publish for the changes to take effect.

Note: Enado must have an Internet connection for the Application list to populate.

North America: 844.280.WYRE (9973) | UK/EMEA: +44 (0) 1793 230 343
Email: Support@WyreStorm.com
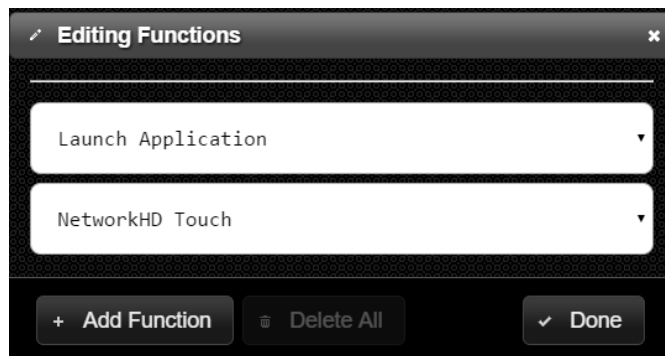
9 Contacting Technical Support

Should further clarification of the content of this manual or assistance on troubleshooting be required, please contact WyreStorm technical support.

Phone: North America: 844.280.WYRE (9973) | UK/EMEA: +44 (0) 1793 230 343
Email: Support@WyreStorm.com
On Line Chat (Accessible through website): http://WyreStorm.com/Contact-Tech-Support

10 Revision History

V1.1 - 170322 - March 2017

Section	Update
Before You Begin	Updated with new list and links
Adjusting Multi-View Options	New section for use with the NHD-220-RX
NetworkHD Touch iOS App	Added information on using the MV options from the NHD-220-RX
All	Updated formatting and section titles

V1.0 - 160711 - July 2016

Section	Update
All	Original Release

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