NetworkHD Full Product Range

Quickstart Guide

WyreStorm recommends reading through this document in its entirety to become familiar with the product's features prior to starting the installation process.

IMPORTANT! Installation

WyreStorm Documentation and Firmware

Download the following items from the product page on wyrestorm.com. They are essential for accurate configuration and use of the NetworkHD system.

- Latest NetworkHD Firmware
- Latest WyreStorm Management Suite
- NetworkHD Installation Guide
- NetworkHD Technical Reference Guide
- NetworkHD Certified Switches
- NetworkHD Switch Configuration Guides
- NetworkHD Switch Mapping Worksheet
- 3rd Party Control System Drivers

Network Switch Requirements

- WyreStorm highly recommends the use of a certified network switch. Certified switches have been verified by WyreStorm to meet the requirements of a NetworkHD system. Visit wyrestorm.com to view the list of certified switches.
- Configuration guides for certified switches are avilable at wyrestorm.com.
- WyreStorm cannot guarantee the performance of a network switch that has not been certified. Refer to the NetworkHD Technical Reference Guide for general networking requirements which can aid the configuration of a non-certified switch.

Wiring and Connections

WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in this entirety before running or terminating the wires to ensure proper operation and to avoid damaging equipment. The use of patch panels, wall plates, cable extenders, kinks in cables, and electrical or environmental interference will have an adverse effect on signal transmission which may limit performance. Steps should be taken to minimize or remove these factors completely during installation for best results.

LAN Port Wiring

The NetworkHD 100, 200, 400 & 500 Series network port is a 1GbE link for connection to a 1000BASE-T Ethernet switch. Refer to IEEE 802.3ab for official guidance. Cables must be tested to 100MHz across the entire link. 1000BASE-T uses the IEC 60603-7 8P8C connector.

The NetworkHD 600 Series network port is a 10GbE link for connection to a 10GBASE-T Ethernet switch. Refer to IEEE 802.3an for official guidance. Cables must be tested to 500MHz across the entire link. 10GBASE-T uses the IEC 60603-7 8P8C connector.

SFP Port Compatibility

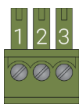
The NetworkHD 500 series feature a 1Gbps SFP port which supports various SFP modules. Ensure a supported SFP module is being used such as 1000Base-SX (MMF), LX or LX10 (SMF).

The NHD-600-TRXF features a 10Gbps SFP+ port which supports various SFP+ modules. Ensure a supported SFP+ module is being used such as 10GBase-SR (MMF) or LR (SMF)

RS-232 Wiring

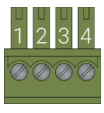
Depending on the device, NetworkHD uses either a 3-pin, 4-pin, 6-pin phoenix or a 3.5mm mini jack connector with no hardware flow control. Most control systems and computers are DTE where pin 2 is RX, this can vary from device to device. Refer to the documentation for the connected device for pin functionally to ensure that the correct connections can be made.

3-pin Phoenix Terminal



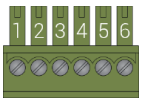
WyreStorm Connector			3rd Party Device
Pin 1	TX (Transmit)	---> To --->	RX (Receive)
Pin 2	RX (Receive)	---> To --->	TX (Transmit)
Pin 3	G (Ground)	---> To --->	G (Ground)

4-pin Phoenix Terminal



WyreStorm Connector			3rd Party Device
Pin 1	12V DC Out	No Connection	Reserved
Pin 2	TX (Transmit)	---> To --->	RX (Receive)
Pin 3	RX (Receive)	---> To --->	TX (Transmit)
Pin 4	G (Ground)	---> To --->	G (Ground)

6-pin Phoenix Terminal



WyreStorm Connector		3rd Party Device
Pin 1 ST		Reserved
Pin 2 SR		Reserved
Pin 3 G (Ground)	---> To --->	G (Ground)
Pin 4 RX (Receive)	---> To --->	TX (Transmit)
Pin 5 TX (Transmit)	---> To --->	RX (Receive)
Pin 6 +12V		Reserved

3.5mm Mini Jack

Tip:	TX (Transmit)
Ring:	RX (Receive)
Sleeve:	Ground (GND)

Copyright © 2022 WyreStorm Pro AV Corporation | wyrestorm.com

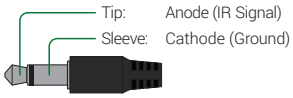
INT: +44 (0) 1793 676 683 | US: 844.280.WYRE (9973)
support@wyrestorm.com

IR TX/RX Guidelines

- Using WyreStorm infrared emitters and receivers is the best way to ensure that most IR coding formats are transmitted and received by the NetworkHD system. Other 3rd party emitters and receivers can be used; however, these devices must operate in the same manner as the WyreStorm devices.
- Due to differences in IR across 3rd party control systems their IR ports should never be connected directly to a NetworkHD system as an incompatibility may exist. WyreStorm offers a cable that compensates for voltage differences as well adjusts for differences in the pins used within the port. Refer to the CAB-IR-LINK product page for more information.

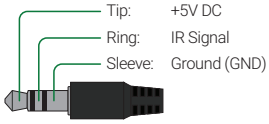
IR TX Port Pinout

Connection for IR TX (transmit) uses a 3.5mm (1/8in) mono plug.



IR RX Port Pinout

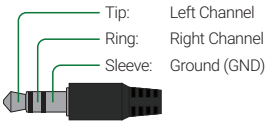
Connection for IR RX (receive) uses a 3.5mm (1/8in) stereo jack that outputs +5V DC to power the included IR receiver.



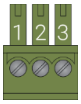
Audio Wiring

Depending on the model, NetworkHD uses either a 3.5mm (1/8in) TRS Stereo Jack audio connection, a 3-pin phoenix unbalanced audio connection or a 5-pin phoenix balanced audio connection.

3.5mm Stereo Unbalanced

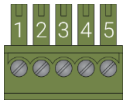


3-pin Phoenix Stereo Unbalanced



WyreStorm Connector			3rd Party Device
Pin 1	L (Left Signal)	---> To --->	Left Signal (L+)
Pin 2	R (Right Signal)	---> To --->	Right Signal (R+)
Pin 3	GND (Ground)	---> To --->	Left Ground (L-) Right Ground (R-)

5-pin Phoenix Stereo Balanced



WyreStorm Connector			3rd Party Device
Pin 1	Left Positve (L+)	---> To --->	Left Positive (L+)
Pin 2	Left Negative (L-)	---> To --->	Left Negative (L-)
Pin 3	Ground (G)	---> To --->	Ground (G)
Pin 4	Right Negative (R-)	---> To --->	Right Negative (R-)
Pin 5	Right Positive (R+)	---> To --->	Right Positive (R+)

Setup and Configuration

IMPORTANT! Installation

- Be sure to fully configure network switches BEFORE connecting NetworkHD comonpents. Configuration guides for approved switches can be found at wyrestorm.com
- NetworkHD encoders & decoders use DHCP to assign IP addresses by default. In the absence of a DHCP server an AutoIP address will be assigned in the subnet 169.254.0.0/16. Ensure the PC being used for configuration obtains an IP via DHCP or is set to an address in the AutoIP range prior to starting the configuration process.
- In order to configure the NetworkHD encoders and decoders, the AV port on the NHD-CTL MUST be connected to the same LAN/VLAN and subnet as the NetworkHD encoders and decoders.
- The NHD-CTL's two Ethernet ports are designed to be used in different Networks or VLANs. When using a single Network or VLAN for example when using NetworkHD Touch - do not connect both ports - only use the AV port of the CTL.
- Install NetworkHD devices to allow airflow through the product - WyreStorm recommends using the NetworkHD rack mounts. The install location should be dry, well ventilated and guaranteed to maintain the mandatory operating temperature range of the product.

NetworkHD Console Configuration (NHD-000-CTL)

- Connect a computer running Windows 7 or newer to the same LAN/VLAN as the NetworkHD components and ensure its IP is within the same subnet as the NetworkHD. The NHD-000-CTL's AV port is set to a static address of **169.254.1.1** by default – do not choose this address for your PC.
- Power on the NetworkHD devices by connecting the included power supplies to the power input or by powering on the PoE switch.
- Open the WyreStorm Management Suite (Available from the WyreStorm website) and launch the **NetworkHD 000 Series Console** and press search

  Note: If a no devices are discovered, verify that encoders/decoders, CTL and PC are within the same subnet scope and within the same range of the CTL's AV Port and disable or create an exception for the NetworkHD Console in the Windows Firewall.
- Configure the system as per the instructions in the NetworkHD Installation Guide.

In addition to the steps above, more information on configuration can be found in the NetworkHD Technical Reference Guide.

NHD-CTL-PRO

The NHD-CTL-PRO setup differs than a system using the NHD-000-CTL. All configurations for NetworkHD endpoints are performed from the controller's web interface. The default IP address of the AV Port is **169.254.1.1** and the default IP of the CTRL port is **192.168.11.243**. Connect the NHD-CTL-PRO to the same network as encoder and decoders. Log onto the web interface using **admin** for both the username and password. Follow the on screen prompts to begin setup.

Note: WyreStorm reserves the right to change product specification, appearance or dimensions of this product at any time without prior notice. For full specifications for individual NetworkHD products, visit wyrestorm.com.

Warranty Information

WyreStorm Technologies ProAV Corp warrants that its products to be free from defects in material and workmanship under normal use for a period of five (5) years from the date of purchase. Refer to the Product Warranty page on wyrestorm.com for more details on our limited product warranty.