



# neo:

1-4 HDBASET SPLITTER  
BY PULSEEIGHT



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# USER MANUAL

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P8-HDBT-L-SP4

HDMI® HDBT™ HDCP 2.3 amazon alexa

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## INTRODUCTION

The neo 1x4 HDBaseT Splitter offers an ideal plug-and-play solution for custom A/V installers and Home Theatre enthusiasts to distribute a single input source content to four outputs, over long distances (up to 70m) without compromising audio or video quality using HDBaseT™ technology.

The Pulse-Eight neo 1x4 HDBaseT Splitter is a practical, high specification splitter with fully HDCP Compliant transmission over a long-distance, which means source video content can be stored in a dedicated rack away from the viewing location and, with our exclusive Cloud Monitoring Portal, you can check up on your install at any time from anywhere, enabling you to diagnose simple issues without visiting the site.

The splitter also supports multiple control methods including IR control, CEC support, Web Interface, plus voice control using Amazon Alexa.

## FEATURES

- Extends HDMI® up to distance of 70m over single Cat 5e or above cable
- Supports all known HDMI® audio formats including Dolby TrueHD, Dolby Atmos, Dolby Digital Plus and DTS-HD Master Audio transmission
- Supports PoH (Power over HDBaseT™) to power compatible HDBaseT™ neo lite receivers
- Compact design and rack mountable
- 1x HDMI® input that is distributed to 4x HDBaseT™ outputs
- Supports 1080p and 4K video and HDCP 2.3 compliant
- Automatic EDID support
- Web based management and remote monitoring support
- One way IR support
- Compatible with neo:Lite Receivers (not included)

## INSIDE THE BOX (KIT)

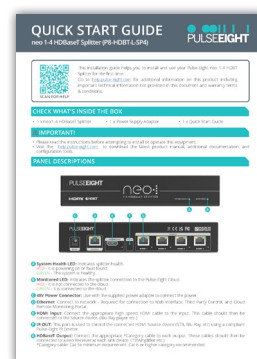
- 1 x neo:1-4 HDBaseT Splitter
- 1 x Power Supply Adapter
- 1 x Quick Start Guide



neo:1-4 HDBaseT  
Splitter



Power Supply  
Adapter



Quick Start Guide

## SPECIFICATIONS

Video Resolution	- 3840x2160p @50/60Hz 8bit 4:2:0 - 3840x2160p @24/25/30Hz 8bit 4:4:4 - 3840x2160p @24/25/30Hz 10bit 4:2:0 HDR - All formats 1080p, 1080i, 720p, 576p, 480p @24/25/30/50/60Hz
Video Input	1 × HDMI® 2.0 a/b
Video Output	4 × HDBaseT Class C
HDMI® Input	1
HDBaseT Outputs	4
Input TMDS Signal	3.40Gbps per data lane (10.2Gbps total)
Bandwidth	10.2 Gbps
CEC	Yes - Bidirectional
Voice Control	Yes - Alexa
HDMI® Compliance	HDMI® 2.0 (up to 340 MHz TMDS clock)
HDCP Compliance	Up to 2.3 (Pass-through)
Transmission Distance	4K up to 40m (130ft) and 1080p up to 70m (230ft)
Chroma Subsampling	YCbCr4:4:4, YCbCr4:2:2, YCbCr4:2:0, RGB
Colorspace	YUV (rec. 601, rec709, rec2020), RGB
Color Depth	8-bit, 10-bit, 12-bit
IR Inputs to Room	No
IR Outputs to Source	Yes
IR Receiver Port	3.5mm 5V stereo jack (not included)
IR Transmitter Port	3.5mm 5V stereo jack (not included)
Ethernet Port	Yes - Control only
HDMI-CEC	Yes
Audio Return Channel (ARC)	No
Power Over HDBaseT (PoH)	Yes - Receiver Sold Separately
Operating Humidity	5 to 90% RH (no condensation)
Operating Temperature	0 to +35°C (32 to +95°F)
Storage Temperature	-20°C to 60°C (-4°F to 140°F)
Power Consumption	Max 60W
Power	1 x 5V DC @ 0.5A
Certifications	UKCA, CE, FCC (SDoC), RoHS
ESD Protection	Human Body Model: 8kV air, 4kV contact
Included Accessories	Power Supply Adapter.
Dimensions (W x H x D)	19cm x 4.5cm x 22cm
Weight	0.6kg
Box Dimensions (W x H x D)	58cm x 9cm x 25cm

## SAFETY PRECAUTION

**Please read the instructions before attempting to install or operate this equipment.**

**Please keep the following in mind as you unpack and install this equipment:**

- Always follow basic safety precautions to reduce the risk of fire, electrical shock, and injury.
- To prevent fire or shock hazards, do not expose the unit to rain, or moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Please use the included mounting kit where applicable, avoid blocking any vents on the product and follow best practices in rack design to help avoid overheating.
- Only use the supplied power supply adapter.
- Never push any objects into this product through any openings or empty slots in the unit as you may damage parts inside and/or cause an electrical shock.
- Do not allow anything to rest on the power cabling and avoid putting the weight of any kind on it.
- To protect the unit from overheating do not block any vents or openings in the unit housing that provides ventilation. Allow sufficient space for air to circulate around the unit.
- This product is intended for use in a clean (dust-free) residential environment.

### Ventilation

It's important to keep the product well ventilated when installing this Pulse-Eight splitter.

Any electronic equipment will generate heat. A well-ventilated area helps to disperse the heat. If placed in a poorly ventilated area, your equipment may heat up and cause irreparable damage to the circuitries.

Allowing systems to run for prolonged periods under high temperatures will break down circuitry and electrical component. It also applies if the device is left in the path of direct sunlight or near any heat source.

Dust tends to accumulate and will disrupt any fan and/or electronics system. Dust particles contain various compositions like water, oil, and other minerals or chemicals. Having them in your electronic device can sometimes cause a signal error or degradation to the internal chips and circuitries. Because we cannot accurately predict how or when they can affect your device, we highly recommend that you keep Pulse-Eight products not only in a well-ventilated area but also as clean as possible.

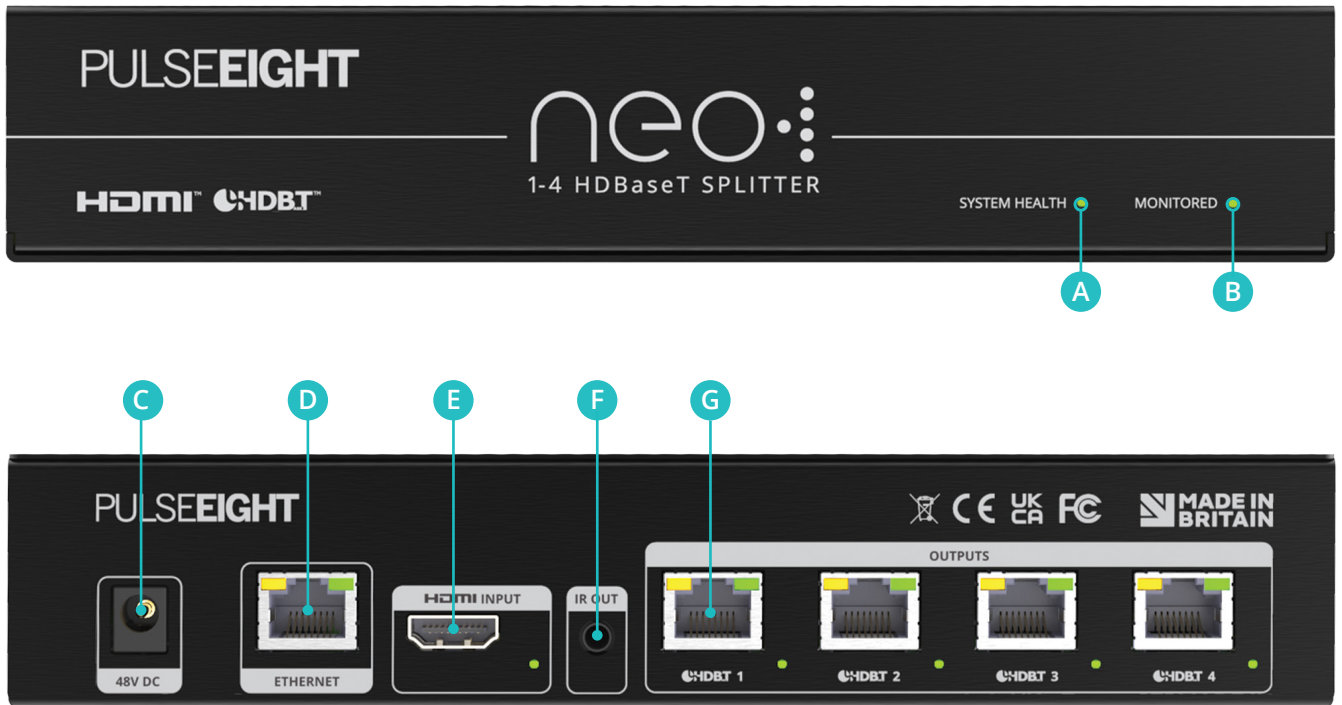
In some cases, insects or reptiles can make nests near or inside the electronic casing. Whilst we design our products to maximize the protection of internal electronics, please be aware that insects and reptiles can be drawn to these types of habitats. In the unlikely event, this does happen, this will lead to poor ventilation inside the unit, and it will be unable to disperse heat effectively.

### FCC Warning

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## PANEL DESCRIPTIONS



- A System Health LED** indicates splitter health.  
**RED** - It is powering on or fault found.  
**GREEN** - The system is healthy.
- B Monitored LED** indicates the splitter connection to the Pulse-Eight Cloud.  
**RED** - It is not connected to the cloud.  
**GREEN** - It is connected to the cloud.
- C 48V DC Power Connector** is used with the supplied power adapter to connect the power.
- D Ethernet:** Connect to network - Required for connection to Web Interface, Third Party Control, and Cloud Remote Monitoring Portal.
- E HDMI® Input:** Connect the appropriate high speed HDMI® cable to the input. This cable should then be connected to the Source device. (Blu-Ray player etc.)
- F IR OUT** port is used to control the connected HDMI® Source device (STB, Blu-Ray, etc) using a compliant Pulse-Eight IR Emitter.
- G HDBaseT Output** - Connect the appropriate category cable (Cat 5e or higher recommended) to the output of the transmitter; this cable should then be connected to the HDBaseT input on the neo:Lite receiver. The LEDs will illuminate to indicate a link is established (amber LED) and video (green LED) is being sent.


## HDBASET CABLING

### What Is The Best Type Of Cable To Use?

Pulse-Eight products use the HDBaseT standard, which makes use of standard Category (Cat) cables. The minimum cable used on a neo system is Cat 5e, but it is recommended to use a higher tier cable such as Cat 6, Cat 6A, or Cat 7 where possible because they have stricter twisted pair and shielding requirements that reduce data loss between data pairs.

Patch cabling is strongly discouraged because it can degrade the signal. Use a long, single high-quality cable for each HDBaseT port whenever possible to allow the system to function at its best.

We do not recommend using pre-made leads unless you are certain of the correct specifications (i.e., solid core 568B); using lower quality cables will result in signal degradation and transmission quality.

 *Note: Please keep in mind that Copper Clad Aluminum (CCA) cables aren't supported. This will cause a HDBaseT performance issue due to the inherent properties of a CCA.*

### Shielded Cables

If you prefer shielded FTP cables, please use compatible shielded features such as grounding and termination. A faulty cable can increase interference rather than eliminate it.

### Cabling Best Practice

Our recommended and best practise policy is to connect the Pulse-Eight matrix directly to the receiver using a straight cable. This will ensure the best signal quality and the greatest possible distance. On the HDBaseT Alliance website, you can find more information on "HDBaseT Best Practices."

<https://installers.hdbaset.org/wp-content/uploads/2014/09/Dos-and-Donts-WP.pdf>

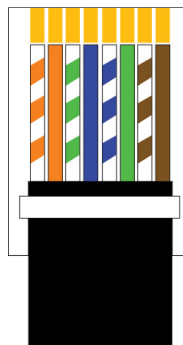
### Wall Plates and Patch Panels


If the patch panels are properly terminated, there should be little distance loss. However, the use of wall plates and patch panels has the potential to increase cable resistance and, if not done correctly, could reduce advertised transmission lengths. Brush plates can be used instead of RJ45 wall plates to keep the finish neat.

### Connection Termination

For Cat 5/Cat 6 UTP (unshielded) cable, we recommend using full plastic encasements rather than metal ones to avoid any grounding leaks into the Pulse-Eight products. However, when using shielded cables (STP), then please ensure to use metal connectors and that the Cat cable's shield/foil and drain wire are making good contact with the connector's shell.

Terminate the cabling using RJ45 connectors to the 568B wiring standard. (See diagram below).




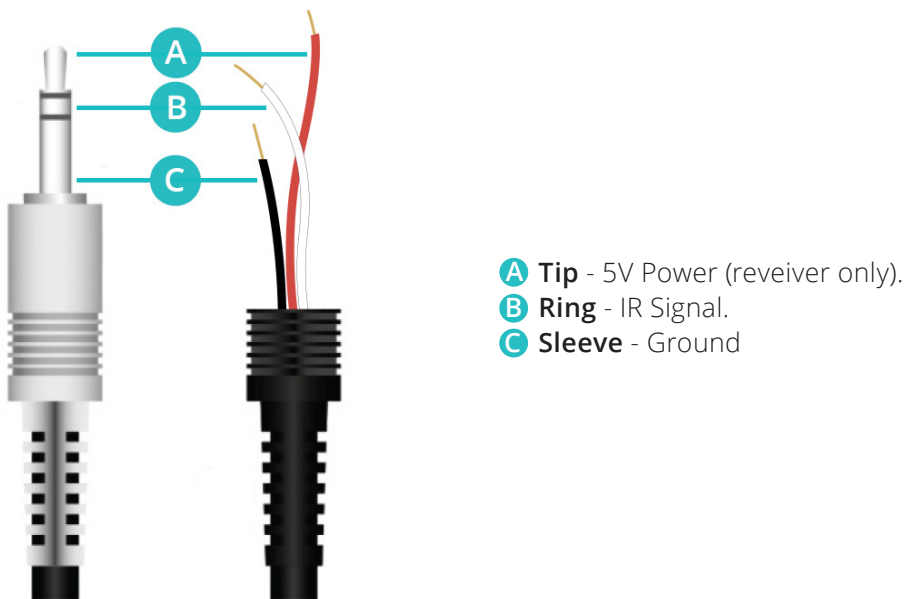
 **IMPORTANT:** Please note that local building regulations may apply to the installation of cabling in properties. It is important to check building regulations to guarantee that you are in accordance with the laws of your territory.

## IR PIN ASSIGNMENTS

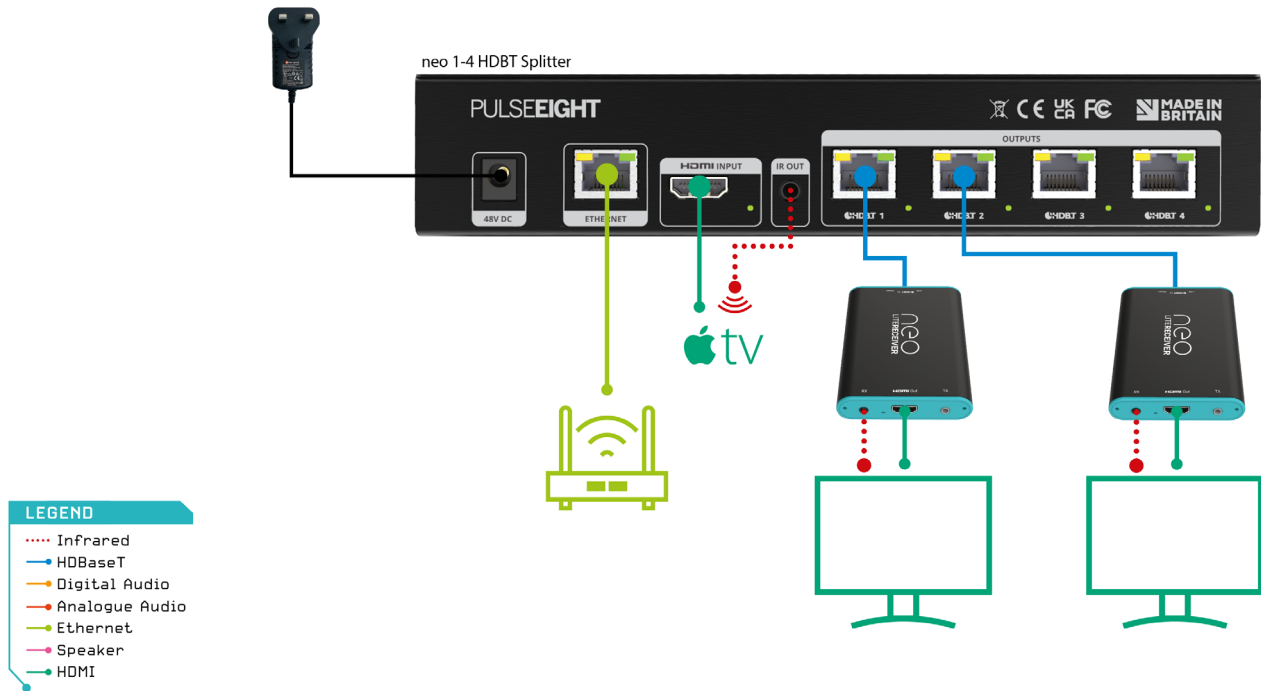
Pulse-Eight strongly recommends the use of the IR accessories provided. We do not support 3rd party IR component as it could damage the matrix.

The standard range of Pulse-Eight matrices utilise a 3.5mm stereo jack, both for IR flashers and receivers buds. We strongly recommend purchasing a Pulse-Eight Mono-Stereo Optocable when necessary in your installation.

 *Note: If you do require rewiring the IR plug to work with a 3rd party device then please note that this will void the warranty on the matrix if there is damage caused.  
The Schematic provided below is as a reference only.*



## INSTALLATION



1. Connect HDMI® cable from your video source (e.g. Blu-Ray player) to the HDMI® input of the neo HDBaseT splitter.
2. Connect the appropriate category cable (Cat 5e or higher recommended) to the neo HDBaseT splitter 'HDBaseT Out' ports.
3. Complete the connection by attaching the other end of the Cat cable to the neo:Lite Receiver's 'HDBaseT In' port
4. Connect HDMI® Out on the neo:Lite Receiver to the sink device (i.e. TV) using a high-speed HDMI® cable.
5. If required, connect the compatible IR Flasher (Emitter/Transmitter) cable to the 'TX' port on the neo:1-4 HDBT Splitter and the IR bud placed over the source device's IR window.
6. If required, connect the IR Receiver to the neo:Lite Receiver's 'RX' port - and place the IR bud on the underside of the sink device (i.e. TV).
7. Insert the supplied power adapter to the neo HDBaseT splitter and plug it into the AC mains.
8. Turn ON the AC mains.
9. Once initialization has been completed, the System Health, and Monitored LEDs should all appear ON (green).

**Note:** The initialization process takes between 20 seconds and up to 2 minutes. However, it is possible that a firmware update may be available the first time the unit is powered ON - in this instance, the 1-4 HDBaseT Splitter may take longer to initialize.

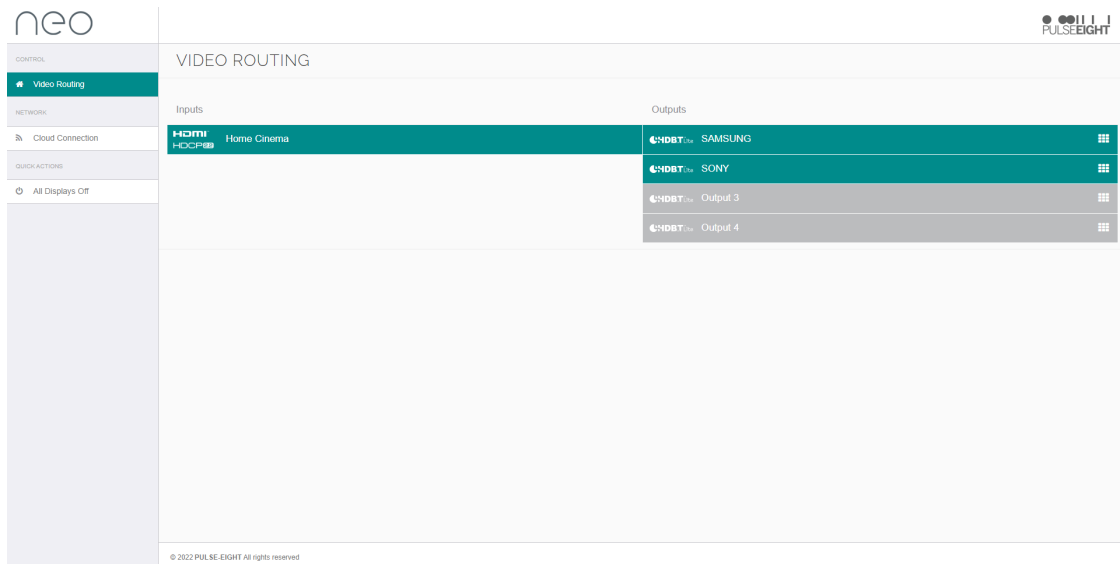
If the System Health LED flashes (orange/green) quickly together then a firmware update is being applied. Please wait and do not disconnect the power until this update has been completed.

10. Check the LED status on the neo:1-4 HDBT Splitter to ensure correct installation and connection. See LED Status in Troubleshooting section.
11. As it powers ON, check the LED status on the attached neo Receiver to ensure correct installation and connection. See LED Status in Troubleshooting section.

**Note:** The Green LED of the HDBaseT port (RJ45) on the neo Receiver should illuminate when there is power to the device - i.e. it is receiving PoH/PoE.

## NEO WEB INTERFACE

The front page of the web interface shows all available inputs and outputs. The following steps instruct how to access and customise this for the end-user.

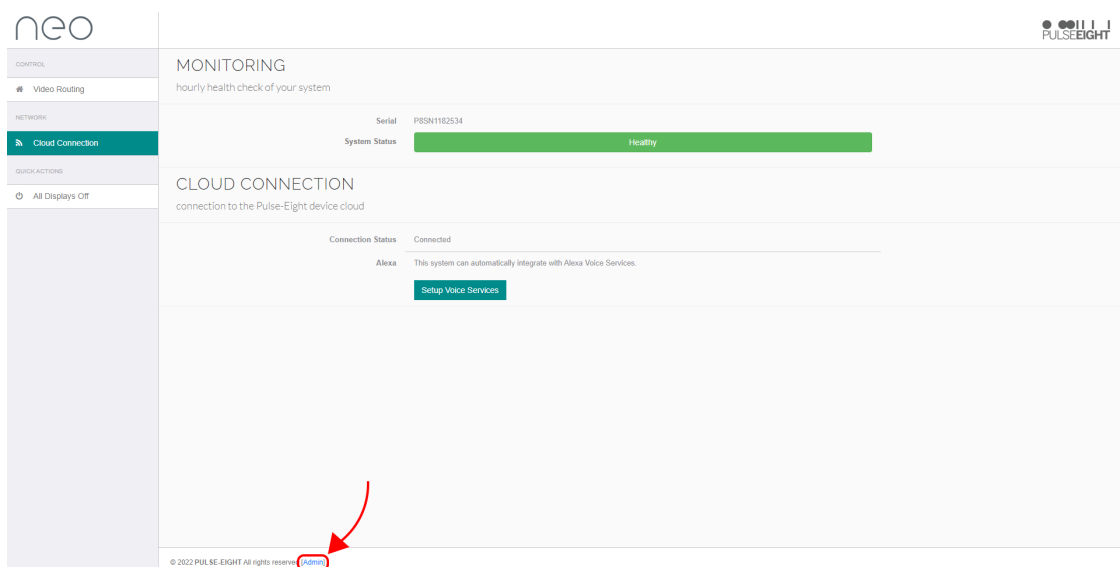


### Accessing The Admin Area

When setting up the HDBaseT Splitter, it is important that the installer can access the admin menu on the Web Interface to configure the splitter according to the installation's requirements.


The Web Interface can be accessed using a computer connected to the same router/network as the splitter and by visiting [www.gotomymatrix.com](http://www.gotomymatrix.com) in your web browser. Navigate to the Cloud Connection tab (on the left-hand side) and then click on '[Admin]' link at the foot of the page. Insert your password to log in and access all options.

 *Note: The default password is "admin". It is recommended that this is changed to a unique and memorable password once setup has been completed.*



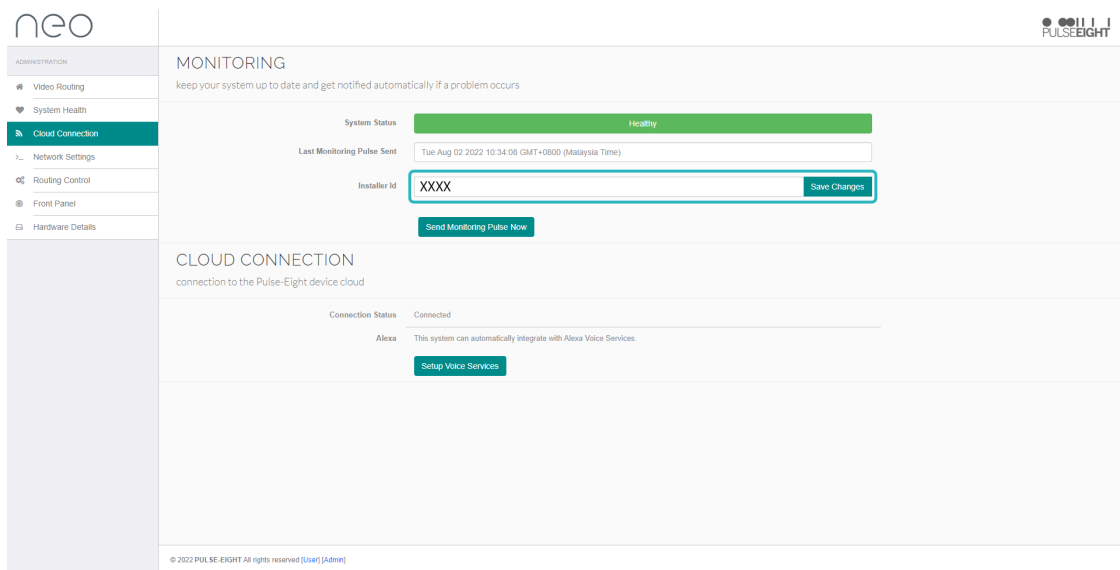
## Link The Installer Account

On the Cloud Connection page, insert your Pulse-Eight Installer ID (4-digit) into the box and save changes - this will enable the splitter to be linked to your monitoring account.



 *Note: If you do not already have an Installer ID then you will need to register for a new account. Please contact your local representative or visit [monitoring.pulse-eight.com/Account/Register](https://monitoring.pulse-eight.com/Account/Register).*

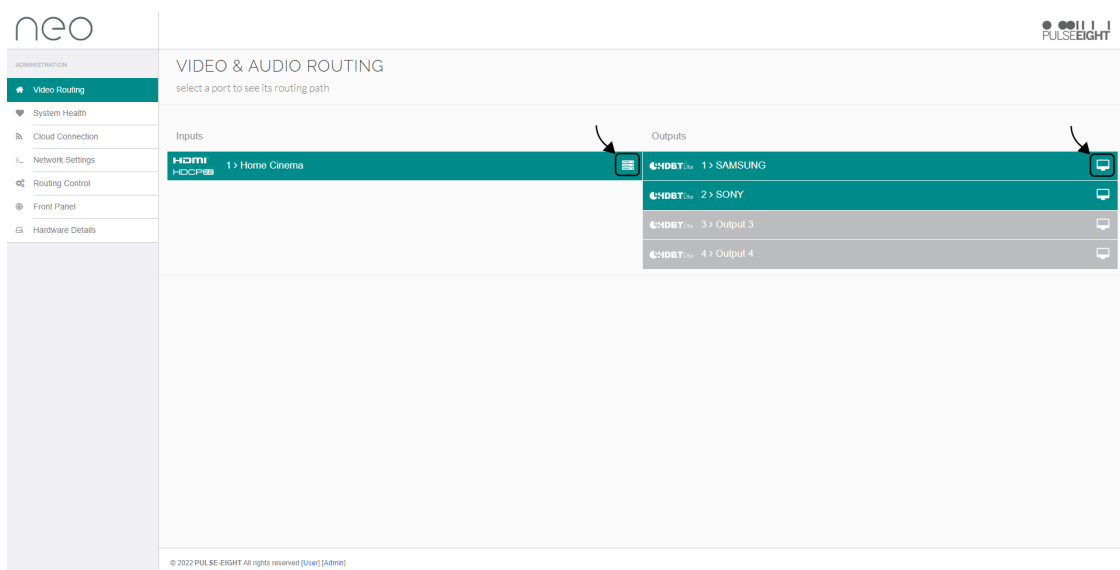
Once you have entered your Installer ID, you will be able to gain access to the Cloud Monitoring Service to monitor all of your Pulse-Eight installations remotely in one place.

For more information, refer to the “Accessing the Monitoring Portal” section in this manual.

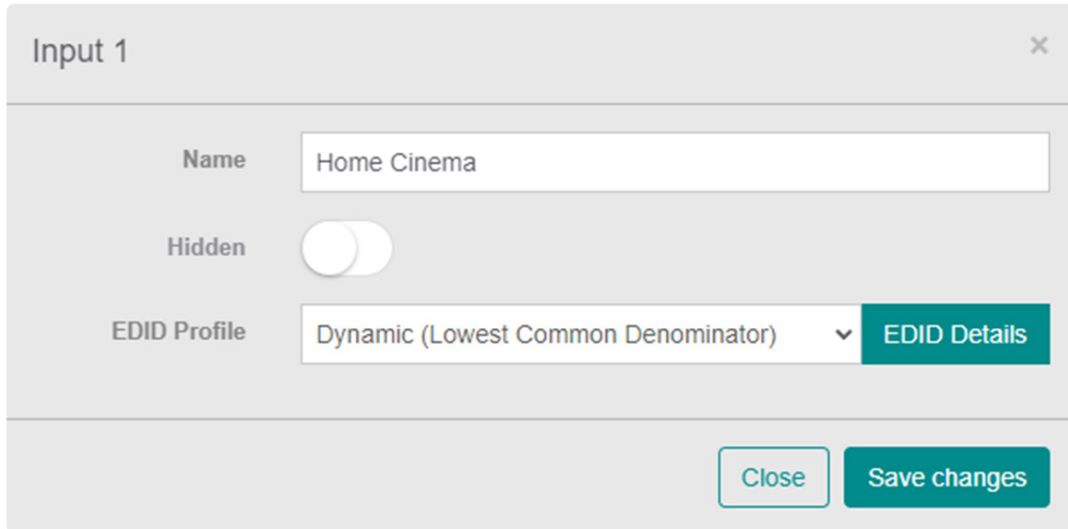


## Input and Output Options Setup

To access the Input and Output Setup options, click on the  symbol for changing the selected Input settings and the  symbol for changing the selected output settings.



## Input Setup Options



The dialog box is titled "Input 1" with a close button (X) in the top right corner. It contains three main sections: "Name" with a text input field containing "Home Cinema"; "Hidden" with a toggle switch currently turned off; and "EDID Profile" with a dropdown menu showing "Dynamic (Lowest Common Denominator)" and a teal "EDID Details" button. At the bottom right, there are two buttons: "Close" and "Save changes".

**Name:** Change the name of the selected input. This name will be displayed on the source list on the display device (TV) menu.

**Hidden:** Turn on to hide the selected input from the end user's web interface.

**EDID Profile:** Drop down menu to select an alternative EDID profile for the selected Input. See the EDID Management section of this manual for more information.

**EDID Details:** This will bring up a page detailing the current EDID information for the selected Input.

## Output Setup Options

Output 1

Name

SAMSUNG

Video From

Home Cinema

EDID

EDID Details

Hidden

☐

Source Filtering

Link Status

HDBaseT (Active)

Remote Module Details

Link Quality

Good (1080p)

Cable Length

< 20m

Close

Save changes

**Name:** Change the name of the selected output.

**Video From:** A dropdown list showing the source the output is currently displaying.

**EDID Details:** This will bring up a page detailing the EDID information of the HDMI® Sink (display) connected to that output.

**Hidden:** The toggle switch can be turned on to hide the selected output from the end user's web interface.

**Source Filtering:** Toggle switches to select which inputs can be routed to the selected output display.

**Link Status:** Indicates if the HDBT link is active.

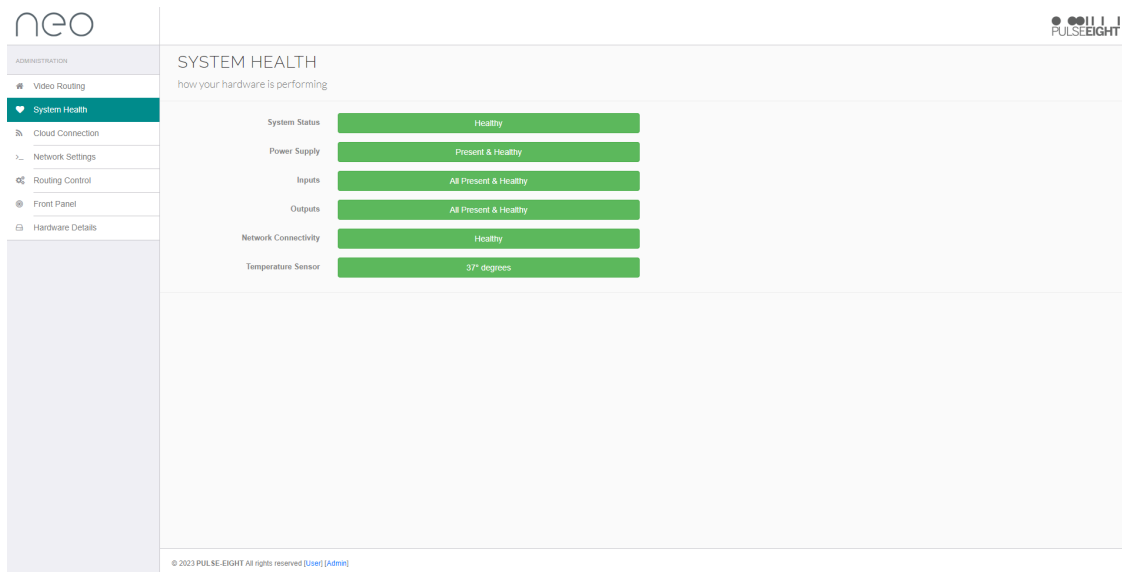
**Remote Module Details:** This will display a popup providing details on the attached neo Receiver.

**Link Quality:** Indicated the quality of the link. Click the icon to view Link Quality Test Tool.

**Cable Length:** Indicates the approximate length of the Cat cable inserted into the output. This is an estimate based on the cable's performance and may not be accurate.

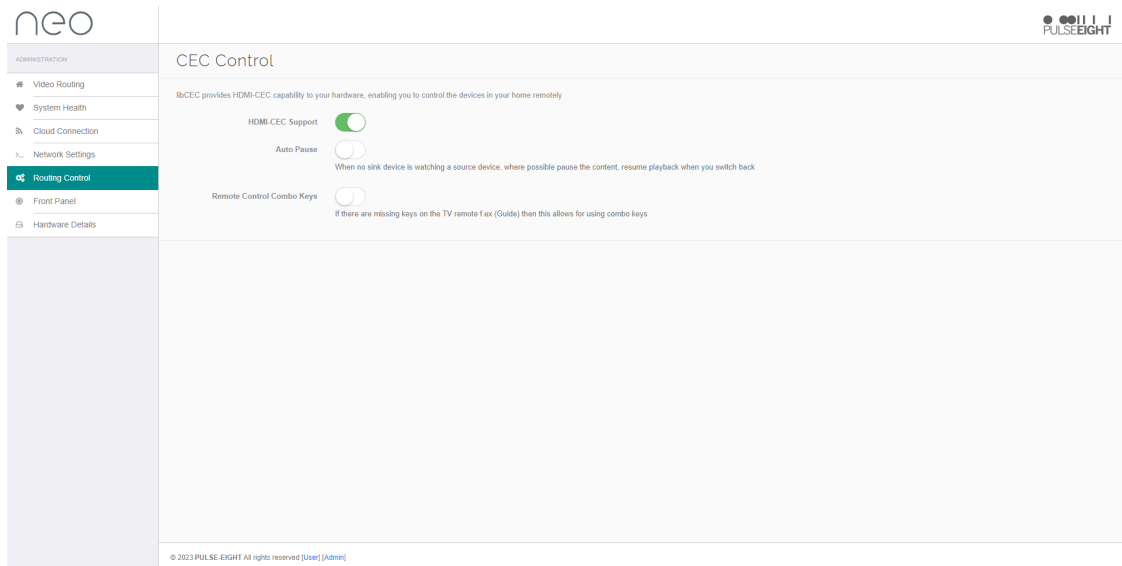
 *Note: Ensure that after any changes you click the 'Save Changes' button.*

## System Health



Under the System Health tab, information about the hardware's performance is displayed. The colour-coded (Green = Good, Orange = Warning, Red = Issue) boxes will indicate if it is performing correctly along with the reading of the internal temperature sensor that will indicate if the system is overheating.

## Routing Control Tab

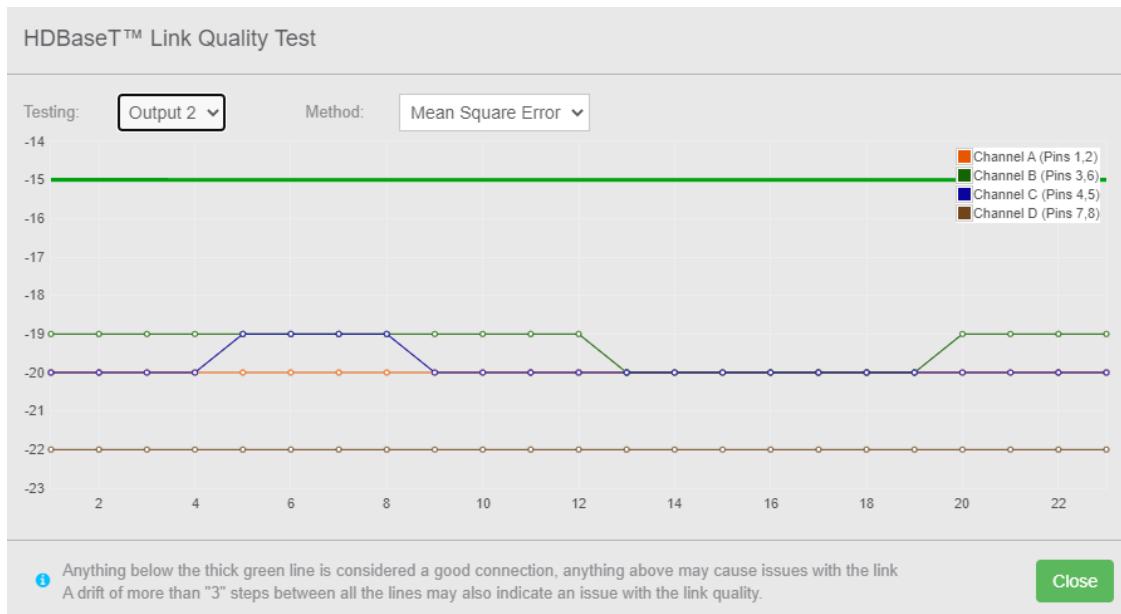


Under the Routing Control tab, you will find settings for CEC control:

### CEC Control

**HDMI-CEC Support:** Toggle switch to turn CEC control on or off, according to your requirements. By having CEC turned on, you will have the ability to control your connected devices (with CEC) without the need for a third-party Control system. The splitter can work independently.

## HDBaseT Link Quality Test



The HDBaseT Link Quality Test will check the HDBaseT link is stable over a sustained period of time. There are two drop down menus, the first is the output you are testing, the second is the type of test you are doing.

The **Mean Square Error** test is the ratio (in dB) of the signal power in relation to the originally transmitted signal vs the received and it is an analog measurement. This reading is directly affected by kinks, termination & other cable issues. Each Channel has a colour that represents the same colour in the twisted pair in the Cat cable. All four of these Channels should each be below the -15dB line. Otherwise, the cable quality will be marked as "Poor". Also, all four of these Channels should be within 3dB's of each other, for example, -21dB. -20dB. -21dB & -19dB. Otherwise, the cable quality will be marked as "Poor".

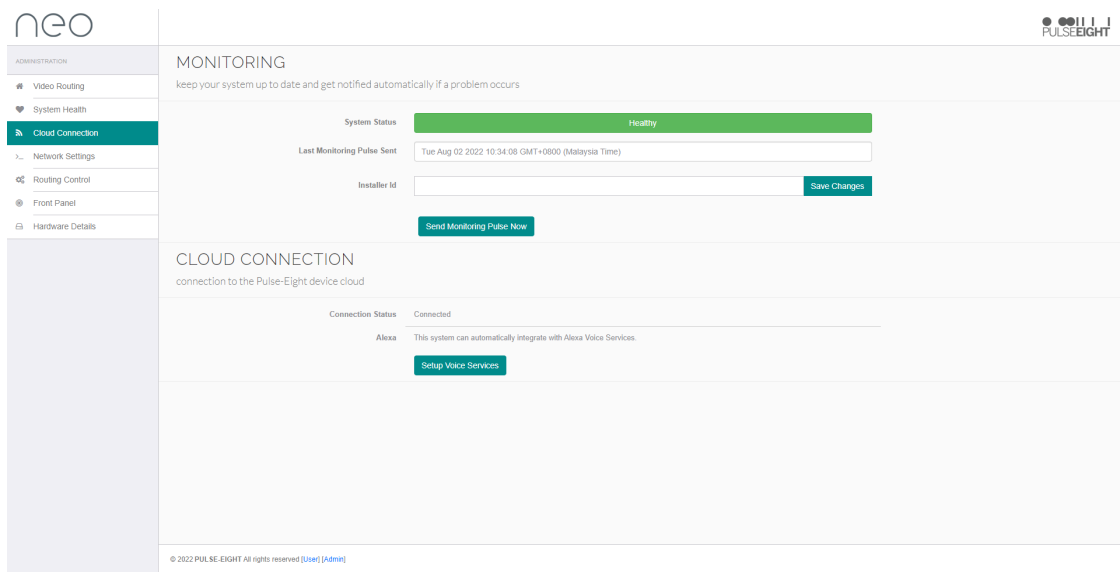
**Note:** If any of the above criteria is broken at any time but it then recovers to normal, this can still indicate an issue in the cabling so the splitter will remember this information and will continue to mark the cable as "Poor". This can explain if your cables look to meet the MSE test criteria but are still marked as "Poor" then it is likely to be caused by a momentary "bad spike" (reading below MSE criteria) happening in the past.

The **Channel Errors** test is a measurement of the number of digital errors on the channel, such as packet loss and bit errors. Each Channel has a colour that represents the same colour as the twisted pair in the Cat cable. All four of these Channels should be below the 40-line. Otherwise, the cable quality will be marked as "Poor". Also, all four of these Channels should be within 3 of each other, for example, 35. 36. 35. 34. Otherwise, the cable quality will be marked as "Poor".

**Note:** If any of the above criteria is broken at any time for any of the channels but it then recovers to normal, this can still indicate an issue in the cabling so the splitter will remember this information and will continue to mark the cable as "Poor". This can explain if your cables look to meet the Channel Error test criteria but are still marked as "Poor" then it is likely to be caused by a momentary "bad reading" (below Channel Error criteria) happening in the past.

It is also possible to check the link quality remotely by logging into your installer account at [monitoring.pulse-eight.com](https://monitoring.pulse-eight.com)

## Cloud Connection



Under the Cloud Connection tab, you will have basic monitoring information:

**System Status:** This colour-coded status (Green = Good, Orange = Warning, Red = Issue) will notify you if the system is healthy or if there is an issue.

**Last Monitoring Pulse Sent:** This will indicate the date and time when the splitter last 'phoned home'.

**Installer ID:** Enter your Pulse-Eight Installer ID to link to the Pulse-Eight Monitoring Portal.


**Connection Status:** This will detail if the splitter is connected to the Pulse-Eight Monitoring Portal.

**Alexa:** This splitter can be controlled by Alexa's voice command control. To set this up, please follow the 'Alexa Voice Control' section for further details.

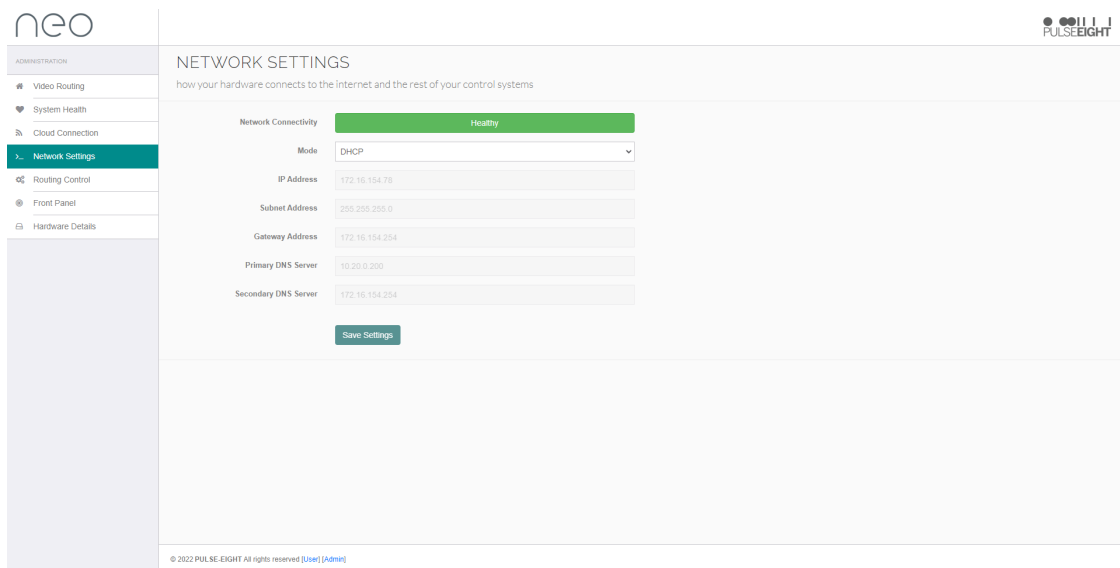
### ALEXA VOICE CONTROL

It is possible to add the HDBaseT Splitter to your Alexa smart-home setup in order to control the attached Sink and Sources using voice commands.

1. Install the 'neo' Alexa skill from Amazon on the Alexa app.
2. On the Cloud Connection tab, click the 'Setup Voice Services' button, this will take you to - my.pulse-eight.com with instructions on setup.
3. Click on the 'Login via Amazon' button and proceed to login to your Amazon account. A page will appear listing your discovered devices - these are the systems available for Alexa control. Click 'Connect' next to the appropriate system.
4. Tell Alexa to 'Discover Devices' - your system should now be connected.

 *Note: Alexa is a virtual assistant AI technology developed by Amazon. It is capable of voice interaction with smart speakers, but it is also used to control smart devices in home automation systems.*

## Network Settings



Under the Network Settings tab you will find details about the system's connection to the internet and the rest of your control systems:

**Network Connectivity:** This colour-coded status (Green = Good, Orange = Warning, Red = Issue) will notify you if the system is connected to a network or if there is an issue.

**Mode:** Dropdown menu to either set a static IP and DHCP.

 **IMPORTANT:** Ensure that after making any changes to network settings, that you click Save Settings button.


### ACCESSING THE SPLITTER WITHOUT AN INTERNET CONNECTION

While the video splitter works best with an active internet connection it is possible to still configure and operate the system without one. However, to configure the system from its defaults a local network connection is required. Normal operation of the CEC and IR control systems does not require any network connection, but IP-based API control or Web-based control does require a persistent network connection.

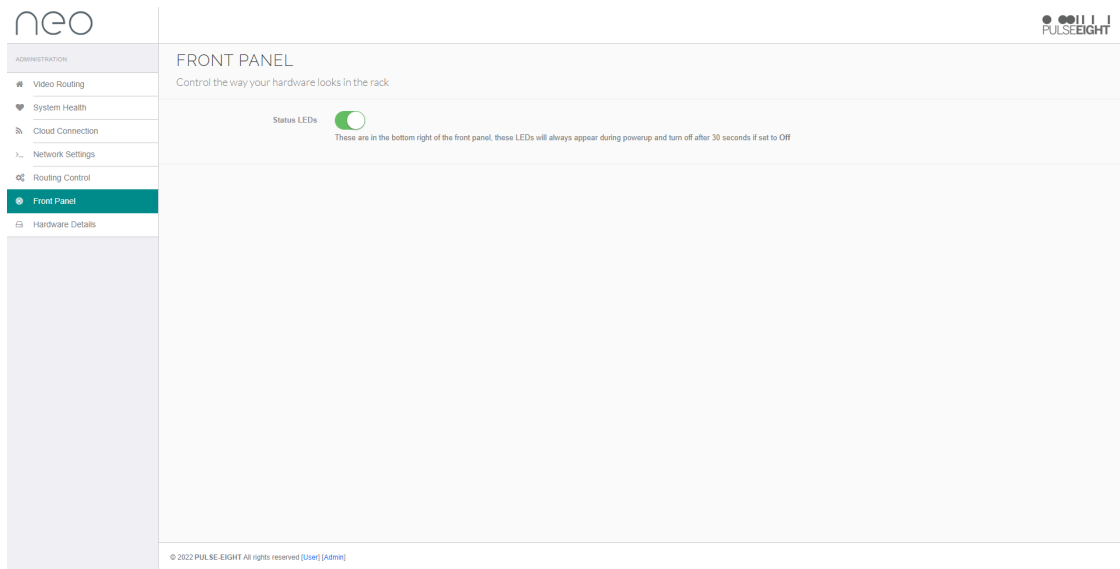
#### Discovery Tool

You can download a discovery tool from your monitoring portal at <http://monitoring.pulse-eight.com/> this program will run on Windows 7 or newer only. When run it will scan your network and detect the IP address of your video splitter. If you have multiple neo devices on the same network, the discovery tool will only display the last found. If you do have more than one system, it is advised that you disconnect other systems first.

The discovery tool will display the IP address of the splitter, you can then access the splitter by typing that IP address into your web browser's address bar.

 *Note: It is recommended in this mode that you configure the networking to use a static IP address, this allows you to bookmark the page easily and return to the web interface easily without needing to run the discovery tool again.*

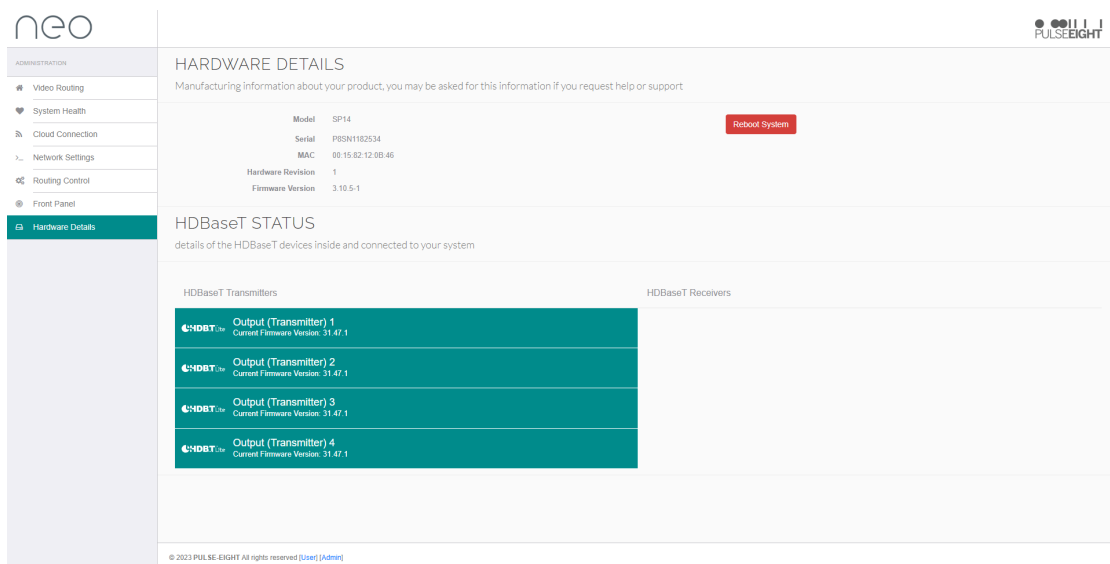
## Front Panel Settings



Under the Front Panel tab, you will find options for the front panel of the splitter for turning off the status LEDs.

 *Note: The status LEDs are in the bottom right of the front panel, these LEDs will always appear during powerup and turn off after 30 seconds if set to Off.*

## Hardware Details



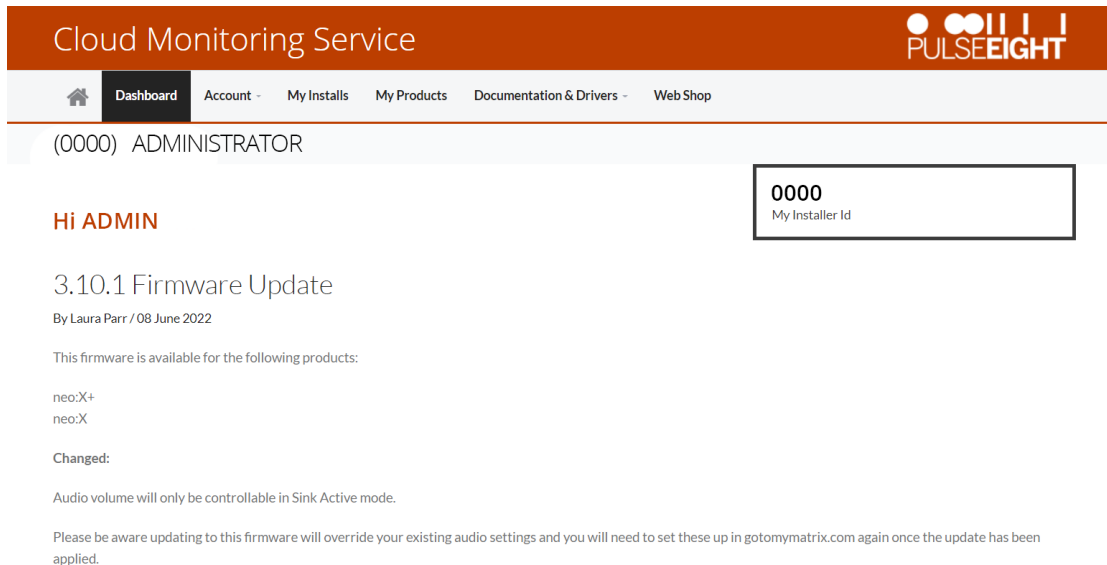
Under the Hardware Details tab, you will find manufacturing information about your product such as model, serial number, MAC, hardware revision, and current firmware version installed. You may be asked for this information if you request support.

It also details the firmware versions for the HDBaseT components (transmitters and connected receivers) in your installation.

 *Note: The design and features of the Web Interface are ever-evolving and may be subject to changes at any time without warning.*

## MONITORING PORTAL

### Accessing The Monitoring Portal



Cloud Monitoring Service

PULSEEIGHT

Dashboard Account My Installs My Products Documentation & Drivers Web Shop

(0000) ADMINISTRATOR

Hi ADMIN

0000  
My Installer Id

3.10.1 Firmware Update

By Laura Parr / 08 June 2022

This firmware is available for the following products:

neo:X+  
neo:X

Changed:

Audio volume will only be controllable in Sink Active mode.

Please be aware updating to this firmware will override your existing audio settings and you will need to set these up in gotomymatrix.com again once the update has been applied.

To access the monitoring portal please visit [monitoring.pulse-eight.com](https://monitoring.pulse-eight.com), click 'Login' in the top left corner, and sign in with your registered details.

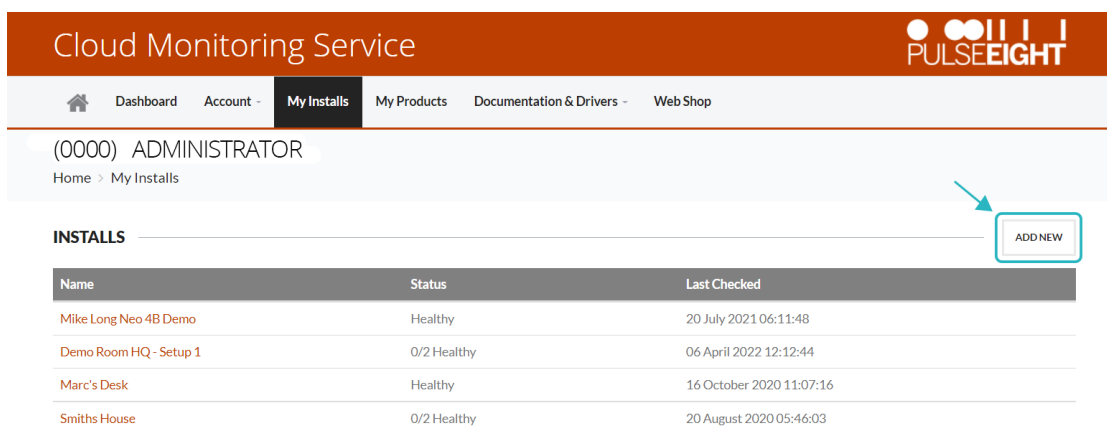
Once logged in, the dashboard will display your details including your Installer ID.

**Note:** If you do not already have an Installer ID then you will need to register for a new account. Please contact your local representative or visit [monitoring.pulse-eight.com/Account/Register](https://monitoring.pulse-eight.com/Account/Register).

### My Install

Under the My Installs tab you can add projects and assign your installed systems in order to easily access and monitor certain installations.

To create an install, click the 'Add New' button and insert the details on the following screen.



Cloud Monitoring Service

PULSEEIGHT

Dashboard Account My Installs My Products Documentation & Drivers Web Shop

(0000) ADMINISTRATOR

Home > My Installs


INSTALLS


ADD NEW


Name	Status	Last Checked
Mike Long Neo 4B Demo	Healthy	20 July 2021 06:11:48
Demo Room HQ - Setup 1	0/2 Healthy	06 April 2022 12:12:44
Marc's Desk	Healthy	16 October 2020 11:07:16
Smiths House	0/2 Healthy	20 August 2020 05:46:03

Once created, you will then be able to assign systems to the install by clicking the 'Add' button in the 'Products' section. This will then bring up a page with a dropdown menu to select a system.


Cloud Monitoring Service





 Dashboard

 Account -

**My Installs**

 My Products

 Documentation & Drivers -

 Web Shop

(0000) ADMINISTRATOR

Home > My Installs > New Install

 NEW INSTALL

Testing

Suad

0123456789


NOTES



ADD

## My Products


Under the My Products tab, all your assigned Pulse-Eight systems will be listed.

 *Note: If the system you are looking for is not listed, please make sure you have added your Installer ID into the web interface of the system.*

When you click on a system, an overviewpage will appear with details of the unit such as:

- Serial Number
- Model Number
- Status
- System Temperature
- Firmware Version
- Current Uptime
- System Status - Inputs
- System Status - Outputs
- External Network Details
- Local Network Configuration
- System Commands
- Reboot Function

Cloud Monitoring Service



Dashboard

Account -

My Installs

**My Products**

Documentation & Drivers -

Web Shop

(0000) ADMINISTRATOR

Home > My Products > P8SN1155763

CONFIGURATION

OVERVIEW

PORT DETAILS ☒

Inputs

Input 1 (Input 1)

Input 2 (Input 2)

Input 3 (Input 3)

Input 4 (Fire TV Stick)

Input 5 (Input 5)

Input 6 (UBP X500)

Input 7 (Input 7)

Input 8 (Input 8)

Outputs

Output 1 (Output 1)

Output 2 (SONY TV)

Output 3 (Output 3)

P8SN1155763

Status: Healthy

Inputs: All Present & Healthy

Outputs: All Present & Healthy

System Temperature: 44°C

Model: neo:X

Firmware Version: 3.2.20

Current Uptime: 1130 days, 16 hours, 41 minutes

SYSTEM STATUS

Inputs

1) Input 1

2) Input 2

3) Input 3

4) Fire TV Stick

5) Input 5

6) UBP X500

7) Input 7

8) Input 8

Outputs

1) Output 1

2) SONY TV

3) Output 3

4) Output 4

5) Output 5

6) Output 6

7) Output 7

8) Output 8


9) Output 9

10) Output 10

On the left hand side, a navigation bar features more options:

- Port Details allows you to individually monitor all inputs and outputs.
- Health displays information about the system's health plus a visual history of the system's temperature over the previous month.
- Updates display the current software version and detail any updates available for the system. There is also a toggle switch to turn on 'Hotfix Updates' whereby updates are delivered automatically to the system.
- Installation Report displays all crucial information about the installation on one page. We recommend you print this page once the installation is complete to ensure the installation is correct.

Cloud Monitoring Service



Dashboard

Account

My Installs

My Products

Documentation & Drivers

Web Shop

(0000) ADMINISTRATOR

Home > My Products > P8SN1155763 > Installation Report

CONFIGURATION

OVERVIEW

PORT DETAILS ☒

Inputs

Input 1 (Input 1)

Input 2 (Input 2)

Input 3 (Input 3)

Input 4 (Fire TV Stick)

Input 5 (Input 5)

Input 6 (UBP X500)

Input 7 (Input 7)

Input 8 (Input 8)

Outputs

Output 1 (Output 1)

Output 2 (SONY TV)

Output 3 (Output 3)

Output 4 (Output 4)

INSTALLATION REPORT

SYSTEM HEALTH

Status: Healthy

Inputs: All Present & Healthy

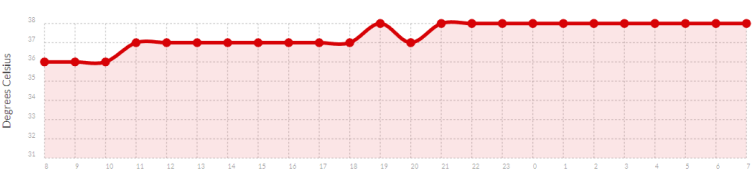
Outputs: All Present & Healthy

Model: neoX

Firmware Version: 3.2.20

Current Uptime: 1130 days, 16 hours, 48 minutes

Temperature, Day Trend



INPUTS

Input	Name	Signal Received


OUTPUTS

Output	Name	Manufacturer

## Documentation & Drivers

Under the Documentation and Drivers tab you will find links to the latest third party control drivers, manuals and troubleshooting guides alongside API information.

Cloud Monitoring Service



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DRIVERS

Bitwise

Control 4

Crestron

Crestron Home

Elan

RTI

Savant

URC

DOWNLOADS

Discovery Tool

DOCUMENTATION

Visit our Documentation Hub

API

Overview

CEC

EDID

IR

Monitoring

Network

Port

System

Misc

By Laura Parr / 08 June 2022

This firmware is available for the following products:

neo:X+

neo:X

Changed:

Audio volume will only be controllable in Sink Active mode.

Please be aware updating to this firmware will override your existing audio settings and you will need to set these up in gotomymatrix.com again once the update has been applied.

## TROUBLESHOOTING

Should you encounter installation difficulties or issues with device communication, the following checklist of common issues and causes should help resolve your issues. If you still continue to experience issues, please contact your local representative for further assistance.

### No or Poor Picture Quality

- Connected and powered? Double check all HDMI®, Category Cat and power cables are firmly connected into the correct ports and all devices are correctly powered.
- Cable length? Are you approaching the maximum distance of the Cat cable (e.g. 100m) if so, try adjusting the picture resolution/format. Cables bundled together may cause cross-talk and further degrade signal quality.
- Signal strength? The use of cable joins, stranded patch panels, wall outlands and stranded patch leads as interconnects between them can significantly reduce signal strength. Use solid core straight through connections wherever possible.
- If you reduce the resolution of the source (e.g. from 4K to 1080p), do you get a picture? If so, this suggests a conflicting resolution between source and display or a bandwidth capacity issue with your cable. Check all inputs and outputs share the same resolution capabilities.
- The neo HDBaseT Splitter can support a maximum HDMI® input TMDS clock of 340 MHz, which is equivalent to 10.2 Gbps. Any video format above this datarate, such as 4K@60Hz 4:4:4 or 4K@60 HDR, is not supported.
- Picture 'snow' / HD 'noise' signifies a failure to fully establish a signal and can often be caused by poorly terminated RJ45 connectors or excess cable lengths. Ensure your cable is correctly wired to 568B standards.
- Pink or off-colour picture? This could be caused by an invalid EDID or the source device failing to read the EDID over the extender. Try plugging and replugging (hotplug) the HDMI® cable on the transmitter that is connected to the video Source, or even rebooting the attached Source, to force the re-reading of the EDID.
- Cable quality and condition - HDMI® cable/connectors can easily be damaged and the quality of material can vary. Always use good quality leads and cables and try swapping cables that are known to be working into the solution to see if this improves your image.

### Infrared Not Functioning

1. Make sure to use the compatible IR flasher/receiver for this video splitter.
2. Check and see if the LED beside the IR port is lighting up. It signifies whether the IR connection is working.
3. If the IR bud is not receiving or transmitting, test it out with a different port or swap with another IR bud to deduce the problem

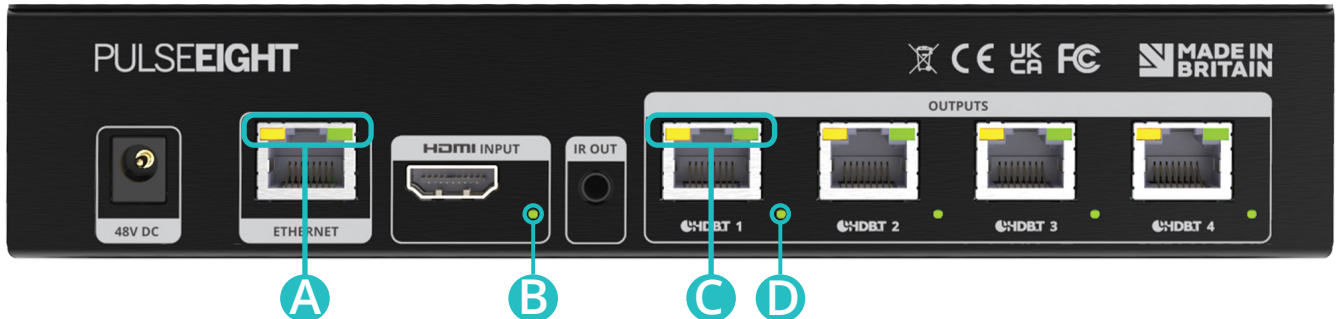
 *Note: Do not mix and match 12V or 5V IR products to different video splitter as they could cause irreparable damage.*

### IR Control

- Are the IR emitters and receivers correctly positioned to allow infrared signals to be transmitted and received? Emitters should be fixed firmly over infrared sensors of sources. Receivers should be attached or next to displays ensuring a clear line of sight to the remote control used to operate. Each IR port has an LED, when correctly installed the LED will flash when IR is transmitting or receiving.
- Is your remote control powered and sending a signal? As IR is invisible to the naked eye. A good trick to check whether your remote is transmitting a signal is by viewing the remote handset sensor through a digital camera/camera phone. The sensor should flash when a button on the handset is held down.
- IR signal dropout can be experienced due to exterior emissions of infrared radiation. Ensure emitters and receivers are away from direct sunlight. Halogen lighting and plasma screens may also interfere with IR signals.

## LED Status

There are several debug LEDs next to the input and output ports that can help with any further troubleshooting.



### A ETH RJ45 Left:

OFF - No Ethernet.

AMBER (Blinking) - Activity on Network.

### ETH RJ45 Right:

OFF - No Ethernet.

GREEN - Connected to Network.

### B HDMI® Input:

OFF - No Signal.

GREEN - HDMI® +5V and Signal.

### C HDBT RJ45 Left:

OFF - No HDBT Link.

AMBER - HDBT Link established.

### HDBT RJ45 Right:

OFF - No Video

GREEN (Blink) - Video Present (No HDCP).

GREEN (Solid) - Video Present (HDCP).

### D HDBT Output:

OFF - No HDBT RX connected.

GREEN - HDBT RX connected / PoH enabled.

## MANUAL VERSION HISTORY

V2.0 - 21st July 2022. Update existing manual to new format

V2.1- 11th October 2022. Further updates.

V2.2 - 4th July 2023. Included Revision History section.

V2.3 - 9th February 2024. Minor update on the Safety Precaution.

## WARRANTY PROCEDURE

The following policies covers all Pulse-Eight products.

Unless otherwise instructed, please do not open any of our products. Doing so will invalidate your warranty. As part of the troubleshooting procedure, you may be instructed to open the device, but you can only proceed with this once consent has been given.

To open a support ticket, please visit: [www.pulse-eight.com/support](http://www.pulse-eight.com/support).

**Please Note:** Warranty cover for ALL products starts from date of receipt of goods NOT date of installation. Should we find that your product does need replacing, we will send your replacement directly to the distributor you purchased from, if not purchased directly from Pulse-Eight.

From 1st April 2022, any products purchased will have new warranty lengths. The length of warranty is determined by the type of product purchased. Our cover can be broken down into 3 categories:

### **Gold, Silver, and Bronze.**

#### **GOLD: Pulse-Eight Audio and Video Matrices**

- 5-year warranty as standard
  - 3-year advanced replacements
  - 2-year return to base for repair

#### **SILVER: Pulse-Eight Amps, Extender Sets, and Accessories**

- 3-year warranty as standard
  - 1-year advanced replacements
  - 2-year return to base for repair

#### **BRONZE: IR, Cables, Brackets, and our Tech Tools**

- 1-year advanced replacements

### **Pulse-Eight Current Product—Within the advanced replacement warranty year(s)**

1. Contact support via phone or a support ticket. Pulse-Eight will try to help troubleshoot and resolve the issue remotely.
2. If unable to resolve the fault remotely and the unit needs replacing an advanced replacement will be raised with the installer who purchased it. If you purchased from a distributor you will need to return to your distributor and they will contact Pulse-Eight to get the RMA raised. All distributor advanced replacements will be sent to the distributor and cannot be sent directly to their installer.

### **Pulse-Eight Current Product—Within return to base warranty**

1. Contact support via phone or a support ticket. Pulse-Eight will try to help troubleshoot and resolve the issue remotely.
2. If unable to resolve the fault remotely and the unit needs to be repaired, an RMA will be raised with the installer if purchased direct from Pulse-Eight. Or if purchased from a distributor, the installer will be directed back to their distributor who will raise an RMA.

### **Pulse-Eight Products Purchased Before 1st April, 2022.**

Please visit: [Warranty Page](#). Or Contact support via phone, opening a support ticket or emailing [support@pulse-eight.com](mailto:support@pulse-eight.com).

## WARRANTY TERMS & CONDITIONS

### **IMPORTANT INFORMATION ABOUT YOUR RIGHTS AND OBLIGATIONS, AS WELL AS LIMITATIONS AND EXCLUSIONS THAT MAY APPLY TO YOU. YOUR RIGHTS AND THIS LIMITED WARRANTY**

This Limited Warranty gives you specific legal rights. You may also have other legal rights that vary by state, province, or jurisdiction. The disclaimers, exclusions, and limitations of liability under this Limited Warranty will not apply to the extent prohibited by applicable law. For a full description of your legal rights, you should refer to the laws applicable in your jurisdiction and you may wish to contact a relevant consumer advisory service.

#### **1. WHAT THIS LIMITED WARRANTY COVERS; PERIOD OF COVERAGE**

Pulse-Eight Limited ("Pulse-Eight"), 8-12 Alder Hills, Poole, BH12 4AL, UK, warrants to the owner of the enclosed product that the product contained in this box ("Product") will be free from defects in materials and workmanship for a period of three years from the date of delivery following the original purchase (the "Warranty Period"), or if this product has been professionally installed, the warranty start date is from the date your installer purchased the item, not your system commissioning date. Please check with your installer for their purchase date. If the Product fails to conform to this Limited Warranty during the Warranty Period, Pulse-Eight will, at its sole discretion, either (a) repair or replace any defective Product or component; or (b) accept the return of the Product and refund within 45 days of return the money actually paid by the original purchaser for the Product. Repair or replacement may be made with a new or refurbished product or components, at Pulse-Eight's sole discretion.

If the Product or a component incorporated within it is no longer available, Pulse-Eight may replace the Product with a similar product of similar function, at Pulse-Eight's sole discretion. This is your sole and exclusive remedy for breach of this Limited Warranty. Any Product that has either been repaired or replaced under this Limited Warranty will be covered by the terms of this Limited Warranty for the longer of ninety (90) days from the date of delivery or the remaining Warranty Period. This Limited Warranty is transferable from the original purchaser to subsequent owners, but the Warranty Period will not be extended in duration or expanded in coverage for any such transfer.

#### **2. TOTAL SATISFACTION RETURN POLICY**

If you are the original purchaser of the Product and you are not satisfied with this product for any reason, you may return it in its original condition within thirty (30) days of the original purchase and receive a full refund. If this is a professionally installed product, you must check with your installer regarding their own returns policy.

#### **3. WARRANTY CONDITIONS; HOW TO GET SERVICE IF YOU WANT TO CLAIM UNDER THIS LIMITED WARRANTY**

Before being able to claim under this Limited Warranty, the owner of the Product must (a) notify Pulse-Eight of the intention to claim by emailing [support@pulse-eight.com](mailto:support@pulse-eight.com) during the Warranty Period and providing a description of the alleged failure, and (b) comply with Pulse-Eight's return shipping instructions, and (c) ship the Product at owner's cost (except where prohibited by applicable law) to Pulse-Eight for repair or replacement. Pulse-Eight will have no warranty obligations with respect to a returned Product if it determines, in its reasonable discretion after examination of the returned Product that the Product is an Ineligible Product (defined below). Pulse-Eight will bear all costs of return shipping to the owner, except with respect to any Ineligible Product, for which the owner will bear all shipping costs.

#### **4. WHAT THIS LIMITED WARRANTY DOES NOT COVER**

This warranty does not cover the following (collectively "Ineligible Products"): Products marked as "sample" or sold "AS IS"; or Products that have been subject to: (a) modifications, alterations, tampering, or improper maintenance or repairs; (b) handling, storage, installation, testing, or use not in accordance with the Installation Guide or other instructions provided by Pulse-Eight; (c) abuse or misuse of the Product; (d) breakdowns, fluctuations, or interruptions in electric power or the telecommunications network; or (e) Acts of God, including lightning, fire, flood, tornado, earthquake, or hurricane. This warranty does not cover consumable parts, including batteries unless damage is due to defects in materials or workmanship of the Product, or software (even if packaged or sold with the product). Pulse-Eight recommends that you use only authorized service providers for maintenance or repair. Unauthorized use of the Product or software can impair the Product's performance and may invalidate this Limited Warranty. Pulse-Eight does not warrant that operation of the Product will be error-free or uninterrupted or that the Product will in every case process all data correctly.

## 5. DISCLAIMER OF WARRANTIES

Except as stated above in this limited warranty, and to the maximum extent permitted by applicable law, Pulse-Eight disclaims all express, implied, and statutory warranties and conditions with respect to the product, including the implied warranties of merchantability, fitness for a particular purpose. To the maximum extent permitted by applicable law, also limits the duration of any implied warranties or conditions to the duration of this limited warranty.

## 6. LIMITATION OF DAMAGES

In addition to the above warranty disclaimers, in no event will Pulse-Eight be liable for any consequential, incidental, exemplary, or special damages, including any damages for lost data or lost profits, arising from or relating to this limited warranty or the product, and Pulse-Eight's total cumulative liability arising from or related to this limited warranty or the product will not exceed the amount actually paid for the product by the original purchaser.

## 7. LIMITATION OF LIABILITY

Pulse-Eight disclaims all liability of any kind of Pulse-Eight's suppliers. The Pulse-Eight online services ("services") may provide you with information ("product information") regarding your product's performance and/or peripherals connected to your product ("product peripherals"). The type of product peripherals that may be connected to your product may change from time to time. Without limiting the generality of the disclaimers above, all product information is provided for your convenience, "as is", and "as available". Pulse-eight does not represent, warrant, or guarantee that product information will be available, accurate, or reliable. You use all product information, the services, and the product at your own discretion and at risk. You will be solely responsible for (and Pulse-Eight disclaims) any and all loss, liability, or damages, including to your HVAC system, plumbing, home, product, product peripherals, computer, mobile device, and all other items and pets in your home, resulting from your use of the product information, services, or product. The product information provided by the services is not intended as a substitute for direct means of obtaining the information.

## 8. VARIATIONS THAT MIGHT APPLY TO THIS LIMITED WARRANTY

Some jurisdictions do not allow limitations on how long an implied warranty lasts or exclusions/limitations on incidental or consequential damages, so some of the limitations set out above may not apply to you.

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