

# datavideo



## IP VIDEO DECODER NVD-25 Quick Start Guide

[www.datavideo.com](http://www.datavideo.com)

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## Warnings and Precautions

1. Read all of these warnings and save them for later reference.
2. Follow all warnings and instructions marked on this unit.
3. Unplug this unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this unit in or near water.
5. Do not place this unit on an unstable cart, stand, or table. The unit may fall, causing serious damage.
6. Slots and openings on the cabinet top, back, and bottom are provided for ventilation. To ensure safe and reliable operation of this unit, and to protect it from overheating, do not block or cover these openings. Do not place this unit on a bed, sofa, rug, or similar surface, as the ventilation openings on the bottom of the cabinet will be blocked. This unit should never be placed near or over a heat register or radiator. This unit should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should only be operated from the type of power source indicated on the marking label of the AC adapter. If you are not sure of the type of power available, consult your Datavideo dealer or your local power company.
8. Do not allow anything to rest on the power cord. Do not locate this unit where the power cord will be walked on, rolled over, or otherwise stressed.
9. If an extension cord must be used with this unit, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord's rating.
10. Make sure that the total amperes of all the units that are plugged into a single wall outlet do not exceed 15 amperes.
11. Never push objects of any kind into this unit through the cabinet ventilation slots, as they may touch dangerous voltage points or short out parts that could result in risk of fire or electric shock. Never spill liquid of any kind onto or into this unit.
12. Except as specifically explained elsewhere in this manual, do not attempt to service this product yourself. Opening or removing covers that are marked "Do Not Remove" may expose you to dangerous voltage points or other risks, and will void your warranty. Refer all service issues to qualified service personnel.
13. Unplug this product from the wall outlet and refer to qualified service personnel under the following conditions:
  - a. When the power cord is damaged or frayed;
  - b. When liquid has spilled into the unit;
  - c. When the product has been exposed to rain or water;
  - d. When the product does not operate normally under normal operating conditions. Adjust only those controls that are covered by the operating instructions in this manual; improper adjustment of other controls may result in damage to the unit and may often require extensive work by a qualified technician to restore the unit to normal operation;
  - e. When the product has been dropped or the cabinet has been damaged;
  - f. When the product exhibits a distinct change in performance, indicating a need for service.

## Warranty

### Standard Warranty

- Datavideo equipment is guaranteed against any manufacturing defects for one year from the date of purchase.
- The original purchase invoice or other documentary evidence should be supplied at the time of any request for repair under warranty.
- Damage caused by accident, misuse, unauthorized repairs, sand, grit or water is not covered by this warranty.
- All mail or transportation costs including insurance are at the expense of the owner.
- All other claims of any nature are not covered.
- Cables & batteries are not covered under warranty.
- Warranty only valid within the country or region of purchase.
- Your statutory rights are not affected.



### Two Year Warranty

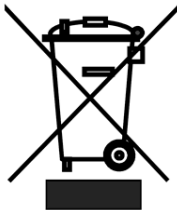
- All Datavideo products purchased after 01-Oct.-2008 qualify for a free one year extension to the standard Warranty, providing the product is registered with Datavideo within 30 days of purchase. For information on how to register please visit [www.datavideo.com](http://www.datavideo.com) or contact your local Datavideo office or authorized Distributors
- Certain parts with limited lifetime expectancy such as LCD Panels, DVD Drives, Hard Drives are only covered for the first 10,000 hours, or 1 year (whichever comes first).

Any second year warranty claims must be made to your local Datavideo office or one of its authorized Distributors before the extended warranty expires.

## Disclaimer of Product & Services

The information offered in this instruction manual is intended as a guide only. At all times, Datavideo Technologies will try to give correct, complete and suitable information. However, Datavideo Technologies cannot exclude that some information in this manual, from time to time, may not be correct or may be incomplete. This manual may contain typing errors, omissions or incorrect information. Datavideo Technologies always recommend that you double check the information in this document for accuracy before making any purchase decision or using the product. Datavideo Technologies is not responsible for any omissions or errors, or for any subsequent loss or damage caused by using the information contained within this manual. Further advice on the content of this manual or on the product can be obtained by contacting your local Datavideo Office or dealer.

## Disposal



### For EU Customers only - WEEE Marking

This symbol on the product indicates that it will not be treated as household waste. It must be handed over to the applicable take back scheme for the recycling of Waste Electrical and Electronic Equipment. For more detailed information about the recycling of this product, please contact your local Datavideo office.

## Packing List

The following items should be in the box. If any items are missing please contact your supplier.

Item No.	Description	Quantity
1	NVD-25 Unit	1
2	Mains Power Supply	1
3	Instruction Manual	1
4	CD Containing IP Finder Software	1

## Product Overview

The Datavideo NVD-25 is a wired IP video decoder with **SDI**, Composite and analogue audio outputs.

The NVD-25 decodes all common protocols including RTP/RTSP, RTMP, UDP, TCP, HTTP, HLS and MPEG-TS and can output SD/HD video at resolutions up to 1080p60.

The NVD-25 is the perfect partner to the Datavideo NVS-25 IP encoder allowing full HD point to point video links over Ethernet, WiFi or the Internet.

That's Datavideo, sharing the value!

## Features

- Operates on standard 10/100Mb Ethernet networks
- Excellent image quality with very low delay
- Unicast and multicast support
- Supports RTP/RTSP (Unicast / Multicast), RTMP, UDP (Unicast / Multicast), TCP, HTTP, HLS and MPEG-TS
- Feature-rich WebUI for configuration and control
- Built in video scaler
- Supports Full HD video and audio
- Supports simultaneous digital embedded and analogue audio output
- Small form factor, rack mountable using RMK-1
- 12V DC input

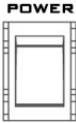
**Video Outputs** – Choose from:

- **SDI (Digital)**
- Composite [CVBS via BNC socket]

**Audio Outputs:**

- Unbalanced RCA Phono sockets
- **Embedded SDI audio**

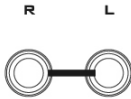
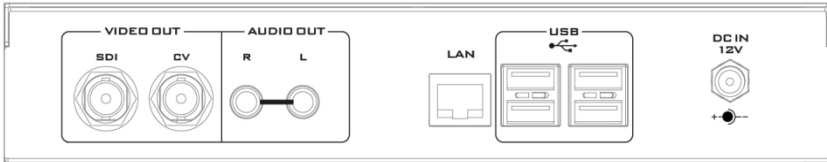
## Front Panel



### **Power On/Off Switch**

Switches the power On / Off

## Rear Panel



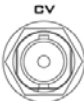
### AUDIO OUT (RCA)

RCA stereo for a line level analogue audio.



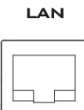
### SDI OUT

SDI digital signal output connector.



### CVBS OUT (BNC)

Composite video output



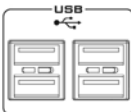
### Ethernet Port (RJ-45)

10/100M base Ethernet Network interface



### DC In Socket

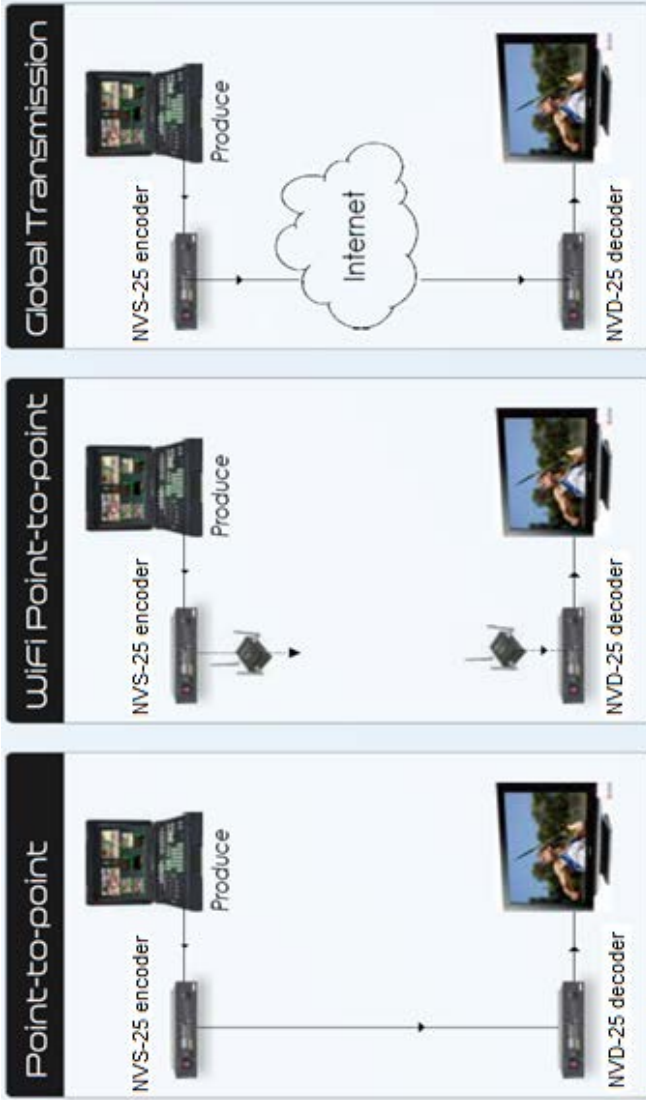
Connect the supplied 12V PSU to this socket. The connection can be secured by screwing the outer fastening ring of the DC In plug to the socket.



### USB

Used for connecting a USB mouse, required to install the automatic updates.

## Workflow options

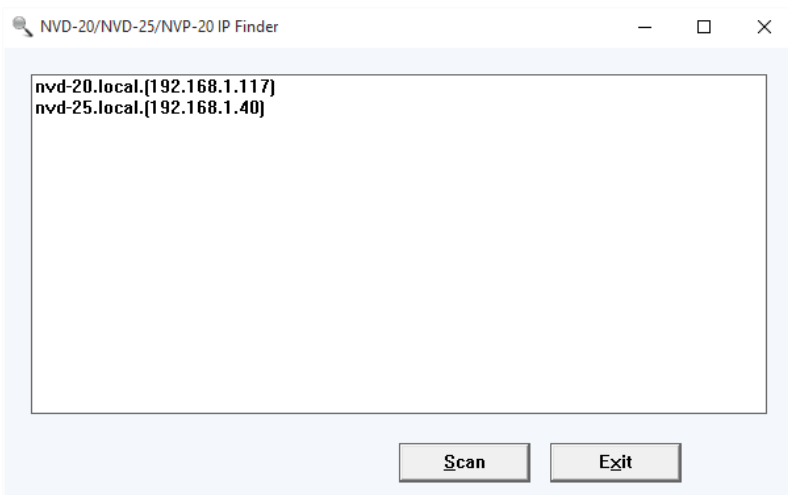


## How to find the NVD-25 on an IP network

By default, once the physical connections have been made, the **NVD-25 will try to obtain an IP Address from a DHCP network server.** As we will see this can be changed later to a Static IP address if required.

## How to use the NVD-25 IP Finder utility software

Datavideo supplies a free, *Windows based* utility, called **NVD-25 IP Finder**. The first time this software is used on the computer you may need to grant permission through your computers firewall / anti-virus software in order for it to be able to scan or search the local network.



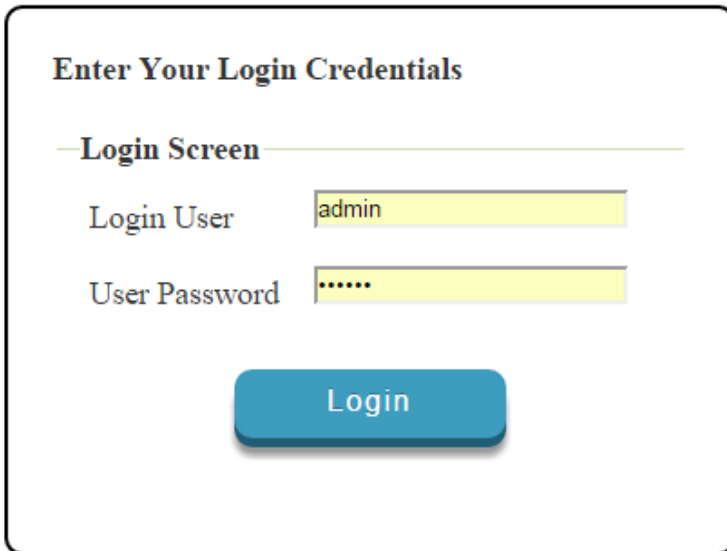
When the utility scans the LAN that the computer is connected to, it displays the current IP address for any NVD-25 units found on this local IP network. Double clicking on the device listed will automatically open your computer's default web browser and navigate to the login page of the NVD-25.

If you are using an Apple computer then you can use an alternative utility app such as Fing or Network Analyzer Lite.

## NVD-25 Login using a web browser

Type the numbers of the IP address for the NVD-25 into the search bar of the browser. Remember to include the dots in between the numbers. When entered you will then be asked to login to the NVD-25.

Alternatively you can simply double click the IP address listed in the NVD-25 IP finder.



**Enter Your Login Credentials**

—Login Screen—

Login User

User Password

Login

### Default Login details

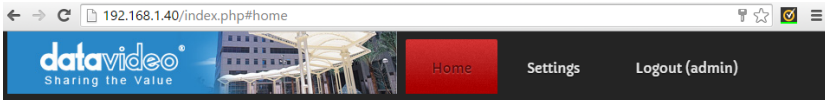
All NVD-25 units are delivered from the factory with the same default user name and password. This can be changed at a later stage to suit your needs.

**User** = admin

**Password** = 000000 [Zero six times]

**Please Note:** We recommend the Mozilla Firefox web browser

## NVD-25 web browser Home page



### Welcome to NVD-25 Web Server!

Please click on the Settings menu to configure the decoder for the first time.

By default this device will output via the SDI interface with embedded audio, for optimal performance please set the output resolution and frame rate to match the source video.

Once we have logged into the NVD-25 we are presented with the **Home page**.

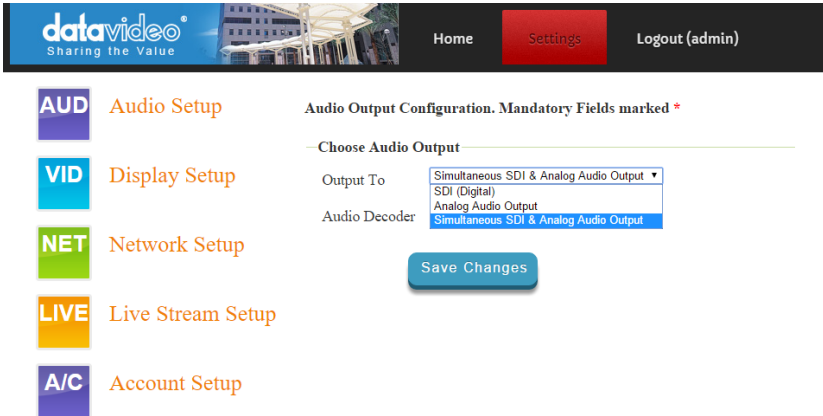
## Settings option

When clicked, the Settings option tab will open a new page. There are five sections of settings which can be looked at. These are:

- **Audio Setup**
- **Display Setup**
- **Network Setup**
- **Live Stream Setup**
- **Account Setup**

## Settings > Audio Setup

By default the NVD-25 will output audio over the digital **SDI** connection and the analogue stereo connections. Alternatively you can choose to output digital or analogue audio only. Available audio decoders are **Software (MP3+AAC)** and **Hardware (AAC)**.



The screenshot shows the 'Audio Setup' page in the NVD-25 web interface. At the top, there is a navigation bar with 'Home', 'Settings', and 'Logout (admin)'. Below the navigation bar, there is a sidebar with five menu items: 'AUD Audio Setup', 'VID Display Setup', 'NET Network Setup', 'LIVE Live Stream Setup', and 'A/C Account Setup'. The main content area is titled 'Audio Output Configuration. Mandatory Fields marked \*'. It contains a section 'Choose Audio Output' with two dropdown menus: 'Output To' and 'Audio Decoder'. Both dropdown menus are currently set to 'Simultaneous SDI & Analog Audio Output'. Below the dropdown menus is a 'Save Changes' button.

## Settings > Display Setup

By default the NVD-25 will output video over the digital **SDI** port at a resolution of **720P 50 fps**.

**Please note:** The set resolution is only applied when the stream is decoding, the device will output your monitor's preferred resolution as it boots.

**AUD** Audio Setup      **Display Configuration**

**VID** Display Setup

**NET** Network Setup

**LIVE** Live Stream Setup

**A/C** Account Setup

Warning, not all resolutions will work on your display

Choose Output

Output To: SDI (Digital)

SDI

Screen: 1080p 59.94

Resolution:

- 480i 60(NTSC)
- 576i 50(PAL)
- 720p 50
- 720p 59.94
- 720p 60
- 1080i 50
- 1080i 59.94
- 1080i 60
- 1080p 23.98
- 1080p 24
- 1080p 25
- 1080p 29.97
- 1080p 30
- 1080p 59.94
- 1080p 60

## Output To

Here you can select to output video digitally over **SDI** or over the SD analogue composite connection.

### SDI (Digital)

When digital is selected you can select a screen resolution from SD PAL/NTSC right up to HD 1080P60. The NVD-25 will scale your source video to match the output resolution however the aspect ratio (4:3 or 16:9) should be matched to avoid black space on the output. For optimal performance, match the output resolution to the source video.

### Composite (Analogue)

When analogue is selected, the UI will change and you can only select between PAL and NTSC resolution with a 4:3 or 16:9 aspect ratio.

### Display Configuration

Warning , not all resolutions will work on your display

#### Choose Output

---

Output To

#### Composite

---

Composite

Mode

Aspect Ratio

**Save Changes**

## Settings > Network Setup

By default the NVD-25 will obtain its IP address automatically from a DHCP server.

If you intend to connect the NVD-25 directly to a PC or network without a DHCP server then you should assign a manually set IP address by selecting 'Static Configuration'.

We recommend that only advanced users who are aware of IP addressing set the manual 'Static Configuration' IP address. Your local network administrator or I.T. support may be able to help you with this.

The screenshot shows the 'Settings' page of the NVD-25 interface. On the left, there is a vertical menu with five items: 'AUD Audio Setup', 'VID Display Setup', 'NET Network Setup', 'LIVE Live Stream Setup', and 'A/C Account Setup'. The 'NET Network Setup' item is highlighted. The main content area is titled 'Network Configuration. Mandatory Fields marked \*'. It contains two sections: 'IPv4 Configuration' and 'Static IPv4'. Under 'IPv4 Configuration', there are radio buttons for 'Automatic Configuration(DHCP)' and 'Static Configuration', with 'Static Configuration' selected. Under 'Static IPv4', there are five input fields: 'IP Address' (10.1.1.76), 'Subnet Mask' (255.255.255.0), 'Gateway IP' (10.1.1.6), 'DNS1' (10.1.1.6), and 'DNS2' (empty). A 'Save Changes' button is located at the bottom of the configuration area.

## Settings > Live Stream Setup

From this page you can configure the source stream for the decoder. The NVD-25 supports the following stream types:

- RTSP over UDP (Unicast / Multicast)
- RTSP over TCP
- RTSP over HTTP
- MPEG-TS over UDP
- RTMP over TCP
- UDP raw (Unicast/Multicast)
- HLS over HTTP

The screenshot shows the 'Settings' page of the NVD-25 interface. At the top, there is a navigation bar with 'Home', 'Settings' (highlighted in red), and 'Logout (admin)'. Below the navigation bar, there are five menu items: 'AUD Audio Setup', 'VID Display Setup', 'NET Network Setup', 'LIVE Live Stream Setup', and 'A/C Account Setup'. The main content area is titled 'Stream Configuration.' and includes the text 'RTSP, UDP, RTMP and HTTP streams are supported'. Under the heading 'Choose Input Stream', there is a text input field for 'Input Stream' containing the URL 'http://192.168.1.86/hls/live.m3u8'. Below this is a 'Buffer Size' dropdown menu set to '0.5' seconds, and an 'RTSP Protocol' dropdown menu set to 'Default'. Under the 'Misc. Options' section, there is a checked checkbox for 'Enable Safe Buffering (TCP Only)'. A 'Save Changes' button is located at the bottom right of the configuration area.

## Input Stream

Enter the URL for the source stream here

## Buffer Size

This determines how much video is buffered before playback starts, the default **0.5 seconds** is fine for streaming over Ethernet but a larger buffer may be required to achieve smooth video when streaming over the internet or WiFi.

## RTSP protocol

Only valid if the RTSP stream is being used, the transport protocol can be manually specified.

## MISC. Options

**Enable Safe Buffering (TCP Only)** must be checked if the stream type being used is HLS over HTTP.

## Settings > Account Setup

The NVD-25 has one admin user account and password. This account is used to keep the NVD-25 secure and gives access to the streaming settings.

Default user name = **admin**      Default password = **000000** [Zero six times]

This section describes how you can change the default username and

password shown above to something new which is more secure.

—User Credentials Management—

[admin](#)

—Manage User - admin—

User	admin
Password	<input type="text"/>
Confirm Pass.	<input type="text"/>

Change Pass

1. Log in the NVD-25 server as normal using the computer web browser.
2. Click **Setting**
3. Click **Account Setup**
4. Click admin and then enter the new **user name and password**.
5. Click 'Save Changes'

**Please Note:** Please be careful and memorize the new login details as the old or default login is deleted during this process.

## Decoding video from the NVS-25 encoder

The decoded video from the NVS-25 and to the NVD-25 must be on the same local network (Ethernet/WiFi) or be able to access the NVS-25 stream over the internet.

### When the NVS-25 is in RTSP TCP/UDP mode (Recommended for LAN)

Simply copy the RTSP URL from the 'Live' tab of the NVS-25 and enter it into the 'Input Stream' field on the NVD-25. When streaming over LAN it is recommended to set the NVS-25 in RTSP (TCP/UDP)

mode.

### **When the NVS-25 is in RTMP mode Local server mode**

Simply copy the RTSP URL from the 'Live' tab of the NVS-25 and enter it into the 'Input Stream' field on the NVD-25

### **When the NVS-25 is in HLS mode**

The NVS-25 does not currently publish its full HLS stream URL. To decode its local HLS stream please copy the URL below replacing the IP address with that of your NVS-25 unit and enter it into the 'Input Stream' field on the NVD-25.

<http://admin:000000@192.168.16.69/hls/live.m3u8>

If on the NVS-25 you have changed the password from the default of 000000 please also replace the six zeros in the URL above with your new password

**Please Note:** When in HLS mode the buffer size should be set to 0.7 seconds or higher.

## **Decoding other stream types**

To decode other stream types such as UDP multicast, simply enter the stream URL into the 'Input Stream' field of the NVD-25.

### **Listening for a Pushed UDP Stream**

To listen for a pushed UDP stream, enter the following URL into the 'Input Stream' field of the NVD-25.

UDP://@:9710

Replace 9710 with the port number of the pushed stream.

## Automatic Firmware Updates

The NVD-25 features an automatic update system to avoid the need for the user to have to manually install firmware upgrades.

The NVD-25 will automatically check for updates whenever it is connected to the internet.

You will be notified if an update is available when the unit is next started. A firmware update question will appear for 10 seconds on the selected video output (SDI or Composite), to update simply click on the Yes button and then follow the prompts.



**Please note:** A USB mouse must be connected to install updates.

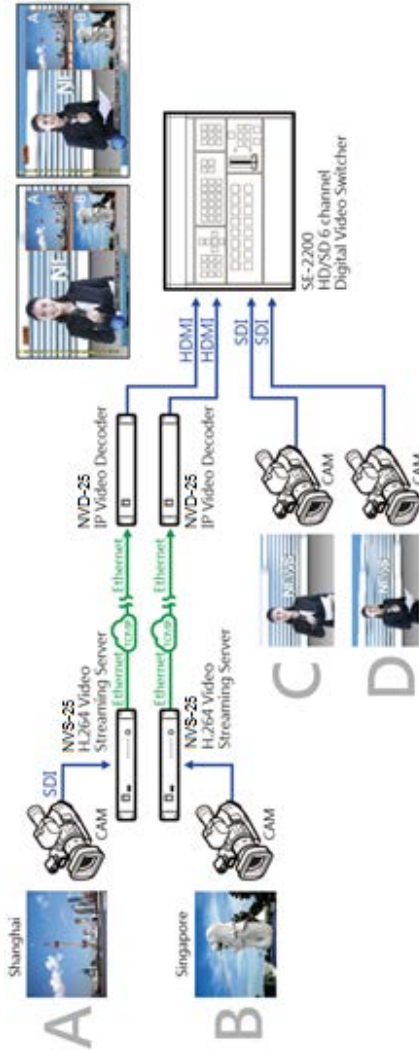
## Port Forwarding on your firewall / router

So that an NVS-25 video stream can be seen on the internet (beyond the default gateway) certain network related 'ports' should be opened on your router or firewall. Your local network administrator or I.T. support should be able to help you with this.

Enable the "port forwarding" function or open below ports within the router settings.

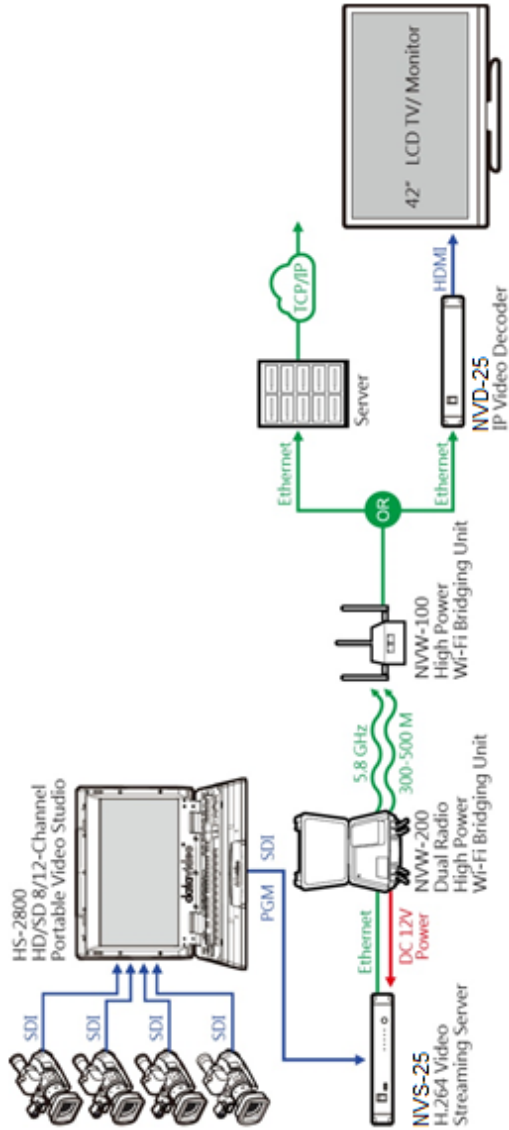
Web Server/HLS	RTSP	RTMP
80	8554 (over TCP)	1935 (RTMP)
	8000 (over HTTP)	8080 (RTMPT)
	8080 (over HTTP)	8081 (RTMPS)

## Setup Diagrams



# Network Video Decoder NVD-25

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## Frequently-Asked Questions

This section describes problems that you may encounter while using NVD-25. If you have questions, please refer to related sections and follow all the suggested solutions. If problem still exists, please contact your distributor or the service center.

No.	Problems	Solutions
1.	Do I need to enable safe buffering for HLS playback?	HLS playback should work without safe buffering enabled however if the buffer is set below 1.0 it will stutter.  Safe buffering is recommended for HLS due to the way the protocol works.

## Specifications

<b>Audio/Video Input</b>	Stream Input <ul style="list-style-type: none"><li>• RTSP over UDP (Unicast / Multicast)</li><li>• RTSP over TCP</li><li>• RTSP over HTTP</li><li>• MPEG-TS over UDP</li><li>• RTMP over TCP</li><li>• UDP raw (Unicast/Multicast)</li><li>• HLS over HTTP</li></ul>
<b>Audio Output</b>	2 x Phono Connectors
	SDI embedded audio
<b>Video Output</b>	Composite (analogue)
	SDI (digital)
<b>Network Feature</b>	1x RJ-45 Female (10/100M Ethernet) DHCP/Static IP
<b>Supported Video Resolution</b>	480i 60 (NTSC) 576i 50 (PAL) 720 @ 50p / 60p 1080 @ 50i / 60i 1080 @ 24p / 25p / 30p / 60p
<b>Control</b>	Web browser UI for configuration and control
<b>Update</b>	Automatic firmware upgrade
<b>Power</b>	Input AC 100 ~ 240V Switching Adaptor Output DC 12V / 1.0 A
<b>Environmental Conditions</b>	Operating temperature. : 0~50°C Storage temperature : -10~60°C

## **Notes**

## Service & Support

It is our goal to make owning and using Datavideo products a satisfying experience. Our support staff is available to assist you to set up and operate your system. Contact your local office for specific support requests. Plus, please visit [www.datavideo.com](http://www.datavideo.com) to access our FAQ section.

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Fax: +91-0120-2427338  
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Please refer to our website for update the latest version manual.

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