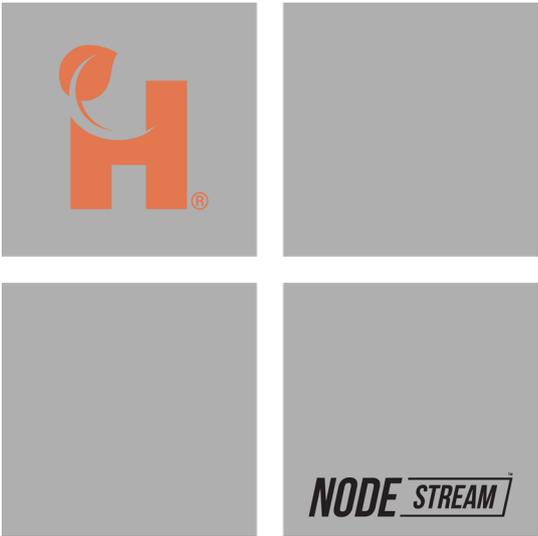


# NODESTREAM WINDOWS

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## Quick Start Guide



## Welcome

Welcome to the Nodestream Windows application. This application provides control of your Nodestream ecosystem and allows streaming of video, audio and/or data to or from another Nodestream device.

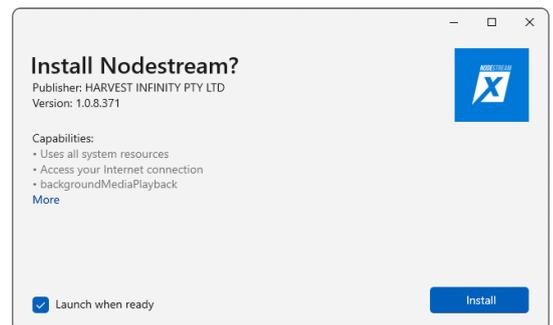
## System Requirements

Please ensure your system meets or exceeds the below system requirements:

	Minimum Requirements	Recommended Requirements
Operating System	Windows® 10 64-bit Build 1809	Windows® 10 64-bit Build 1904 or later
Processor	10th Gen Intel® Core™ i3 @ 2.1GHz	10th Gen Intel® Core™ i5 @ 2.4GHz
Video	Intel Integrated	Intel Integrated or Nvidia with Hardware Decode
Memory	8 GB RAM	8 GB RAM
Hard Drive Space	200 MB	200 MB

## Installation

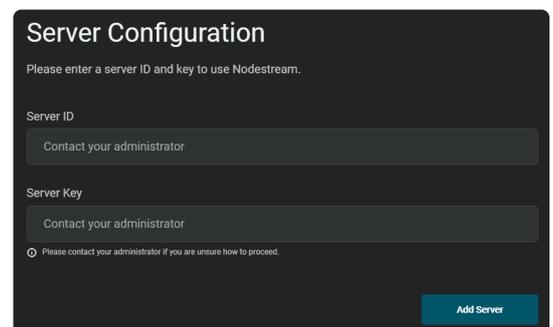
1. Run the *Nodestream(version).msix* installation file.
2. Deselect "Launch when ready" if you would not like the application to launch after installation.
3. Read through the capabilities list then click "Install" to proceed.
4. Once installation has completed, an icon will be available in your Windows start menu to run the application.



## Server Configuration

Nodestream devices require connection to a server to manage connections and settings, you will need to enter the Server ID and key as provided by your organizations Nodestream Administrator.

Once configured, the server IP will be displayed.



Contact Harvest support for further information @ [support@harvest-tech.com.au](mailto:support@harvest-tech.com.au)

# Getting Started



## Login

If you already have an account, enter your login credentials to log in to the application.

When logging in for the first time, you will be required to create an account, click "New Here? Sign Up".

Forgotten your password? Click "Reset Password".

Need to change your Nodestream server details? Click the "Config" button.

The screenshot shows a dark-themed login form. At the top right is a 'Config' button. Below it are two input fields: 'Email' with an envelope icon and 'Password' with a lock icon and a toggle for visibility. A teal 'Login' button is centered below the password field. Underneath is a 'Remember Me' checkbox. A horizontal line with 'OR' in the center separates this from two buttons: 'New Here? Sign Up' and 'Reset Password'.

## Sign Up

1. Enter your personal details, then click "Continue".
2. Enter your contact details.
3. Check acknowledgment and agree to the Terms and Conditions.
4. Click "Create Account".

The screenshot shows a dark-themed sign-up form. It has five input fields: 'First Name', 'Last Name', 'Date of Birth (optional)' with dropdowns for Day, Month, and Year, 'Company (optional)', and 'Position (optional)'. A teal 'Continue' button is at the bottom right.

The screenshot shows a dark-themed 'Sign Up - Contact Details' form. It has four input fields: 'Email', 'Contact Number' with a plus icon, 'Password', and 'Confirm Password'. Below these are two checkboxes: 'I acknowledge that the email and contact number provided are correct as they are used for identifying user accounts.' and 'I have read and agree to the Terms and Conditions.' A teal 'Create Account' button is at the bottom.

## Account Activation

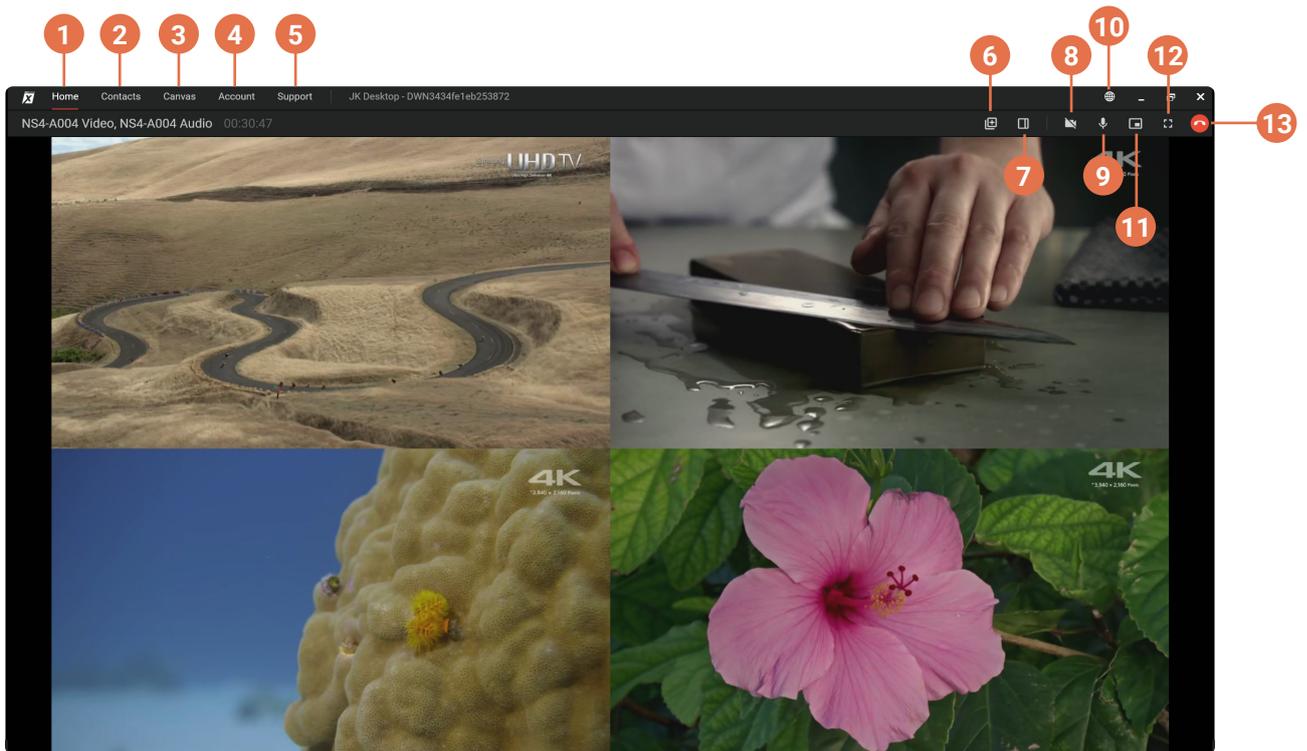
Once you have setup your account, you will need to activate your application.

1. Enter a Displayed Name.
2. Enter the software key provided to your organizations Nodestream Administrator.
3. Click "Activate Account".

The screenshot shows a dark-themed 'Activate Your Account' form. It has two input fields: 'Displayed Name' and 'Software Key'. A note below the software key field says 'Please contact your administrator if you have not received a Software Key.' A teal 'Activate Account' button is at the bottom right.

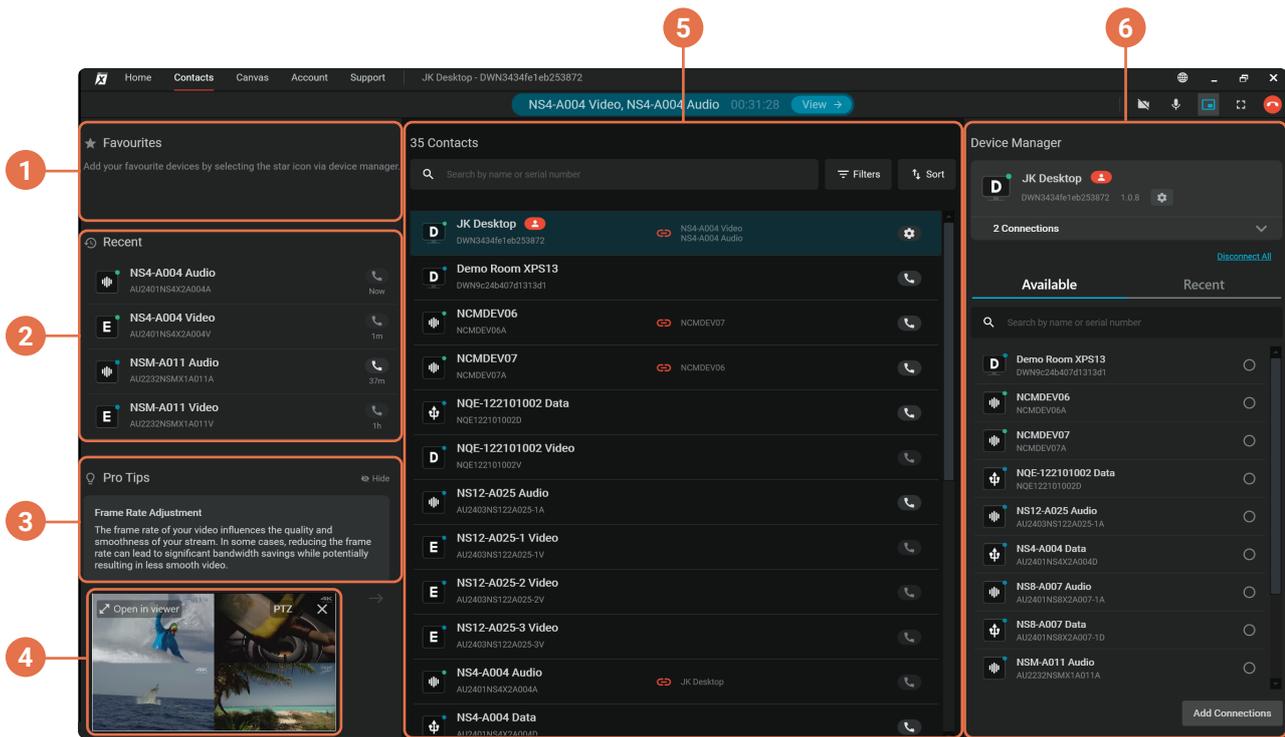


Each software key can be used in multiple Nodestream applications; however, only one instance is allowed to be running at any given time when using the same key.



Streaming video from connected Nodestream Quad

- 1 Home "Stream View"**  
Displays video stream from a connected device.
- 2 Contacts Manager**  
Create/request a connection to another or multiple devices, manage favourites.
- 3 Control Canvas**  
Grouping and connection management of your Nodestream devices.
- 4 Account Settings**  
Go here to modify account attributes, security, preferences and logout.
- 5 Support**  
Help and support section - manuals & FAQ's.
- 6 Snapshot**  
Takes a snapshot of the decoded video. Media output folder is configured in Account preferences.
- 7 Connection/Device Settings Panel**  
Manage settings for active video, audio or data connections.
- 8 Video Connection Status**  
On = Video connection active.
- 9 Audio Connection Status**  
On = Audio connection active (click to mute/unmute mic).
- 10 Server Connection Status**  
Solid = Connected, Flashing = no connection to server or account details incorrect.
- 11 Picture in Picture**  
Opens the decoded video in a PIP window.
- 12 Full Screen**  
When streaming video, select to enter full screen mode.
- 13 Disconnect Active Connections**  
Disconnects all active video, audio and data connections.



- 1 Favourites**

You can add devices you contact often to this list. To add a device, select it from your contacts list and click on the star icon in the device manager section.
- 2 Recent**

Displays a list of recently connected contacts for quick re-connection.
- 3 Pro Tips**

Helpful tips to help achieve the best streaming experience.
- 4 PIP Window**

A preview/picture in picture view will be displayed if you have an active video stream.
- 5 Contacts**

Displays a list of available contacts within your Nodestream group. Select the call icon associated with a device to make a connection.

Search      for when you know the name or serial of the device you would like to connect to.

Filter      select what type or status of device(s) you'd like to see.

Sort      sort devices by name, serial number or type.

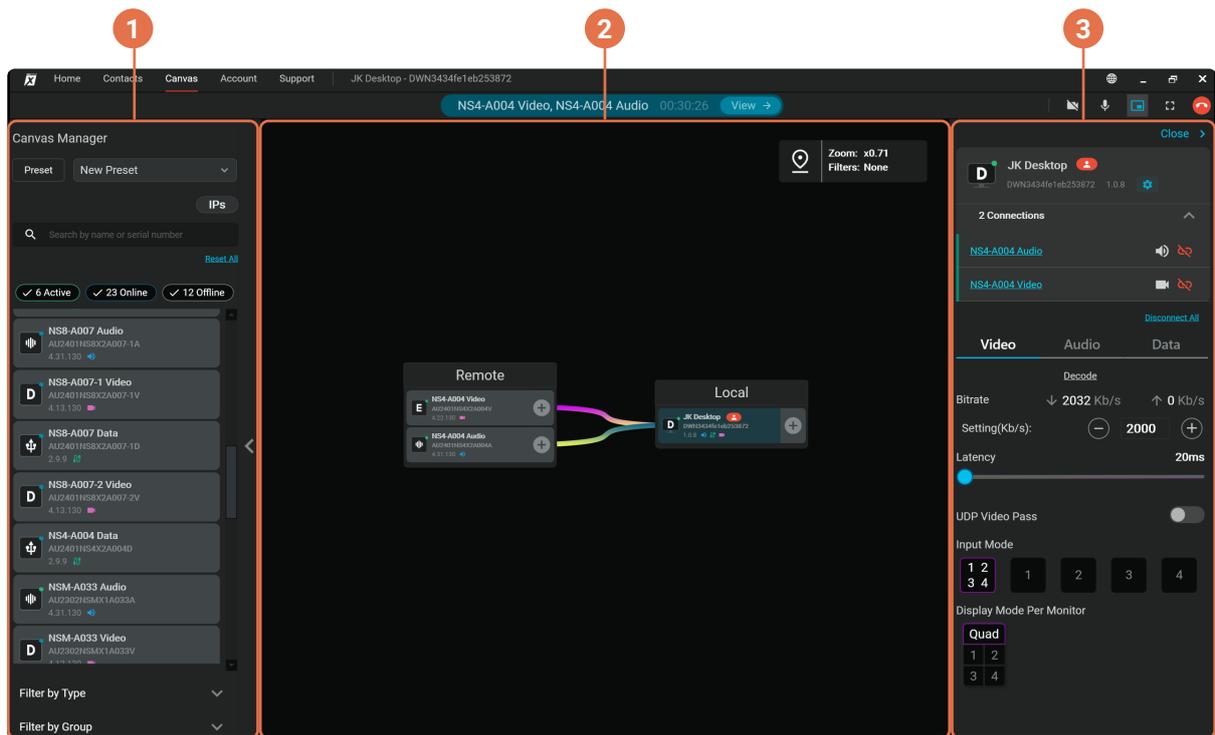


Offline devices are not shown by default, enable them in filters to display.

- 6 Device Manager**

Select a device to display active connections and compatible devices to connect to. To connect, select the devices then "Add Connection(s)".

Manage device settings by clicking on the gear icon.



## 1 Unassigned Devices

A list of unassigned devices within your Nodestream group. Drag and drop devices of interest into groups on the connection canvas to visualise and manage connections.

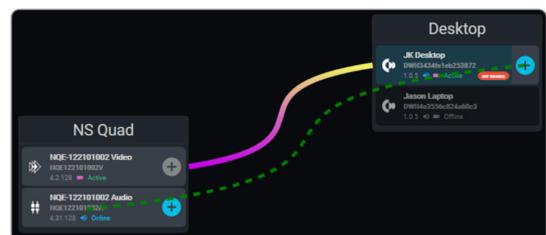
Devices can be filtered by type, group or status.

## 2 Connection Canvas

When managing multiple connections across multiple groups or devices concurrently, the Connection Canvas offers an intuitive visual interface to understand and manage device connections.

To establish a connection:

1. Click and drag the + icon of a device to another compatible device.
2. Release when the connection line is green to create the connection.



## 3 Device Manager

Select a device from the connection canvas to display and manage its active connections and manage settings.

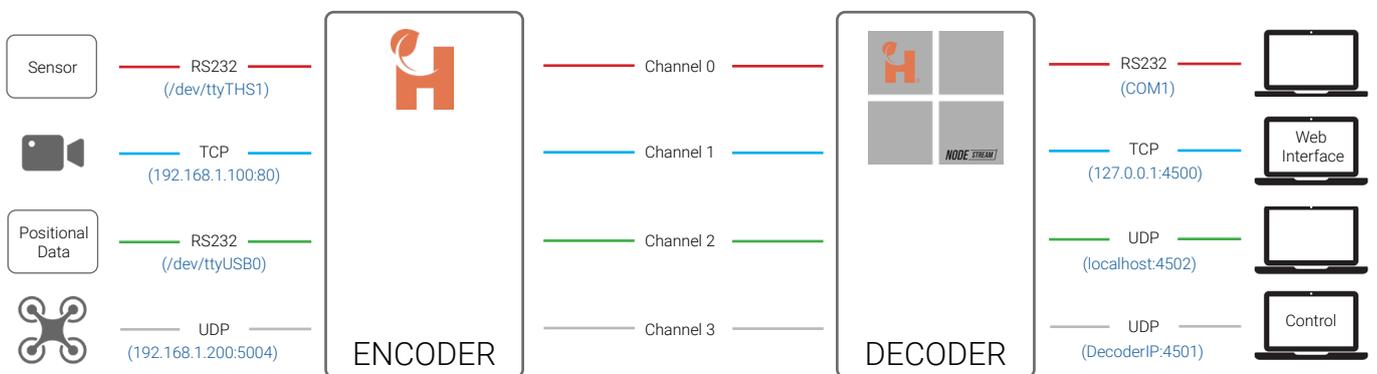
NSData, built into the Nodestream Windows application, allows users to configure and connect up to 10 simultaneous channels of serial, TCP or UDP data between Nodestream devices.

This versatile function enables:

- Transaction of telemetry/sensor data to/from remote sites.
- Control of remote systems .
- Ability to access remote device web interfaces, e.g. IP camera, IOT device.
- Pass data from your Nodestream Decoder to a 3rd party device and/or local network device.



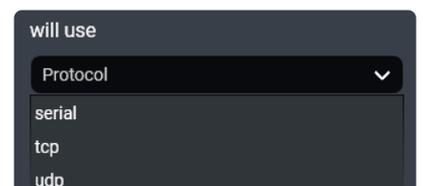
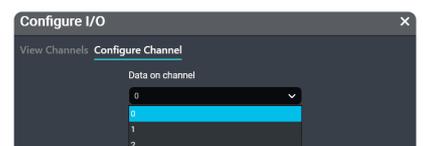
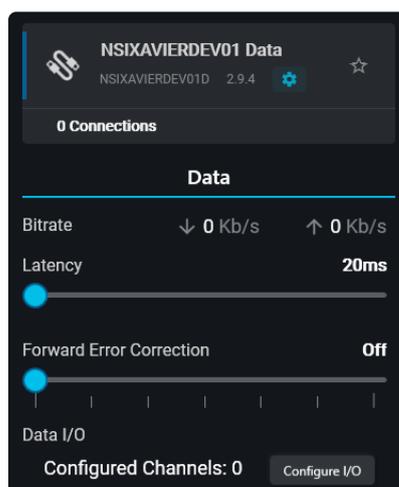
NSData should not be relied upon for critical control applications



Application Example

## Configure a Data Channel

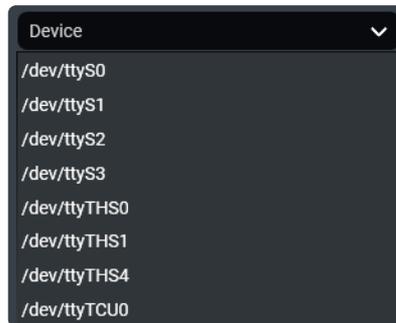
1. From the Contacts Manager, select the Data Device you wish to configure then click the settings icon. ⚙️
2. Click "Configure I/O".
3. Click "Add New Channel" and select a channel from 0 to 9.
4. Select protocol, Serial, TCP or UDP.



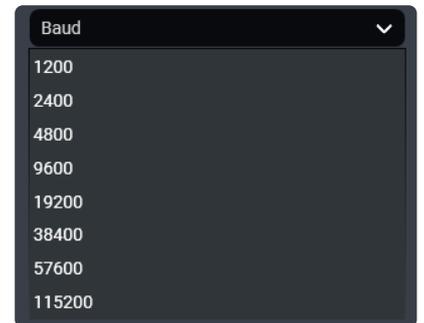
NSData channels must match on both connected Nodestream devices to correctly pass data

## Serial

1. Select your serial input or output device from the drop down menu.
2. Select the applicable Baud rate.
3. Click "Save" to confirm the channel.



A dark-themed dropdown menu titled "Device" with a downward arrow. The menu lists several serial device paths: /dev/ttyS0, /dev/ttyS1, /dev/ttyS2, /dev/ttyS3, /dev/ttyTHS0, /dev/ttyTHS1, /dev/ttyTHS4, and /dev/ttyTCU0.



A dark-themed dropdown menu titled "Baud" with a downward arrow. The menu lists several baud rates: 1200, 2400, 4800, 9600, 19200, 38400, 57600, and 115200.

## TCP

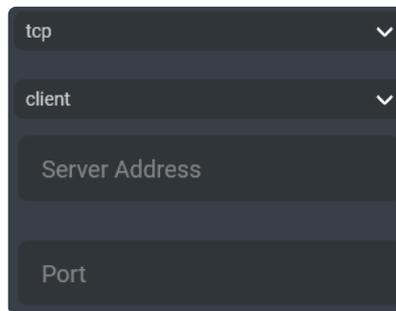
1. Select mode.

### Client - Remote device

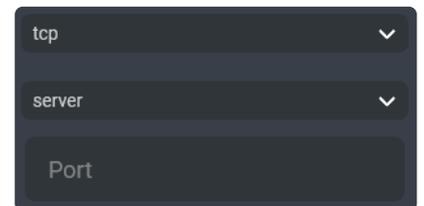
- Enter IP and Port of the TCP device you would like to connect to.

### Server - Local device

- Enter Port for local access of the remote TCP device via the IP of your Nodestream device.



A dark-themed configuration form for the Client mode. It has a dropdown menu set to "tcp", another dropdown menu set to "client", and two input fields labeled "Server Address" and "Port".



A dark-themed configuration form for the Server mode. It has a dropdown menu set to "tcp", another dropdown menu set to "server", and one input field labeled "Port".

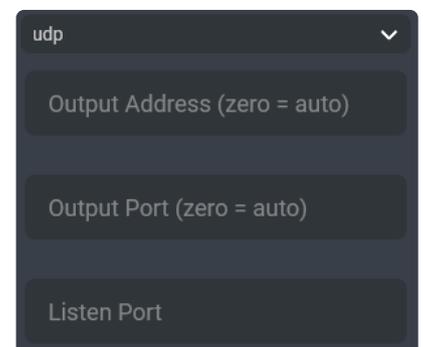
2. Click "Save" to confirm the channel.



- When using the Windows Nodestream application, you can access the remote device from a browser @ 127.0.0.1:port.
- TCP can be used to create a "bridge" for connection to a remote IoT interface, i.e. Web configuration page, RTSP stream etc.

## UDP

1. Enter "Output IP address" and "Port" (this is the device on your network, remote or local, that you would like to push data to)
2. Enter the "Listen Port" (this is the port that a device on your network is pushing UDP data to your Nodestream device, remote or local)
3. Click "Save" to confirm the channel.



A dark-themed configuration form for the UDP mode. It has a dropdown menu set to "udp", two input fields labeled "Output Address (zero = auto)" and "Output Port (zero = auto)", and one input field labeled "Listen Port".



- When using the Windows Nodestream application, you can access the UDP output @ 127.0.0.1:port.
- UDP can be used to transact data between a remote device to a local device, or output serial data from a remote location to a device on your network.



## Encoder

### Input

Select from a list of available video sources what is to be streamed.

### Frame Rate & Resolution

Adjust the frame rate and resolution of the selected input to achieve the desired output.

Higher = increased quality and more bandwidth requirement.

Lower = decreased quality and less bandwidth requirement.

For lower bandwidths, set a lower frame rate and/or resolution.

### Aspect Ratio

Default 16:9, select 4:3 to prevent distortion of 4:3 input sources.

### Add Input

For adding network stream inputs. Stream must be on same network as selected Encoder and URL known.

## Decoder

### Bitrate

Live bitrate of the stream. Adjust "Setting" to suit available bandwidth and/or desired usage.

For best results, ensure set bitrate does not exceed 80% of available.

### Latency

Increasing latency allows data more time to be transferred correctly.

Increase if the stability of your Internet connection is poor, or if you're transmitting high-definition video and decrease for less delay.

### Input Mode

Select an individual input or all inputs to stream from a multichannel encoder.

When one input is selected, all available bandwidth is utilised for that input, i.e. higher quality.

### Display Mode

Control what to view on each connected monitor (if connected).

## Audio

### Quality

Adjust quality of an audio stream (higher quality consumes more bandwidth).

### Speaker

Select where to output audio from a list of connected audio devices.

### Microphone

Select an audio source from a list of connected devices.

### Passthrough

Enable passthrough of audio on the selected device. When selected, audio from all connected devices will be sent to other connected devices.

## Firewall Settings

It is common for corporate network firewalls/gateways/anti-virus software to have strict rules in place that may require modification to allow Nodestream devices to function.

Nodestream X devices communicate with the server and each other via TCP/UDP ports, therefore the following permanent network rules for all inbound & outbound traffic must be in place:

### Ports

**TCP** 8180, 8230, 45000, 55443 & 55555

**UDP** 13810, 40000 & 45000 - 45200

**Server** access to IP address



- IPv4 only, IPv6 is not supported
- All traffic is protected with 384-bit encryption with rolling keys
- All port ranges are inclusive
- Contact Harvest support for further information @ [support@harvest-tech.com.au](mailto:support@harvest-tech.com.au)

## Support



User Resources



Contact and Support  
[support@harvest-tech.com.au](mailto:support@harvest-tech.com.au)

# Troubleshooting

Issue	Cause	Resolution
"Software Key in Use" is displayed	Software key is being used on another device	Only one instance can be used at any given time. Log out of and/or close Nodestream applications on other devices
Unable to login	Network not connected  Firewall blocking access  Login details incorrect	Confirm network is connected and correctly configured  Ensure Firewall settings are implemented and correct, refer previous page  Confirm email and password is correct Reset password if required
No video displayed in the Home screen video panel	No active connection  Input not selected on connected encoder  Video driver out of date	Connect to a device that is "online"  Select an active input in encoder settings Use "test source" input for diagnosis  Update your computers video driver to latest
No devices available in Contacts view	License not assigned to correct account group on server  Device type filters enabled	Contact <a href="mailto:support@harvest-tech.com.au">support@harvest-tech.com.au</a>  De-select all set filters
"Streaming" constantly displays when connecting	Network blocking UDP traffic	Ensure Firewall settings are implemented and correct, refer previous page
Video stream starts then drops to the "Streaming" screen	Possible UDP flood detection rule on firewall  Bandwidth setting greater than what is available	Contact your IT department to remove any UDP flood detection for your PC  Reduce bandwidth setting until stream is stable, approx. 80% of available bandwidth



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