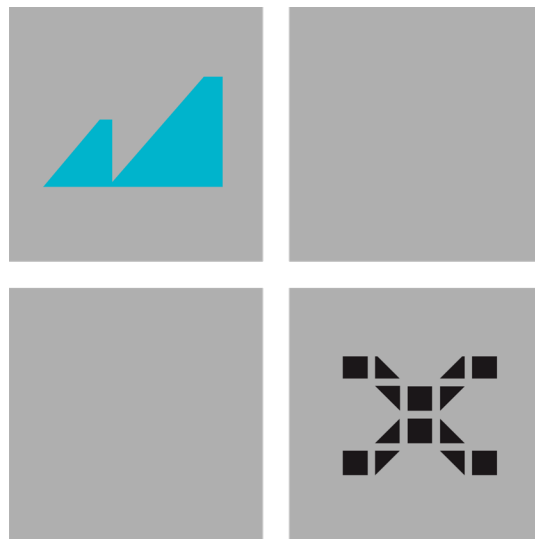


Windows Application

Quick Start Guide



Getting Started



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.

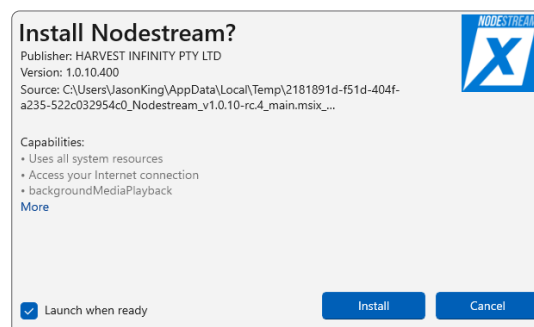
System Requirements

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.



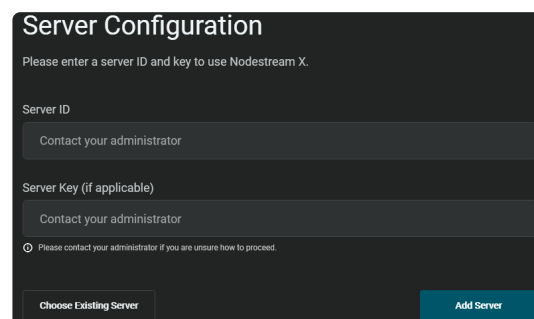
Server Configuration

Nodestream devices require registration to a server to manage access, connections and settings.

Request either of the following from your Nodestream Admin

- Preferred Server quick code (enter in the ID section)
- Legacy Server ID and key

Once configured, the server IP will be displayed.



If quick code is not available on your server or device, contact Harvest support to update your system(s) support@nodestream.tech

Getting Started



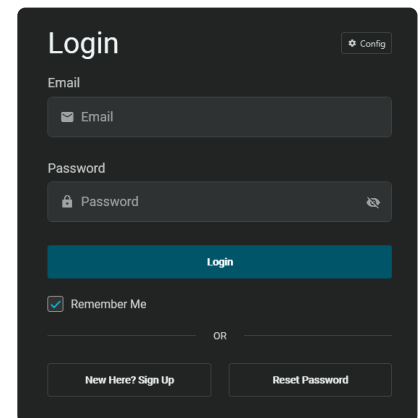
Login

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 on the registered server. Click "New Here? Sign Up".

Forgotten your password? Click "Reset Password".

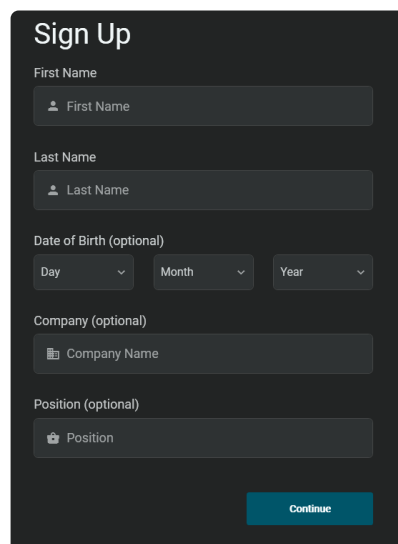
Need to change your Nodestream server configuration? Click the "Config" button.



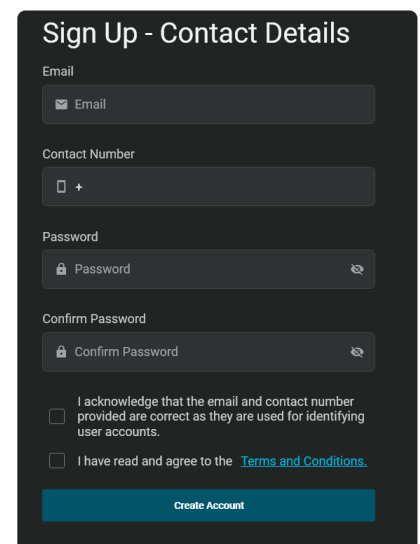
The Login form is located in the top right corner. It features a dark background with white text. At the top right is a "Config" button with a gear icon. Below it are input fields for "Email" and "Password", each with an icon (envelope and lock respectively). A "Login" button is centered below the password field. A "Remember Me" checkbox is to the left of the "OR" separator. Below the separator are 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 Sign Up form is located in the middle left. It has a dark background with white text. Fields include "First Name", "Last Name", "Date of Birth (optional)" with day, month, and year dropdowns, "Company (optional)", and "Position (optional)". A "Continue" button is at the bottom right.

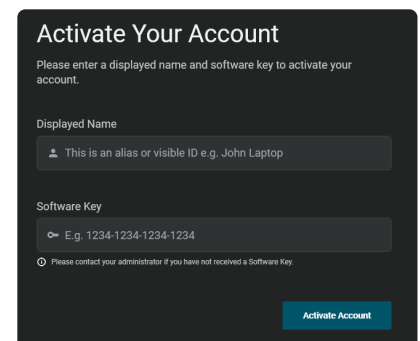


The Sign Up - Contact Details form is located in the middle right. It has a dark background with white text. Fields include "Email", "Contact Number", "Password", and "Confirm Password". Below these are two checkboxes for acknowledgment and agreement to terms. A "Create Account" button is at the bottom.

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 Nodestream Admin.
3. Click "Activate Account".

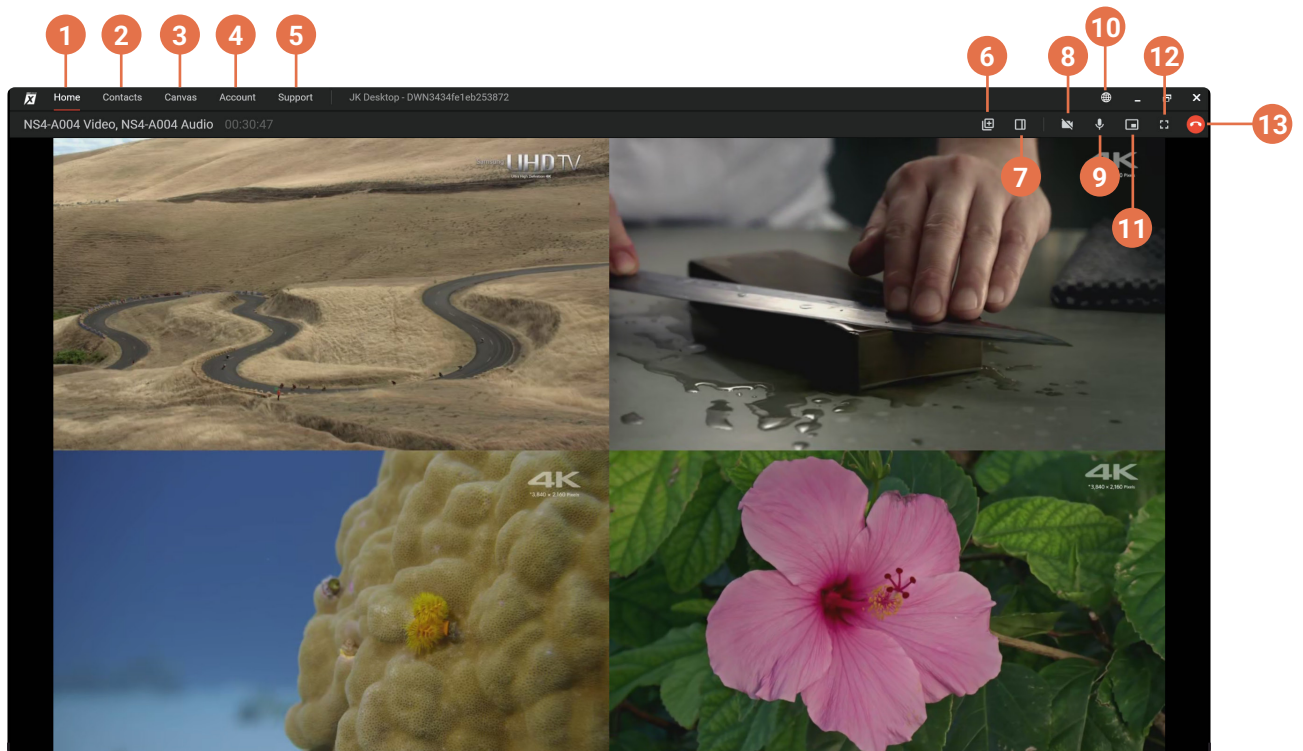


The Activate Your Account form is located in the bottom right. It has a dark background with white text. It includes a "Displayed Name" field with a hint "This is an alias or visible ID e.g. John Laptop" and a "Software Key" field with a hint "E.g. 1234-1234-1234-1234". A note at the bottom says "Please contact your administrator if you have not received a Software Key." An "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.

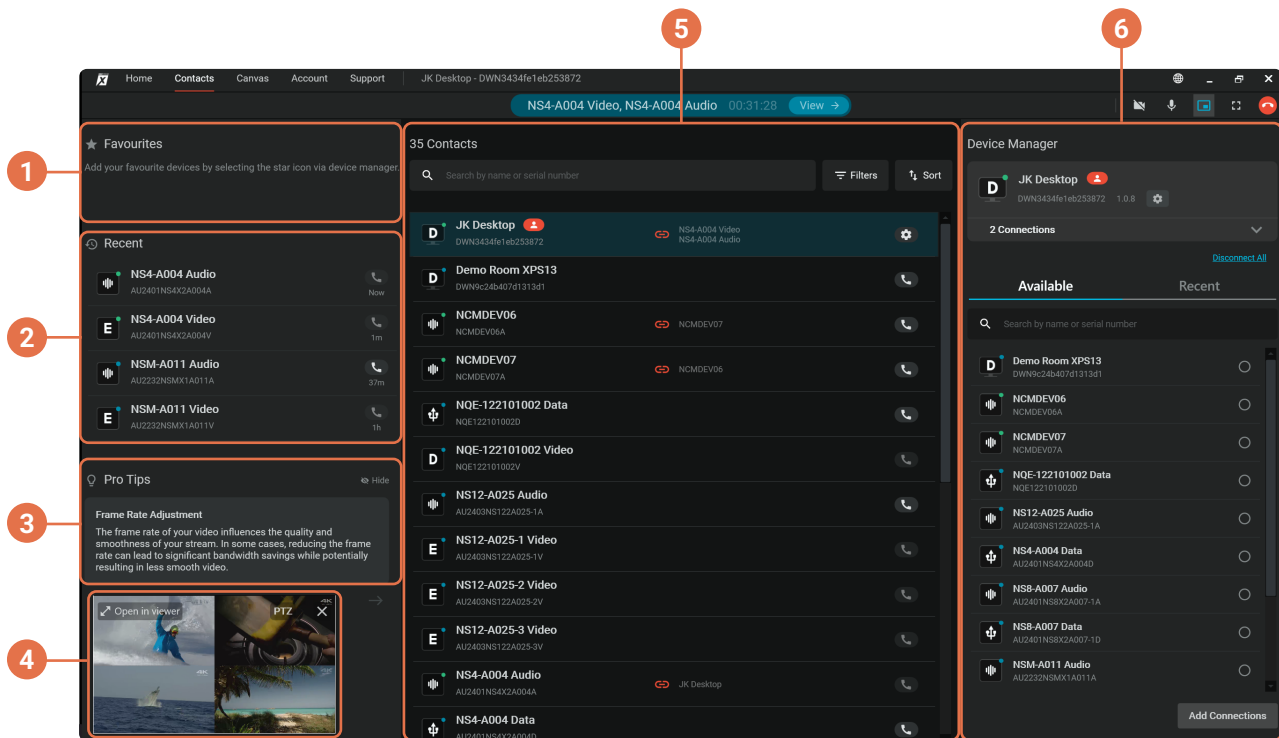
System Overview



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 Hang-up**
Disconnects all active video, audio and data connections.

Contacts Manager



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

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



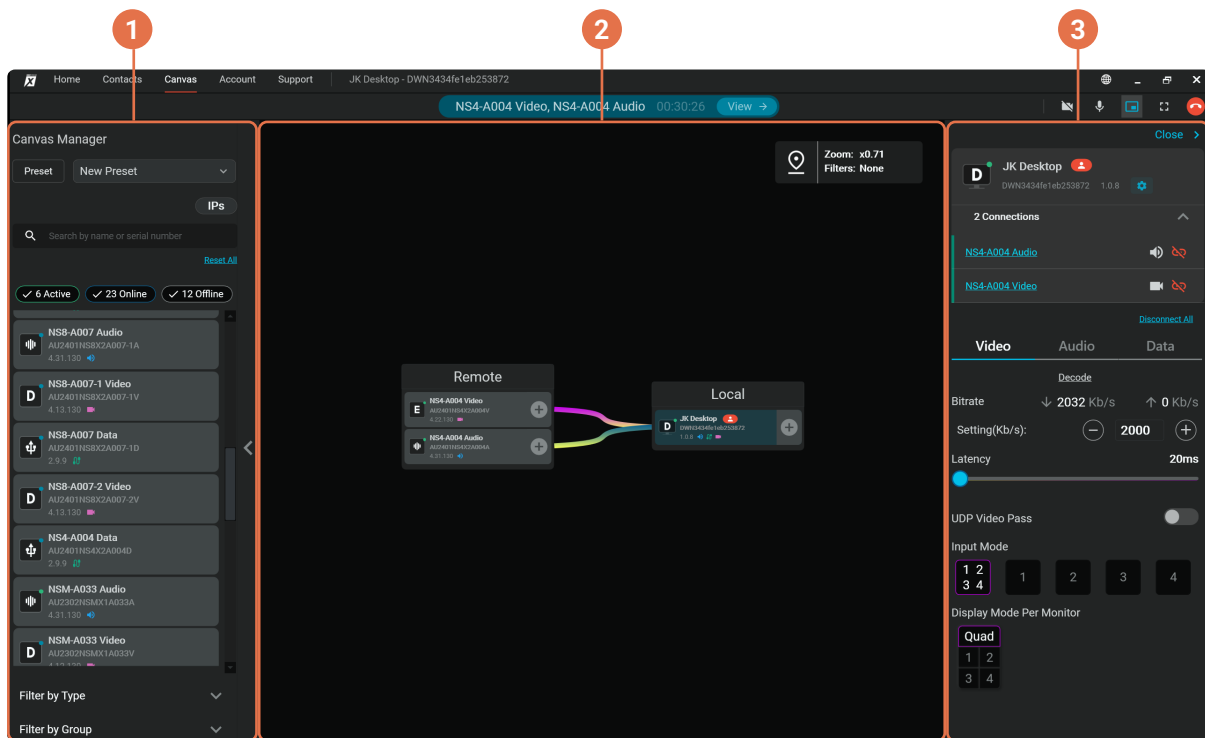
Offline devices are not shown by default, enable them in filters to display

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

Control Canvas



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



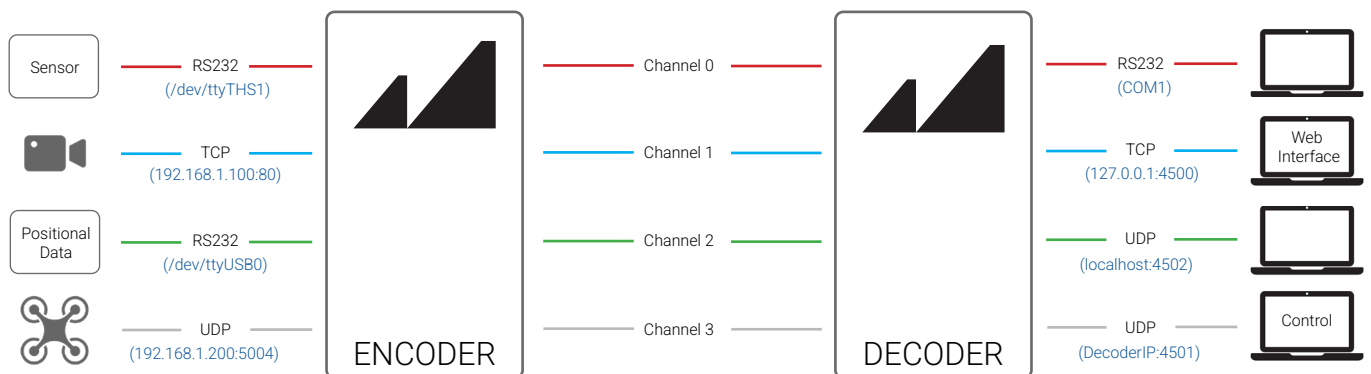
NSData, built into the Nodestream Windows application, allows users to configure and connect up to 10 simultaneous channels of serial, TCP or UDP data between 1 or multiple Nodestream devices.

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



Application examples are shown in the Nodestream Windows application



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"
3. Click "Add New Channel" and select a channel from 0 to 9
4. Select protocol, Serial, TCP or UDP

Configure Channel ?

0

Test 1

Protocol

serial
tcp
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 Baud rate
3. Click "Enable/Disable" and select:
On - channel enabled on save
Off - channel disabled on save
4. Click "Save"

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

2. Click "Enable/Disable" and select:
On - channel enabled on save
Off - channel disabled on save
3. Click "Save"

UDP

1. Enter "Remote 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 "Enable/Disable" and select:
On - channel enabled on save
Off - channel disabled on save
4. Click "Save"



UDP can be used to output serial data from a remote location to a device on your network



Encoder

Input

Select what to stream from the list of available video sources

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 available 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 (source device 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 provides a "buffer" to allow 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 is displayed - Input 1, 2, 3, 4, or ALL (Flex devices have a built in video wall allowing selection for each of the 4 outputs)

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

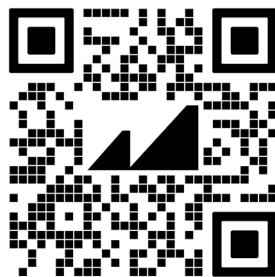
UDP 13810, 40000 & 45000 - 45200

Server access to IP address



- All port ranges are inclusive
- Contact Harvest support for further information support@nodestream.tech

Support



User Resources



Contact and Support
support@nodestream.tech

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 support@nodestream.tech 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



Nodestream Technology Pty Ltd
7 Turner Ave, Technology Park
Bentley WA 6102, Australia
nodestream.tech

All rights reserved. This document is the property of Nodestream Technology Pty Ltd. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopy, recording or otherwise without the written consent of the CEO of Nodestream Technology Pty Ltd.