Cinegy Stream Switcher 10

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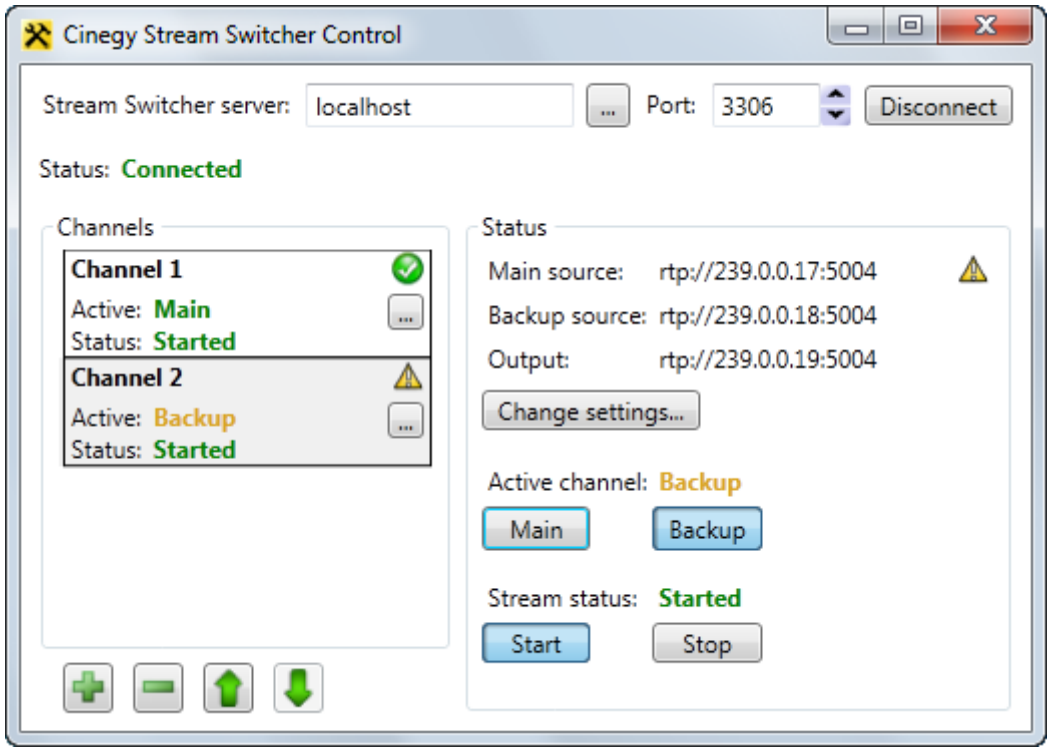
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Preface

Cinegy Stream Switcher is a tool for automatic switching of RTP stream sources in redundant configurations.

The system consists of two components – service part that analyzes the incoming streams and performs the switching and a control application that allows you to manage the list of monitored channels.



User Manual

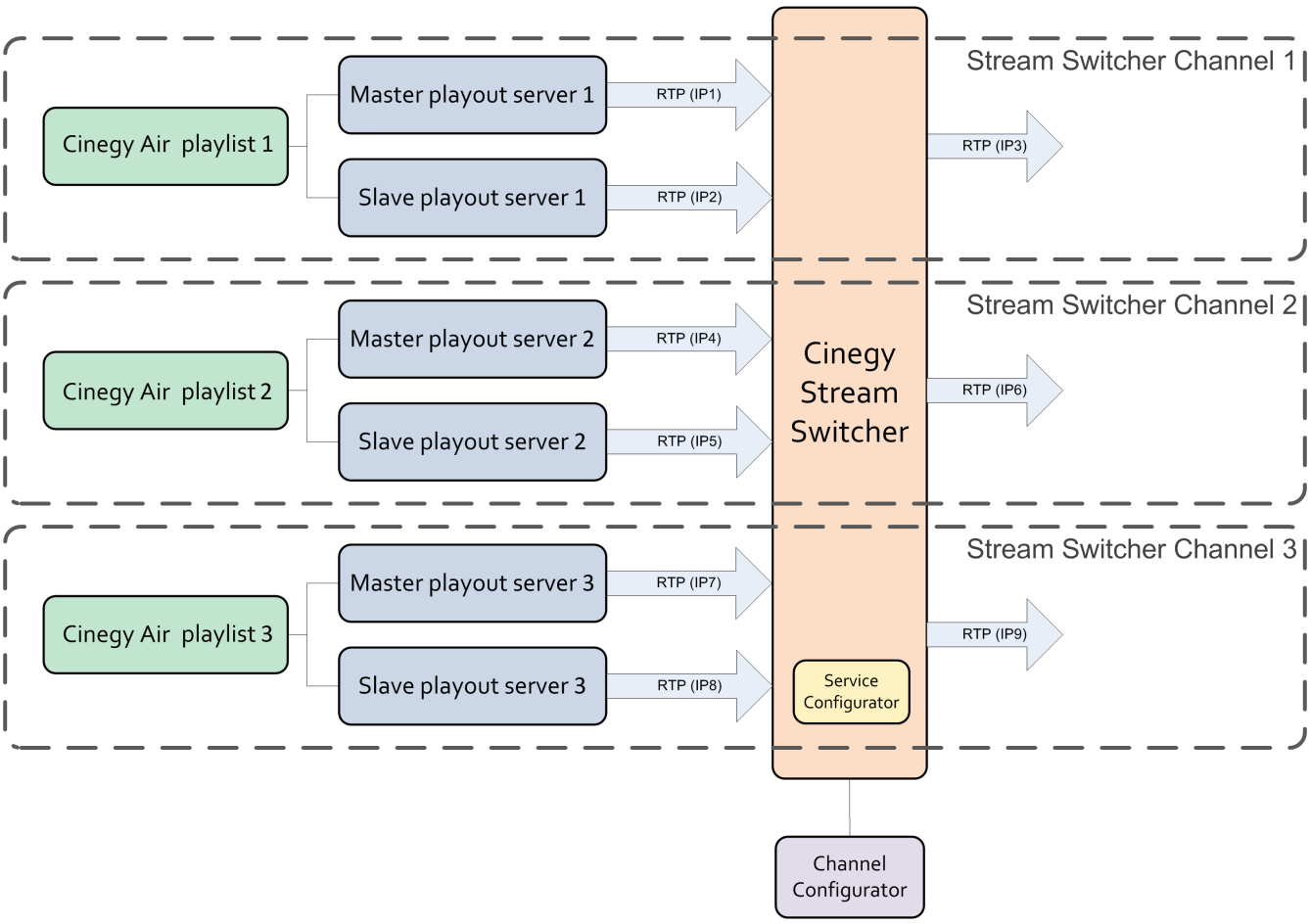
Chapter 1 Setup

1.1 Introduction

Cinegy Stream Switcher is an automatic system to support failover configuration in IP domains. This application is used for automatic RTP streams switching in redundant configurations. It works with any external system that generates RTP streams intended to be monitored.

One of the possible implementation of Cinegy Stream Switcher is for the Cinegy Air configuration, where RTP streams from two playout servers are monitored.

The following diagram represents the general concept of the Cinegy Stream Switcher operating with Cinegy Air configurations:



Cinegy Air playlist is sent to two playout servers: master and slave. If there is a failure and master playout server is disconnected, broadcasting will automatically be switched over to the slave playout server.



Refer to the **Cinegy Air Configuration Models** article in the **Cinegy Air Manual** for more information about Cinegy Air setup.

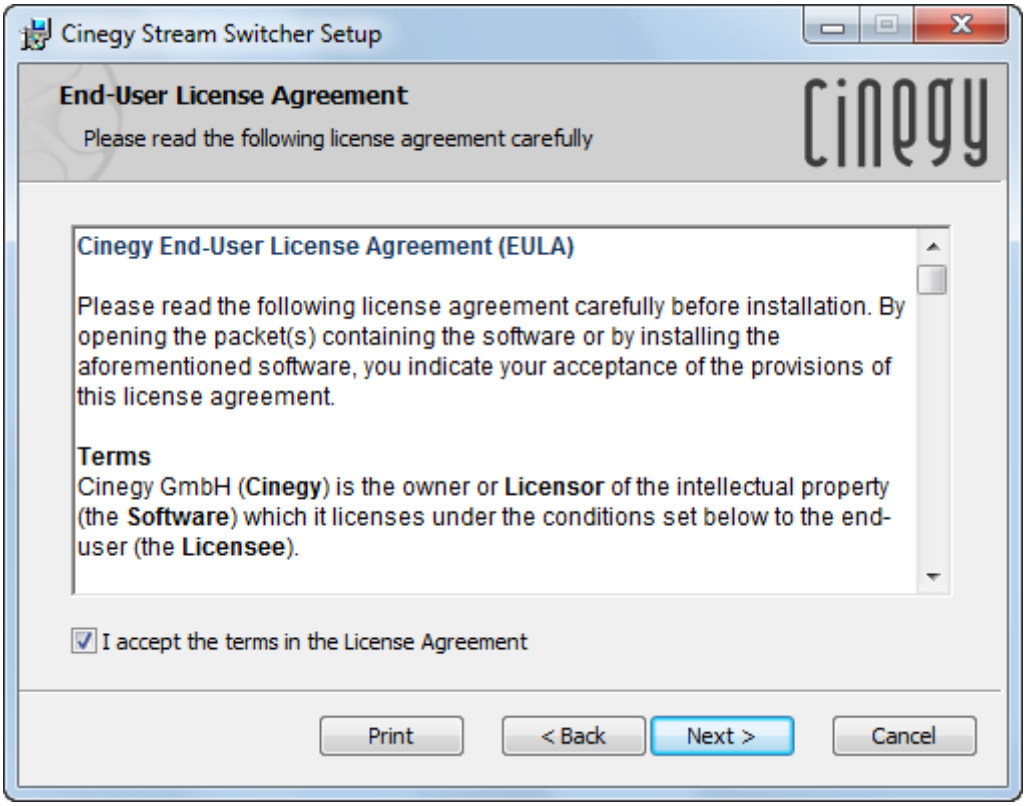
1.2 Installation

To start the Cinegy Stream Switcher installation, run the Setup.exe file from your installation package. The setup wizard will be started:



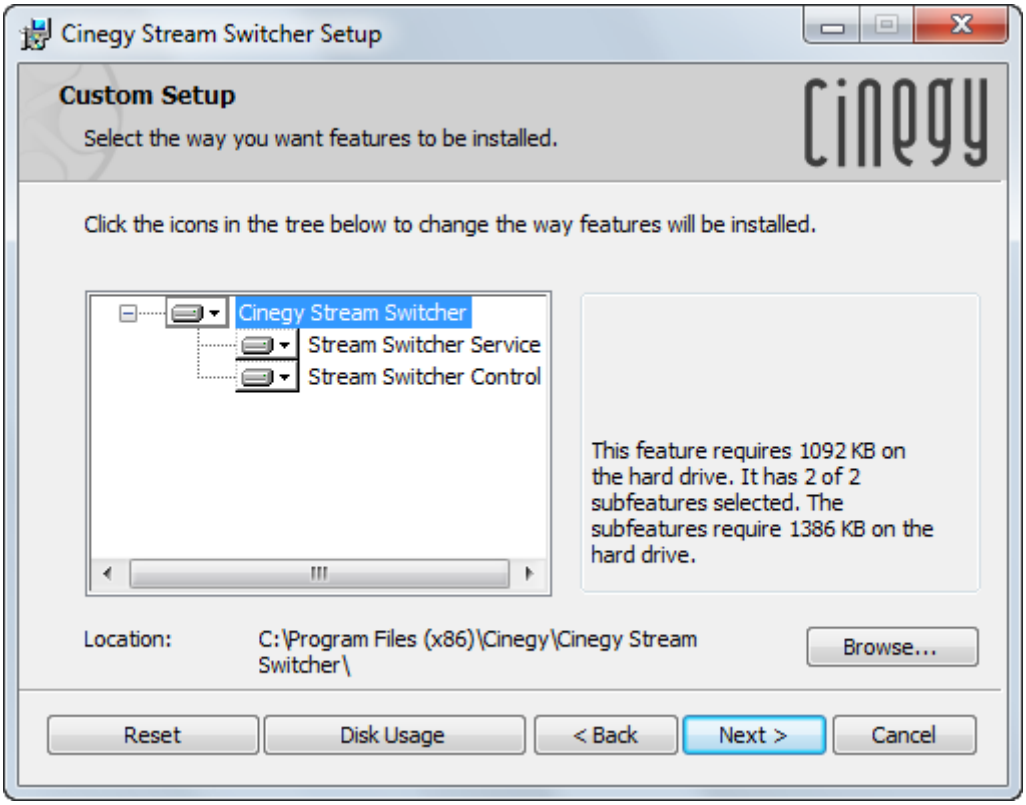
Press "Next" to proceed with the installation or "Cancel" to abort and exit the setup wizard.

Read and accept the license agreement.



Press "Next" to proceed.

The following window appears:



Select the component for installation:

- **Stream Switcher Service** – service component that analyzes incoming streams;
- **Stream Switcher Control** – control application for managing monitored channels.

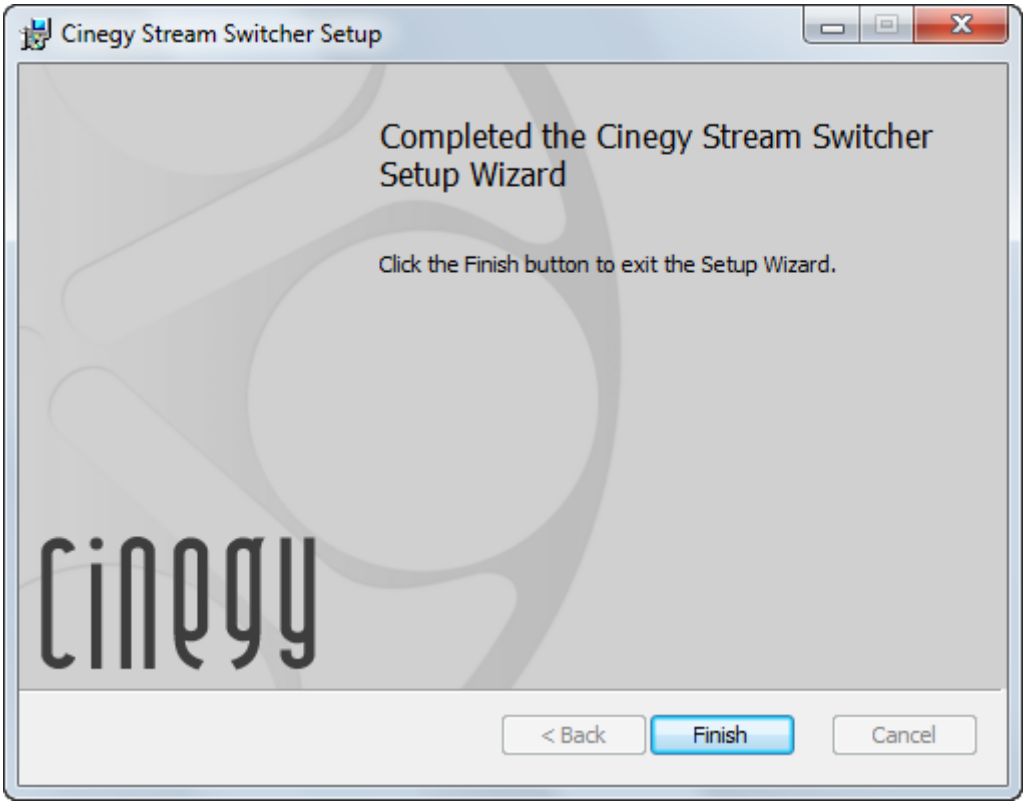
Press the "Browse" button to select the installation folder.

Press the "Next" button to begin the installation. A progress bar will show the progress of the installation process.

As a next step, the Cinegy Stream Switcher Configurator dialog will appear.

Refer to the **Configuration** paragraph for details concerning the Cinegy Stream Switcher configurator.

The following dialog will inform you that the installation is complete:



Press the "Finish" button to exit the setup wizard.

1.3 Licensing

The **Cinegy License Service**, a dedicated service that deals with the dongle interaction is required to provide Cinegy Stream Switcher access to the information stored inside the hardware dongle.

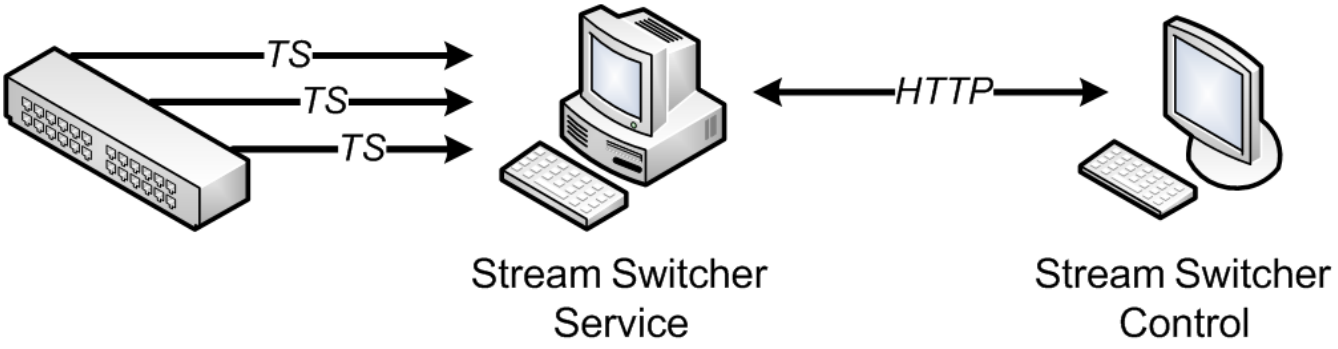
The Cinegy License Service can be installed from the corresponding folder in your Cinegy Stream Switcher installation package. Follow the instruction of the installation wizard.

You need to connect the hardware dongle to the machine, where Cinegy Stream Switcher is running. A separate licence should be acquired for each monitored channel.

If the hardware dongle is not connected, not found or no license is available on a detected dongle, Cinegy Stream Switcher will stop switching channels and will not send notifications.

1.4 Cinegy Stream Switcher Components

Cinegy Stream Switcher consists of two components: Cinegy Stream Switcher service and Cinegy Stream Switcher Control application. The following diagram displays their interaction:



The Cinegy Stream Switcher service manages the incoming RTP streams and that is why it should be installed on a computer with access to the RTP network.

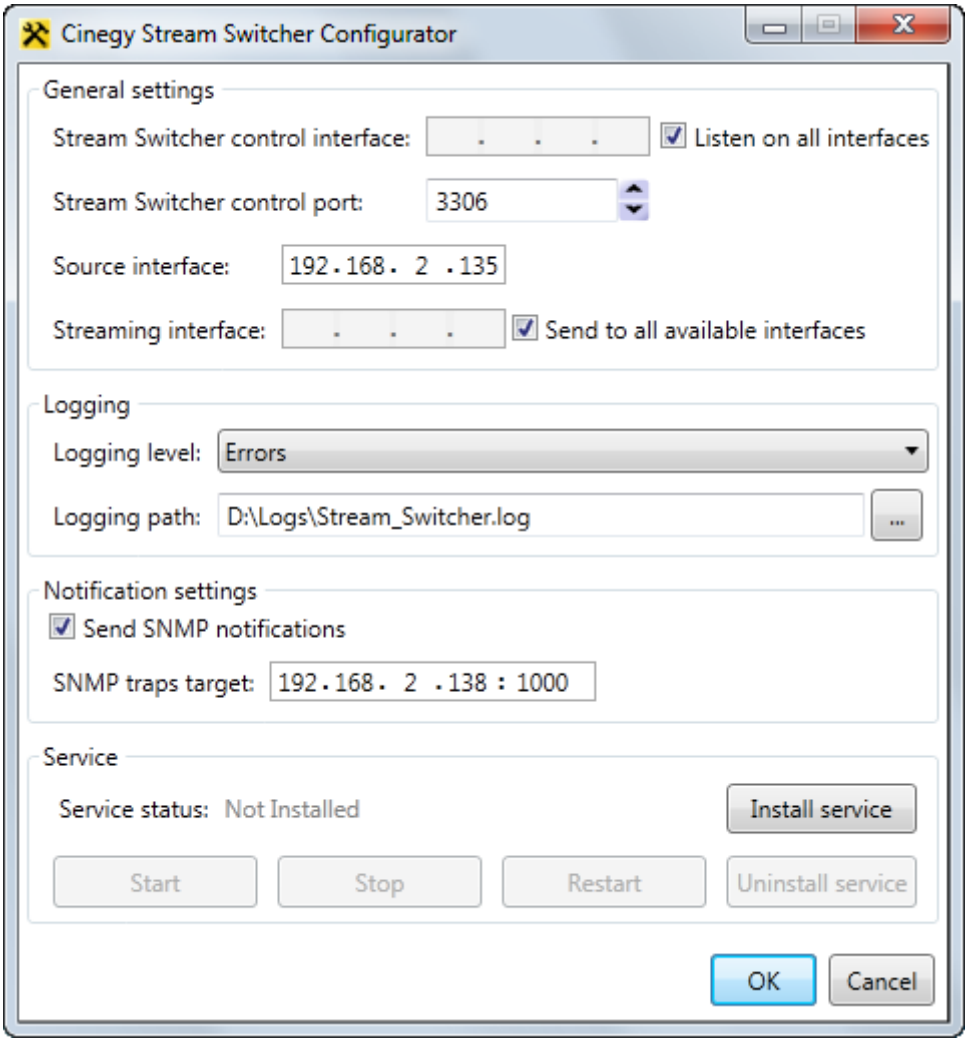
The Cinegy Stream Switcher Control application connects to the Cinegy Stream Switcher service via the HTTP protocol and allows you to manage and control the streams' status. It can be installed on a different computer that has access to the computer where the Cinegy Stream Switcher service is installed. The Cinegy Stream Switcher control application does not require physical connection to the RTP network. Alternatively, both components can also be installed on the same machine.

1.5 Configuration



First of all, Cinegy Stream Switcher service should be configured using the Cinegy Stream Switcher Configurator. In order to launch it, go to Start > All Programs > Cinegy > Cinegy Stream Switcher Configuration Tool or use the corresponding shortcut on your desktop.

The following configuration window will open:



General Settings

In the "General settings" group, define the following settings of the controlled interfaces:

- **Stream Switcher control interface** – defines the IP address of the Cinegy Stream Switcher server. Select the "Listen on all interfaces" option to listen to all available network adapters.
- **Stream Switcher control port** – defines the Cinegy Stream Switcher server port.

These IP address and port are used by the Cinegy Stream Switcher Control application to manage the Cinegy Stream Switcher service.

- **Source interface** – defines the IP address of the network adapter that receives RTP stream from Cinegy Air.
- **Streaming interface** – defines the IP address of the network adapter that performs the streaming of the outgoing signal. Select the "Send to all available interfaces" option to stream to all available network adapters.

Logging Settings

Define the following logging parameters:

- **Logging level** – specifies the level of errors to be reported;
- **Logging path** – specifies the log file location.

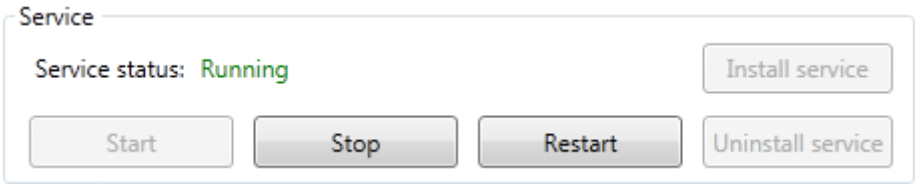
Notifications

Along with logs, Cinegy Stream Switcher can send SNMP traps. For this activate the "Send SNMP notifications" option in the "Notification settings" group and define the SNMP traps target IP and port.

Cinegy Stream Switcher Service

Cinegy Stream Switcher Windows service performs incoming streams analysis.

To install Cinegy Stream Switcher service, press "Install service" button. The service status will change to "Stopped". Then press the "Start" button to run the service:



Use the "Stop" button to stop the service.

"Restart" button will restart the service.

To uninstall the Cinegy Stream Switcher service, use the "Uninstall service" button.

Having configured all the necessary settings and started the Cinegy Stream Switcher service you can proceed to configuring monitored channels using Cinegy Stream Switcher Control application.

Chapter 2 Cinegy Stream Switcher Control

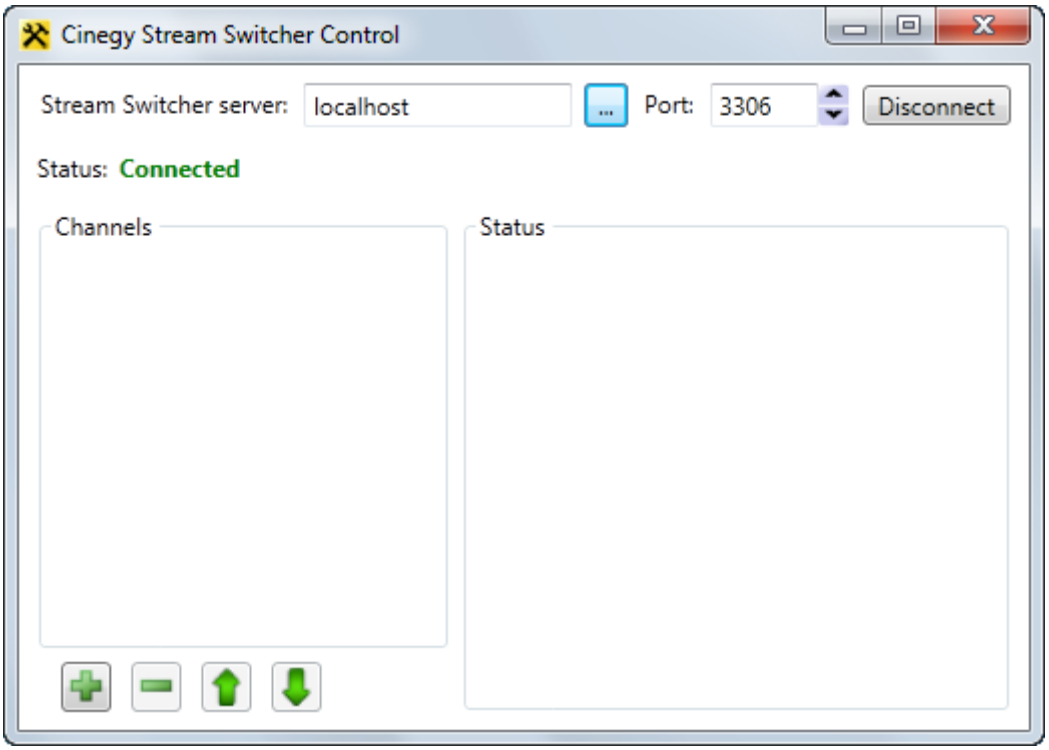
2.1 Introduction

Cinegy Stream Switcher channel represents a configuration of Cinegy Air with the following settings: two playout servers (main and backup sources) receive RTP streams and the main playout server performs the broadcast. In case of main playout server failure the broadcast is switched to the backup playout server. Switching to backup source is performed according to the specified alerts settings.

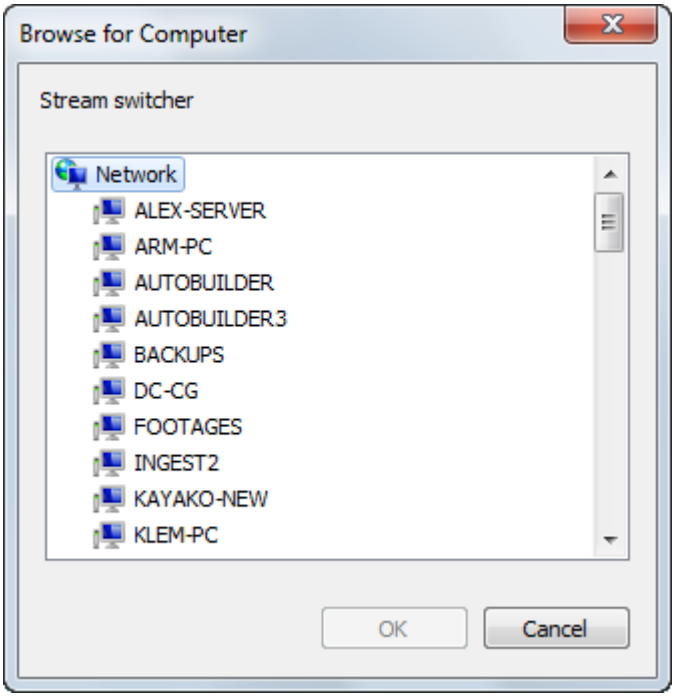
2.2 Configuration



To launch this application, go to Start > All Programs > Cinegy > Stream Switcher Control or use the corresponding desktop shortcut. The following window will open:



- **Stream Switcher server** – specifies the computer where Cinegy Stream Switcher service is installed. Enter the computer name via the keyboard or use the "…" button and select it from the list of available computers in the network:



- **Port** – specifies the Cinegy Stream Switcher control port.

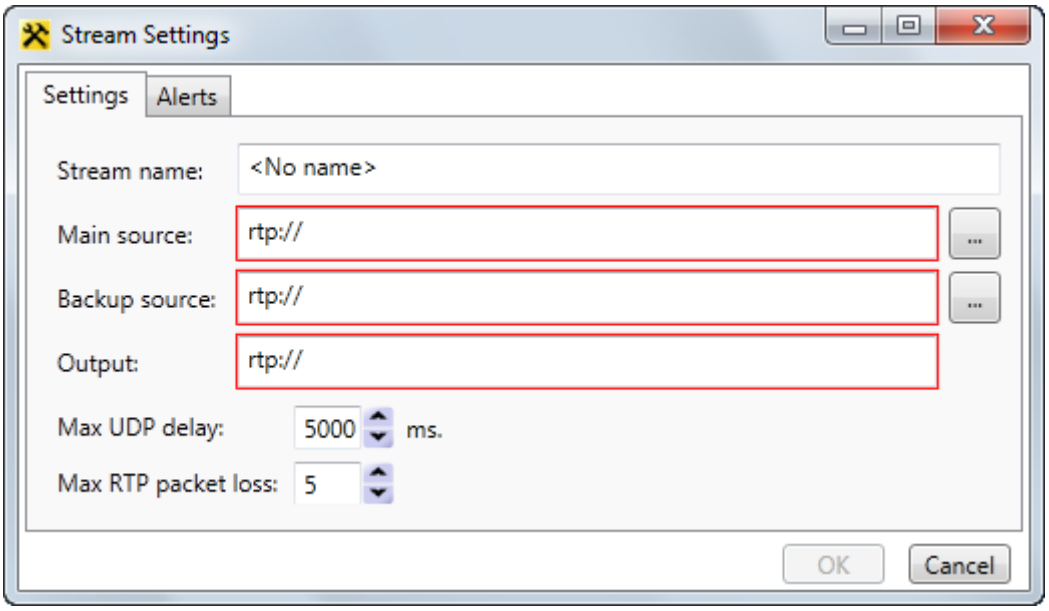
> This value should be equal to the "Stream Switcher control port" value set in Cinegy Stream Switcher Configurator. Otherwise, connection will not be established.

Use the "Disconnect" button to disconnect from Cinegy Stream Switcher service. The button will turn into "Connect" button. Press this button to establish connection.

The connection status is shown in the "Status" field.

Stream Settings

To add a new channel to the list, press the button; the following "Stream Settings" window will open:



Incorrectly filled in or empty fields are highlighted with a red bounding box. The "OK" button is grayed out and the settings cannot be applied unless all values are valid.

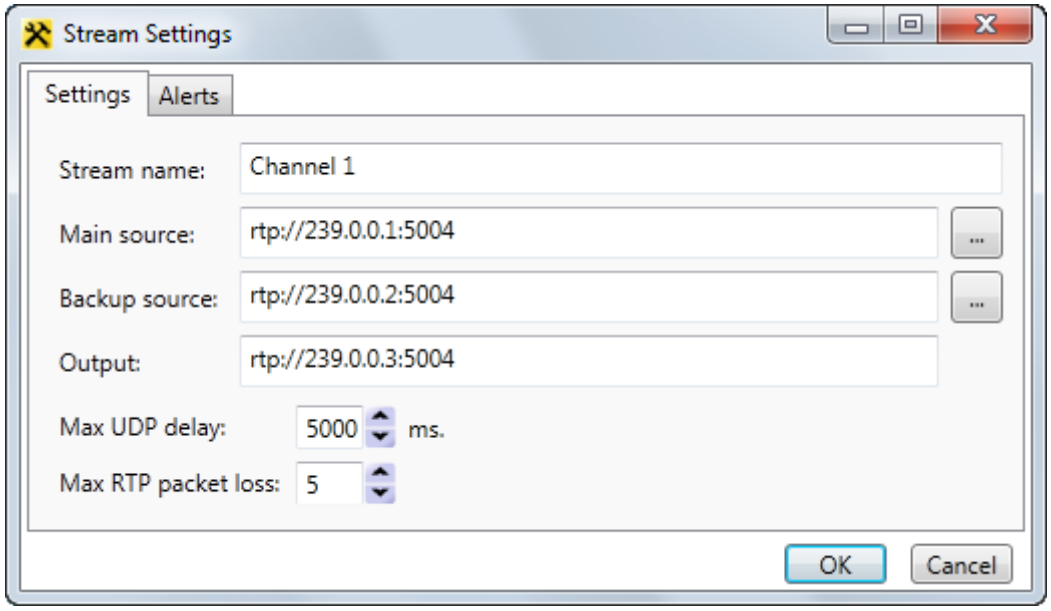
Here define the following settings:

- **Stream name** – specifies the channel name.
- **Main source** – specifies the source stream from the master playout server. Enter the address in the following form: `rtp://<IP>:<port>`. Alternatively, you can use the "…" button to select the desired stream.

  Refer to the **Stream Selection** paragraph for detailed information about stream selection.

- **Backup source** – specifies the source stream from the slave playout server.
- **Output** – specifies the output stream.
- **Max UDP delay** – defines the maximum delay time of UDP packets in milliseconds. If the actual UDP packets delay exceeds this value, the stream is considered to be absent.
- **Max RTP packets loss** – defines the maximum number of missing RTP packets allowed per stream.

Having configured the necessary parameters, the window will look as follows:

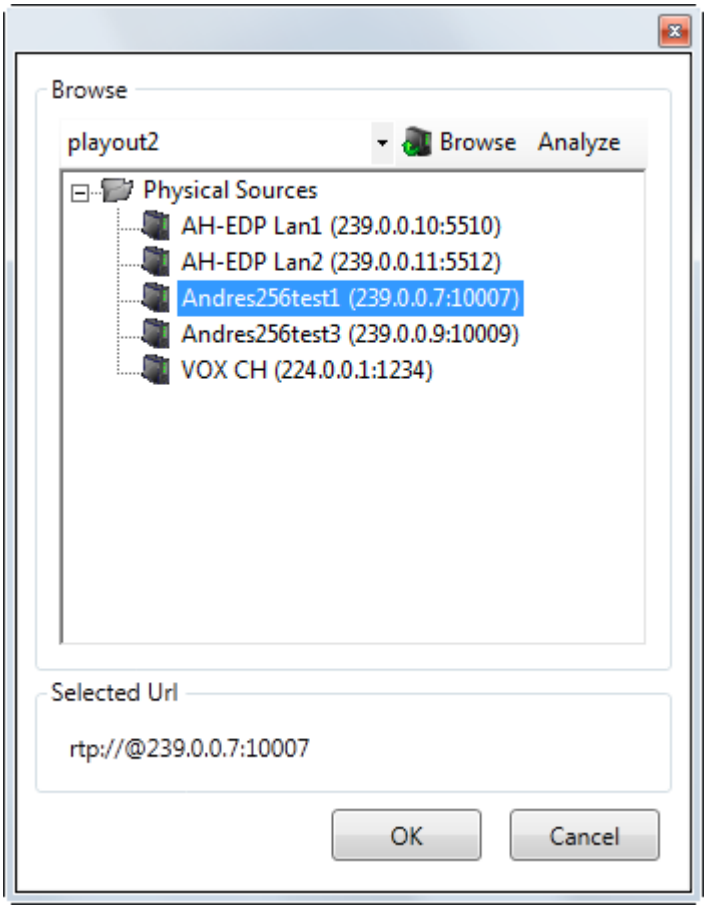


Stream Selection

The main and backup source channels can be defined manually via the keyboard or using the corresponding "…" buttons. To be able to browse streams, Cinegy Route Browser should be installed on your machine.

Cinegy Route Browser is one of the Cinegy Route software components. Refer to the **Cinegy Route Browser** article in the **Cinegy Route Manual** for details.

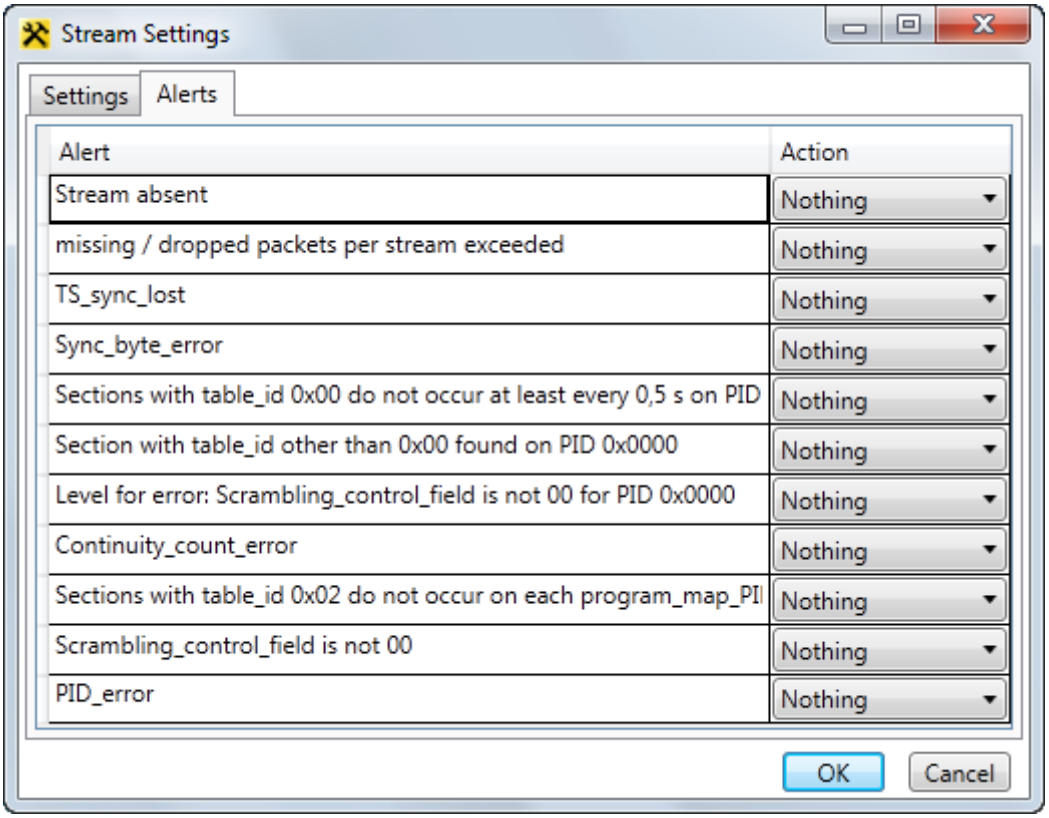
Press the "…" button, the following window will open:



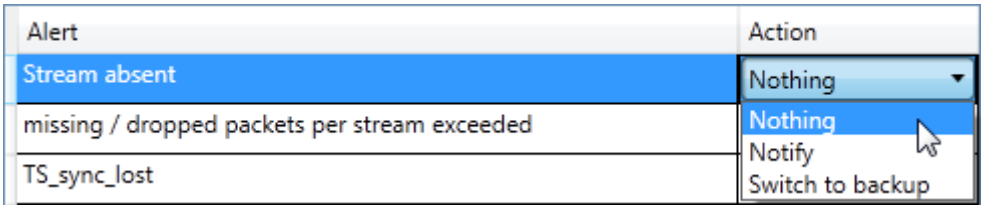
Select the stream from the "Physical Sources" tree and press the "OK" button.

Alerts

The "Alerts" tab allows you to set up the actions in case of particular problems with the stream:

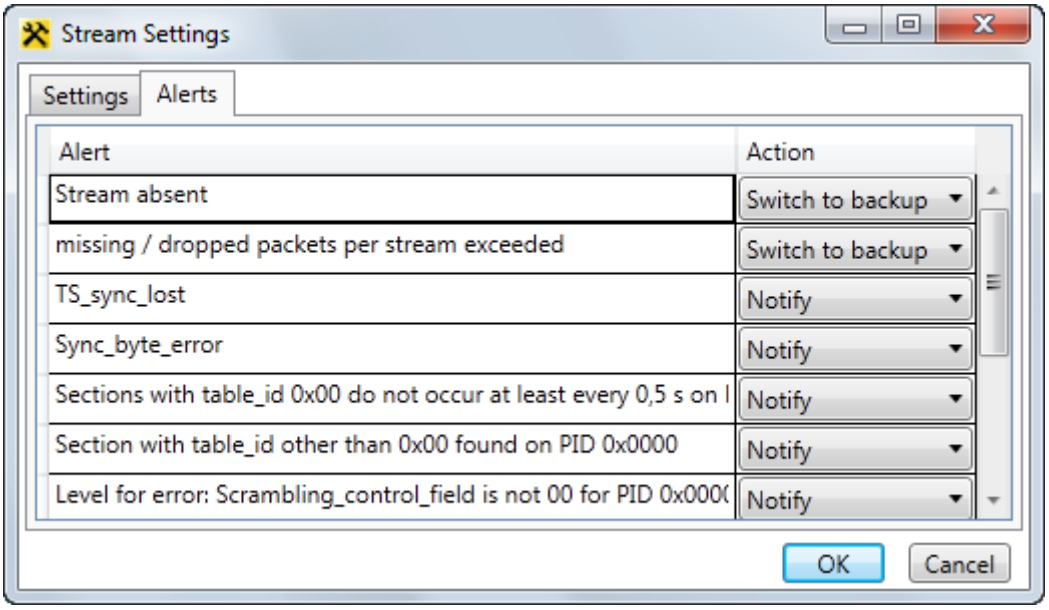


Select the desired alert in the right column and in the corresponding "Action" drop-down list select the action that will be performed:



- **Nothing** – no action is performed;
- **Notify** – the SNMP trap is sent to the preconfigured destination;
- **Switch to backup** – the stream is switched from master to slave playout server.

The most common configuration is as follows:



Switching to backup source is performed in case of stream absence and when the number of missing/dropped packets per stream is exceeded. The boundary parameters for these two alerts are set up on the "Settings" tab. The other alerts are DVB tables data specific and can be configured according to your needs.

Please refer to the DVB standard definition for details about DVB parameters.

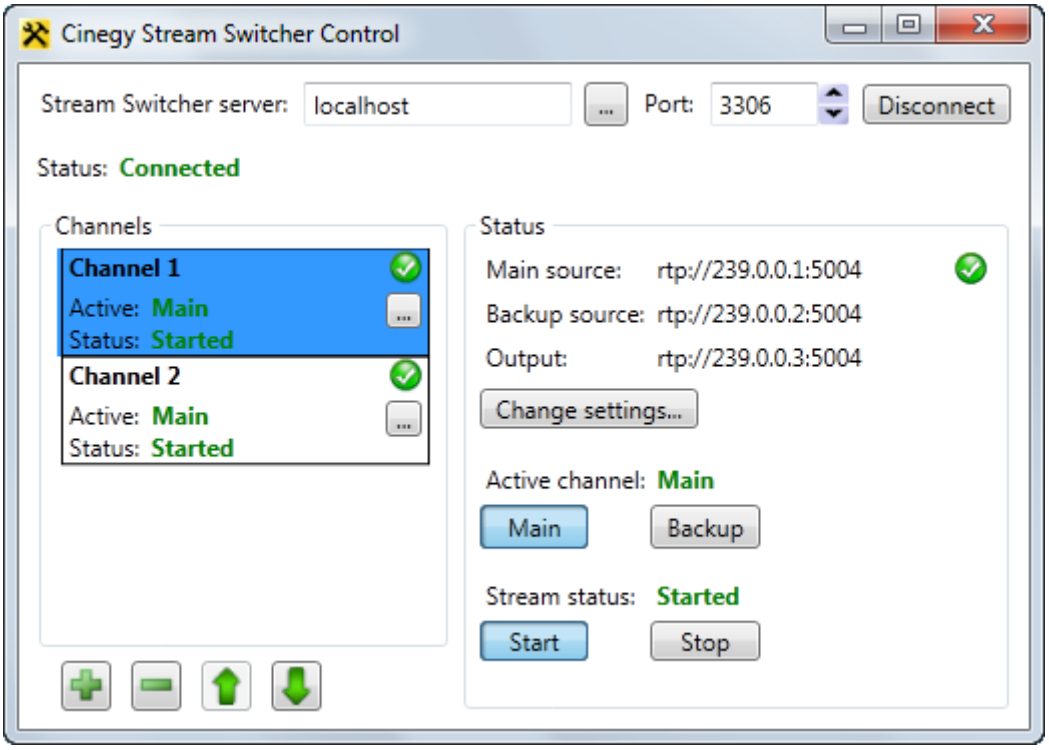
Having configured all the necessary settings press the "OK" button to apply them. The configured channel will be added to the "Channels" list.

2.3 Operating

This paragraph contains the description of work with Cinegy Stream Switcher channels.

Channels List

The configured Cinegy Stream Switcher Control shows the status of the channels and allows to manually switch and start/stop the source streams.



 To add a channel from the list, use the "Plus" button.

 To remove a channel from the list, use the "Minus" button.

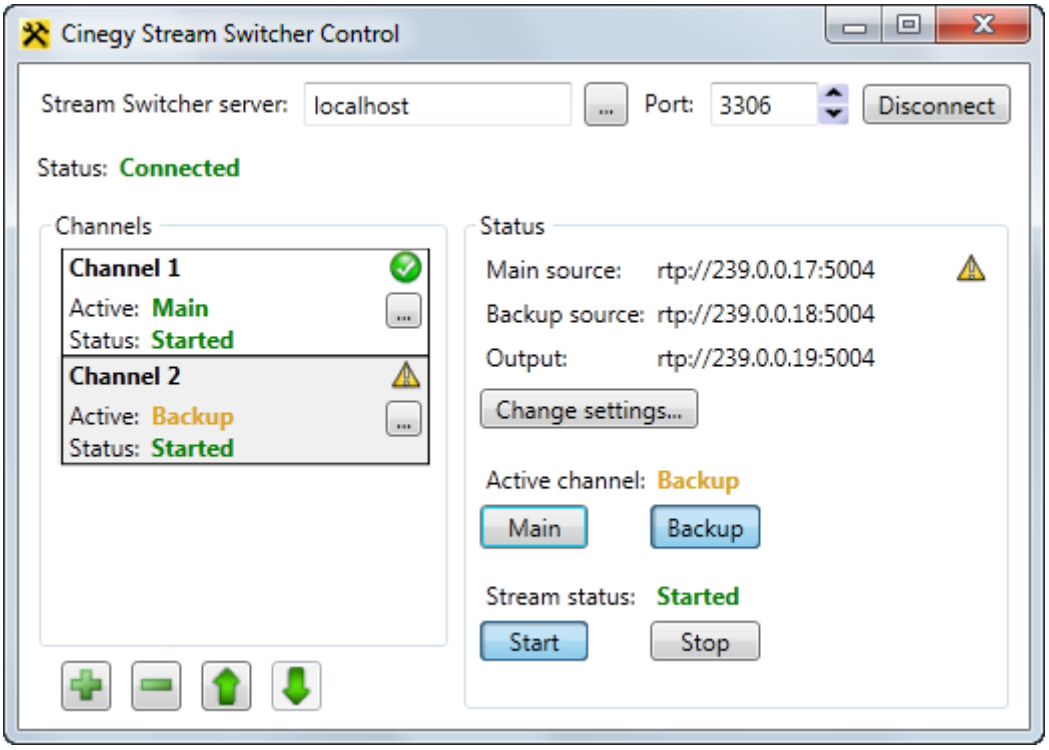
 To change the order of channels in the list, use the "Up" or "Down" arrow buttons.

Select the desired channel in the "Channels" list, its configuration and status will be displayed in the "Status" panel.

To change the channel settings use the ... button for the corresponding channel from the list or use the "Change settings…" button on the "Status" panel.

Switching to Backup Source

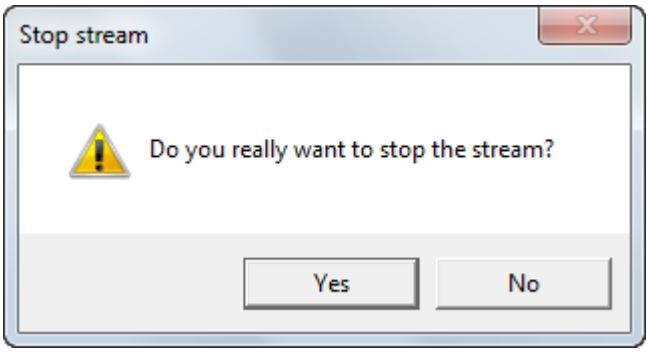
The "Active channel" field shows the currently active playout server: main or backup. In case of stream loss the channel will be automatically switched to backup. The yellow sign indicates that there are problems with the main source and backup source is now active:



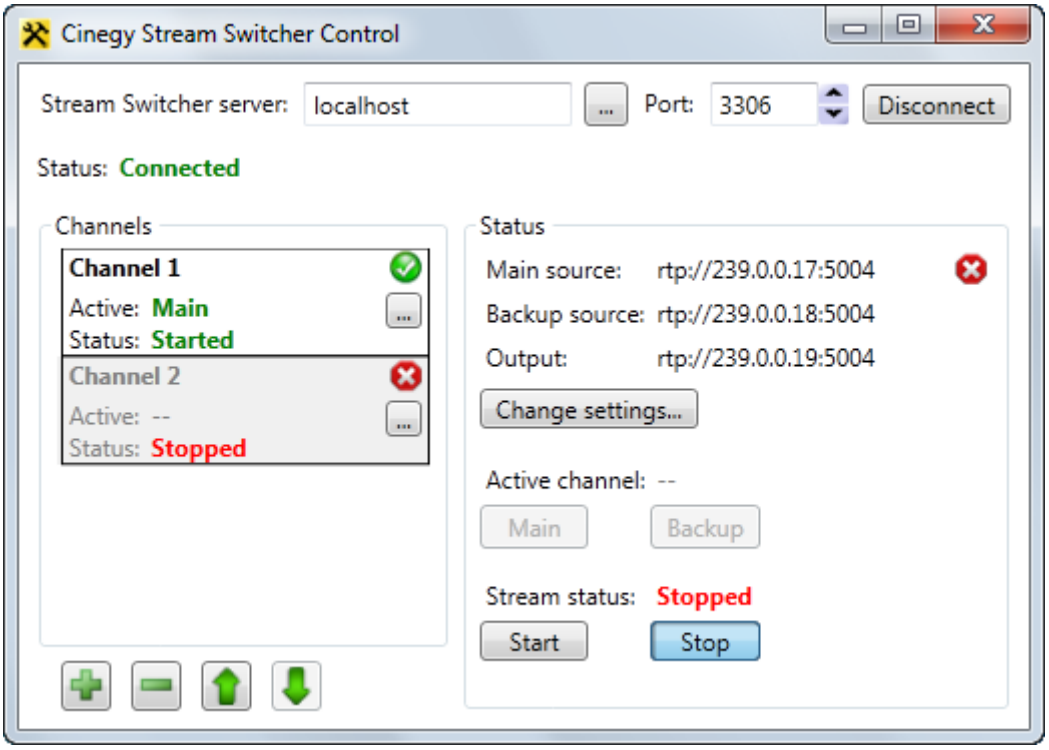
To manually switch to backup source, press the "Backup" button.

Stream Status

The "Stream status" field shows whether the stream is started or stopped. To manually stop the stream, use the corresponding button. You will be asked to confirm your intention to stop the stream with the corresponding message:



The red sign indicates that the stream is stopped:



Use the "Start" button to manually start the stream.

License Error

If the hardware dongle is not connected, not found or no license is available on a detected dongle, the "Stream status" field will indicate that no license is available.

