



# LIGHTNING SDI

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# Introduction

## Requirements:

- Licensed accounts (ASP or self-hosted) with LiveCast software
- IP data accounts (wired, WiFi, cellular)
- Monitor (1280x1024 resolution)
- Keyboard
- Mouse

## Overview:

**Lightning SDI** is LiveCast's ultra low latency broadcast playout system. This turnkey solution is available for both ASP and secured server licensed accounts. Lightning SDI allows real-time monitoring and management of incoming video and audio streams.

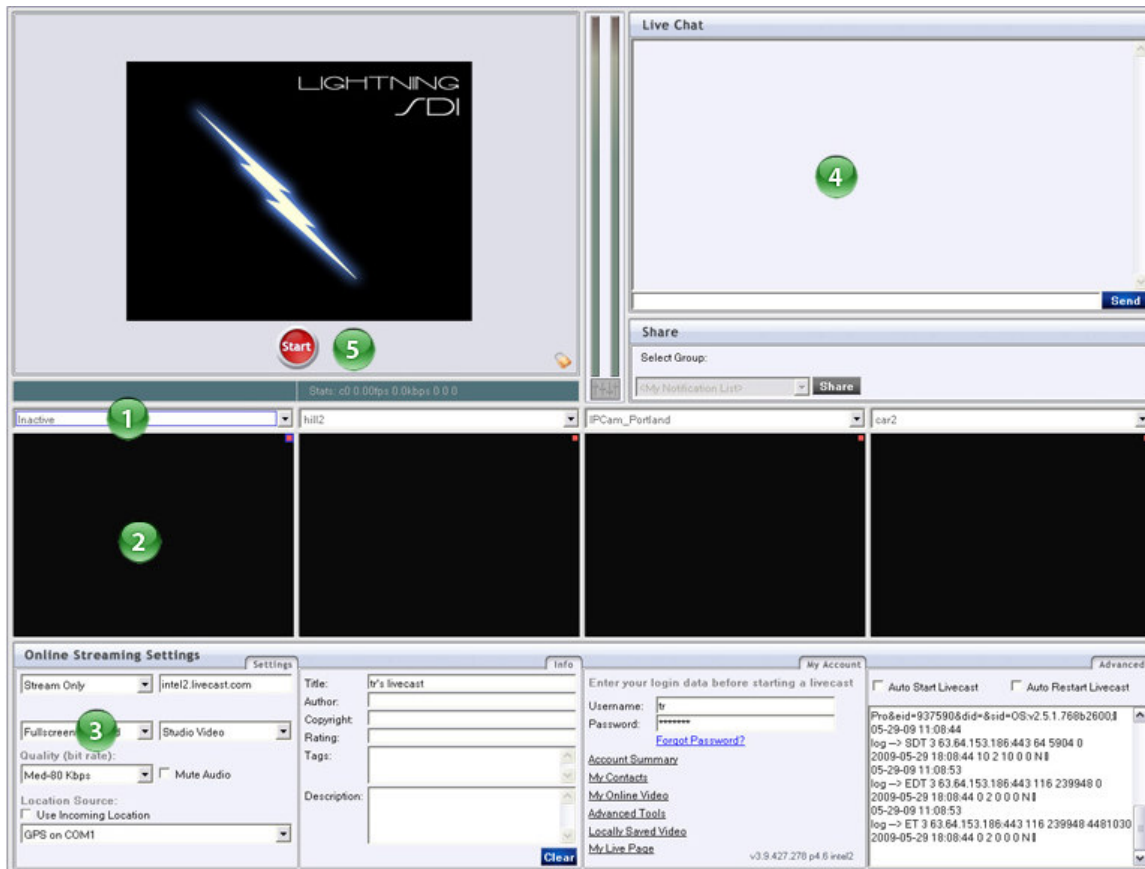
## Features:

- Average 1 second latency from device to playout.
- SDI output up to HD resolution
- Full duplex conference messaging between station and remote feeds.
- Monitor multiple incoming streams concurrently.
- Instant switching of streams, regardless of the source bit rate, codec, or resolution.
- Stream cascading allows near real-time networking of streams between Lightning SDI installations.
- Accurate real-time display of all individual feed statistics:
  - GPS status
  - Audio levels
  - Latency from device
  - Frames per second
  - Transmitting bit rate
  - Length of transmission
- Send switched feed to online account any time during operation for web publishing.
- Auto-archiving and auto-posting of output to online account and blogs.
- Support for Windows Media, QuickTime and Flash.
- Share feature allows live remote viewing from phones, PC, Mac, and Linux.
- Over 500 devices supported.

# Getting Started

Clicking on the Lightning icon located on the desktop will launch Lightning SDI.

- 1.) Stream Selector
- 2.) Stream Preview
- 3.) Output Selector
- 4.) Live Chat
- 5.) Send To Web



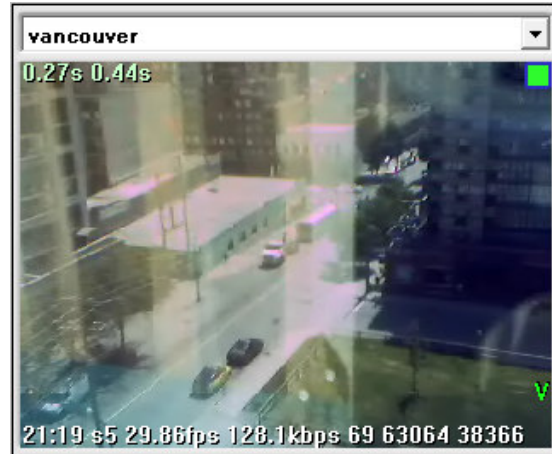
## Selecting Your Stream Source:

Select different streams by choosing a live stream from the stream selector (#1 above). Live streams appear bold and inactive streams appear grey.

## Switching Streams

Select a stream to be sent to the SDI output by simply clicking on the video (Stream Preview).

The output stream will display a green block with a blue border in the upper right of the Stream Preview area.



## The Statistics Display

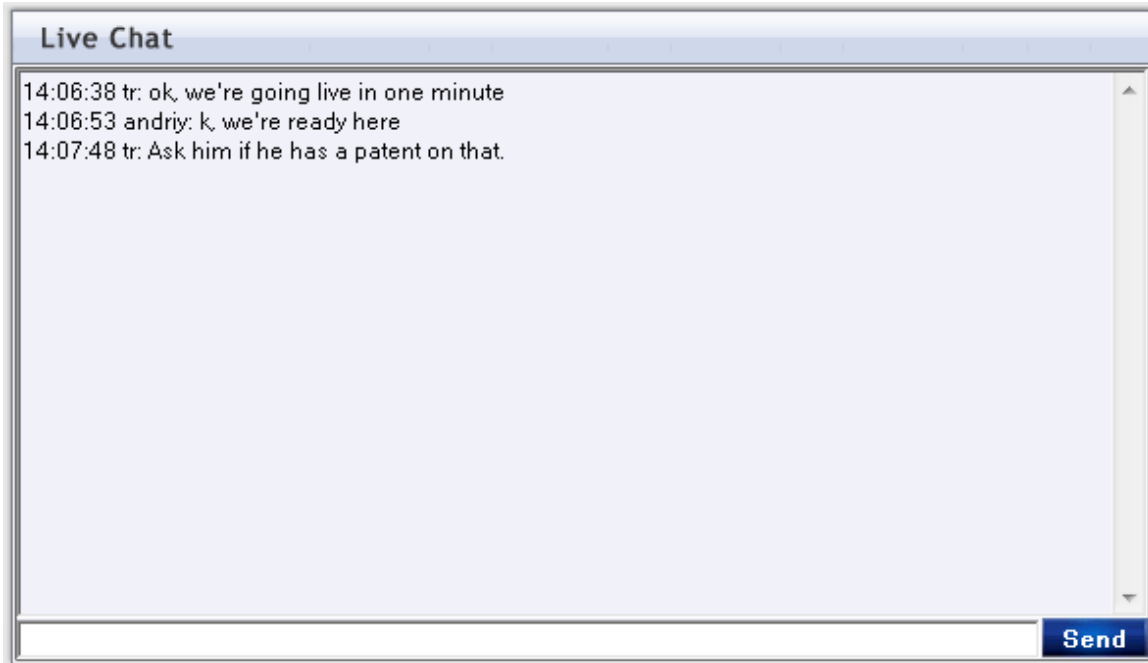
In addition to showing the stream that is being sent to the SDI output, there are many other statistics displayed on each Stream Preview window.

- 1.) **Stream Selector** – displays the account name of the stream.
- 2.) **Latency** – displays time for stream to arrive at LiveCast server (as shown - .27 seconds), followed by total time from device to SDI output (as shown .44 seconds). This will turn red if over 2 seconds.
- 3.) **Activity Status** – green for active live stream, red for inactive stream. The blue border designates which stream is being sent to SDI out.
- 4.) **Performance Statistics** – displays duration of stream (21:19), connectivity (s5 is streaming), framerate (29.86 fps), the bit rate (128.1 kbps), and internal diagnostics.
- 5.) **Media and Location** – displays what is included in the stream – A = audio, V = video, L = location (waypoint), G = GPS data. Green is valid data, red is invalid data.



## Live Chat:

Live Chat allows full duplex conference messaging between the Lightning operator and all the users shown in the Stream Previews.

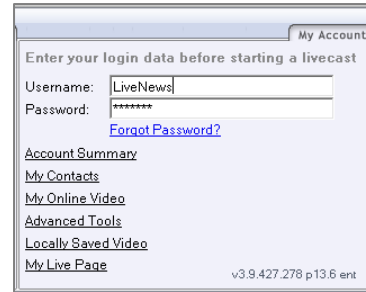


Type in your message in the lower field and click **Send**. All messages will be displayed in your chat window with the time and user name. The messages also appear on all preview stream devices.

# Web Streaming

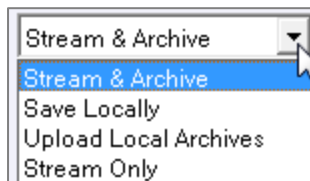
The output stream can also be simultaneously transmitted online for web streaming.

To enable online web streaming, you must enter your Lightning operator credentials in the My Account panel.



## Settings

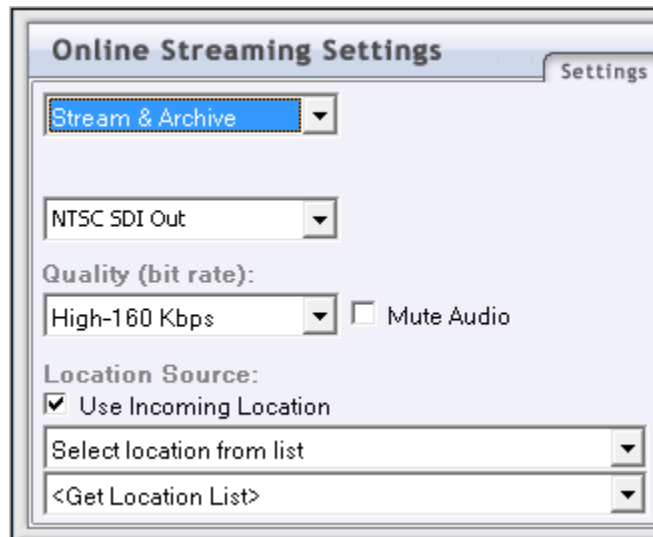
Select Streaming type



Select NTSC or PAL format.

Select bit rate for web stream.

Select Location Source or GPS  
*(Note: The recommended setting is 'Use Incoming Location').*



## Info – Tags and Description

Info tab is where you can enter information about your LiveCast before you start streaming.

You can add or edit video information later, by going to your online account and click **Edit**, next to the desired video.

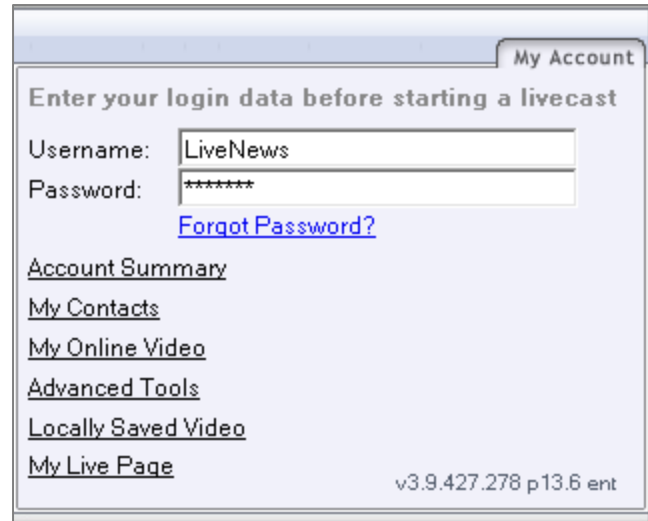


## My Account

Your username and password are required before your streaming to the web can begin.

Once you have entered them once, they will remain until you change them. There is no need to log in or out as LiveCast will handle that process automatically when needed.

The bottom part of this screen gives you direct access to your online account.



My Account

Enter your login data before starting a livecast

Username: LiveNews

Password: \*\*\*\*\*

[Forgot Password?](#)

[Account Summary](#)

[My Contacts](#)

[My Online Video](#)

[Advanced Tools](#)

[Locally Saved Video](#)

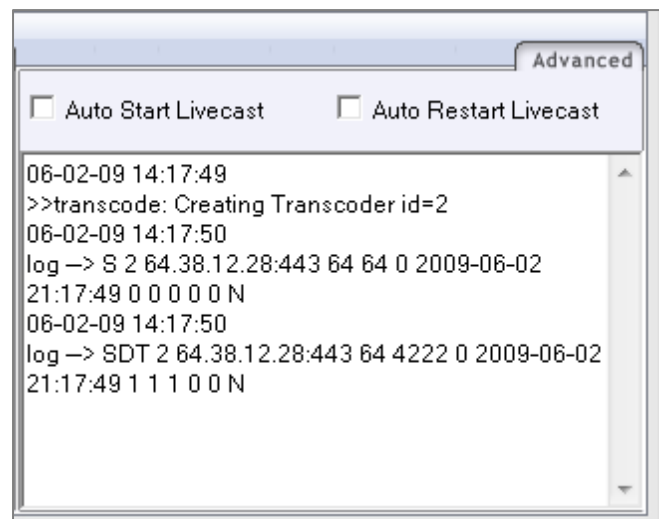
[My Live Page](#)

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## Advanced

The advanced panel is where you can automate the start features for unattended functionality.

This also displays the session log.



Advanced

Auto Start Livecast  Auto Restart Livecast

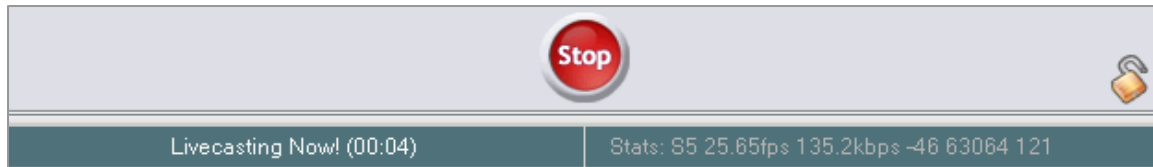
```
06-02-09 14:17:49 >>transcode: Creating Transcoder id=2
06-02-09 14:17:50 log -> S 2 64.38.12.28:443 64 64 0 2009-06-02
21:17:49 0 0 0 0 N
06-02-09 14:17:50 log -> SDT 2 64.38.12.28:443 64 4222 0 2009-06-02
21:17:49 1 1 1 0 N
```

## Starting Your Web Stream

Clicking the **Start** button in the top video panel starts sending the output stream to your Lightning operator account for live and on-demand streaming.



Statistics for the online stream appear below the Start/Stop button. Use the lock icon to set the viewing access as private (locked) or public (unlocked)



## Viewing Your Web Stream

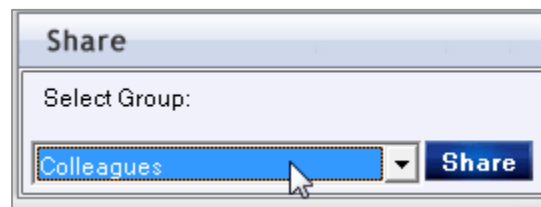
Each LiveCast account is provided a LiveCast web page to host the live and archived videos they shoot. The Lightning operator account will show the output stream, including all switching of streams.

## Sharing Your Web Stream

Once you're streaming, you can notify colleagues by email or SMS, or send the stream to a blog, using the LiveCast share feature.

**Step 1:** Select the group of contacts from the **Share pull-down menu**

**Step 2:** click on the **Share** button. The group will receive notification and a link to your live stream.

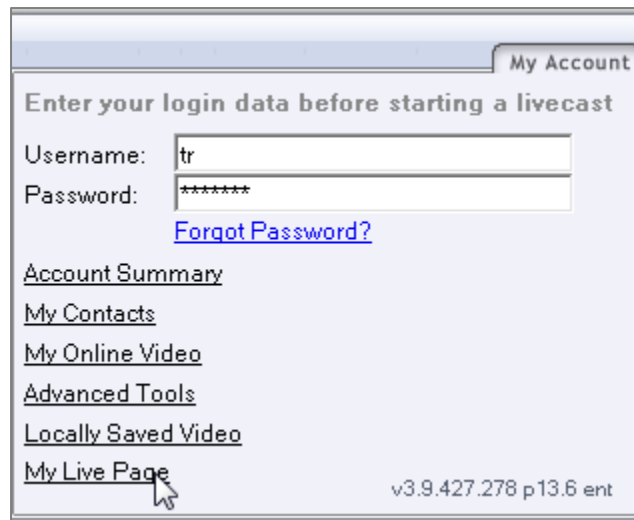


The contacts within the group will be sent an email and/or text message containing a direct link to the live stream. When a contact clicks on the link, a live stream will launch, whether its on a mobile device or computer.

To auto-share a live stream, log into your online account. The auto-share feature will notify the selected group anytime you are streaming live.

To find the URL of your My LiveCast Page, simply click on the 'My LiveCast Page' link from the My Account panel.

You can customize your page from your online account.



## Troubleshooting Note

Any latency exceeding two seconds is due to connectivity issues with the LiveCast client. If this problem is consistently experienced, try selecting a lower quality setting (bit rate); adjusting the quality setting to align with the available bandwidth will ensure the expected low latency.

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