



Clipstream

Playerless video and audio streaming

Clipstream™ Live Repeater Version 1.0 Technical Guide

developed
by

DESTINY
TECHNOLOGIES
MEDIA



Introduction

Clipstream has been designed to eliminate the problems associated with web audio and video, allowing anyone with a modicum of web page building experience to use their existing skills, hardware and infrastructure to place effective streaming audio and video on any web page, email or banner advertisement.

This guide has been compiled to demonstrate the implementation of the Clipstream Live Repeater. It is assumed that all who read and use this guide will have had experience with the Clipstream Live Server and have created and posted a Clipstream Live web page to the Internet. Basic Internet practices, terminology, methodologies and Clipstream Live Server implementation will not be discussed. For more information about creating your own Clipstream Live stream using the Clipstream Live Server, visit <http://www.clipstream.com/products/live/>.

If you have any questions or difficulties, please feel free to contact your Clipstream Account Manager or visit <http://support.dsny.com>.

The Clipstream Development Team

NOTE: All content presented herein is subject to change without notice and is deemed as accurate as possible at time of publication. Please consult with VideoClipstream Support at <http://support.dsny.com> for clarification if you encounter any erroneous or inconsistent material in this document.

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What is the Live Repeater?

The Clipstream Live Repeater is a simple application that allows the re-broadcasting, or repeating of Clipstream Live Server streams. This application will facilitate the support of larger viewing audiences by repeating a limited bandwidth broadcast from a large bandwidth location. The repeater will also allow Clipstream Live to take advantage of a load-balanced system to overcome single CPU resource limitations that would normally limit the number of supported viewers.

To achieve larger audience potential, the user configures the Clipstream Live Repeater application on a separate Internet connected machine to tune into an existing live stream via its IP address and port. When the repeater application is opened, a mini web server is created that re-broadcasts the original signal and makes a simple web page available for the viewing of the live stream via the Clipstream Live applet embedded in the page. Additionally, the live applet can be called from the repeater on other pages using the codebase statement as outlined on the Clipstream Video Technical Guide.

Minimum Requirements

Minimum requirements for running the Clipstream Live Repeater:

CPU: P3 450MHz
RAM: 128M
HD: 2Gig
CONN: Broadband
NIC: 10 Mbps
OS: 9x/NT4/2K/XP
JVM: MS JVM 5.0.0.3802

Recommended requirements for running the Clipstream Live Repeater:

CPU: P3/P4/Althon 2GHz
RAM: 512M
HD: 2G
CONN: T1 or better
NIC: 100 Mbps (Server NIC)
OS: 2K/XP
JVM: MS JVM 5.0.0.3802

Quick Start

1. Install the Clipstream Live Repeater.
2. Start the Repeater by clicking one of the icons on the desktop or in the start menu.
3. Enter the source Clipstream Live Server's URL in the settings window.
4. Launch a web browser and type in the repeater's IP address to view the repeated stream.

Installing

To install the Clipstream Live Repeater:

1. Copy the file ClipstreamLiveRepeater.exe to your hard drive.
2. Locate and double click the Executable ClipstreamLiveRepeater.exe.
3. Follow the installation instructions. – We recommend installing using the default settings.

Installed Files

readme.html	this file
run.bat	start the repeater with java
runwin.bat	start the repeater with jview (Windows only)
ClipstreamLiveRepeater.zip	repeater java binary
ClipstreamLiveRepeater.conf	repeater configuration
ClipstreamLiveRepeater.log	repeater log file
icon.gif	icon for the repeater
main.gif	screen shot
settings.gif	screen shot
web*.*	folder to store all static files, put html/gif/jpg/txt files in this folder, .vcs files will be repeated from the original Clipstream Live Server
cache*.*	folder to store all cached non-vcs files

Uninstalling

Uninstalling the Clipstream Live Repeater is fairly simple. To uninstall, follow these steps:

1. In the start menu select Programs/Clipstream/Clipstream Live Repeater/Uninstall Clipstream Live Repeater.
2. Follow the instructions of the uninstall application.

Running the Repeater

Opening the Repeater Application

Open the Clipstream Live Repeater application by selecting it from the start menu, by double clicking the icon on your desktop, or by clicking on the icon in your quick start menu.

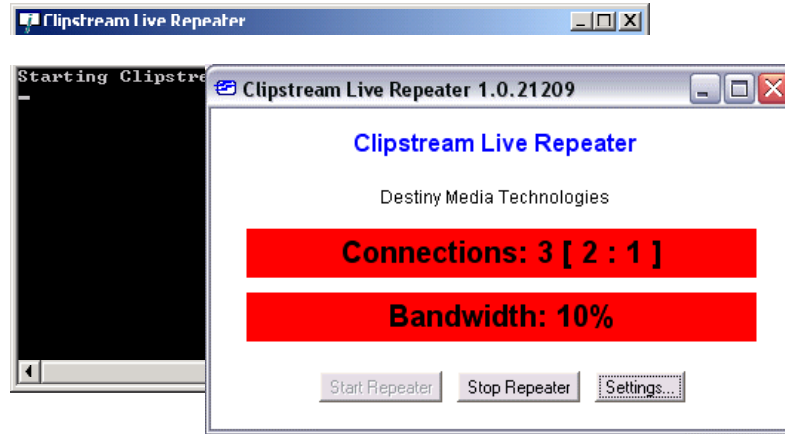
When you have done this, a DOS window will open up, and then the Clipstream Live Repeater Console will appear on top of it. **DO NOT CLOSE THE DOS WINDOW**. This window is normal for this application and needs to remain open to allow the Repeater to work properly. When the Repeater is minimized, this window can also be minimized. Closing the DOS window will likely cause the repeater to close as well.

Closing the Repeater

Clicking on the Close icon in the upper right of the Repeater window will immediately close the Repeater. This is currently the only way to close the repeater. When the repeater is closed in the way, the DOS window will also close automatically.

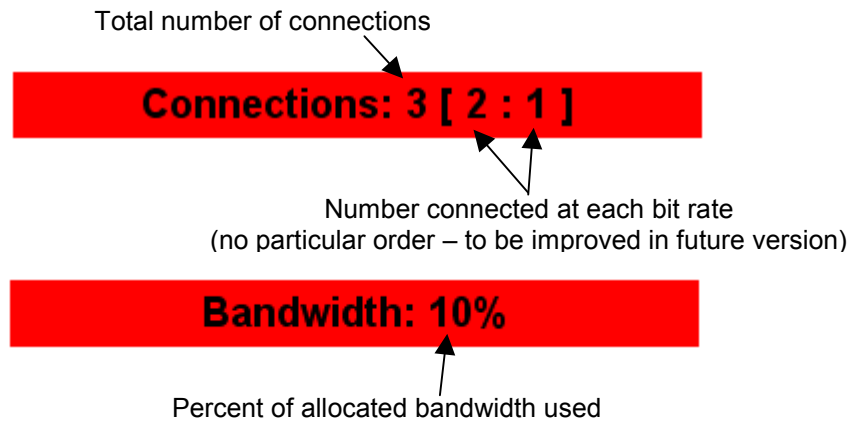
The Clipstream Live Repeater Console

Once the application has started, the Clipstream Live Repeater Console should be displayed on top of a DOS window. You can minimize the DOS window, BUT DO NOT CLOSE IT.



Repeater Console and Dos Window

Reading the Console



Console Buttons

Start Repeater

Clicking the Start Repeater button will start the repeating of the specified stream. This button is grayed out if the Repeater is currently active. Note that the repeater automatically starts repeating as soon as the repeater is opened. This is to aid the stopping and starting of servers.

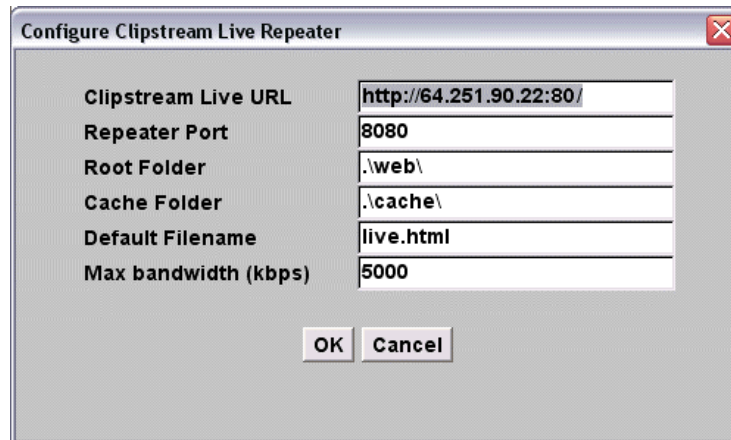
Stop Repeater

The Stop Repeater button becomes active when the repeater is turned on. Clicking the Stop Repeater button will cease the repeated broadcast.

Settings

Clicking the settings button will open up the Configure Clipstream Live Repeater settings window.

Adjusting the Repeater Settings



Clipstream Live Repeater Settings Window

In the following examples, Clipstream Live Server is running on **http://64.251.90.22:80** and Clipstream Live Repeater is running on **http://64.251.90.15:8080**.

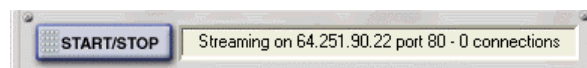
Clicking the OK key will save the displayed settings and return to the main Repeater console window.

NOTE: Once settings have been changed, the repeater will be started and stopped in order for the new settings to be active.

Clicking Cancel will return to the main Repeater console window without saving the settings. All changes will be lost.

Clipstream Live URL

The Clipstream Live URL refers to the URL of the live stream you want to repeat. Usually this is the IP address of the source video as displayed in the Clipstream Live Server Status Display window.



Live Server Window Status Display

The URL required by the repeater in the above instance is <http://64.251.90.22:80/>. Both the IP address and the Port, if indicated, need to be part of the URL enter into the repeater.

Repeater Port

In most instances the default port of 80 will satisfy most users, however, some users will not be able to stream using this port due to port conflicts. If your stream is not displaying on a webpage once you start up the repeater, this is frequently the cause. Adjusting your repeater port to a value of 8080 or similar usually solves port problems.

Root Folder

The root folder indicates the location of the folder that the Clipstream Live Repeater uses as its webpage root folder. In essence, when you

start up the repeater, a mini web server is initiated. This location indicates to the server where to find the web pages and data the repeater will use to create your web broadcast.

If you have done a stock install, which is recommended, the default location of `.web\` will not need to be changed. If you have moved this folder, or would like to use a different folder on your system, you will need to change this setting to indicate the location of the root folder relative to the Clipstream Live Server executable.

Cache Folder

The cache folder is where the Clipstream Live Repeater caches every file requested from the Clipstream Live Server, with the exception of the Live streams, as it prepares to rebroadcast the live stream. Although you can change the location of this folder (`.\cache\`), it is recommended that you stay with the default location. If you do change the location you will need to alter this setting to indicate the location of the cache folder relative to the Clipstream Live Repeater executable.

Default Filename

The default file name refers to the name of the HTML file that will be displayed when a user visits the repeated stream via the URL of the repeater.

e.g. `http://64.251.90.15:8080`

Max Bandwidth (kbps)

This setting limits the amount of bandwidth available to be used by the repeater. Once this number has been reached, the repeater will refuse further connections. Please note that setting the Max Bandwidth to higher than your available bandwidth will not realize better performance and more people served. If anything, performance will degrade seriously one available bandwidth is exceeded.

Viewing the Repeated Stream

There are two ways to view the repeated stream on the Live Repeater:

1. If you are on the live server machine, simply open your browser, and in the location bar enter **http://localhost**. This should open up a page with the repeated stream. If you are using a port other than Port 80, your will need to indicate the port as well. In this case, enter **http://localhost:8080** or whatever port you have chosen to use.
2. If you would like to view the page from another computer connected to the Internet, simply type in the IP address of the Clipstream Live Repeater computer in the location bar of your browser. This should also open a page showing the repeated live stream. If you are using a port other than Port 80, your will need to indicate the port as well. In this case, enter **http://64.251.90.15:8080** or whatever IP address and port you have chosen to use.

Modifying the Clipstream Live Repeater Web Page and Applet Code

It is possible for someone with a little bit of HTML experience to customize the HTML page that the Repeater uses to show the live stream. If you followed the stock installation of the Live Repeater, the page you can edit should be located at:

C:\Program Files\Clipstream\Clipstream Live Repeater\Cache\live.html

This page will only be present if you have started and stopped the repeater, and have successfully viewed a repeated stream at least once.

Copy the live.html file to the \web\ folder prior to editing. When the Repeater is started up, it first looks in the \web\ folder for the live.html file. If the file exists in this folder, the repeater will default to this page when a web browser visits the live repeater.

If the live.html is not located in this folder, the repeater will then check for the file in the \cache\ folder. If you edit the file in the \cache\ folder, it is possible that the repeater will replace all of your changes with the stock settings from the Live Server the next time the repeater is started. As such, it is a good practice to always copy the live.html file into the \web\ folder prior to editing for the first time.

To recap, the steps for editing the repeated page are as follows:

1. Start the Live Server.
2. Make sure the Repeater is configured to repeat the Live Serve stream.
3. Re-start the Live Repeater.
4. View the repeated page .
5. Copy the live.html file from the \cache\ folder to the \web\ folder.
6. Edit the live.html page in the \web\ folder.

The HTML file live.html is exceptionally simple and contains the following code:

```
<HTML><BODY>
<Applet MayScript
  cabbase=clipstreamlive.cab archive=clipstreamlive.zip code=clipstreamlive.class
  alt=ClipstreamLive name=clipstreamlive
  width=216 height=176>
  <param name='AutoBitrate'      value='true'>
  <param name='VideoURL1'       value='256k,256,live128.vcs'>
  <param name='VideoURL2'       value='32k,32,live044.vcs'>
  <param name='AutoPlay'        value='True'>
  <param name='VideoFrameBuffer' value='4'>
  <param name='VideoBufferSize' value='1'>
  <param name='SeekEnable'      value='false'>
  <param name='PanelEnable'     value='False'>
</Applet>
</body></HTML>
```

You can customize this web page however you wish using standard HTML.

NOTE: DO NOT change the name of this file.

NOTE: DO NOT alter the contents of the Applet itself unless you are totally comfortable with applet code. There are some instances where you will need to alter the applet code as outlined below.

Recommended Applet Code Changes

Prior to making any applet code changes, it is recommended that you copy the live.html file from the \cache\ folder to the \web\ folder and edit the file there.

Currently, there is only one recommended applet code change:

Due to a bug in the current version of the Clipstream Live Repeater it is recommended that the parameter for the modem stream be changed from:

value='32k,32,live044.vcs'

to

value='32k,0,live044.vcs'

This change will avoid the problem of the live video trying to pre-load itself completely (not possible) prior to playback due to insufficient viewer bandwidth.

Placing the Repeated Stream on an External Web Page or Email

To place the live stream on a web page on another server, simply take the applet code produced by the live repeater as shown above (cut and paste from C:\Program Files\Clipstream\Clipstream Live Repeater\Cache\live.html) and paste it into the HTML of the page where you wish the live stream to appear. In order for the repeated signal to appear a simple modification to the Clipstream Video applet code in this HTML must be made to the new HTML page. **DO NOT** change the live.html page on the CPU running the Clipstream Live Repeater. This modification is as follows:

ADD the segment codebase="http://64.251.90.15:8080/"

REPLACE http://64.251.90.15:8080/ with the IP Address of **YOUR** Repeater.

The result should look something like this:

```
<applet MayScript archive=clipstreamlive.zip cabbase=clipstreamlive.cab  
codebase="http://64.251.90.15:8080/" code=clipstreamlive.class alt=ClipstreamLive  
name=clipstreamlive width=240 height=192>
```

If you have done everything correctly, you should now see the repeated live stream on your web page.

Running the Repeater on an Existing Web Server / Port Issues

It is possible to run the Clipstream Live Repeater on an existing web server or in tandem with other applications that require a communications port, however, in most cases the stock installations of both products will likely cause a port conflict. Typically, all most web applications including servers are configured to use Port 80 – this is also the default setting of the Clipstream Live Repeater. If, when you are trying to view a repeated page it does not connect as expected, try changing the port used by the Live Repeater to something other than Port 80. In most cases this should solve the problem.

About Destiny Media Technologies

Destiny Media Technologies, Inc. (OTCBB:DSNY)(Berlin:DME;935 410) (<http://www.dсны.com>) is a leader in developing easy-to-use tools for distributing digital media through the Internet. The company's suite of streaming and downloadable products includes: Clipstream™, Destiny Media Player™, Radio Destiny™, Pirate Radio™ and MPE™. Established in 1991, the operating subsidiary, Destiny Software Productions, Inc. is headquartered in Vancouver, Canada.

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