

# LiveStreamer

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Live STANAG 4609 re-streamer utility

**LiveStreamer** utility provides STANAG file recasting services. You can emulate live STANAG streaming to udp unicast / multicast or file targets. File can be streamed in loop (video and TS timestamps are restamped to fully simulate live streaming).

As MPEG format uses 33 bit for the **PTS** timestamps, they will eventually ( $2^{33} / 90000 \text{ kHz} = \text{about } 26.5 \text{ hours}$ ) come to wraparound for the continuous sources. If you use a file instead of live streaming, simply sending it as is, this will happen after every loop. Many applications rely on continuously increasing timestamps, for example, **DVR** timestamp based seeking may only handle a natural wraparounds - one wrap without introducing any additional inconsistencies. If a stream has many sudden changes to its timeline, the timestamp based seeking won't work. **LiveStreamer** ensures that the looped content will have its timestamps fixed.

Available for Windows and Linux.

There are 2 modes of operation:

- Video pass through
- Info overlay

Video pass through

Original video and data pids are remultiplexed (no video transcoding).

Info overlay



Video is transcoded and overlaid with some info useful for testing. Note, this mode requires more PC resources (depending on resolution and encoding presets) and video quality will of course degrade (generation loss).

Video overlay shows the following info:

- Date / Time
- Video PTS in seconds (PTS wraparounds are taken into account, so it is an *accumulated time*)
- Frame count

Video resolution, bitrate and profile are taken from the source file. It is possible to override the bitrate and profile.

## Usage

```
LiveStreamer - ver. 1.0.3
Node info: NI-LSTREAM-832DCDF9-86B2-C446-D114-1565CE4CE777
Licensed to: Alex Chernilov @ ImpleoTV Systems Ltd.
File: D:/Movie/Impleo/Israel/TelAviv/Tel-Aviv-6M.ts
Duration: 00:03:54.835 Bitrate: 6.12 Mbit/s Resolution: 1920x1080 Profile: High Start PTS: 133200 Start time: 1.48 Klv pids: [0x101]
Target: d:/tmp/tlv.ts
Laps: 1/1 9% | Framerate: 24 fps | Bitrate: 6.31 Mbps | Time: 00:00:20.71
```

Basic demo usage. Unicast streaming:

```
liveStreamer -i C:/Movie/stanagFile.ts -o udp://192.168.1.26:30122
```

Basic demo usage. Multicast streaming:

```
liveStreamer -i C:/Movie/stanagFile.ts -o udp://227.1.1.1:30122
```

Note. You can select specific output network interface (add **localaddr=**) and packet (add **pkt\_size=**) size for streaming. For example:

```
liveStreamer -i C:/Movie/stanagFile.ts -o "udp://227.1.1.1:30122?
localaddr=192.168.1.28&pkt_size=1316"
```

Running with license (as arguments), infinite loop:

```
liveStreamer -i C:/Movie/stanagFile.ts -o udp://227.1.1.1:30122 --licenseFile
"C:/Doc/MyLicense.lic" --licenseKey 8CFE4E49-ABDE1B14-159A70E4-BDFF67AB
```

Note, you can just copy the license files to the current directory.

Loop file 5 times.

```
liveStreamer -i C:/Movie/stanagFile.ts -o udp://227.1.1.1:30122 -l 4
```

Overlaying time, pts and frame count.

```
liveStreamer -i C:/Movie/stanagFile.ts -o udp://227.1.1.1:30122 --overlay true
```

Saving to file:

```
liveStreamer -i C:/Movie/stanagFile.ts -o c:/tmp/file.ts
```

## Options

Flag	Name	Description
-i	--input	Input File path
-o	--output	Output url
-l	--loop	Loop. Number of times the file shall be looped. Loop 0 means no loop, -1 (default) infinite
	--serviceName	Custom service name. Default - Live
	--overlay	Overlay info (true / false). Note, this will transcode the video
-c	--color	Overlay color.
	--vb	Video bitrate. If not set, the original bitrate will be used for transcoding'
	--preset	Encoding preset (ultrafast, superfast, veryfast, faster, fast, medium, slow, slower, veryslow). Default - ultrafast.
	--profile	Profile. baseline, main, high. Default - original file profile, if supported, or 'Main'
	--licenseFile	License file
	--licenseKey	License Key
	--printUsage	Print args description (true/false)

## UDP output options

Additionally, you can add arguments to the **output udp url**.

Options contain a list of &-separated options of the form key=val. Use ? before the first one.

The list of supported options:

**buffer\_size=size**

Set the UDP maximum socket buffer size in bytes. Default is 32 KB for output.

**bitrate=bitrate**

If set to nonzero, the output will have the specified constant bitrate if the input has enough packets to sustain it.

**burst\_bits=bits**

When using bitrate this specifies the maximum number of bits in packet bursts.

**localport=port**

Override the local UDP port to bind with.

**localaddr=addr**

Local IP address of a network interface used for sending packets or joining multicast groups.

**pkt\_size=size**

Set the size in bytes of UDP packets.

**reuse=1|0**

Explicitly allow or disallow reusing UDP sockets.

**ttl=tll**

Set the time to live value (for multicast only).

**connect=1|0**

Initialize the UDP socket with connect(). In this case, the destination address can't be changed with ff\_udp\_set\_remote\_url later. If the destination address isn't known at the start, this option can be specified in ff\_udp\_set\_remote\_url, too. This allows finding out the source address for the packets with getsockname, and makes writes return with AERROR(ECONNREFUSED) if "destination unreachable" is received.

**broadcast=1|0** Explicitly allow or disallow UDP broadcasting.

Note that broadcasting may not work properly on networks having a broadcast storm protection.

Sample:

```
udp://hostname:port?pkt_size=188&buffer_size=65535
```

## License

Application without license will work in demo mode (for about 10 min). In order to lift demo restrictions you should provide the license using one of two options:

- passing license info as the arguments (with --licenseFile and --licenseKey)
- copying license file (.lic) and a key (.txt) file into current working directory

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