

Lightspeed Live Play

Version 1.4



User Guide

Copyrights and Trademark Notices

Copyright © 2024 Telestream, LLC and its Affiliates. All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, altered, or translated into any languages without written permission of Telestream, LLC. Information and specifications in this document are subject to change without notice and do not represent a commitment on the part of Telestream. Specifications subject to change without notice.

Telestream, CaptionMaker, Cerify, DIVA, Episode, Flip4Mac, FlipFactory, Flip Player, GraphicsFactory, Kumulate, Lightspeed, MetaFlip, Post Producer, ScreenFlow, Switch, Tempo, TrafficManager, Vantage, VOD Producer, and Wirecast are registered trademarks and Aurora, ContentAgent, Cricket, e-Captioning, Inspector, iQ, iVMS, iVMS ASM, MacCaption, Pipeline, Sentry, Surveyor, Vantage Cloud Port, CaptureVU, FlexVU, PRISM, Sentry, Stay Genlock, Aurora, and Vidchecker are trademarks of Telestream, LLC and its Affiliates. All other trademarks are the property of their respective owners.

Adobe. Adobe® HTTP Dynamic Streaming Copyright © 2014 Adobe Systems. All rights reserved.

Apple. QuickTime, MacOS X, and Safari are trademarks of Apple, Inc. Bonjour, the Bonjour logo, and the Bonjour symbol are trademarks of Apple, Inc.

Avid. Portions of this product Copyright 2012 Avid Technology, Inc.

CoreOS. Developers of ETCD.

Dolby. Dolby and the double-D symbol are registered trademarks of Dolby Laboratories Licensing Corporation.

Fraunhofer IIS and Thomson Multimedia. MPEG Layer-3 audio coding technology licensed from Fraunhofer IIS and Thomson Multimedia.

Google. VP6 and VP8 Copyright Google Inc. 2014 All rights reserved.

MainConcept. MainConcept is a registered trademark of MainConcept LLC and MainConcept AG. Copyright 2004 MainConcept Multimedia Technologies.

Manzanita. Manzanita is a registered trademark of Manzanita Systems, Inc.

MCW. HEVC Decoding software licensed from MCW.

MedialInfo. Copyright © 2002-2013 MediaArea.net SARL. All rights reserved.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT HOLDER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR

OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Microsoft. Microsoft, Windows Server 2016|Server 2019|Server 2022, Windows 10, Media Player, Media Encoder, .Net, Internet Explorer, SQL Server 2012|2016|2019|2022, and Windows Media Technologies are trademarks of Microsoft Corporation.

NLOG, MIT, Apache, Google. NLog open source code used in this product under MIT License and Apache License is copyright © 2014-2016 by Google, Inc., © 2016 by Stabzs, © 2015 by Hiro, Sjoerd Tieleman, © 2016 by Denis Pushkarev, © 2015 by Dash Industry Forum. All rights reserved.

SharpSSH2. SharpSSH2 Copyright (c) 2008, Ryan Faircloth. All rights reserved. Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer:

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

Neither the name of Diversified Sales and Service, Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Swagger. Licensed from SmartBear.

Telerik. RadControls for ASP.NET AJAX copyright Telerik All rights reserved.

VoiceAge. This product is manufactured by Telestream under license from VoiceAge Corporation.

x264 LLC. The product is manufactured by Telestream under license from x264 LLC.

Xceed. The Software is Copyright ©1994-2012 Xceed Software Inc., all rights reserved.

ZLIB. Copyright (C) 1995-2013 Jean-loup Gailly and Mark Adler.



Other brands, product names, and company names are trademarks of their respective holders, and are used for identification purpose only.

MPEG Disclaimers

MPEGLA MPEG2 Patent

ANY USE OF THIS PRODUCT IN ANY MANNER OTHER THAN PERSONAL USE THAT COMPLIES WITH THE MPEG-2 STANDARD FOR ENCODING VIDEO INFORMATION FOR PACKAGED MEDIA IS EXPRESSLY PROHIBITED WITHOUT A LICENSE UNDER APPLICABLE PATENTS IN THE MPEG-2 PATENT PORTFOLIO, WHICH LICENSE IS AVAILABLE FROM MPEG LA, LLC, 4600 S. Ulster Street, Suite 400, Denver, Colorado 80237 U.S.A.

MPEGLA MPEG4 VISUAL

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 VISUAL PATENT PORTFOLIO LICENSE FOR THE PERSONAL AND NON-COMMERCIAL USE OF A CONSUMER FOR (i) ENCODING VIDEO IN COMPLIANCE WITH THE MPEG-4 VISUAL STANDARD ("MPEG-4 VIDEO") AND/OR (ii) DECODING MPEG-4 VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL AND NON-COMMERCIAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION INCLUDING THAT RELATING TO PROMOTIONAL, INTERNAL AND COMMERCIAL USES AND LICENSING MAY BE OBTAINED FROM MPEG LA, LLC. SEE [HTTP://WWW.MPEGLA.COM](http://www.mpegla.com).

MPEGLA AVC

THIS PRODUCT IS LICENSED UNDER THE AVC PATENT PORTFOLIO LICENSE FOR THE PERSONAL USE OF A CONSUMER OR OTHER USES IN WHICH IT DOES NOT RECEIVE REMUNERATION TO (i) ENCODE VIDEO IN COMPLIANCE WITH THE AVC STANDARD ("AVC VIDEO") AND/OR (ii) DECODE AVC VIDEO THAT WAS ENCODED BY A CONSUMER ENGAGED IN A PERSONAL ACTIVITY AND/OR WAS OBTAINED FROM A VIDEO PROVIDER LICENSED TO PROVIDE AVC VIDEO. NO LICENSE IS GRANTED OR SHALL BE IMPLIED FOR ANY OTHER USE. ADDITIONAL INFORMATION MAY BE OBTAINED FROM MPEG LA, L.L.C. SEE [HTTP://WWW.MPEGLA.COM](http://www.mpegla.com).

MPEG4 SYSTEMS

THIS PRODUCT IS LICENSED UNDER THE MPEG-4 SYSTEMS PATENT PORTFOLIO LICENSE FOR ENCODING IN COMPLIANCE WITH THE MPEG-4 SYSTEMS STANDARD, EXCEPT THAT AN ADDITIONAL LICENSE AND PAYMENT OF ROYALTIES ARE NECESSARY FOR ENCODING IN CONNECTION WITH (i) DATA STORED OR REPLICATED IN PHYSICAL MEDIA WHICH IS PAID FOR ON A TITLE BY TITLE BASIS AND/OR (ii) DATA WHICH IS PAID FOR ON A TITLE BY TITLE BASIS AND IS TRANSMITTED TO AN END USER FOR PERMANENT STORAGE AND/OR USE. SUCH ADDITIONAL LICENSE MAY BE OBTAINED FROM MPEG LA, LLC. SEE [HTTP://WWW.MPEGLA.COM](http://www.mpeg-la.com) FOR ADDITIONAL DETAILS.

Limited Warranty and Disclaimers

Telestream, LLC (the Company) warrants to the original registered end user that the product will perform as stated below for a period of one (1) year from the date of shipment from factory:

Hardware and Media—The Product hardware components, if any, including equipment supplied but not manufactured by the Company but NOT including any third party equipment that has been substituted by the Distributor for such equipment (the “Hardware”), will be free from defects in materials and workmanship under normal operating conditions and use.

Warranty Remedies

Your sole remedies under this limited warranty are as follows:

Hardware and Media—The Company will either repair or replace (at its option) any defective Hardware component or part, or Software Media, with new or like new Hardware components or Software Media. Components may not be necessarily the same, but will be of equivalent operation and quality.

Software Updates

Except as may be provided in a separate agreement between Telestream and You, if any, Telestream is under no obligation to maintain or support the Software and Telestream has no obligation to furnish you with any further assistance, technical support, documentation, software, update, upgrades, or information of any nature or kind.

Restrictions and Conditions of Limited Warranty

This Limited Warranty will be void and of no force and effect if (i) Product Hardware or Software Media, or any part thereof, is damaged due to abuse, misuse, alteration, neglect, or shipping, or as a result of service or modification by a party other than the Company, or (ii) Software is modified without the written consent of the Company.

Limitations of Warranties

THE EXPRESS WARRANTIES SET FORTH IN THIS AGREEMENT ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. No oral or written information or advice given by the Company, its distributors, dealers or agents, shall increase the scope of this Limited Warranty or create any new warranties.

Geographical Limitation of Warranty—This limited warranty is valid only within the country in which the Product is purchased/licensed.

Limitations on Remedies—YOUR EXCLUSIVE REMEDIES, AND THE ENTIRE LIABILITY OF TELESTREAM, LLC WITH RESPECT TO THE PRODUCT, SHALL BE AS STATED IN THIS LIMITED WARRANTY. Your sole and exclusive remedy for any and all breaches of any Limited Warranty by the Company shall be the recovery of reasonable damages which, in the aggregate, shall not exceed the total amount of the combined license fee and purchase price paid by you for the Product.

Damages

TELESTREAM, LLC SHALL NOT BE LIABLE TO YOU FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF YOUR USE OR INABILITY TO USE THE PRODUCT, OR THE BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, EVEN IF THE COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF THOSE DAMAGES, OR ANY REMEDY PROVIDED FAILS OF ITS ESSENTIAL PURPOSE.

Further information regarding this limited warranty may be obtained by writing:
Telestream, LLC
848 Gold Flat Road
Nevada City, CA 95959 USA

You can call Telestream during U. S. business hours via telephone at (530) 470-1300.

Regulatory Compliance

Electromagnetic Emissions: FCC Class A, EN 55022 Class A, EN 61000-3-2/-3-3, CISPR 22 Class A

Electromagnetic Immunity: EN 55024/CISPR 24, (EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-8, EN 61000-4-11)

Safety: CSA/EN/IEC/UL 60950-1 Compliant, UL or CSA Listed (USA and Canada), CE Marking (Europe)

California Best Management Practices Regulations for Perchlorate Materials:
This Perchlorate warning applies only to products containing CR (Manganese Dioxide) Lithium coin cells. Perchlorate Material-special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate.

Obtaining Support | Information | Assistance

Contact Telestream for support, information or assistance, as indicated below.

Resource	Contact Information
Lightspeed Live Support	<p>Website: www.telestream.net/telestream-support/lightspeed-live/support.htm</p> <p>Support Email: support@telestream.net</p> <p>US Phone: 877-257-6245</p> <p>International Phone: +1 530-470-2036</p> <p>Terms and times of support services vary, per the terms of your current service contract with Telestream.</p>
All Licensing	<p>Website: www.telestream.net/telestream-support/lightspeed-live/support.htm</p> <p>License Email: license@telestream.net</p>
Lightspeed Live Information Assistance FAQ Forums Upgrades	<p>Website: www.telestream.net/telestream-support/lightspeed-live/support.htm</p> <p>Support Email: support@telestream.net</p> <p>For details about the Live Play REST API, click the More menu in the web app, and select About and API Reference.</p>
Telestream, generally	<p>Website: www.telestream.net</p> <p>Sales and Marketing Email: info@telestream.net</p>
Telestream Reseller Support	If you purchased your product from a reseller, please contact your reseller for support.
International Reseller Support	<p>Website: www.telestream.net</p> <p>See the Telestream website for your regional authorized Telestream reseller.</p>
Telestream Technical Writers	<p>Email: techwriter@telestream.net</p> <p>If you have comments or suggestions about improving this document or other Telestream documents—or if you've discovered an error or omission, please email us.</p>

Contents

Introduction	11
Overview	12
Key Features	14
Using Reference Input to Synch Live Play Output	15
Specifications	16
API Control	16
ANC Playback	16
CODEC Formats	16
Container Formats	16
Live Play Performance Considerations	17
Live Play's Application Programming Interface	18
Using Live Play	19
Up and Running Quick Start	20
Launching and Logging in to Live Play	21
Changing the Password	21
Logging Out of Live Play	21
Live Play Web App Overview	22
Using Live Play Hot Keys	23
Creating and Configuring Watchers	24
Types of Watchers	24
File System Watcher	24
API Watcher	25
Creating and Configuring a File System Watcher	25
Creating and Configuring an API Watcher	27
Updating the List of Files in a Watcher	29
Deleting a Watcher	29
Creating and Configuring Playlists	30
Playlists Panel Overview	30
Playlist Toolbar	31
Cliplist Toolbar	31
Creating a New Playlist	32
Modifying a Playlist's Configuration	34

Changing Playback Mode Dynamically	35
Pausing a Playlist	36
Deleting a Playlist	36
Adding Clips to a Playlist	37
Adjusting a Clip's In/Out Points	39
Preview Panel Controls	40
Managing a Cliplist	40
Using the Loading Bar	41
Using the Clip Panel Controls	41
Using the Clip Panel Toolbar	42
Viewing and Changing a Clip's Audio Mapping	43
Resolve During Payout	43
Custom	43
Assigning and Monitoring SDI Ports	44
Dynamically Assigning an SDI Port	44
Playing Back Video in UHD	45
Installing and Managing Live Play	47
Lightspeed Live Server Requirements	47
Live Play Software Components	48
Installing Live Play on a Lightspeed Live Server	48
Licensing Live Play and Managing Your License	49
Obtaining and Installing a Live Play License	49
Viewing License Information and Managing Licenses	49
Activating a License	50
Deactivating a License	51
Web Application Browser Requirements	52
Efficient Use of Live Play	52
Importing/Exporting System Configurations	53
Exporting the System Configuration	53
Importing a System Configuration	53
System Logs	54
Accessing Live Play's Log Files and Config Files	54
Controlling Logging Settings	54
Log Files Details	55
Application Info Licensing Help Legal Documents Contacting Telestream	56
Troubleshooting	57
You can't launch Live Play—the site can't be reached	57
Live Play web app is unresponsive	58
Live Play has lost its connection to the server	58
You can't add a new playlist you've created	58
Live Play indicates that there aren't any SDI Ports	59

Introduction

Live Play is enterprise-class software that provides a multi-user, flexible and scalable SDI video playback system on Telestream's Lightspeed Live Server.

Telestream recommends that you read this chapter first, to become familiar with Live Play. Next, we suggest that you read [Installing and Managing Live Play](#) to install Live Play on a dedicated Lightspeed Live server in your facility and configure it.

Note: Telestream's *Lightspeed Live Server* and *Lightspeed Server* are different server platforms. Lightspeed Live Server hosts Live Play, Live Capture, and Live Stream; Lightspeed Server hosts Vantage.

Topics

- [Overview](#)
- [Key Features](#)
- [Using Reference Input to Synchronise Live Play Output](#)
- [Specifications](#)
- [Live Play Performance Considerations](#)
- [Live Play's Application Programming Interface](#)

Overview

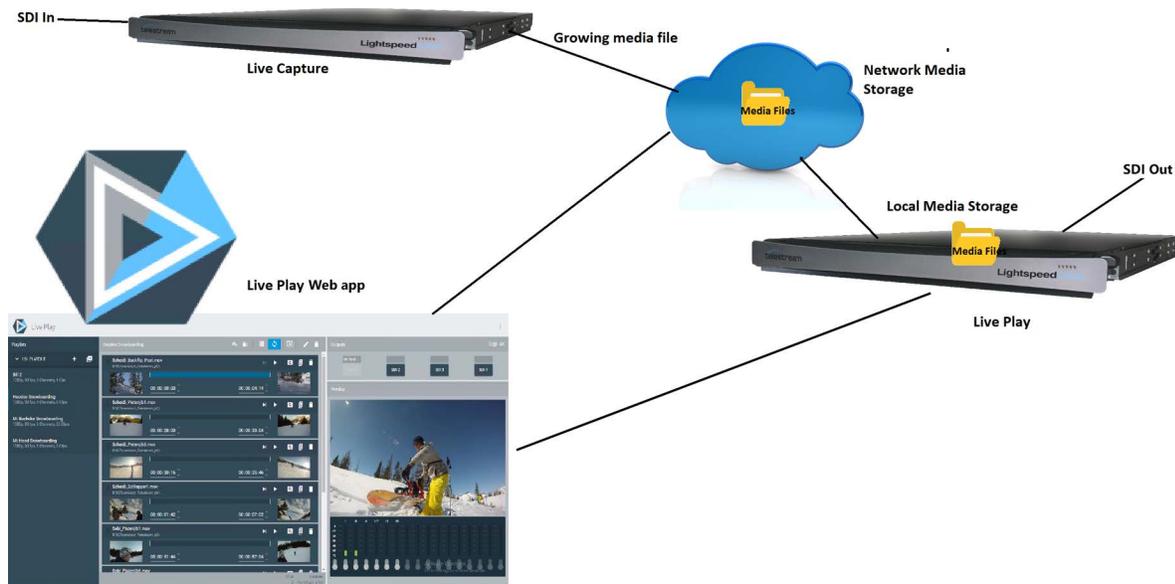
Telestream Lightspeed® Live Play is flexible and scalable, software-based video playback system hosted on a Lightspeed Live server. It includes a browser-based playback application that operators can use to create, configure, and use playlists.

Live Play should be installed on each Lightspeed Live server where you want to provide Lightspeed Live Play's SDI playback functionality.

Note: You cannot install and run Live Play on a Lightspeed Live server that also hosts Live Capture or Live Stream. Live Play requires a dedicated Lightspeed Live Server.

Live Play supports simultaneous SDI playback of up to four or eight 3G SD/HD, or four 12G SD/HD/UHD SDI outputs on a C3 | C4 Lightspeed Live Server so equipped, with on-screen preview when Live Play is hosted on a dedicated Lightspeed Live Server (based on the number and speed of SDI ports).

You can also use the Telestream Playlist Service's API to create a customized playback/confidence monitoring program or integrate Live Play into a web services-based system beyond the capability of Telestream's Live Play web application to meet your organization's requirements. For more information, see [Live Play's Application Programming Interface](#).



Note: As a platform control program, Live Play functions utilizes only the SDI ports on the hosted server. Multiple users may use Live Play simultaneously, provided that they coordinate usage: When any user modifies the Live Play configuration, it affects all Live Play web apps—creating, changing, or deleting watchlists, playlists and cliplists.

Live Play adds a flexible playback option to Telestream's enterprise-class Live Capture. Live Play enables you to create media libraries and playlists to play back individual files or multi-file playlists.

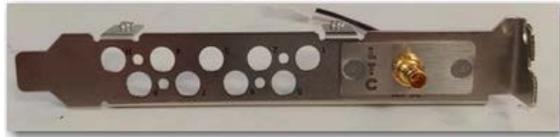
Live Play performs SDI playback of closed files, and near real-time video SDI playback of open, growing files currently being captured by Vantage under control of Live Capture or Live Schedule, along with on-screen preview, for media and entertainment companies, corporations, government agencies, and educational facilities using Lightspeed Live Capture.

Key Features

- Web-based browser application for configuration, operation and monitoring:
 - Direct, Lightspeed Live Server access or via LAN-based workstations
 - Create media libraries for easy access to media
 - Create playlists and add, remove, and re-order clips
 - Dynamically trim start and end of clips in the playlist
 - Set up folder watchers to browse media conveniently
 - Supports mixed format playlists when output formats are in same family
 - Supports format normalization for playback
 - Supports time code and ANC data playback
- SDI playback of eight simultaneous SD/HD assets, based on platform capability
- Preview media in on-screen player
- Supports a wide variety of codecs and containers—MPEG TS, MP4, QuickTime, MXF OP1a, and Telestream TIFO.
 - Play back growing (open) QuickTime, TIFO and MXF OP1a files being recorded by Live Capture in near real time
 - Confidence monitor output with minimal latency using the REST API
- Play back multi-file playlists
- Play back playlists once or continuously loop playback
- Import and export playlist configurations
- Media playback from Lightspeed Live server's local or shared network storage
- Extensive REST API for powerful automated control.

Using Reference Input to Synch Live Play Output

C2-Plus, C3-Plus, and C4 Lightspeed Live Servers equipped with Corvid 44, 88, and 12G cards, have both LTC and Reference input ports on the back of the video card. Visually examine the card's backplane to verify that your server is so equipped:



This enables you to use the standard Reference input to sync all of your SDI outputs and enables you to use the second port for LTC when in Capture mode.

To utilize Reference in this manner, ensure that you have connected a valid black burst or tri-level reference signal to the R (leftmost) port on the SDI card.

Specifications

Live Play has the following specifications:

API Control

- REST API

ANC Playback

- AFD / SMPTE 436M
- CGMS-A copy protection VBI
- Closed Captions
- Content Advisory
- SCTE-104
- Time Code—non-contiguous; segment (clip) dependent
- VBI for SD video

CODEC Formats

Apple ProRes	IMX
AVC Intra	MPEG-2
AVC Ultra	Uncompressed 10-bit (SD/HD V210)
AVC/H264 (x264)	XAVC
DNxHD	XDCAM EX
DNxHR	XDCAM HD
DV	XDCAM HD422
HD H265 (x265)	

Container Formats

MP4 (MP4)	MXF OP1a (MXF)
QuickTime (MOV)	Telestream TIFO (TIFO)

Live Play Performance Considerations

Best practice for best performance of Live Play is achieved when you store the media for playback directly on the Lightspeed Live Server hosting the Telestream Playlist Service, and run the web app directly on the same server.

Live Play's ability to playback media in a satisfactory manner is dependent on several factors under your control:

LAN-based Media Servers—if your media is stored on a LAN-based server instead of directly on the Lightspeed Live Server, it affects throughput capacity.

Number of Watched Files—Watched files volume (Watchers) should not exceed approx. 1000, including thumbnails. CPU usage can spike and performance degrade.

Network Capacity—network bandwidth capacity when accessing LAN-based media

Number of Simultaneous Playback Streams—the number of concurrent playback streams

Format, Frame size and Rate—the playlist's output format, requiring real-time source media conversion the frame size and frame rate.

Web App Location—where you are running the web browser:

- Directly on the Lightspeed Live Server hosting the Telestream Playlist Service
- On another LAN-based workstation
- Over the Internet

If you encounter performance problems, consider isolating the problem by testing these factors individually to determine the primary cause and correct it.

Live Play's Application Programming Interface

The Telestream Playlist Service web API enables you to utilize Live Play's features within a broader, web services-based system.

The API enables you to control Telestream Playlist Service's operation by implementing it in a custom program. You can also create your own customized playback/confidence monitoring web services-based system beyond the capability of Telestream's Live Play web application to meet your organization's requirements.

The API provides POST and GET operations for general system operation, creating and managing playlists, proxies, and to create and manage watchers.

Changes to Live Play or its state made via the API are reflected in the web app, and vice-versa. You can simultaneously utilize the Live Play web app and an API-based program or system to configure, control, and otherwise utilize Live Play.

To access the API documentation, enter this URL in your Web browser:

`http://<host server>:8091/help/`.

For example: `http://lsl-plaintext:8091/help/` where `<host server>` is the target Lightspeed Live server's IP address | domain name, or keyword `localhost` when accessing the URL locally.

Using Live Play

This chapter describes how to use the Live Play web app, which you use to create your watchers and playlists, and play out video via SDI.

Note: For details on general web app topics, see [Installing and Managing Live Play](#).

Topics

- [Up and Running Quick Start](#)
- [Launching and Logging in to Live Play](#)
- [Live Play Web App Overview](#)
- [Creating and Configuring Watchers](#)
- [Creating and Configuring Playlists](#)
- [Adding Clips to a Playlist](#)
- [Adjusting a Clip's In/Out Points](#)
- [Viewing and Changing a Clip's Audio Mapping](#)
- [Assigning and Monitoring SDI Ports](#)

Up and Running Quick Start

Live Play is easy to set up and start playing out SDI video. If you're eager to jump in and start, here's how. The process for playing video out via SDI typically follows these steps

- 1. Launch the Live Play web app.** Start the Live Play web app in your Chrome web browser—see [Launching and Logging in to Live Play](#).
- 2. First, create a file system watcher.** File system watchers are shortcuts that you create to identify a specific server and directory where the media you plan to play out is stored. For full details on watchers, see [Creating and Configuring Watchers](#).
At least one watcher is required before you can add clips to your playlist. You can add other watchers anytime you want.
- 3. Next, create and configure a playlist.** Each playlist has a cliplist with a set of video clips to play, plus overlay settings, and a selected SDI playout port (optional). For details on creating and configuring playlists, see [Creating and Configuring Playlists](#).
- 4. Now, add clips to your playlist.** Add media files to the cliplist from the watcher(s) you've created. For details, see [Adding Clips to a Playlist](#).

You're playing back your media now!

The moment you add clips to your playlist, playback of your media begins automatically on the specified SDI playout port and a preview displays directly in Live Play.

Launching and Logging in to Live Play

You can launch and use the Live Play web app directly on your Lightspeed Live server or you can launch it from another workstation on your network and use it from there. Connection via Internet may contribute to performance problems (see [Live Play Performance Considerations](#)), depending on available bandwidth.

To start the Live Play web app, enter its URL in your Chrome browser:

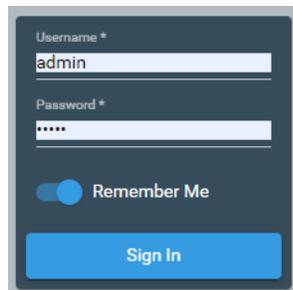
`http://localhost:8091` when you're launching it directly on its host server

or

`http://<Remote host name | IP Address>:8091` when you're launching it from another workstation.

When you're accessing Live Play locally (Chrome is running on the same Lightspeed Live Server as the Telestream Playlist Service), use the host name `localhost`. When you're accessing Live Play remotely (Chrome is running on another workstation), use the Lightspeed Live server's host name or IP address.

Live Play displays the login panel:



Enter the default credentials—user name and password `admin/live!`. The password can be changed after you log in, but the user name can not be altered. Live Play supports only one user name.

Changing the Password

To change the Live Play password, click on the User  `admin` menu (on the right side of the title bar) and select Change Password. Enter the user name (`admin`), the current password and the new password, and click Change Password.

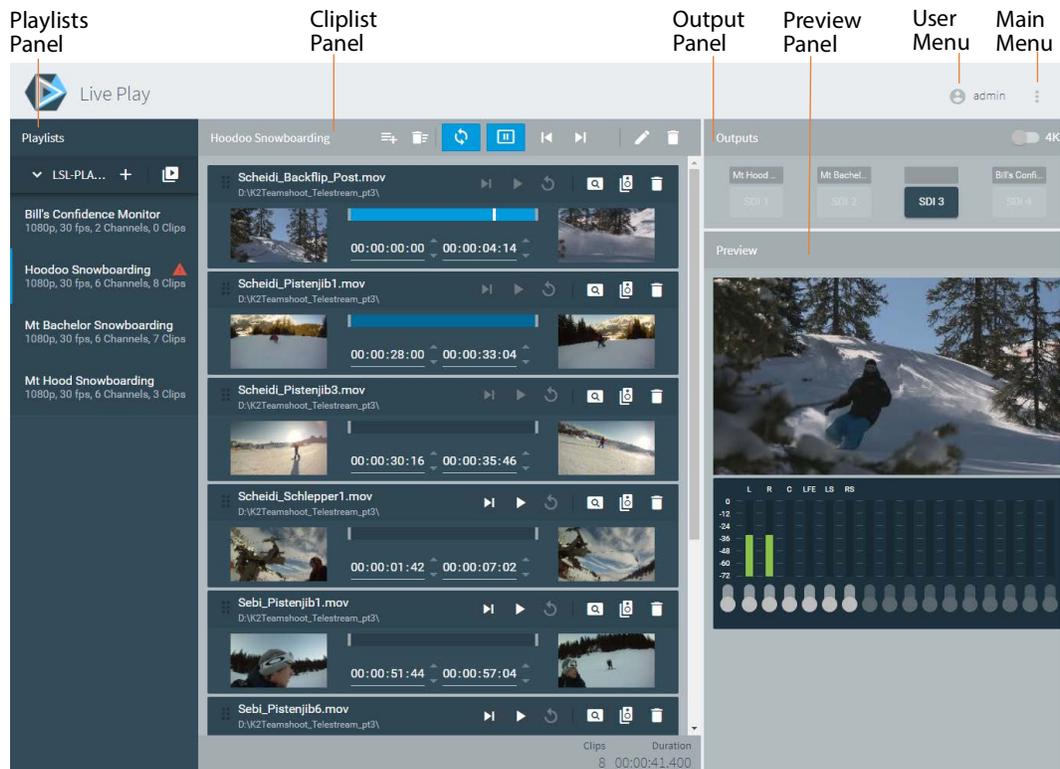
Logging Out of Live Play

To log out of Live Play, click on the User  `admin` menu (on the right side of the title bar) and select Log Out.

Live Play Web App Overview

The Live Play web app is designed to facilitate easy creation of playlists, locating media, and adding clips, and controlling SDI payout.

The Live Play web app is comprised of several panels, which you use to create playlists, organize your media resources, and implement and monitor SDI playback. Here is a typical Live Play window:



Playlists Panel—The Playlists panel (far left) displays each playlist you’ve created. The Playlists toolbar has buttons for creating new playlists and watchers. You select a playlist to display its cliplist and manage it using the buttons in the Playlists toolbar. See [Creating and Configuring Playlists](#).

Cliplist Panel—The cliplist panel displays all of the clips in the selected playlist, ordinarily from top to bottom. Basic information is displayed, along with a scrollbar. You can manage the cliplist using the toolbar, and you can edit the cliplist, rearrange clips, and configure each clip as required. See [Managing a Cliplist](#).

Note: When a clip suffers frame loss during playout, Live Play temporarily displays a warning  icon, as noted in the figure above.

Output Panel—Displays the SDI ports on this Lightspeed Live server, along with utilization information. You can dynamically switch SDI ports using this panel. See [Assigning and Monitoring SDI Ports](#).

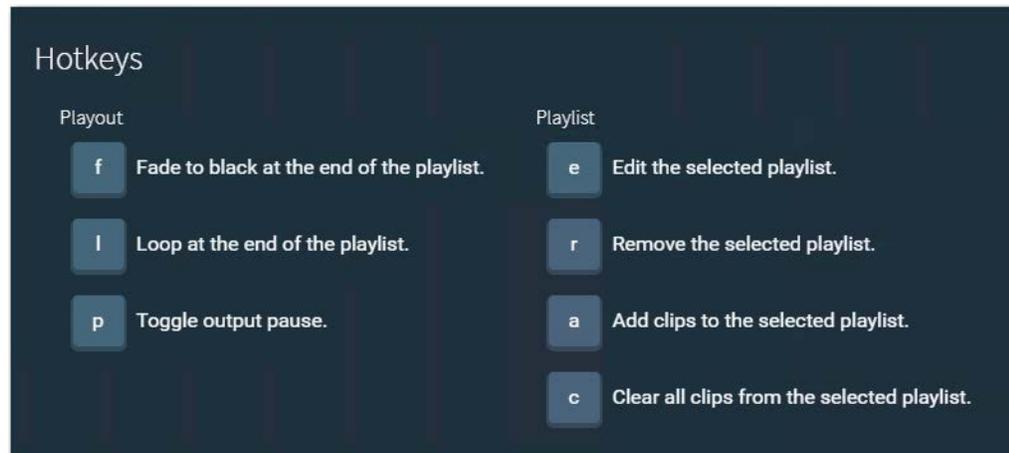
Preview Panel—Directly below the Outputs panel, the Preview panel displays the video currently playing back, along with an audio control panel.

Note: Audio is muted when you first launch Live Play. When audio is muted, toggle the audio channels in the audio panel.

Using Live Play Hot Keys

Live Play supports a set of hot keys to improve your experience and make using Live Play more effective.

Press the ? key on your keyboard to display the hot key panel:



You can use these hot keys as shortcuts whenever Live Play is in a state that makes these commands appropriate.

Creating and Configuring Watchers

Watchers are shortcuts to paths that identify files in local or network-based media folders—or sets of specific files, independent of their location—you plan to add to playlists. Watchers make it easy to browse only the folders and files you want to use, without browsing your entire network.

Playlists identify source video files by watchers, like a nickname. So, before you can add files to a playlist, you must add one or more watchers from which to select the files.

Note: Live Play can effectively watch (monitor) up to about 1000 clips, including thumbnails. Don't exceed this limit—CPU usage may spike and performance may degrade.

Watchers automatically refresh their file list. Refresh the list if you've just added a file and it doesn't display before browsing. When you create a clip list, Live Play tests each file's format in a watcher. If the format is unsupported, that file is not available to add (see [CODEC Formats](#) and [Container Formats](#)).

Topics

- [Types of Watchers](#)
- [Creating and Configuring a File System Watcher](#)
- [Creating and Configuring an API Watcher](#)
- [Updating the List of Files in a Watcher](#)
- [Deleting a Watcher](#)

Types of Watchers

Live Play enables you to create and use two types of watchers: file system watchers and API watchers. Both types perform the same task in different ways—provide access to sets of media files.

For both types, each location must be accessible to the Lightspeed Live server. Authentication is utilized as required.

File System Watcher

A file system watcher identifies a specific server and directory path that contains media files you want to add to a playlist, regardless of the files that exist at any moment. The path must be a Windows path; it must be fully-qualified; either in drive letter (for local Lightspeed Live server locations) or in UNC format (for folders on network shares).

When you create a file system watcher, Live Play immediately scans the path to establish and track the current file set.

API Watcher

An API watcher identifies a collection of media files, regardless of their location, each of which must be a fully-qualified Windows path, in drive letter | UNC format.

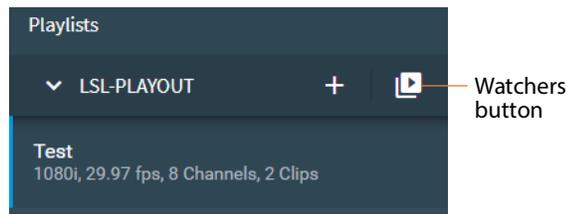
Unlike a file system watcher, an API watcher is not associated with a specific folder; it is associated with a specific file set, which may or may not exist at the time you create it. Of course, the files must exist at the time you select to watcher to add files to a playlist.

You use an external program using the API to name and manage this watcher's set of media files—by adding (via *AddFile*) and deleting (via *DeleteFile*) them dynamically.

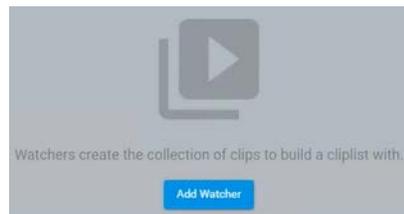
Creating and Configuring a File System Watcher

To create a new file system watcher (max. 1000 files total)—or edit an existing one, follow these steps:

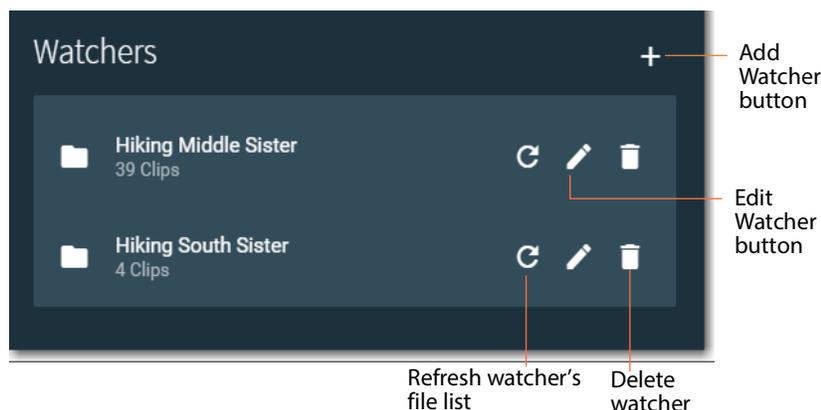
1. In the Playlists panel's toolbar, click the Watcher button:



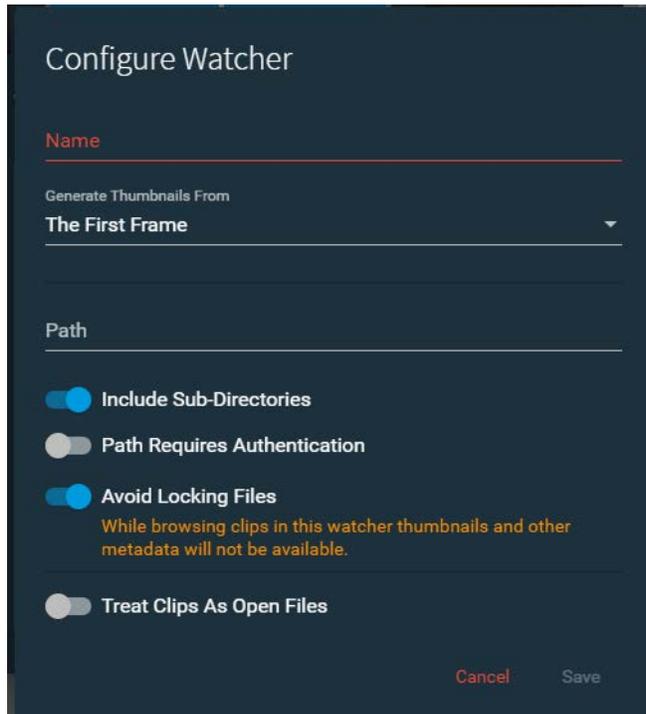
When you're creating a watcher in the process of creating a new playlist, you can also click the convenient Add Watcher button displayed in the middle of the cliplist panel:



Live Play displays the Watchers dialog:



1. Click the Add Watcher **+** button and select File System
OR
Click the Edit **✎** button to view/modify an existing watcher.
2. Live Play displays the Configure Watcher panel:



Name. Enter a practical name for this watcher—it must be unique (an error displays if you enter a duplicate). All watchers display in the Insert Clips panel so that you can browse media folders and files when you are adding clips to a playlist.

Generate Thumbnails From. Select which type of thumbnail to use:

- The First Frame
- Thirty Seconds In
- The Most Interesting Frame
- No Thumbnails.

The thumbnail is displayed in the Insert Clips dialog to represent the media file. (If you set No Thumbnails, you can't view clip metadata).

Path. Fully-qualified Windows driver letter or UNC path of the directory.

Include Sub-Directories. When enabled, all media files in all subfolders of the root are cataloged.

Path Requires Authentication. Enable to require that you supply credentials to access this folder.

Note: You can also modify the Telestream Playlist Service’s log on credentials to satisfy access credentials. Instead of using the default local system account, enter a custom account that provides credentials for all servers you require access to.

Avoid Locking Files. Enable to prevent Windows from locking files in watchers, typically occurring with open files. When enabled, thumbnails and other metadata are not displayed in the watcher.

Treat Clips as Open Files. When checked (for TIFO | MXF files that are being written by Live Capture), Live Play seeks to the end of the file to begin playback in near real-time. When clips are added from a watcher configured for open files, only one file should be added—all files are treated as open, even if they are closed. This does not prevent you from adding files to a playlist from other (closed file) watchers.

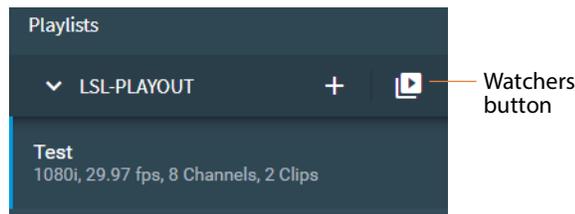
3. Click Save to add this watcher to Live Play. Live Play adds the new watcher, reads the directory and catalogs all of the media files.

Note: If the path you entered doesn’t exist, Live Play displays the error “Unable to find <Specified Path>”. If you intended to use an existing directory, fix the error and retry.

Creating and Configuring an API Watcher

To create a new API watcher (max. 1000 files total)—or edit an existing one, follow these steps:

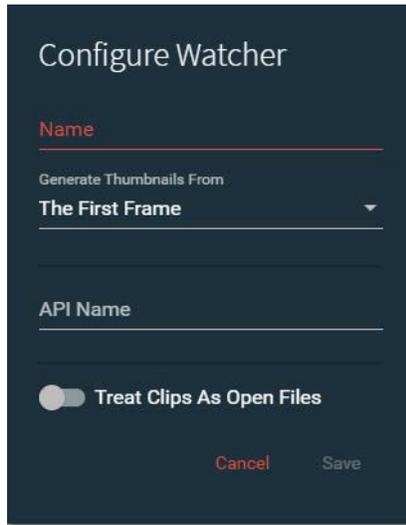
1. In the Playlists panel’s toolbar, click the Watchers  button:



Live Play displays the Watchers dialog:



1. Click the Watchers **+** button and select API to add a watcher created via the API
OR
Click the Edit **✎** button to view/modify an existing API watcher.
2. Live Play displays the Configure Watcher panel:



Name. Enter a practical name for the watcher. Watchers display in the Insert Clips panel so that you can browse media folders and files when you're adding clips to a playlist.

Generate Thumbnails From. Select one of the options for which type of thumbnail to use. Thumbnails are displayed clip by clip, in the cliplist panel when you add them.

- **The First Frame.** Select the first frame.
- **Thirty Seconds In.** Select the frame at 30 seconds into the clip.
- **The Most Interesting Frame.** Select the frame with the largest I frame in the clip.
- **No Thumbnail.** No thumbnail is selected.

API Name. Enter the name specified when the watcher was created using the API.

Treat Clips as Open Files. When checked (for TIFO | MXF files that are being written by Live Capture), Live Play seeks to the end of the file to begin playback in near real-time. When clips are added from a watcher configured for open files, only one file should be added—all files are treated as open, even if they are closed. This does not prevent you from adding files to a playlist from other (closed file) watchers.

Note: You should not open closed files from watchers operating in open mode though. Unintended side effects may occur.

Updating the List of Files in a Watcher

File System watchers automatically refresh their list. However, if you just added files and want to browse them, you can refresh the watcher manually; click the Reload  button. Live Play scans the directory and refreshes the watcher's catalog of files, so that when you are creating or updating a playlist's cliplist, the list of files is current.

Note: You should always refresh a watcher when using network storage that goes off-line. When it returns online, click Reload to verify that the files are accessible again.

Deleting a Watcher

To delete a watcher, select it and click the Delete  button. Live Play displays a confirmation dialog. Click Yes to confirm. Live Play deletes the watcher.

Creating and Configuring Playlists

A playlist is a specific video and audio playback configuration, plus a cliplist—a set of media files (clips) to play out—with an optional SDI port assignment.

Note: The output frame rate of the first playlist that you assign to an SDI port determines the frame rate family for all SDI ports on the server. You can create a playlist with a different output frame rate family (for example, 29.97 and 59.94) only if you don't assign it an SDI port. If you attempt to, Live Play displays an error. To change the output frame rate assigned to SDI ports, you must first un-assign all SDI ports. Playlists not using SDI may use other output frame rates.

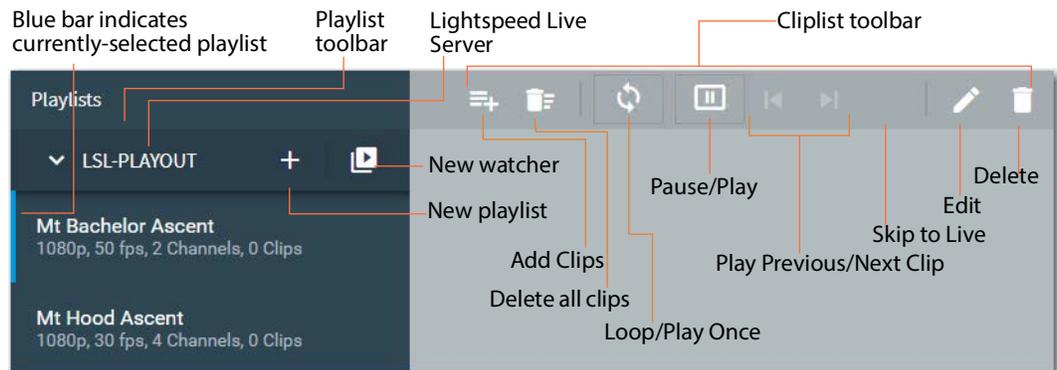
You can create as many playlists as required. Playlists are displayed in Playlists panel on the far left, where you can create them, and select them to review or update their clips.

Topics

- [Playlists Panel Overview](#)
- [Creating a New Playlist](#)
- [Modifying a Playlist's Configuration](#)
- [Changing Playback Mode Dynamically](#)
- [Pausing a Playlist](#)
- [Deleting a Playlist](#)
- [Managing a Cliplist](#)

Playlists Panel Overview

The playlists panel is the panel to the far left of the window. You use it to create, view, and select playlists and also to create watchers.



The Playlists panel displays the name of the Lightspeed Live server to which Live Play is connected. Use the disclosure arrow to hide or display the playlists for this server.

Playlist Toolbar

Add Playlist. Click the Add Playlist  button to create a new playlist.

Add Watcher. Click the Add Watcher  button to create and manage watchers ([Creating and Configuring Watchers](#)).

Select a playlist (highlighted by a blue or gray bar) to use it, manage it, or update its list of clips.

Cliplist Toolbar

Add Clips. Click the Add Clips  button to display the Insert Clips panel, where you can select watcher and browse the files to add to the selected playlist.

Delete All Clips. Click the Delete Clips  button to delete all clips from the playlist (this does not delete files, it simply removes the entries from its cliplist). Live Play displays a confirmation dialog—click Yes to confirm.



Play Once | Loop. Click the Toggle Play Once/Loop  button (or press the *f* key) to enable looping—the button displays blue. Press it again to loop once and stop. This action automatically updates the configuration.

Note: When you specify Play Once, to play the playlist again, click Play on the first (or any) clip to restart the playlist cycle.

Play / Pause. Click to pause  the playlist temporarily—the button displays bright blue. No more frames are generated. Click again to start playing out the playlist from its paused position.

Note: When playback results in contiguous frame loss exceeding 15, Live Play temporarily displays a warning  icon on the clip in the playlist. Playlist clears the warning icon when a new file starts to play out, and when you reset the clip to play from the start.

Previous | Next Clip. When playing clips, click the Previous  and Next  buttons to immediately jump and play the previous | next clip in the sequence.

Skip to Live. When using Live Capture output, if you've paused playback of live video, select the  menu and select Skip to Live to jump immediately to the current clip's latest capture frame in the video.

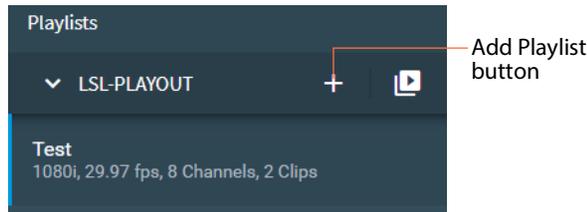
Delete. Click the Delete  button to remove the selected playlist. See [Deleting a Playlist](#) for details.

Creating a New Playlist

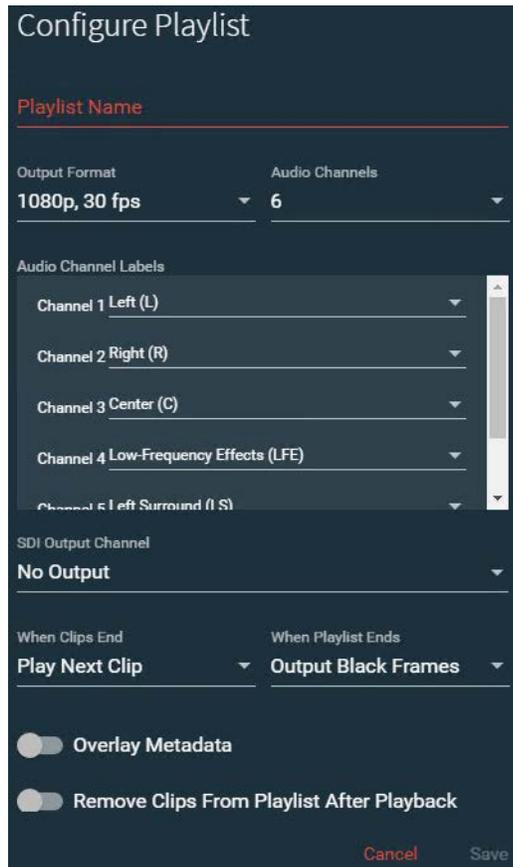
To create a new playlist, follow these steps:

Live Play displays the Add Clips button in the cliplist panel, for convenience. If you are ready to add clips now, see [Adding Clips to a Playlist](#).

1. In the Playlists panel's toolbar, click the Add Playlist **+** button:



Live Play displays the Configure Playlist dialog:



Configure these properties and fields:

Playlist Name. Enter a practical name (which must be unique) to identify this playlist (often the name of the folder, if it is named with a practical name.)

Output Format. Specifies the playback format: the video frame size and frame rate, selected from the list. If the clip's format is different than the output format, conversion is performed on-the-fly during playback.

Note: Playlists that you create may be of any output frame rate, but playlists assigned an SDI port must all be of the same family (for example, 29.97 and 59.94 or 30fps and 60fps). The first playlist you assign an SDI determines the output frame rate family of other playlists you assign an SDI port.

Audio Channels. Specifies the label (or discrete channel number) for each audio channel during playback, selected from the menu (discrete channels at bottom).

Audio Channel Labels. Specifies the logical name of the channel to play out in each channel number. See [Viewing and Changing a Clip's Audio Mapping](#).

SDI Output Channel. Specifies *None*, or a specific SDI port to use for playing this playlist. You can also assign an SDI port dynamically—see [Assigning and Monitoring SDI Ports](#).

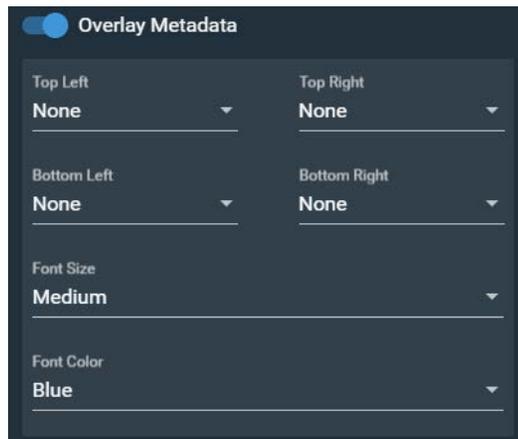
When Clips End. Select from these options to control what Live Play does with the playlist at the end of each clip:

- Play Next Clip (default)
- Pause on Last Frame of Current Clip
- Pause on First Frame of Current Clip
- Pause and Emit Black.

When Playlist Ends. Select from these options: Output Black Frames | Loop.

Output Black Frames causes Live Play to play all of the clips in the clip list one time, generating black (without audio) continually, after the last clip ends. The Loop option causes the cliplist to play through the cliplist and then start over, continually.

Overlay Metadata. Click to enable to display the Overlay Metadata panel:



Top Left | Top Right | Bottom Left | Bottom Right. Specifies the type of overlay (None | Clip Name | Timecode | Text | Clip Status) to display on the four regions of the frame. Video played back at a different speed may render time-based metadata incorrect/unusable. For a text overlay, enter the text to render in the text control displayed immediately below the overlay control.

Font Size. Specifies the font size relative to the frame height to render the text. For example, on a 1280x720 HD frame, the value 10 renders 72 pixel type; the value 4 renders 18 pixel type.

Font Color. Specifies the font color, selected for best display given the video.

Remove Clips From Playlist After Playback. Only utilized when you have specified Output Black Frames in playback mode—using the When Playlist Ends control (above). Enable to remove each clip from the playlist after its been played out, or if you have jumped to another clip, terminating the playout of this clip.

Save. Click Save to add the new playlist to Live Play and close the dialog.

Modifying a Playlist's Configuration

After you create a playlist, you can only change three properties:

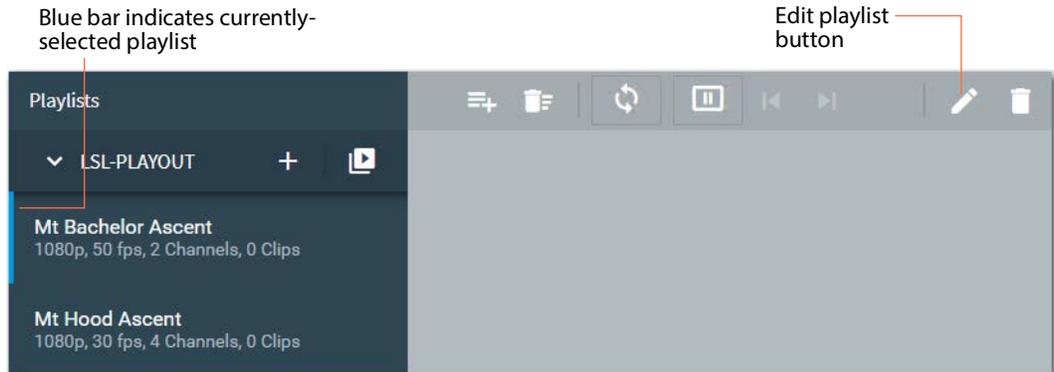
- Playlist name
- Assigned SDI port
- Playback mode (Loop | Play once).



Note: Press the e key as a short cut to display the playlist's configuration panel.

To edit the configuration, select the playlist and follow these steps:

1. In the Playlists panel's toolbar, click the Edit  button:

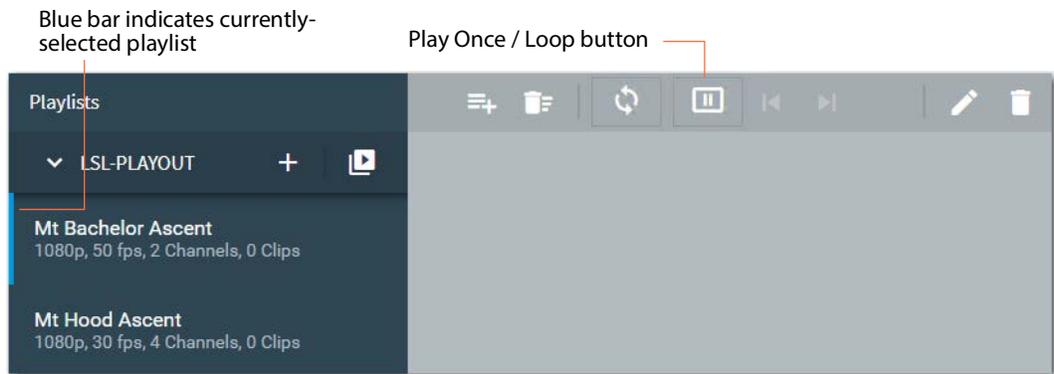


Live Play displays the Configure Playlist dialog.

2. Update the playlist name, assigned SDI port, and playback mode as required:
3. Click Save to update the playlist.

Changing Playback Mode Dynamically

When you select a playlist, the playback mode is indicated by the highlighted (blue) Playback button —Play Once (gray) or Loop (bright blue)—in the toolbar:



To dynamically change this configuration, click the Play Once / Loop  button. The mode takes effect immediately, and the configuration is updated automatically.



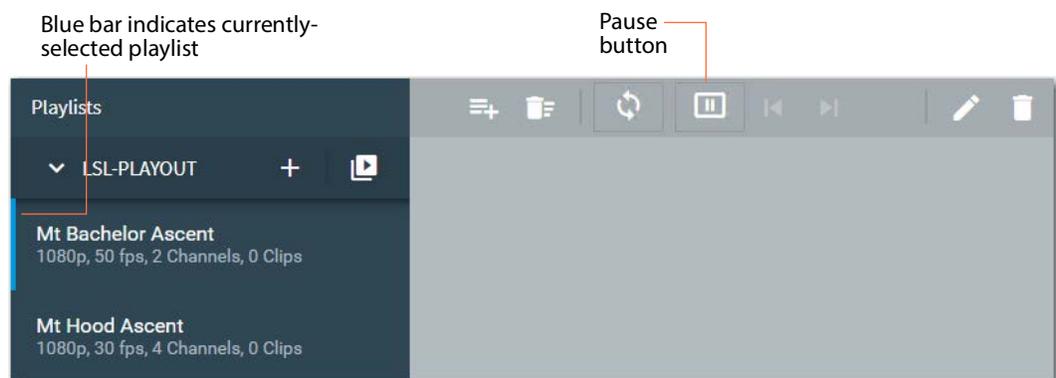
Note: As a shortcut, use these hot keys to quickly change playback modes: Press the shortcut *f* key to change to Play Once. Press *l* to change to Loop. Click ? to display the Hot Keys panel which shows all hot keys.

Pausing a Playlist

Playlists—by design—are stateless. That is, they are always operational and they are always configurable. The moment you create one, it begins playback, per its configuration. Without any clips, it plays back black frames. With clips in the list playback is as specified (looping indefinitely or playing once and then playing back black).

To temporarily halt playback (both via SDI if so configured and on screen), click the Pause button. It displays bright blue when paused. Click it again to continue playing.

Note: As a shortcut, press the *p* key on your keyboard to toggle between play and pause. (Click ? to display the Hot Keys panel.)



When you pause a playlist, the Pause button lights in bright blue to indicate that playback has been paused and no frames are generated. Click it again to resume.

Deleting a Playlist

To remove a playlist, select it and click the trash  button in the toolbar.

Note: Press the *r* key as a short cut to delete the playlist.

Live Play displays a Remove Playlist confirmation dialog—click Yes to continue.

Live Play permanently removes the playlist. Deleting a playlist doesn't affect any files associated with it. Live Play does not create or delete files.

Adding Clips to a Playlist

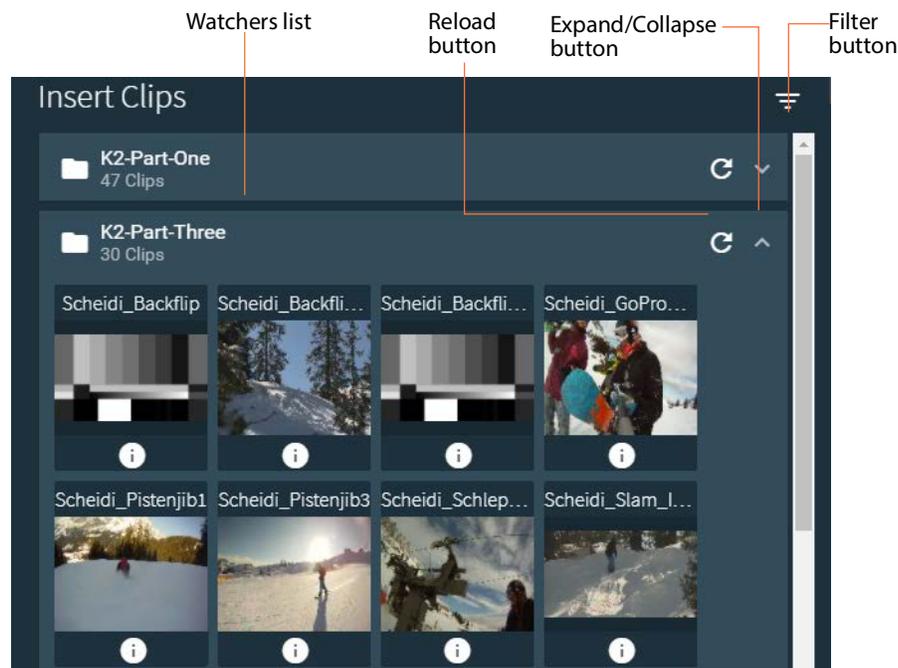
To add clips to a playlist, follow these steps:

1. In the playlist menu, select the target playlist.
2. Click the Add Clips  button in the Playlists panel's toolbar.

a

Note: Press the *a* key on your keyboard as a shortcut to adding clips.

Live Play displays the Insert Clips dialog, temporarily obscuring the Outputs and Playback panels:



The Insert Clips panel displays a list of watchers and their files—open the watcher to display file thumbnails. You can narrow the list of watchers by entering a search string in the Filter dialog (using the Filter  button) at the far right.

Note: For details about a file, hover over the  button at the bottom to display a metadata dialog. (If you set No Thumbnails, you can't view clip metadata).

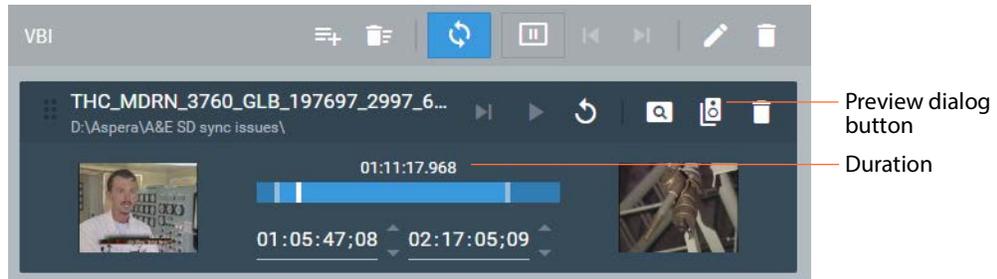
3. Refresh the watcher if there's a potential change of files since it was last used—click the Reload  button. Live Play reports its progress in re-cataloging the files.
4. After Live Play has re-cataloged the watcher list, display the list of files—click the open/close button to hide/display the clips in a given watcher.
5. As you hover over each thumbnail, Live Play displays an add symbol. Click a clip to add it to the cliplist.
6. When you're done adding clips, close the Insert Clips dialog.

Adjusting a Clip's In/Out Points

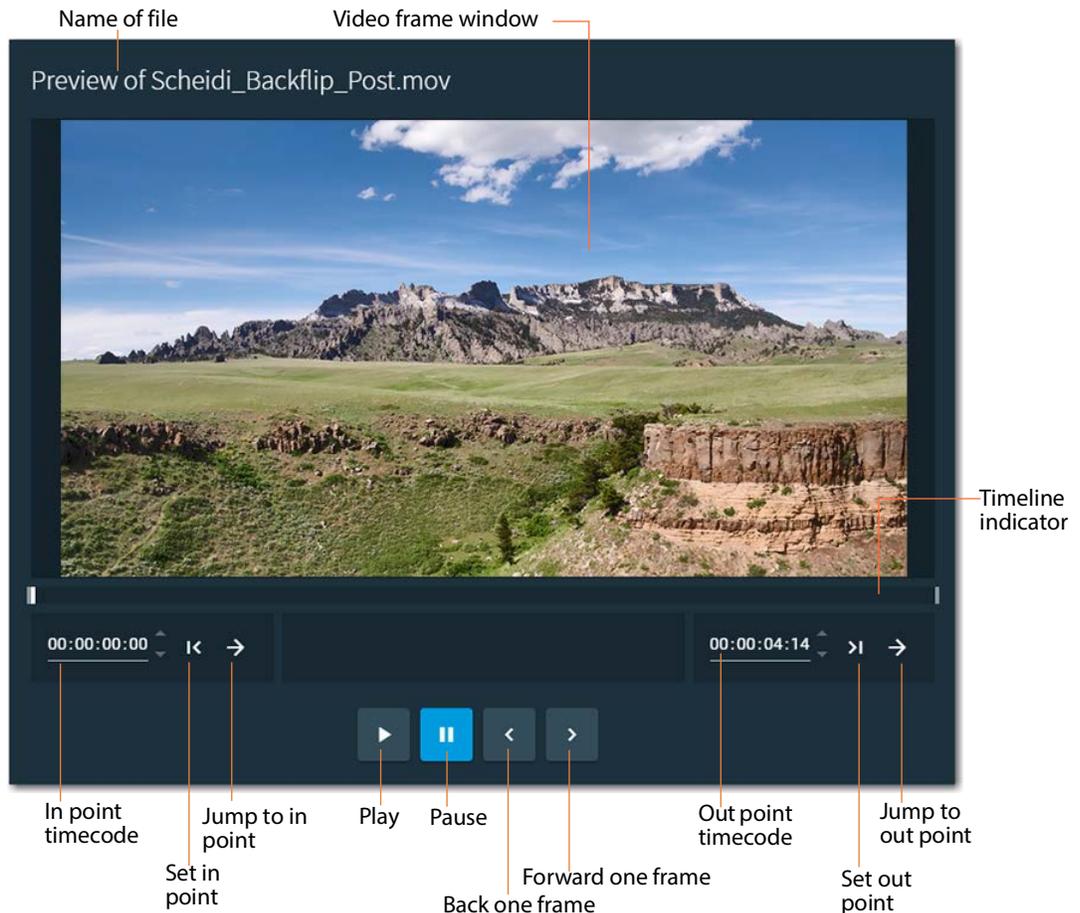
You can play and scrub each clip in a cliplist via the Preview dialog, without interrupting playback in the Preview panel, and you can view the entire clip, independently of the in/out points. The Preview dialog is video-only; there is no audio.

When you set in and out points on a clip, Live Play displays the duration in the clip's panel in the cliplist.

To display the Preview dialog, click the Inspect  button in the clip's toolbar:



Live Play displays the Preview dialog:



Use the controls below the video wall to review the video and set in and out points.

Preview Panel Controls

Timeline. Indicates the current point in the video, relative to the file duration.

In Point Timecode. Displays the timecode of the current in point.

Set In Point. Sets the in point timecode to the current location.

Jump to In Point. Jumps to the current in point.

Play. Plays the video.

Pause. Pauses the video.

Back One Frame. Display the previous frame in the video.

Forward One Frame. Display the next frame in the video.

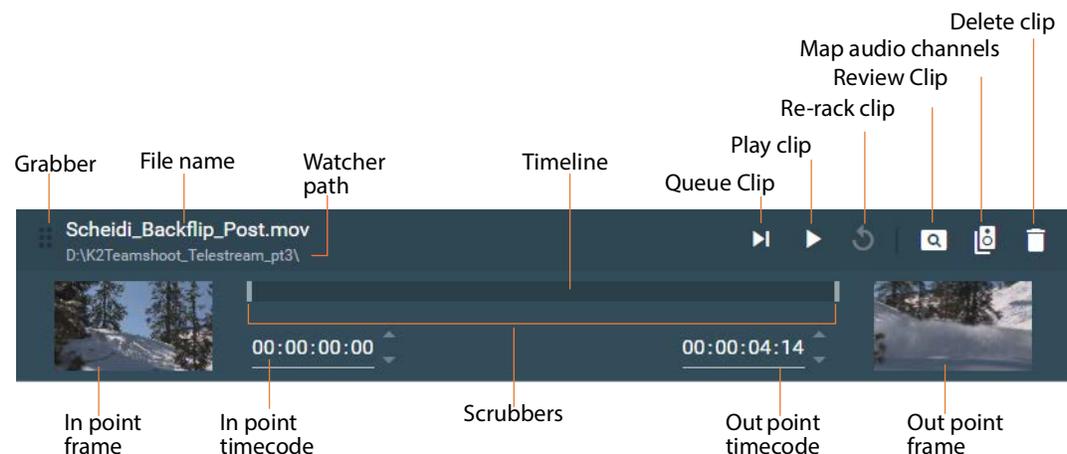
Out Point Timecode. Displays the timecode of the current out point.

Set Out Point. Sets the out point timecode to the current location.

Jump to Out Point. Jumps to the current out point.

Managing a Clist

Here are ways you can customize a cliplist and its behavior, and trim clips. Here is a typical clip panel, identifying the various components and controls:



Here are the tasks you can perform in this panel:

- **Re-order clips**—To re-arrange the clips in your playlist, click on the grabber button in the upper left corner of the clip you want to move, and drag it to its new location.
- **Delete a clip**—To remove a clip from the list, click the Delete Clip button in the toolbar. Live Play displays a confirm dialog. Click Yes to continue. (Deleting a clip does not delete the file from the file system.)

- **Set in/out points**—To clip a media file, use these methods:
 - Select and edit the timecode values manually.
 - Grab the scrubbers and adjust the in/out points by dragging them.
 - Click the Review Clip button to display the review window, where you can play the entire clip, independently of current in/out points, and adjust the in/out points of the clip. See [Adjusting a Clip's In/Out Points](#).

The thumbnail automatically updates to reflect the current in/out point you've marked.

Toolbar Commands

- **Queue a clip**—Click the Queue Clip button to queue it up out of sequence.
- **Play a clip**—Click the Play Clip button to jump to it immediately, and you can display a clip player to enable scrubbing.

Note: When playback results in contiguous frame loss exceeding 15, Live Play temporarily displays a warning  icon on the clip in the playlist. Playlist clears the warning icon when a new file starts to play out, and when you reset the clip to play from the start.

- **Re-rack clip**—Click the Re-rack Clip button to play it again, starting from the in-point.
- **Review clip**—Click the Review Clip button to display the clip in an enlarged preview dialog, with relevant details and a play bar. You can use this dialog to scrub and set in/out points. See [Adjusting a Clip's In/Out Points](#).
- **Remap audio channels**—Use the audio control panel to remap audio channels for each clip individually.

Using the Loading Bar

As you make changes to a clip, Live Play updates it and reloads the clip. As it does so, the progress bar displays a cycling blue bar to indicate progress.

The progress bar on each clip changes color to indicate its state.

Bright blue—The clip is playing. A time indicator tracks its progress.

Dark blue—The clip is queued for playback next.

Slate gray—The clip is not currently playing.

Using the Clip Panel Controls

Grab button. Use the grabber  (in the upper left corner) to drag and drop the clip in another location in the list.

File Name. Displays the name of the file associated with this clip.

Watcher Folder. Displays the folder path of this clip.

In Point and Out Point Thumbnail. Frame at specified in/out point.

In Point and Out Point Timecode. Timecode of the in/out point. Default: current clip point of file.

Click on any time unit in the timecode to highlight it, then type in the new value and click away to update it. You can start entering timecode values after the first click, while Live Play propagates the numbers from right to left. Click on an individual timecode element for unit-based adjustments. Click on any time unit to highlight it, then type in the new value and click away to update it.

Using the Clip Panel Toolbar

Queue Clip button—Click the Queue Clip  button to jump directly to this clip after the current one completes. Disabled during the time this clip is playing.

Play Now button—Click the Play Now  button to immediately start playing this clip. Disabled during the time this clip is playing.

Review Clip button—Click the Review Clip  button to display the Clip Review panel (see [Adjusting a Clip's In/Out Points](#)) where you can play the video independently—setting new clip points without affecting the current playback.

Audio Map button—Click the Audio Channel Mapping  button to view or change audio mapping for this clip (see [Viewing and Changing a Clip's Audio Mapping](#)).

Delete Clip button—Click the Delete Clip  button to remove the clip from the cliplist.

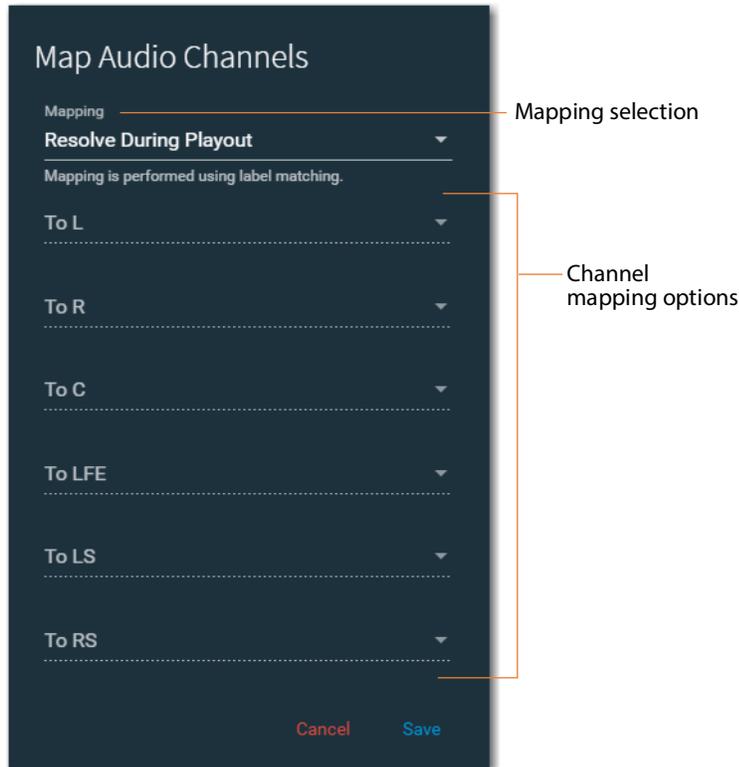


Note: To delete all of the clips in the list, press the *c* key on your keyboard.

Viewing and Changing a Clip's Audio Mapping

Use the Map Audio Channels panel to configure audio mapping for this clip. You can create custom mapping, and manually assign each channel to a logical channel or use the settings for the playlist. The first audio track is used by default. To use a different track, manually configure the clip.

To display the Map Audio Channels panel, click the Audio Channel Mapping  button in the clip's toolbar:



Resolve During Playback

When you create a playlist, you specify how many audio output channels it should stream, and what label is associated with each of them ([Creating a New Playlist](#)). When a clip is played back, you can opt to map channels in the clip to the playlist by comparing channel labels (Resolve During Playback) or create a manual map using channels discovered in the file and displayed here in this panel.

Resolve during playback is the default setting; the channels are disabled.

Custom

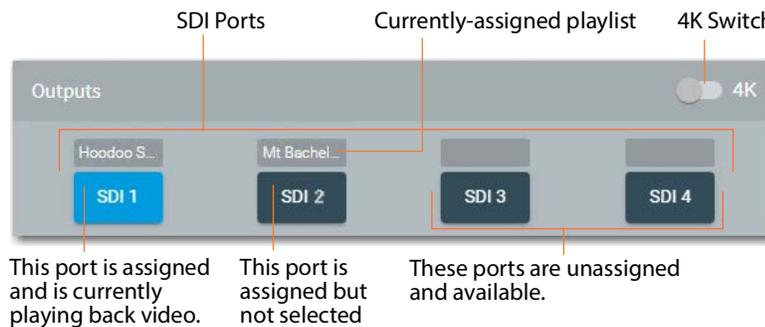
When you select Custom, you can select specific channels for audio playback.

Assigning and Monitoring SDI Ports

You use the Outputs panel to monitor your SDI ports, and dynamically select which SDI port to use to play back the video. You can change (or assign) an SDI port at any time, using the Outputs panel.

Note: This panel is disabled if the system is not licensed.

The Outputs panel (at the top right of the Live Play window) is automatically configured to display an SDI button for each SDI port on the Lightspeed Live server.



When your Lightspeed Live Server is equipped with a 12G SDI card, the 4k switch is removed, because you can select a single SDI port for UHD/4K output Quadlinking (ganging) four ports together. Each SDI port operates independently—as SD | HD | 4K/ UHD channel, provided that they are in the same frame rate class.

The label above each SDI button displays the currently-assigned playlist. When all clips in a playlist in Play Once mode have played out, the playlist plays out black frames.

Each SDI port is color-coded to indicate its state:

Bright Blue: Assigned; playlist is selected.

Charcoal Gray: Unassigned; available for assignment.

Dynamically Assigning an SDI Port

To dynamically assign an SDI port to a playlist, select the playlist and click on an unassigned SDI port. The playlist configuration is automatically updated and playback begins on the assigned port. This is an alternative to editing the playlist to achieve the same result.

To disconnect an SDI port from a playlist, select the playlist and click on the assigned port. The playlist configuration is automatically updated and playback on the SDI port is terminated. Playback continues of course; the playlist is still operating as normal.

Alternatively, you can also un-assign or override another playlist that is using the port without having to select that Playlist first.

Playing Back Video in UHD

You can optionally play back video in UHD on servers that support UHD. Support for UHD playback is codec dependent and is not supported on the C2 Lightspeed Live Server. If the clip is not UHD, it is upscaled dynamically.

Note: When playback results in contiguous lost frames exceeding 15, Live Play temporarily displays a warning  icon on the clip in the playlist. Playlist clears the warning icon when a new file starts to play out, and when you reset the clip to play from the start.

C3 and C4 Lightspeed Live Servers with 3G SDI 4- or 8-port cards support UHD playback on 1 logical SDI port (4-port card) or 2 logical SDI ports (8-port card) comprised of 4 physical SDI ports each, where one or two (platform dependent) sets of four ports each are logically bonded to produce a 4K/UHD SDI signal.

On C4 servers with the 12G SDI card, UHD playback is supported on all 4 ports.

On 3G SDI card platforms, to enable UHD playback mode, select the 4K/UHD button. Live Play disconnects all playlists from any SDI port assignments and bonds SDI 1 through 4 to UHD 1 and (on 8-port platforms) SDI 5 through 8 to UHD 2.

Note: On C4 Lightspeed Live Servers with a 4-port 12G SDI card, the 4k/UHD button is removed, because you select a single SDI port for UHD output without ganging four ports together.

Installing and Managing Live Play

This chapter explains how to install and manage Live Play.

Note: Live Play is not compatible with Live Capture or Live Stream. You should not install Live Play on a Lightspeed Live Server that hosts Live Capture or Live Stream.

This chapter also includes information about licensing and best use practices, using system configurations, using system logs, and accessing relevant documents and obtaining support and other assistance from Telestream.

Topics

- [Lightspeed Live Server Driver Requirements](#)
- [Live Play Software Components](#)
- [Installing Live Play on a Lightspeed Live Server](#)
- [Licensing Live Play and Managing Your License](#)
- [Web Application Browser Requirements](#)
- [Efficient Use of Live Play](#)
- [Importing/Exporting System Configurations](#)
- [System Logs](#)
- [Application Info | Licensing | Help | Legal Documents | Contacting Telestream](#)
- [Troubleshooting](#)

Lightspeed Live Server Driver Requirements

- AJA driver version 16.1.0.3 or later
- Corvid 44 3G firmware version 3/15/2021
- Corvid 88 3G firmware version 4/28/2021
- Corvid 44 12G firmware version 6/22/2021

Live Play Software Components

The Live Play installer includes these software components:

- *Telestream Playlist Service*—provides all of the functionality of Live Play, including API support and the Live Play web app.
- *ETCD*—utilized by the Telestream Playlist Service.

Installing Live Play on a Lightspeed Live Server

Follow these instructions to install Live Play on a Lightspeed Live Server. These instructions apply for installation on both single-server systems and arrays:

1. Copy the *Playlist_1.4.x.xxx.msi* installer file to the target server.
2. Run the installer—double-click the installer file you just copied, and follow the installer prompts to install Live Play.

Note: If you are upgrading from a previous version, clear the cache in Chrome.

Licensing Live Play and Managing Your License

Live Play requires a license to utilize it. These topics describe how to obtain, view, activate, and deactivate a Live Play license using the Live Play web app.

Note: Without a license enabled, you can use the Live Play web app for all features except SDI playback.

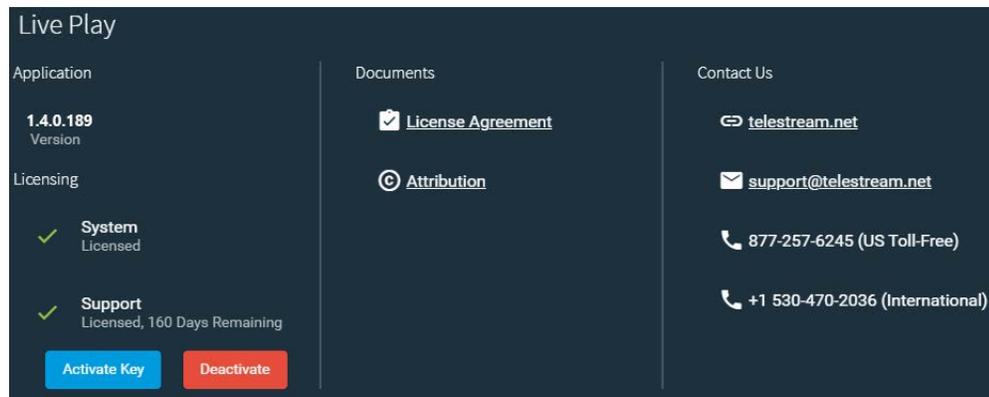
- [Obtaining and Installing a Live Play License](#)
- [Viewing License Information and Managing Licenses](#)

Obtaining and Installing a Live Play License

To obtain or inquire about licenses, see [Obtaining Support | Information | Assistance](#). Installation instructions are contained in the license email you receive.

Viewing License Information and Managing Licenses

To view and manage licenses, launch the Live Play web app ([Launching and Logging in to Live Play](#)) and click the General menu (General > About) to display the Live Play information panel:

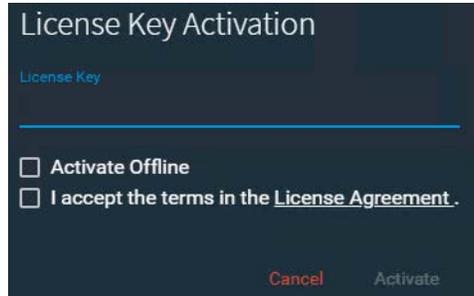


The license section displays your entitlements, which are checked when activated.

Use the Activate and Deactivate buttons to activate and deactivate license keys to control the entitlements you have purchased.

Activating a License

To activate your license, click the blue Activate Key button. Live Play displays the License Key Activation panel:



Configure the following controls:

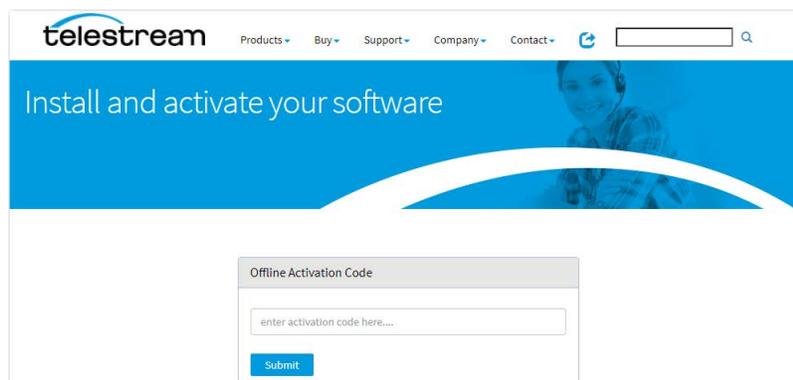
License Key. Copy and paste the license key that you obtained from Telestream into this text field and click Activate. Save a copy of the license key in case you need to re-apply it. To obtain a license, see [Obtaining Support | Information | Assistance](#).

Activate Offline. If your Lightspeed Live Server is connected to the Internet, proceed to Accept the Terms.

If your server is not connected to the Internet, you can't activate the license key directly in Live Play. Instead, check Activate Offline and follow these steps:

1. Click the Duplicate icon at the far right of the dynamically-generated activation code to select it and copy it to the clipboard—or write it down—for transfer to an Internet-connected web browser.
2. Open a browser on a workstation that can connect to the Internet.
3. Go to the URL <https://cws.telestream.net/offlineactivation.aspx>, specified below the activation code.

Telestream's product activation page displays:



4. Paste in the activation code and click Submit.

The Telestream web site validates the activation code and returns a server key. Copy the key or write it down for transfer into Live Play.

5. Return to the Live Play web app and paste (or enter) the server code.

I Accept the Terms... Check if you agree to the terms in the license agreement, which you can read by clicking the License Agreement link.

Activate. Check to activate your license key.

Note: If you encounter an error, please contact Telestream for support. See [Obtaining Support | Information | Assistance](#).

Deactivating a License

To deactivate your license, click the General menu (General > About) to display the Live Play information panel and click the Deactivate button.

When you deactivate your license, SDI output is disabled; all other features of Live Play are still enabled.

Note: When deactivating a license from a server not connected to the Internet, we recommend that you contact Telestream (see [Obtaining Support | Information | Assistance](#)) for assistance.

Web Application Browser Requirements

The Live Play web app is implemented for use in Chrome. Other browsers are not supported.

Chrome is installed by default on Lightspeed Live servers and configured to operate properly. Windows is configured to permit Chrome to update automatically.

JavaScript must be enabled to use the Live Play web app. Live Play does not utilize cookies.

Efficient Use of Live Play

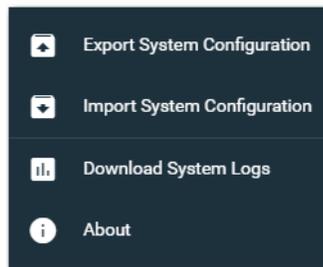
When a user is logged into Live Play or other Live web applications, the web app consumes network and server resource cycles. Multiple users connected to Live Play can degrade its performance. To avoid this situation, close any browser connected to the Lightspeed Live Server that is not being used.

Importing/Exporting System Configurations

The Live Play configuration settings including playlists, watchers and other settings can be exported for backup and imported to reset a Live Play system.

Exporting the System Configuration

To export Live Play's current configuration settings, click the More menu  in the upper right corner of the web page and select *Export System Configuration*:

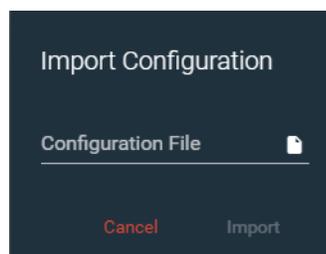


Live Play saves the file to the browser's default downloads folder, or a Save As dialog displays if your browser is set to ask where to save each file before downloading. The default file name is *Playout System Configuration.json*. If a file of the same name already exists from a previous export, an incremental number is added starting with *~(1).xml*.

Importing a System Configuration

To import a Live Play configuration that was exported previously, click the More menu  in the upper right corner of the web page and select *Import System Configuration*:

Live Play displays the Import Configuration dialog:



Enter the fully-qualified path and file name or click the folder icon to browse and select the file and click Import. When you import configuration settings they are added to your current settings, so your existing settings are retained.

System Logs

Log files can provide valuable information about the operation of Lightspeed Live Play. Here's how to access the logs and control the level of information that is recorded by the application.

For information on downloading a zip file of log files, see [System Logs](#).

Accessing Live Play's Log Files and Config Files

Live Play's log files and configuration files are located in these locations:

- The Telestream Playlist Service logs are saved to: `C:\Windows\System32\config\systemprofile\AppData\Roaming\Playlist\`.
- The log configuration files are stored in the Live Play installation folder. Default: `C:\Program Files\Telestream\Playlist\`.

Controlling Logging Settings

The information written to the log files can be changed on a program basis by editing settings in the configuration file.

CAUTION: You may be asked by Telestream Customer Service to alter logging files for a support case. Before making changes to the configuration file, make a backup by copying the existing file and saving it in a safe location.

The configuration files are:

- `web.config`
- `ProxyRender.exe.config`
- `MediaWatcher.exe.config`
- `PlaylistRender.exe.config`
- `PlaylistService.exe.config`.

The logger element's *minlevel* attribute specifies the keyword (from most restrictive to most verbose):

- *Off*
- *Fatal*
- *Error*
- *Warn*
- *Info* (default)
- *Debug*
- *Trace*

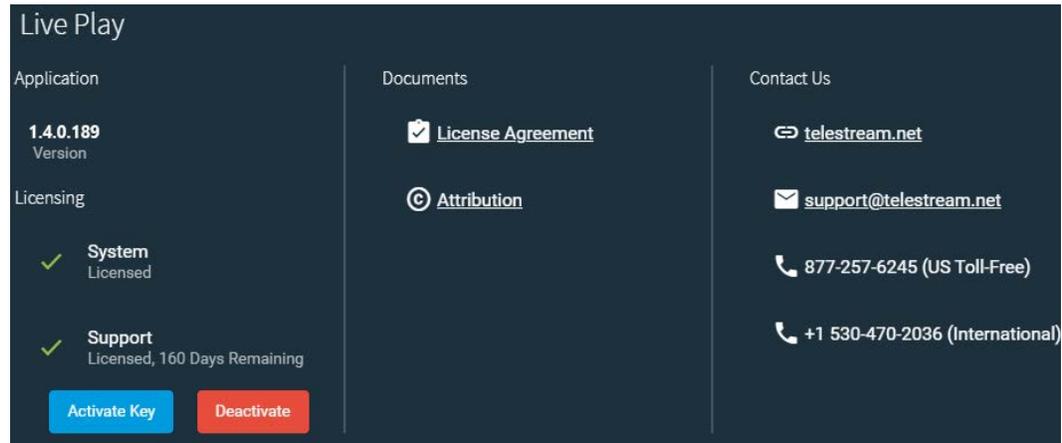
For details about using NLog to modify log file outputs, refer to the NLog tutorial:
<https://github.com/NLog/NLog/wiki/Tutorial#log-levels>.

Log Files Details

The log files may be used by Telestream Customer Service to troubleshoot problems. You may want to obtain the log files before contacting Customer Service so that you can upload or email them to Telestream as part of the support process.

Application Info | Licensing | Help | Legal Documents | Contacting Telestream

Launch the Live Play web app in Chrome ([Launching and Logging in to Live Play](#)) and select the More  menu > About to display Live Play's information panel:



Application Version. Displays the version of Live Play installed.

Licensing. Displays the status of your licensing agreement. See [Licensing Live Play and Managing Your License](#) to control your license activation.

License Agreement. Displays the license agreement.

Attribution. Third party licenses.

Contact Information. Ways to communicate with Telestream. See [Obtaining Support | Information | Assistance](#).

Troubleshooting

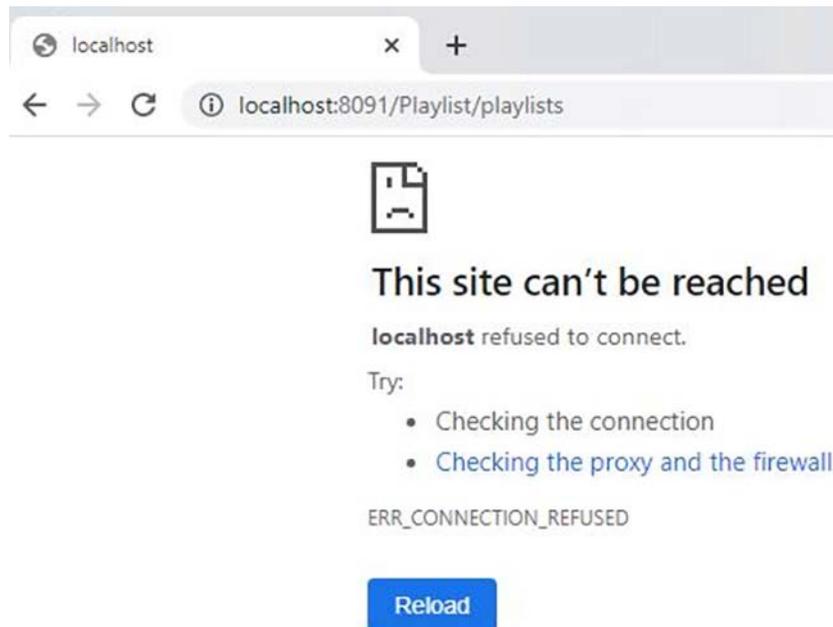
Here are potential solutions about problems you may encounter when using Live Play.

Topics

- [You can't launch Live Play—the site can't be reached](#)
- [Live Play web app is unresponsive](#)
- [Live Play has lost its connection to the server](#)
- [You can't add a new playlist you've created](#)
- [Live Play indicates that there aren't any SDI Ports](#)

You can't launch Live Play—the site can't be reached

When you launch the Live Play web app, the Chrome browser displays this error:



There are several possible causes. Here are some common problems:

- The Telestream Playlist Service may not be running. Check the Services window and restart if required.
- Your URL may be incorrect. Verify the URL including the Windows server name | IP address and port (8091) and retry.
- You are using the keyword *localhost* in the URL, but you are connecting to the Lightspeed Live server over the network or Internet from a separate workstation. Verify and retry.
- If you are using a workstation, it may have an Internet connection, firewall, or proxy server problem. Diagnose and retry.

Live Play web app is unresponsive

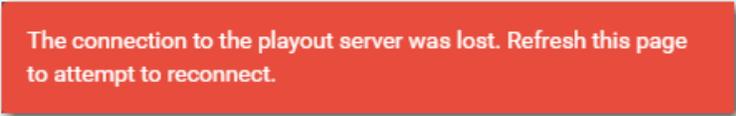
You are trying to use Live Play but it is unresponsive. For example, no video is playing and the frame is frozen. Or, you try to modify a playlist or play a clip and the web app does not respond.

Potential solutions:

- Wait for several seconds to see if the server responds
- Refresh the web page to retry connecting
- Open the Services panel and restart the Telestream Playlist Service. Then, refresh the web app.

Live Play has lost its connection to the server

Live Play displays this error:



The connection to the playout server was lost. Refresh this page to attempt to reconnect.

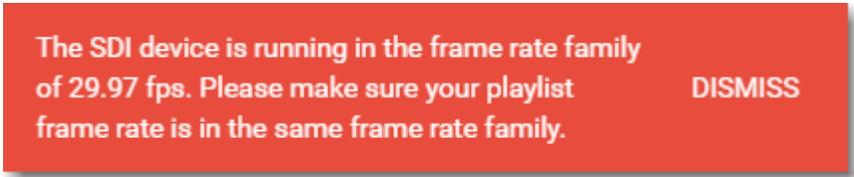
There are several possible causes. Here are the most common:

- The Lightspeed Live Server to which you're connected has failed—power loss, OS error, etc.
- The Telestream Playlist Service has failed and requires restarting.
- A network error has occurred between your workstation and the server.

Investigate and fix the error and refresh the page to reconnect.

You can't add a new playlist you've created

You're creating a new playlist, and when you save it, Live Play displays this error:



The SDI device is running in the frame rate family of 29.97 fps. Please make sure your playlist frame rate is in the same frame rate family. **DISMISS**

This error displays if you have a playlist at one frame rate configured to use an SDI interface, then create another playlist at a different rate—and both are configured with an SDI interface.

To resolve, change the output frame rate of the playlist in error to a frame rate in the same family as the other playlist and save it.

Note: You can have many playlists at different rates, but all playlists using SDI must belong to the same frame rate family.

Each playlist has an output format such as 1080p, 29.97fps. When multiple playlists are playing back via SDI—playlist #1 outputs to SDI #1, playlist #2 to SDI #2—the output format of the two playlists must be in the same frame rate family. For example, if playlist #1 is configured at 1080p 29.97fps, then playlist #2 could be configured at 720p 59.94fps.

The output format is independent of the clip's media format, because Live Play converts the frame rate of the clips to the playlist's output format during playback. Frame rate conversion may have an effect on metadata display, however.

The first playlist you create which is assigned to an SDI port dictates the frame rate family (for example, 29.97 and 59.94 or 30fps and 60fps) that must be specified in all other playlists you create with an assigned SDI port, unless you disable SDI for the playlists or delete the playlists before using a different frame rate family for SDI output.

However, you *can* create other playlists with a different frame rate family if you don't configure it to play out on an SDI port.

Live Play indicates that there aren't any SDI Ports

The Live Play web app displays this error:



Potential solutions:

- Refresh the web page to retry connecting
- Restart the Telestream Playlist Service and reconnect the web app to continue.

