SL NEO Platform
Live Short Delay

- 1–30s live delay for on-air intervention
- Supports ST 2110, SDI, RTMP, NDI, SRT, UDP, and more
- Manual emergency blocking of profanity, offensive gestures, harmful visuals, and technical issues
- Support hotkeys, external USB panel, or GPI buttons

Short-delay protection for live broadcasts

Overview

SL NEO Live Short Delay is a live broadcast delay solution designed to prevent unwanted content from reaching air. In live production, a short safety buffer — commonly known as Seven Second Delay or Profanity Delay — is used to give operators time to intervene before transmission.

Within the SL NEO platform, this function is implemented as an optional software module that records and plays back uncompressed audio and video in the server RAM, providing a low-latency buffer with configurable delay from 1 second to 10 minutes.

The system preserves original SDI signal quality while enabling immediate operator control via hotkeys, external USB panels, or GPI commands. It allows rapid intervention to block offensive language, obscene gestures, technical issues, or any other undesirable content in real time.

Highlights

Combine sources
Supports SDI, ASI, and IP interfaces, accommodating resolutions up to 4K. Mixes various IP protocols such as IPTS, ST-2110, NDI, DASH, HLS, UDP, RIST, RTP, RTMP, SRT, Zixi and more.

Delay Buffer Playback
Short live delay from 1 second to 10 minutes for rapid on-air intervention, powered by a RAM-based buffer for minimal latency and fast response.

On-Air Censorship Control
Quickly censor unwanted video or audio with skip, blackout, blur, overlay, replacement, mute, beep, or audio jingle before it goes on air.

Intuitive Operator Interface
Configure on-screen panels, X-Keys, or GPI controls.

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Key Features

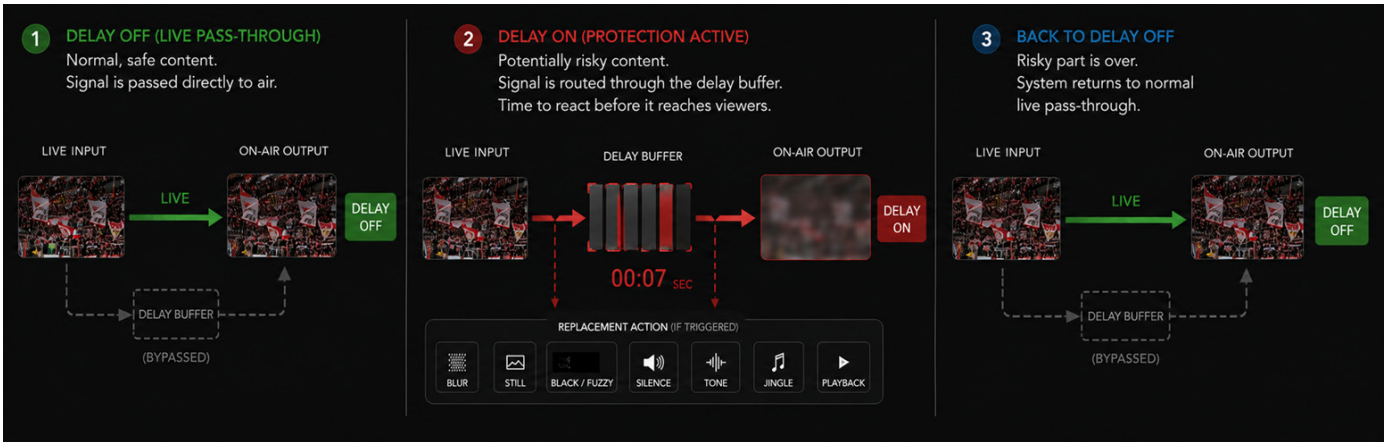
- Short-delay operation for live broadcasts and webcasts
- Immediate blocking of unwanted on-air moments
- Optimized for «classic» live production where longer editorial delay is not possible
- Uses server RAM as a temporary delay buffer
- Uncompressed input/output workflow for SDI environments
- Maintains original signal quality while adding operator reaction time
- X-Keys panels support
- Hotkey-based operation, GPI command support
- Control from client workstation
- Video and Audio Cut
- Video Blur, Replacement and Blackout
- Audio Mute and Beep
- Unified support for SDI, ASI, and IP streams
- Protocols: ST 2110, NDI, SRT, RIST, UDP, RTP, RTMP, HLS, DASH, Zixi
- Resolution support up to UHD / 4K
- Simultaneous handling of multiple signal types

Workflow

SL NEO Live Short Delay provides a controlled safety buffer between the incoming live signal and the on-air output. During normal, safe content, the system works in Delay Off mode and passes the live signal directly to air.

When a potentially risky segment begins, the operator switches Delay On. The signal is then routed through the delay buffer, giving the production team time to react before unwanted content reaches viewers. If necessary, the operator can trigger a predefined replacement action — blur, still image, black/fuzzy frame, silence, tone, jingle, or file playback.

Once the risky part is over, the operator switches back to Delay Off, and the system returns to normal live pass-through.



Workflow

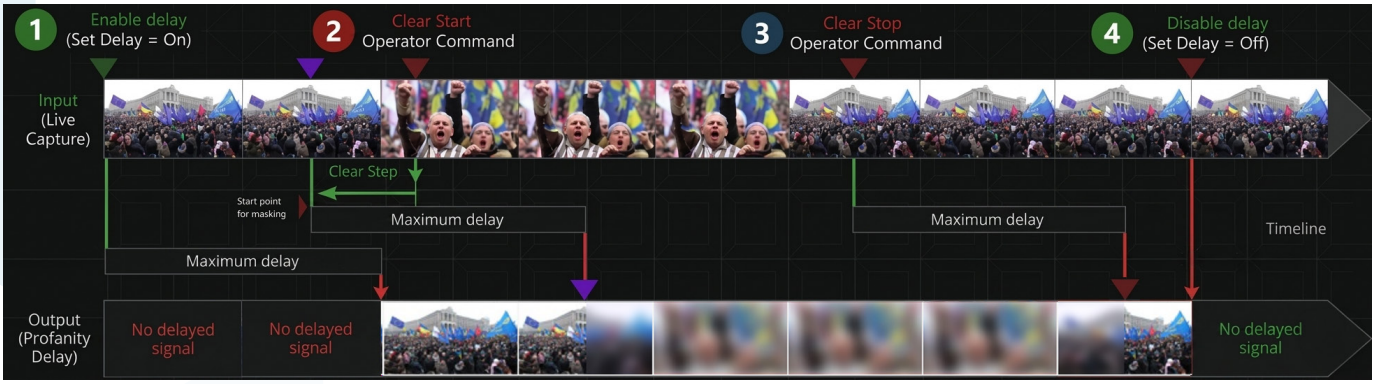
▸ Manual Incident Filtering: Clear Start / Clear Stop

Clear Start / Clear Stop is used when the operator needs to manually mark the beginning and end of an unwanted fragment.

When the operator notices an incident, they press Clear Start. The system takes the operator reaction time into account — for example, a 2-second safety margin — and starts the substitution from the actual beginning of the incident, not from the moment the button was pressed.

When the incident ends, the operator presses Clear Stop. The system keeps the substitution active until the exact marked end point and then returns the clean program back to air.

Typical use: longer unwanted fragments, incorrect speech, offensive gestures, unexpected visual content, or any situation where the operator needs to define both start and end points manually.



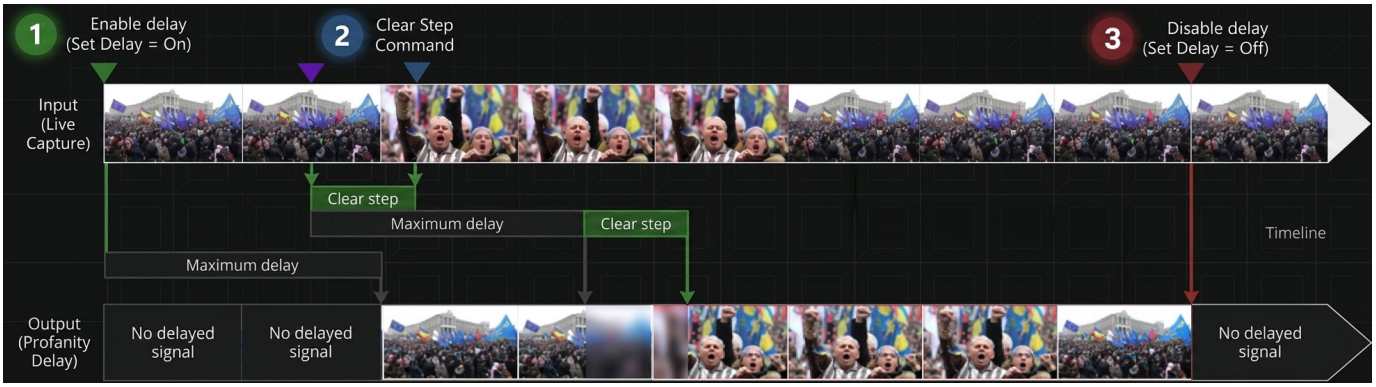
▸ Quick Incident Masking: Clear Step

Clear Step is used as a quick “tap” action for short incidents.

When the operator catches a brief problem — for example, a sudden swear word or a short unwanted visual moment — they press Clear Step once. The system automatically applies a short predefined substitution, such as a 2-second blur, beep, silence, or replacement clip.

This mode is useful when the incident is very short and there is no need to manually mark both the start and the end.

Typical use: short profanity, one-frame/short visual issues, accidental sounds, brief unwanted actions.



Workflow

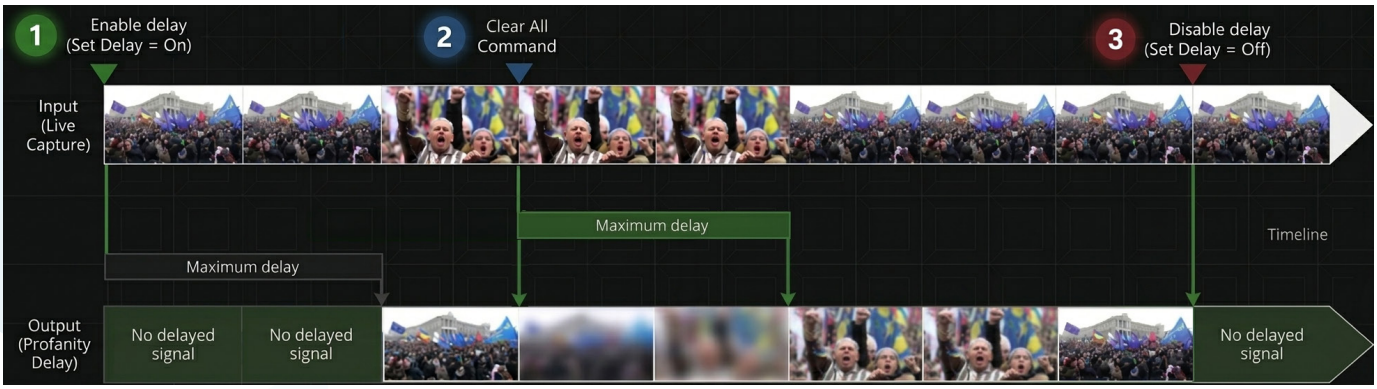
Panic Protection: Clear All

Clear All is used as an emergency protection mode.

When a major or unpredictable incident occurs, the operator presses Clear All. The system immediately substitutes the entire available delay buffer with predefined safe content for the configured duration.

This is the fastest way to protect the broadcast when the situation is unclear, uncontrolled, or too long to mark precisely.

Typical use: serious on-air incidents, uncontrolled live scenes, major technical or editorial emergencies, or any situation where the safest decision is to fully cover the delayed segment.



SL NEO Platform
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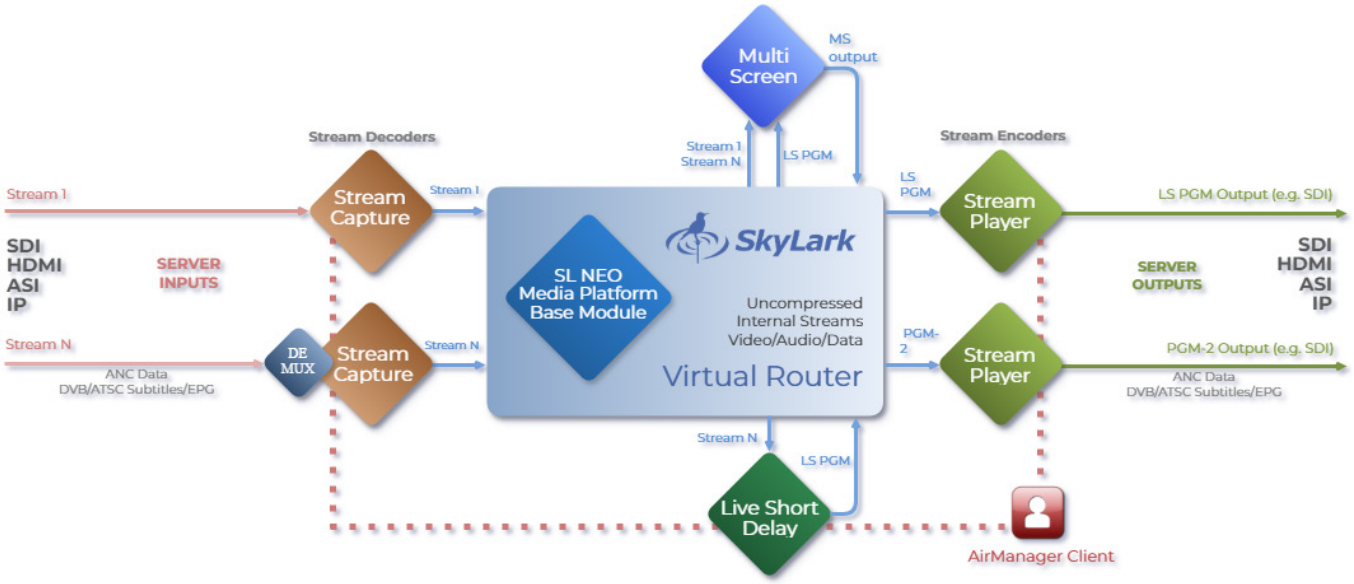
Ecosystem



The SL NEO Live Short Delay is fully integrated into the SL NEO media services platform — a modular, software-defined environment where specialized modules operate together in real time across one or more hardware platforms.

Additional modules — including TS Multiplexer, Capture Stream and other workflow components — can be integrated to create a fully tailored broadcast solution:

- **SL NEO TS Multiplexer**
  For stream preparation and validation.
- **SL NEO Playout**
  For localization, commercial block insertion, and channel branding.
- **SL NEO Capture**
  For receiving and capturing feeds.
- **SL NEO Base Module**
  For coordination, management and control for all the system

Use Cases

- **Live News with Editorial Risk**
  Insert delay buffers and enable redaction to filter profanity, inappropriate statements, or sensitive visuals during live reporting.
- **Live events and entertainment shows**
  Manage sensitive crowd reactions or unexpected audio-visual moments in real time.
- **Live production**
  To provide a safety delay for blocking undesirable content before transmission.

Specifications

SYSTEM

CPU	8 cores, 3 GHz or higher
Memory	16 GB DDR4 or higher
System Drive	SSD for OS
OS	Windows

Video Formats & Color Spaces

Formats	625i/525i, 720p, 1080i/1080p, 2K 2048×1080p, 2160p
Frame Rates	25 / 29.97 / 50 / 59.94 / 60 fps
Color Spaces	BT.601 / BT.709 / BT.2020, HDR: SMPTE ST 2084, ARIB STD-B67

I/O A/V Streams

IP	HLS and DASH (DASH only input) MPEG-TS over UDP MPEG-TS over RTP with FEC NDI, RIST, RTMP, SMPTE ST 2110 Suite SRT, Zixi
ASI	EN50083-9 (coax) 214 Mbps per channel
SDI	12G SDI in accordance to SMPTE ST 2082-10 3 SDI in accordance to ST 424M and ST 425M-AB 1.5G SDI in accordance to ST 292M SD SDI in accordance with ST 259M Analog blackburst reference (tri-level or bi-level)
For-mats	UHD: 2160p50/60M/60 HD: 1080p50/60M/60 1080i50/60M/60 1080p24M/24/25/30/30M 720p50/60M/60 SD: PAL, PAL-16x9, NTSC and NTSC-16x9
Audio	Optional AES/EBU and Dante.

I/O ANCILLARY/MPEG2 TS DATA

CC Subs	ATSC EIA-608/708 Closed Captions DVB OP-42/4 Teletext Subtitles DVB Bitmaps Subtitles
EPG	ATSC PSIP
DPI	SCTE-104/SCTE-35 markers
VBI VANC	VITC, AFD, WSS

DEVICE SUPPORT

Panels	XKEYS XK-24/60/80 Support
Alarms	SNMP (SL NEO Software)

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EDITORIAL EFFECTS

Video	Cut, Blur, Replacement and Blackout
Audio	Cut, Mute and Beep
CC/Subtitling	Pass-through mode

LOOP RECORDING CODECS

Video	SD: DV25, DVCPro XDCAM IMX 30/40/50 HD: MPEG-2 420/422 H.264 420/422 XAVC 50/100 UHD: MPEG-2 420/422 H.264 420/422 XAVC 300

PLAYOUT CODECS

Video	DVCAM, DVCPro 25/ 50 / HD 100 HDV 25 MPEG-2, MPEG 2 422 XDCAM IMX-30/40/50, EX 25/35, HD 18/25/35, HD 422 50 H.264 420/422 AVC-Intra 50/100 XAVC-S 420, XAVC-I/L 420/422 DNxHD 120 and 185 DNxHR-HQ, DNxHR-LB, DNxHR-SB ProRes HQ, ProRes, ProRes LT, ProRes Proxy HEVC
Audio Codecs	AAC, AC-3, MPEG-1 L-II/I, MP3, Opus and 16/24-bit PCM, ADPCM
Graphics	Still: BMP JPG PNG PSD Targa TGA TIFF Animated (with Alpha): TGA QTRLE (MOV) Hap Alpha (AVI, MOV) JPGA (AVI) wPNG sequence
Video Containers	MXF-OP1A, MXF-D10 Avid MXF (OP-Atom) Sony XDCAM HD/422 (MXF-OP1A) Sony XAVC 50/100/200/300/480/Long-GOP (MXF-OP1A) P2 AVC-Ultra 50/100/200/300/480/LongG (MXF-OP1B) Microsoft AVI, MPEG PS/TS QuickTime MOV, DV DIFF MP4, MPG, GXF

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