Medialooks

VIDEO SDK

# MPlatform SDK Release notes

Version 2.12.1.15125

## Release at a glance

| 112 | 21 | 85 | 5 | 1 |
|---|---|---|---|---|
| TOTAL | ADDED | FIXED | UPDATED | CHANGED |

Browse the MPlatform SDK changes by area. Each overview item links to a technical description that explains why the change was needed and what it delivers.

Change overview | Technical details

# Change overview

Select a change to jump to its technical description.

## 01 Common Changes

**Added** GPU conversion from r210 to v210.

**Fixed** Crash while processing r210 with the GPU pipeline disabled.

**Fixed** Unwanted black bars after video rotation.

**Fixed** Cropping planar video formats.

**Fixed** Cropping MFile sources delivered over mp:// links.

**Added** Clock-based rate control with preview enabled.

**Fixed** Frame generation at intervals below 3 ms.

**Fixed** Audio crossfade during MMixer file transitions.

**Added** Per-guest server-side mute in WebRTC 2.0 mix-minus sessions.

**Fixed** WebRTC 2.0 video displayed at double height in a browser.

**Fixed** WebRTC sample audio dropouts when minimized on NVIDIA GPUs.

**Added** MServer process priority through MFFactory.

**Fixed** MServer memory leak.

**Updated** FFmpeg 9.

## 02 File Recording and Network Streaming

**Fixed** MWriter startup with an inactive MPlaylist.

**Fixed** Writer startup failure after extended operation.

**Fixed** Unexpected MWriter stop.

**Fixed** Audio loss after hours of continuous recording.

**Fixed** Dropped frames during NVIDIA hardware encoding.

**Fixed** NVIDIA encoder stopping on YUY2 GPU inputs.

**Fixed** Full-range levels in 10-bit encoding.

**Fixed** Slice count reported by the NVIDIA encoder.

**Fixed** Missing video in AVI recordings encoded with NVIDIA HEVC.

**Fixed** Interlaced video encoding with Intel Quick Sync.

**Fixed** Intel hardware encoder crash in external-process workflows.

**Fixed** ADPCM audio encoding.

**Added** Writing SMPTE ST 436 ANC tracks to MXF.

**Fixed** MWriter MXF recordings shorter than the configured duration.

**Fixed** Picture artifacts when transwrapping MXF to MOV.

**Fixed** Missing audio tracks during MXF transwrapping.

**Fixed** Closed-caption insertion during video passthrough.

**Fixed** CEA-708 insertion from MCC files during transwrapping.

**Fixed** CEA-708 captions from MCC files in YouTube streams.

**Added** Arabic and Hebrew DVB Teletext encoding.

**Added** Binary SCTE-35 packet insertion into MPEG-TS.

**Added** Configurable SCTE PID in MPEG-TS output.

**Fixed** SCTE-35 program splice flag for immediate splices.

**Fixed** DVB MPEG-TS compatibility.

**Fixed** MPEG-1 Layer II audio signaling in the DVB PMT.

**Fixed** DVB reception with re-encoded video and passed-through audio.

**Fixed** Bursty audio packet delivery in MWriter DVB over UDP.

**Fixed** MFile playback of UDP streams from the xMedia writer backend.

**Added** SRT sender IP in connection statistics.

**Fixed** Buffer release in SRT listener mode with DVB output.

**Fixed** Stuttering on received 50i SRT video.

**Fixed** SRT reception in third-party applications.

**Added** Opus audio for Icecast streaming.

**Fixed** FLAC audio in MWriter Icecast streams.

## 03 Input/Output Devices

**Fixed** False CEA-708 detection on live SDI input.

**Updated** Blackmagic Desktop Video SDK 16.0.

**Fixed** Pink tint on DeckLink v210 output.

**Fixed** Frame drops and audio stutter on four DeckLink HDR outputs.

**Fixed** Interlace artifacts during GPU L-band squeeze on DeckLink.

**Fixed** External keying on DeckLink.

**Fixed** External keying on Blackmagic UltraStudio HD Mini.

**Fixed** HDR metadata on fill and key output.

**Added** Configurable color range for Bluefish444 capture and output.

**Updated** Bluefish444 SDK 6.6.2.0.

**Fixed** HDR signal output through Bluefish444.

**Updated** Deltacast device support for driver 6.35.

**Fixed** Audio on Deltacast live passthrough.

**Updated** AJA SDK 18.1.

**Added** Renderer notification for invalid SCTE-104 triggers.

**Added** SCTE-104 trigger validation on SDI input.

**Fixed** WASAPI audio recovery after a UAC desktop switch.

**Fixed** MSource virtual-camera settings after early auto-connect.

**Fixed** Audio renderer discovery in MPreview.

## 04 Decoding and Seeking

**Added** Reading SMPTE ST 436 ANC packets from MXF.

**Added** SCTE ancillary data extraction from MXF.

**Added** MXF System Scheme 1 timecode.

**Fixed** GXF seeking through the tc_pos property.

**Fixed** Frame-accurate timecode seeking for video without audio.

**Fixed** Seeking at an exact frame boundary with FileFrameGetByTC.

**Fixed** Seeking with the NVIDIA decoder and GPU pipeline.

**Fixed** Intermittent green frame with NVIDIA decoding.

**Fixed** MPlatform interlace override in CPU mode.

**Fixed** Audible clicks when playing an affected MPEG source.

**Fixed** Missing or noisy audio in affected media.

**Fixed** Audio loss in certain files after the FFmpeg 8.0 update.

**Fixed** PCM audio detection in ProRes MOV files.

**Fixed** Reconnect-on-open behavior for network sources.

**Fixed** Black frames and bitrate drops on received DVB streams.

**Fixed** HLS multivariant playlist decoding with FFmpeg 9.

**Changed** MFile lifetime after playlist item playback.

**Fixed** Playlist pause when removing files from a looped playlist.

**Fixed** Slow item removal from MPlaylist.

**Fixed** Audio dropout while reordering playlist items.

**Fixed** Scheduled playlist items skipped at end of list.

**Fixed** GPU spikes and a first-frame stall during MPlaylist source changes.

**Fixed** Drop-frame timecode seeking in MPlatform playlists.

**Fixed** MPlaylist rate control after adding a video filter.

**Fixed** Frame delivery delay after a playback-rate change.

**Fixed** Accelerated reverse playback of H.264 in MDelay.

## 05 Plugins

**Fixed** Negative coordinates for video items in CG groups.

**Fixed** Relative CG positioning at non-Full HD resolutions.

**Fixed** CG items added to a block with AddNewItem.

**Fixed** Ticker dimensions from Character Generator XML.

**Fixed** Interlaced video flicker in CG with the GPU pipeline.

**Fixed** Excessive CPU use in the Character Generator.

**Fixed** Character Generator memory leak with raster fonts.

**Added** 16-bit Unicode characters in CEA-708 captions.

**Added** Korean CEA-708 decoding with KS X 1001:2004.

**Added** Automatic CEA-708 code page detection.

**Fixed** CEA-708 display when video conversion is enabled.

**Added** Decoding OP-47 subtitles.

**Added** Displaying OP-47 Teletext subtitles in MCCDisplay.

**Fixed** Cyrillic subtitles in MCCDisplay.

**Fixed** MCCDisplay rendering quality.

**Fixed** Green stripe in subtitle rendering.

**Fixed** V-Chip information after video downconversion.

**Fixed** Mask rendering in the GPU pipeline.

**Fixed** Application shutdown hang with the Chroma Key plugin.

# Technical details

Each change describes the problem or the workflow that prompted it, followed by the result in this release.

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## 01 Common Changes

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ADDED

### GPU conversion from r210 to v210

**Description** Some DeckLink outputs require `v210` for 4K at 50p or higher. A GPU pipeline that starts with 10-bit RGB `r210` needs to convert it before sending the signal to those outputs.

**Result** With `gpu_pipeline=true`, the SDK can convert `r210` frames to 10-bit YUV `v210` frames.

FIXED

### Crash while processing r210 with the GPU pipeline disabled

**Problem** Previewing `r210` video could crash the application with `gpu_pipeline=false`.

**Result** MPreview and MFPreview render the affected `r210` frames through the CPU pipeline.

FIXED

### Unwanted black bars after video rotation

**Problem** Rotating a source left or right with the `rotate` property could introduce black bars along the image edges, which were especially visible when using a chroma key.

**Result** The affected rotation path preserves the image edges without adding the unintended bars.

FIXED

### Cropping planar video formats

**Problem** Operations that accessed or saved a planar video frame could unexpectedly move the data in its planes in place. This could affect wrapped frames and subsequent processing.

**Result** The affected crop path avoids modifying the source frame's planes in place, preserving the original data for later use.

FIXED

### Cropping MFile sources delivered over mp:// links

**Problem** An MFile connected to an `mp://` source could ignore its `object::crop` setting. This prevented multiple MFile objects attached to the same source from applying their own crops.

**Result** Each MFile applies its own crop to the linked video.

ADDED

### Clock-based rate control with preview enabled

**Description** Operators may need to monitor playback in a preview window while the application continues pacing frame delivery from the clock.

**Result** The preview can remain enabled with its own rate control disabled, allowing the clock to pace frame delivery.

FIXED

### Frame generation at intervals below 3 ms

**Problem** Recording a generated background from MFile through MWriter was capped by an interval of roughly 3 ms per frame, even when the pipeline had enough capacity to run faster.

**Result** The pipeline can generate frames at shorter intervals in the affected workflow.

FIXED

### Audio crossfade during MMixer file transitions

**Problem** During an MMixer file transition using `keep_audio`, the incoming file's audio could jump immediately to full volume instead of fading in.

**Result** The transition preserves the settings needed for the crossfade, allowing the incoming audio to build gradually.

ADDED

### Per-guest server-side mute in WebRTC 2.0 mix-minus sessions

**Description** A server operator may need to silence a single guest's noisy microphone in a WebRTC mix-minus session while that guest continues to hear the other participants.

**Result** MConnect can mute an individual guest server-side with `mix_minus` enabled. That guest is removed from the other participants' audio mixes and continues to receive their audio.

FIXED

### WebRTC 2.0 video displayed at double height in a browser

**Problem** The affected WebRTC 2.0 browser view displayed the video at twice its intended height, with a white area occupying the lower half.

**Result** The browser receives the intended frame dimensions and displays the image without the extra white area.

FIXED

### WebRTC sample audio dropouts when minimized on NVIDIA GPUs

**Problem** On systems with certain newer NVIDIA GPUs, minimizing the WebRTC Streamer sample could cause audio dropouts for browser viewers.

**Result** The sample continues delivering audio when minimized in the affected configuration.

ADDED

### MServer process priority through MFFactory

**Description** Applications that run SDK components in MServer may need to set the helper process's scheduling priority when it shares a host with other workloads.

**Result** Applications can configure MServer's process priority through `MFFactory`.

FIXED

### MServer memory leak

**Problem** MServer failed to release memory in the affected operating scenario.

**Result** The affected operation now releases that memory.

UPDATED

### FFmpeg 9

**Description** Playback compatibility issues had surfaced with the bundled FFmpeg 8 libraries. File and network workflows needed an updated baseline for media handling.

**Result** The SDK now bundles FFmpeg 9.x for media decoding, encoding, and muxing.

## 02 File Recording and Network Streaming

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FIXED

### MWriter startup with an inactive MPlaylist

**Problem** MWriter could intermittently fail to start if it connected to an MPlaylist before the playlist began delivering frames.

**Result** MWriter can start reliably in the affected startup sequence when it connects before the playlist begins delivering frames.

FIXED

### Writer startup failure after extended operation

**Problem** After extended operation, an application could be unable to start a new writer when MServer took longer than the startup wait allowed.

**Result** MFile and MWriter support `external_process.wait_time`, so the application can configure how long to wait for MServer to start.

FIXED

### Unexpected MWriter stop

**Problem** MWriter could stop unexpectedly while an output was still active, interrupting the session.

**Result** The writer continues running in the affected scenario.

FIXED

### Audio loss after hours of continuous recording

**Problem** After several hours of continuous recording, audio could disappear and subsequent output files could contain video only.

**Result** The timecode path now handles rollover at midnight when `timecode.time_sync=2`, addressing the audio loss in the affected workflow.

FIXED

### Dropped frames during NVIDIA hardware encoding

**Problem** The NVIDIA hardware encoder could skip frames, leaving gaps in the encoded output in the affected workflows.

**Result** The affected encoding path retains those frames.

FIXED

### NVIDIA encoder stopping on YUY2 GPU inputs

**Problem** NVENC could stop mid-session when it received affected YUY2 GPU textures that the CUDA encoding path could not use directly.

**Result** The SDK converts those textures to a CUDA-compatible format so encoding can continue.

FIXED

### Full-range levels in 10-bit encoding

**Problem** The affected 10-bit DeckLink-to-NVENC workflow converted full-range BT.2020 video to limited range and back. The round trip clipped color levels in the encoded output.

**Result** The encoding path preserves the source's full-range BT.2020 levels by avoiding the intermediate limited-range conversion.

FIXED

### Slice count reported by the NVIDIA encoder

**Problem** NVIDIA H.264 output could report an incorrect number of slices per frame.

**Result** The affected encoding path reports the correct slice count.

FIXED

### Missing video in AVI recordings encoded with NVIDIA HEVC

**Problem** An AVI recording made with NVIDIA H.265 hardware encoding could contain no visible picture.

**Result** The recorded AVI contains the expected video picture in the affected encoding workflow.

FIXED

### Interlaced video encoding with Intel Quick Sync

**Problem** With Intel Quick Sync hardware that could not initialize interlaced encoding, a request to record interlaced video could stop the writer before output began.

**Result** The encoder retries in progressive mode after interlaced initialization fails, so the writer can start with a supported mode.

FIXED

### Intel hardware encoder crash in external-process workflows

**Problem** The Intel hardware encoder could crash when packet data was accessed across processes in an external-process workflow.

**Result** Packet data is now handled correctly across the process boundary in the affected encoding path.

FIXED

### ADPCM audio encoding

**Problem** The affected writer configuration could not encode audio with ADPCM.

**Result** ADPCM audio encoding works with that writer configuration.

ADDED

### Writing SMPTE ST 436 ANC tracks to MXF

**Description** Broadcast recording and interchange workflows need to retain frame-associated ancillary data, such as OP-47 subtitles or SCTE-104 cues, in the MXF output.

**Result** MXF writers can record ancillary packets into an SMPTE ST 436 track when `mxf.anc_write=true`, preserving their frame and line association.

FIXED

### MWriter MXF recordings shorter than the configured duration

**Problem** A timed MXF recording in MWriter could finish roughly half a second short of the configured duration.

**Result** MWriter observes the configured duration in the affected MXF recording workflow.

FIXED

### Picture artifacts when transwrapping MXF to MOV

**Problem** Transwrapping an affected MXF file to MOV with video and audio packet copy produced visible picture artifacts in the output.

**Result** The affected source transwraps to MOV with its picture intact.

FIXED

### Missing audio tracks during MXF transwrapping

**Problem** Packet-copy transwrapping of an affected MXF file could omit separate audio tracks even when track merging was disabled.

**Result** The output retains the separate audio tracks when track merging is disabled in this workflow.

FIXED

### Closed-caption insertion during video passthrough

**Problem** The recorded transport stream omitted CEA-608 closed captions when video packets were copied without re-encoding.

**Result** Closed captions are inserted while the original video packets pass through.

FIXED

### CEA-708 insertion from MCC files during transwrapping

**Problem** When an MP4 was transwrapped with video packet copy, CEA-708 captions supplied from an external MCC file could be missing even with caption embedding enabled.

**Result** The transwrapping path embeds the captions in the copied video packets and preserves their decode order.

FIXED

### CEA-708 captions from MCC files in YouTube streams

**Problem** CEA-708 captions loaded from an external MCC file could be delivered incorrectly when streaming to YouTube over RTMP.

**Result** YouTube receives the CEA-708 captions from the MCC file correctly in the affected workflow.

ADDED

### Arabic and Hebrew DVB Teletext encoding

**Description** Broadcasters distributing subtitles through DVB Teletext need to encode Arabic and Hebrew alongside the existing language options.

**Result** The DVB Teletext encoder supports Arabic and Hebrew subtitle text.

ADDED

### Binary SCTE-35 packet insertion into MPEG-TS

**Description** Some playout systems already receive SCTE-35 cues as encoded packets. The previous XML-based insertion path required those systems to reconstruct the cue before writing it to MPEG-TS.

**Result** The writer can insert a binary cue supplied as `SCTE-35.PKT` side data directly into MPEG-TS.

ADDED

### Configurable SCTE PID in MPEG-TS output

**Description** Broadcast systems may reserve a specific MPEG-TS packet identifier for SCTE-35 so downstream equipment can find the cue stream at the expected PID.

**Result** Writers with SCTE-35 embedding enabled accept `scte35_pid` to set the cue stream PID. A value of `-1` keeps automatic assignment.

FIXED

### SCTE-35 program splice flag for immediate splices

**Problem** For a program-level SCTE-35 splice, setting `spliceImmediateFlag=1` could clear `program_splice_flag` even though a program was specified.

**Result** Immediate splices now retain the program splice flag when the cue specifies a program.

FIXED

### DVB MPEG-TS compatibility

**Problem** The affected DVB MPEG-TS output contained formatting and signaling errors identified against the DVB specifications.

**Result** The transport-stream formatting and signaling have been corrected for the affected output.

FIXED

### MPEG-1 Layer II audio signaling in the DVB PMT

**Problem** The DVB Program Map Table identified MPEG-1 Layer II audio with incorrect audio signaling, even though the stream carried Layer II audio.

**Result** The table now identifies the audio correctly so receivers can interpret the stream.

FIXED

### DVB reception with re-encoded video and passed-through audio

**Problem** A receiver could not play the affected DVB stream when the writer re-encoded video but copied the original audio packets.

**Result** The resulting DVB stream is playable with re-encoded video and audio passthrough in the affected configuration.

FIXED

### Bursty audio packet delivery in MWriter DVB over UDP

**Problem** When MWriter used `q264hw` to send DVB over UDP, audio packets for a given PID could arrive in bursts separated by 200 to 500 ms.

**Result** Audio packets are paced throughout the stream in the affected output.

FIXED

### MFile playback of UDP streams from the xMedia writer backend

**Problem** MFile could fail to play a UDP stream produced by MWriter with the xMedia backend.

**Result** MFile can receive and play the affected UDP output from that backend.

ADDED

### SRT sender IP in connection statistics

**Description** Applications receiving SRT streams need to identify the remote sender when monitoring connections or troubleshooting the origin of a stream.

**Result** SRT readers expose the connected sender's IP address through `stat::srt.peer_ip`.

FIXED

### Buffer release in SRT listener mode with DVB output

**Problem** MWriter could leave an output buffer allocated when sending a DVB-compatible SRT stream in listener mode.

**Result** The affected output buffer is released in SRT listener mode.

FIXED

### Stuttering on received 50i SRT video

**Problem** Incoming 50i video from an SRT stream could stutter when it was processed with the GPU pipeline enabled.

**Result** The affected 50i reception path plays at an even cadence.

FIXED

### SRT reception in third-party applications

**Problem** Some third-party applications could no longer receive affected SRT streams from the SDK.

**Result** The affected SRT outputs are compatible with those receivers again.

ADDED

### Opus audio for Icecast streaming

**Description** Icecast publishing workflows that use Opus need that codec to be selectable in the SDK's Icecast output configuration.

**Result** Opus is available as an audio codec for Icecast streams.

FIXED

### FLAC audio in MWriter Icecast streams

**Problem** MWriter failed when configured to send FLAC audio to an Icecast server.

**Result** The affected MWriter workflow can stream FLAC audio to Icecast.

# 03 Input/Output Devices

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FIXED

### False CEA-708 detection on live SDI input

**Problem** DeckLink SDI input could report a Caption Distribution Packet containing only CEA-608 data as CEA-708.

**Result** Enabling `vanc.cc_708_native_only` makes CEA-708 detection require native 708 data. CEA-608 extraction remains available.

UPDATED

### Blackmagic Desktop Video SDK 16.0

**Description** Blackmagic capture and output workflows need to support Desktop Video 16 while installations still running Desktop Video 15 need a compatibility path.

**Result** The integration uses the Blackmagic Desktop Video SDK 16.0. Set `bmd.new_api=false` to use the compatibility path for Desktop Video 15 drivers.

FIXED

### Pink tint on DeckLink v210 output

**Problem** HDR video sent to DeckLink in 10-bit `v210` could appear pink or magenta.

**Result** DeckLink output reproduces the expected colors in the affected `v210` configuration.

FIXED

### Frame drops and audio stutter on four DeckLink HDR outputs

**Problem** Driving four simultaneous 4K UHD 50p HDR outputs through DeckLink could cause visible frame drops and audible stutter.

**Result** The affected four-output configuration delivers video and audio without the reported interruptions.

FIXED

### Interlace artifacts during GPU L-band squeeze on DeckLink

**Problem** When the GPU pipeline was enabled, animating an L-band squeeze on 1080i50 video produced visible scan-line artifacts and jagged moving edges on DeckLink SDI output.

**Result** GPU scaling now handles the interlaced fields correctly during the squeeze-in and squeeze-out, removing those artifacts from the affected SDI output.

FIXED

### External keying on DeckLink

**Problem** External keying could produce an incorrect result in the affected DeckLink output configuration.

**Result** The renderer applies external keying correctly in that configuration.

FIXED

### External keying on Blackmagic UltraStudio HD Mini

**Problem** On Blackmagic UltraStudio HD Mini, validation for 1080p50, 1080p59.94, or 1080p60 could reject the BGRA format in external keying mode. A fallback to YUV then discarded the alpha channel.

**Result** External keying validates the selected mode for BGRA keying and preserves the alpha channel.

FIXED

### HDR metadata on fill and key output

**Problem** The renderer could lose HDR metadata when fill/key output was enabled.

**Result** The renderer passes through HDR metadata in the affected fill/key configuration.

ADDED

### Configurable color range for Bluefish444 capture and output

**Description** Bluefish444 capture and output may need different level conventions to match the incoming signal and the equipment receiving it.

**Result** Applications can select `auto`, `cgr`, or `smpte` through `video_input_color_range` and `video_output_color_range`. `auto` preserves the device's default behavior.

UPDATED

### Bluefish444 SDK 6.6.2.0

**Description** The device integration for Bluefish444 capture and playout needed to move to the newer vendor API baseline.

**Result** The integration now uses Bluefish444 SDK 6.6.2.0.

FIXED

### HDR signal output through Bluefish444

**Problem** In the affected Bluefish444 Kronos K8 configuration, 10-bit HDR output was choppy and had long black gaps on the SDI monitor.

**Result** The renderer delivers continuous HDR output in the affected configuration.

UPDATED

### Deltacast device support for driver 6.35

**Description** The SDK could fail to enumerate Deltacast devices on systems running version 6.35 of the driver, leaving those devices unavailable to applications.

**Result** The updated Deltacast integration restores device discovery with driver version 6.35.

FIXED

### Audio on Deltacast live passthrough

**Problem** Switching a playlist from a file to a Deltacast live passthrough input could leave the live segment without audio.

**Result** The affected Deltacast passthrough delivers audio during the live segment.

UPDATED

### AJA SDK 18.1

**Description** The AJA hardware integration needed to move to a newer vendor SDK baseline for capture and playout.

**Result** The integration now uses AJA SDK 18.1.

ADDED

### Renderer notification for invalid SCTE-104 triggers

**Description** An application submitting SCTE-104 triggers to a renderer needs to know when a trigger is rejected and which trigger caused the failure.

**Result** The renderer reports `invalidTrigger` through `OnEventSafe` when SCTE-104 parsing fails. The event includes the original trigger string.

ADDED

### SCTE-104 trigger validation on SDI input

**Description** Applications monitoring SCTE-104 cues on an SDI input need to identify malformed triggers before acting on incoming cues.

**Result** MLive can report an `SCTE-104-invalid` event when a malformed trigger arrives in SDI vertical ancillary data.

FIXED

### WASAPI audio recovery after a UAC desktop switch

**Problem** After a User Account Control desktop switch, `MFDeviceSCR` could resume desktop video capture while WASAPI loopback audio stayed silent.

**Result** WASAPI loopback audio resumes after the desktop capture session is reinitialized.

FIXED

### MSource virtual-camera settings after early auto-connect

**Problem** If MSource auto-connected early in initialization, the virtual camera could ignore its requested settings.

**Result** The requested virtual-camera settings are applied in the affected startup sequence.

FIXED

### Audio renderer discovery in MPreview

**Problem** On the affected system, querying MPreview's `audio_renderer` options returned an empty list even though audio output devices were available.

**Result** MPreview exposes the available audio renderers through `audio_renderer` so applications can select an output device.

## 04 Decoding and Seeking

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ADDED

### Reading SMPTE ST 436 ANC packets from MXF

**Description** MXF files can carry broadcast ancillary packets in an SMPTE ST 436 data track. Downstream processing needs those packets associated with the correct video frame and original line.

**Result** The reader extracts the packets and associates them with their video frames while preserving DID, SDID, payload, and line numbers, including lines in the second field.

ADDED

### SCTE ancillary data extraction from MXF

**Description** File-based playout needs access to SCTE-104 cues stored in the ancillary data of an MXF source so the cues can be used downstream.

**Result** The SDK parses SCTE-104 messages in SMPTE ST 436 ANC tracks and exposes the decoded cue as `SCTE-104` frame metadata.

ADDED

### MXF System Scheme 1 timecode

**Description** Some MXF sources carry timecode in System Scheme 1. Applications ingesting those files need access to the embedded source timecode on the corresponding video frame.

**Result** The reader recognizes System Scheme 1 and exposes its timecode as source metadata on decoded frames.

FIXED

### GXF seeking through the tc_pos property

**Problem** With an affected GXF file that had a starting timecode, setting `tc_pos` could place the reader several frames away from the requested position.

**Result** The reader seeks to the requested timecode on the affected GXF source.

FIXED

### Frame-accurate timecode seeking for video without audio

**Problem** On an affected long video with no audio track, `FileFrameGetByTC()` could return a frame one position away from the requested timecode later in the file.

**Result** Timecode seeks in the affected video-only workflow return the requested frame.

FIXED

### Seeking at an exact frame boundary with FileFrameGetByTC

**Problem** At integer frame rates, timestamp rounding could make `FileFrameGetByTC` return the previous frame for a request at an exact frame boundary.

**Result** An exact boundary request resolves to the frame at that timecode.

FIXED

### Seeking with the NVIDIA decoder and GPU pipeline

**Problem** Seeking on affected media could fail when the GPU pipeline and NVIDIA decoding were both enabled through `gpu_pipeline` and `decoder.nvidia`.

**Result** Seeking works for the affected media with both settings enabled.

FIXED

### Intermittent green frame with NVIDIA decoding

**Problem** When the NVIDIA decoder opened an affected stream, a green frame could flash at the start before normal playback.

**Result** The stream starts without the transient green frame.

FIXED

### MPlatform interlace override in CPU mode

**Problem** With `gpu_pipeline=false`, MPlatform could ignore the `file::interlace` override.

**Result** The CPU pipeline now applies the requested interlace override in the affected workflow.

FIXED

### Audible clicks when playing an affected MPEG source

**Problem** MFile playback of an affected MPEG source produced audible clicks instead of clean audio.

**Result** MFile plays the source audio without the clicks that interrupted playback.

FIXED

### Missing or noisy audio in affected media

**Problem** Decoding audio from an affected MP4 file produced loud noise instead of the original sound.

**Result** The SDK decodes usable audio from the affected source.

FIXED

### Audio loss in certain files after the FFmpeg 8.0 update

**Problem** After the SDK moved to FFmpeg 8.0, certain MOV files played without audio even though they contained an audio track.

**Result** The SDK plays the audio track in the affected files again.

FIXED

### PCM audio detection in ProRes MOV files

**Problem** The SDK could miss the PCM audio track when opening an affected MOV file with ProRes video.

**Result** The PCM track is detected and its audio is available during playback.

FIXED

### Reconnect-on-open behavior for network sources

**Problem** The `network.reconnect_open` property did not trigger the configured reconnect behavior during source opening in the affected case.

**Result** The source now follows the reconnect-on-open setting.

FIXED

### Black frames and bitrate drops on received DVB streams

**Problem** In the affected DVB reception workflow, the receiver could show black frames as the incoming bitrate dropped.

**Result** The receiver displays the video correctly in the affected DVB reception case.

FIXED

### HLS multivariant playlist decoding with FFmpeg 9

**Problem** After the upgrade to FFmpeg 9, some HLS multivariant playlists stopped decoding.

**Result** The SDK can open and decode the affected HLS playlists again.

CHANGED

### MFile lifetime after playlist item playback

**Description** In the affected playlist workflow, finishing an item used to close its `MFile` even when the source needed to remain open beyond playback.

**Result** MPlaylist keeps the item's `MFile` open after that item finishes in the affected workflow.

FIXED

### Playlist pause when removing files from a looped playlist

**Problem** Removing files from MPlaylist while a `loop` command was present could leave the playlist paused indefinitely.

**Result** The playlist can continue through its loop after the affected removal sequence.

FIXED

### Slow item removal from MPlaylist

**Problem** Removing an SRT item from MPlaylist could take a long time if the stream was attempting to reconnect.

**Result** MPlaylist removes the item more quickly during the affected reconnect sequence.

FIXED

### Audio dropout while reordering playlist items

**Problem** Calling `PlaylistReorder` during active playback could cause a brief interruption in the playlist audio.

**Result** Audio continues through the reorder in the affected playback scenario.

FIXED

### Scheduled playlist items skipped at end of list

**Problem** MPlaylist could report end of list and skip an item with a specified start time when the previous item's out-point pause state carried into the switch.

**Result** MPlaylist clears the previous item's pause state during the switch, allowing the next scheduled item to start.

FIXED

### GPU spikes and a first-frame stall during MPlaylist source changes

**Problem** With NVIDIA NVDEC enabled, switching files in MPlaylist could briefly drive GPU utilization to 100 percent and leave the first frame frozen.

**Result** The SDK skips NVDEC initialization sooner for unsupported sources, reducing the GPU spike and first-frame stall on the affected playlist transitions.

FIXED

### Drop-frame timecode seeking in MPlatform playlists

**Problem** When seeking in an affected MPlatform Timecode Playlist source, positions past a drop-frame timecode boundary were reported one frame early.

**Result** The reported position matches the requested timecode across the affected boundary.

FIXED

### MPlaylist rate control after adding a video filter

**Problem** Applying a video filter to an MPlaylist could disrupt frame pacing by bypassing rate control.

**Result** MPlaylist preserves its rate control when the filter is applied.

FIXED

### Frame delivery delay after a playback-rate change

**Problem** Changing the playback rate could delay delivery of the next video frame while the audio resampler initialized for the new rate.

**Result** Playback-rate rounding avoids expensive resampler initialization in the affected cases, shortening the pause in frame delivery.

FIXED

### Accelerated reverse playback of H.264 in MDelay

**Problem** When MDelay played an H.264 SBE buffer backward at an accelerated rate, it could return only one frame per group of pictures.

**Result** Accelerated reverse playback can use frames within each group of pictures.

## 05 Plugins

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FIXED

### Negative coordinates for video items in CG groups

**Problem** After a video item was moved into a Character Generator group, negative X and Y coordinates were ignored. This prevented the item from being positioned past the group's origin.

**Result** Grouped video items now honor negative coordinates in the same way as ungrouped items.

FIXED

### Relative CG positioning at non-Full HD resolutions

**Problem** `SetItemPos` could calculate a relative Character Generator item's position against Full HD dimensions even when the active source used a different resolution.

**Result** Relative positions now follow the active video dimensions in the affected workflow.

FIXED

### CG items added to a block with AddNewItem

**Problem** Passing a complete `cg-item` containing a nested `<block>` to `AddNewItem` created the item, but the block's contents were missing from the rendered output.

**Result** `AddNewItem` now creates the block's child elements, so they appear in the Character Generator output.

FIXED

### Ticker dimensions from Character Generator XML

**Problem** When width and height were passed as zero to `TickerAddNew`, it could ignore the ticker dimensions set in the `<cg-props>` element of the XML description.

**Result** `TickerAddNew` uses the XML dimensions in this case. Explicit width and height still take priority.

FIXED

### Interlaced video flicker in CG with the GPU pipeline

**Problem** Interlaced video could flicker after it was added to Character Generator with `gpu_pipeline=true` and no format conversion. The issue was visible in layouts such as an L-shaped overlay.

**Result** Character Generator displays the affected interlaced video without flicker while the GPU pipeline is active.

FIXED

### Excessive CPU use in the Character Generator

**Problem** Enabling the Character Generator raised CPU use in affected 1080i59.94 workflows. The increase was most apparent when the same workflow also used NDI output or encoded video for streaming.

**Result** The updated conversion path reduces Character Generator CPU use in these workflows.

FIXED

### Character Generator memory leak with raster fonts

**Problem** The Character Generator leaked memory when rendering text with legacy `.FON` raster fonts.

**Result** The Character Generator releases the resources that leaked in this font workflow.

ADDED

### 16-bit Unicode characters in CEA-708 captions

**Description** CEA-708 captions can carry 16-bit characters in `P16` commands. An ANSI code-page conversion could alter the intended characters in captions that use native Unicode.

**Result** The caption renderer handles `P16` values as native Unicode by default. Applications can still select a code page explicitly.

ADDED

### Korean CEA-708 decoding with KS X 1001:2004

**Description** Korean CEA-708 subtitle services can carry character data encoded as KS X 1001:2004, which needs the correct character mapping to be rendered.

**Result** MCCDisplay can decode and display the Korean captions in this encoding. The affected workflow can select code page 949 with `cc_codepage`.

ADDED

### Automatic CEA-708 code page detection

**Description** CEA-708 sources can use different code pages. An application ingesting multiple sources may have no reliable way to specify the code page for each one up front.

**Result** The caption decoder can detect the code page automatically when decoding CEA-708 text.

FIXED

### CEA-708 display when video conversion is enabled

**Problem** CEA-708 captions could disappear from MCCDisplay when video conversion was enabled.

**Result** MCCDisplay continues to render captions through the affected conversion workflow.

ADDED

### Decoding OP-47 subtitles

**Description** Applications that ingest OP-47 from files or DeckLink capture need to assemble Teletext pages and extract subtitle text from their ancillary packets.

**Result** The reader and capture paths can decode OP-47 pages and expose text for a selected page. The original packets remain available for passthrough.

ADDED

### Displaying OP-47 Teletext subtitles in MCCDisplay

**Description** A subtitle preview needs to reproduce the selected OP-47 Teletext page on the video, including the page's visual layout and styling.

**Result** MCCDisplay can render the selected page with its text positions, colors, and background.

FIXED

### Cyrillic subtitles in MCCDisplay

**Problem** Selecting the Russian-language track in an affected file with several subtitle tracks produced punctuation in place of the Cyrillic text.

**Result** MCCDisplay renders the Russian subtitle track correctly.

FIXED

### MCCDisplay rendering quality

**Problem** Subtitles rendered through MCCDisplay showed a visible drop in quality after a rendering performance change.

**Result** The affected MCCDisplay workflow restores the earlier subtitle rendering quality.

FIXED

### Green stripe in subtitle rendering

**Problem** A green stripe could appear over subtitles when progressive RGB subtitle graphics were converted to planar YUV420 in parallel.

**Result** Subtitle compositing fills the affected rows correctly, removing the green stripe.

FIXED

### V-Chip information after video downconversion

**Problem** V-Chip information could be decoded incorrectly after video was downconverted to a lower format.

**Result** The V-Chip information is decoded correctly after the affected downconversion.

FIXED

### Mask rendering in the GPU pipeline

**Problem** A frame mask passed to `MFOverlay` was ignored when `gpu_pipeline=true`. Compositions that used GPU-powered plugins could lose the mask.

**Result** The GPU pipeline applies the supplied mask during frame compositing.

FIXED

### Application shutdown hang with the Chroma Key plugin

**Problem** On affected systems, an application using the Chroma Key plugin could hang during shutdown if SDK objects were still open.

**Result** The affected Chroma Key workflow shuts down without that hang.