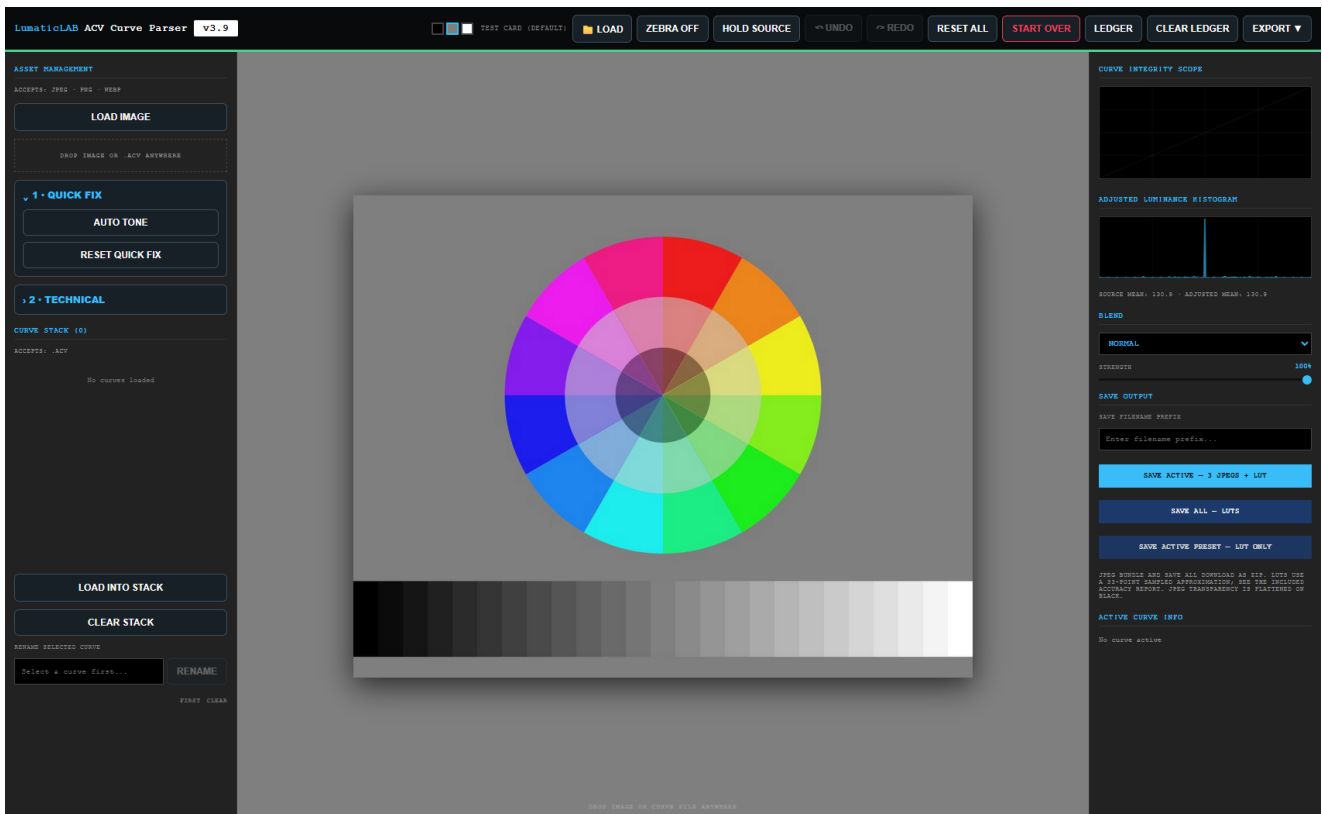




ACV Curve Parser First Walk Through

Version 3.9 | 13 October 2026

Open ACV_CURVE_PARSER_v3-9.html in a desktop browser. This walkthrough takes you from the built-in test card to a selected curve, an adjusted preview and saved output. The application works locally and does not upload your files.



The left panel loads images and holds the curve library. The centre shows the preview. The right panel contains diagnostics, blending, output naming and SAVE controls.

Start with the test card

The embedded standard test card loads automatically. Loading ACVs does not alter it. For an independent source comparison, hold HOLD SOURCE; release it to return to the adjusted result.

Load and select a curve

- Use LOAD INTO STACK to select one or more .acv files. You can also use the header LOAD button or drop files over the page.
- Click a curve row or tick its checkbox. Exactly one preset becomes active and is applied immediately.
- Click a different row to replace that preset. Uncheck the active row or press CLEAR to remove its effect.
- Use LOAD IMAGE to choose a JPEG, PNG or WEBP photograph, or drop the image over the preview. The currently selected curve remains active on the new source.



Adjust and compare

Expand TECHNICAL to adjust white balance and tone. Move a slider and check both the image and adjusted histogram. AUTO TONE in QUICK FIX supplies a starting correction; RESET QUICK FIX or RESET TECHNICAL clears all Technical values and returns white balance to As Shot.

Choose Normal, Multiply, Screen, Overlay or Soft Light on the right. Changing to a non-Normal mode starts Strength at 50%; changing back to Normal resets it to 100%. Zebra adds clipping warnings to the preview only.

Choose the output name

The selected curve name supplies the output prefix automatically. Edit RENAME SELECTED CURVE and click RENAME to replace the label. A prefix typed in SAVE FILENAME PREFIX takes precedence; clear that field before selecting a curve if you want automatic naming again.

Save the result

SAVE action	What to expect
SAVE ACTIVE	One output ZIP: adjusted full-size JPEG, social JPEG up to 1200 px, archive JPEG up to 200 px, a 33-point CUBE and a JSON manifest.
SAVE ACTIVE PRESET LUT ONLY	One direct .cube download for the active preset, with the current blend and Technical settings baked in.
SAVE ALL LUTS	One ZIP containing a named 33-point CUBE per library row and a batch manifest. The same captured adjustments apply to every row.

All SAVE controls stay lit. If nothing suitable is selected or adjusted, a message tells you what is required. Check the downloads folder and extract ZIPs before using their contents. The full-size adjusted JPEG ends in _FULL.jpg; it is not an unmodified original.

Finish or start again

RESET ALL clears edits but keeps the image and imported curves. CLEAR STACK removes the curve library after confirmation. START OVER clears the image and curves and restores the test card. Deleting or clearing curves is not reversible with UNDO.



ACV Curve Parser User Guide

Version 3.9 | 13 October 2026

Use this guide to preview an ACV curve on an image, adjust its appearance and save JPEGs or a CUBE LUT. Version 3.9 is a standalone RGB converter. It is not a GRD converter, a multi-preset compositor or a replacement for Photoshop colour management.

Open and load files

Open the HTML file directly in a current desktop browser. No installation or internet connection is needed for the application. The standard test card is embedded. Browser permissions govern file selection, downloads and local session storage.

Input or limit	Version 3.9 support
Images	JPEG, PNG and WEBP, up to 50 MiB per file and 40 megapixels.
Curve presets	ACV v1 bitmap or v4 count format; documented extra curve records supported. Up to 128 KiB per file.
Curve structure	2 to 19 points per curve, input and output values from 0 to 255, strictly ascending input positions.
Library	Up to 50 ACV files. Only Composite, Red, Green and Blue affect this RGB converter.
Preview	Longest side at most 1200 px. Full source pixels are retained for export.

LOAD IMAGE chooses one image; LOAD INTO STACK chooses ACVs. The header LOAD accepts both types together. You can drop files anywhere on the page. Folder drops are attempted where the browser supports directory access; if a folder cannot be read, open it yourself and select or drop its files instead.

New presets enter the library without being applied. Image requests use last-requested precedence, so a slower earlier file cannot replace a later choice. If image validation or decoding fails, the existing working image stays intact. Presets are processed in import order.

Find the controls

The left panel contains loading, collapsible QUICK FIX and TECHNICAL sections, and the curve stack. The centre contains the preview. The right panel contains the curve scope, histogram, blending and saves. Black, grey and white toolbar swatches change the preview surround, not image pixels or exported JPEG backgrounds.



Manage the curve library

A row represents one ACV file, not one internal channel. Click its name or checkbox to apply it. Selecting another row replaces the previous selection. Uncheck the active row or press CLEAR to remove only the preset effect; independent Technical corrections remain.

FIRST selects the first row. Drag rows to reorder the library; order governs the list and batch processing, not a chain of multiple active presets. The red cross removes a row after confirmation. Removing the active row does not apply its neighbour.

Rename and control output names

Select a curve, replace the text in RENAME SELECTED CURVE, then click RENAME or press Enter in that field. Empty names are rejected. Renaming changes the label, not curve data. The new label is used by automatic active naming and by that preset in SAVE ALL.

Typing SAVE FILENAME PREFIX marks it as a manual override. That prefix survives subsequent selections and renames, and undo/redo restores whether it was automatic or manual. Clearing the field releases the override on the next selection. Batch LUT filenames use individual row names; the prefix names the ZIP and manifest. File-unsafe characters are removed and duplicate batch names receive suffixes.

Use history and resets

Action	Effect
UNDO and REDO	Restore up to 20 recorded edit states, including selections, names, row order, adjustments and prefix ownership.
RESET TECHNICAL	Zero all six Technical sliders; return white balance to As Shot.
RESET QUICK FIX	Clear the same Technical settings and Auto Tone state.
RESET ALL	Clear preset selection, Technical and blend edits. Keep the source image and library.
CLEAR STACK	Remove all imported curve files after confirmation; Technical corrections remain.
START OVER	Discard the working image and library, reset edits and restore the embedded test card.

Imports, deletions and stack clearing cannot be reversed by UNDO. Loading a new source image resets history. START OVER requires confirmation and cannot be undone.



Adjust tone and blending

Expand TECHNICAL to reveal the controls. Slider values range from -100 to +100. These are LumaticLAB correction scales, not equivalent Lightroom controls. Exposure maps this range to -1 to +1 stop. The other tonal corrections operate independently on each RGB channel.

Control	Purpose
White balance	As Shot leaves channel gains unchanged. Warmer, Cooler and Daylight are fixed RGB-gain presets, not Kelvin measurements or camera-metadata recovery.
Exposure	Increase or reduce overall channel values with an exposure gain.
Highlights and Whites	Adjust stronger channel values, with Whites more concentrated near the upper end.
Shadows and Blacks	Adjust weaker channel values, with Blacks more concentrated near the lower end.
Contrast	Expand or compress values around the 8-bit midpoint of 128.
AUTO TONE	Set a bounded starting exposure from the original mean and apply fixed tonal offsets. Fine-tune afterwards.

Normal uses the graded colour; Multiply darkens it relative to the source; Screen lightens it; Overlay and Soft Light mix according to channel values. Strength controls this blend. A non-Normal mode starts at 50%, and Normal starts at 100%, whenever the mode is changed. Technical corrections are applied after the blended curve grade, so reducing Strength does not bypass them.

Read the diagnostics

Hold HOLD SOURCE with the pointer, or focus it and hold Space or Enter, to view the pristine preview. The histogram is then labelled Source. Releasing returns to Adjusted. The curve scope shows the effective channel response; matching RGB responses appear as one white curve, otherwise separate RGB curves are shown.

Zebra marks pixels where all three channels are near black in green and near white in magenta. It is not a warning for every individually clipped colour channel. Warnings never enter the histogram, JPEGs or LUT.

SOURCE MEAN is measured on the full original; ADJUSTED MEAN follows the reduced preview. Larger images can show a small difference at neutral settings because of downsampling. The means use RGB-weighted brightness, not calibrated scene luminance.



Save and use outputs

Control	Downloaded files
SAVE ACTIVE	One PREFIX_OUTPUT.zip containing PREFIX_FULL.jpg, PREFIX_SOCIAL.jpg, PREFIX_ARCH.jpg, PREFIX_33.cube and PREFIX_manifest.json. Requires an active preset or Technical adjustment plus an image.
SAVE ACTIVE PRESET LUT ONLY	One PREFIX_33.cube. Requires an active curve; current Technical and blend settings are included.
SAVE ALL LUTS	One PREFIX_ALL_LUTS.zip containing a CUBE for every row and a batch manifest. Requires imported presets, but not a photograph.

Social and archive JPEGs preserve aspect ratio and do not enlarge small sources. The longest sides are capped at 1200 and 200 px respectively. JPEG transparency is flattened on black, independently of the preview surround. JPEG quality settings are 0.95 for full/social and 0.92 for archive.

Names and settings are captured when saving begins. Later edits, row renames or stack clearing cannot change that export. A second export is refused while one is running. A download-request message is not a guarantee that a browser has written the file; check its downloads list and destination folder.

Understand the accuracy report

The CUBE contains 33 points per axis, or 35,937 RGB rows. It samples the same floating-point channel tables used for JPEG rendering, but interpolation between 33 samples is approximate. Each ZIP manifest reports maximum and RMS channel error relative to those tables. The report excludes JPEG compression, other software colour management and differences from Photoshop.

Keep a session record

LEDGER saves a two-column CSV of timestamps and JSON state/events. CLEAR LEDGER removes the local record after confirmation. The ledger holds at most 1,000 records; it is not a project file and cannot restore image or curve bytes. Browser storage mirrors scalar settings, not the imported library or photograph. Save and retain original inputs separately.

Resolve common problems

- Unsupported ACV version: this release accepts versions 1 and 4. A named version-5 rejection is intentional.
- No visible preset effect: select a row; importing alone does not apply it. Check Strength and release HOLD SOURCE.
- No downloaded files: inspect the browser downloads list, storage space and permissions. Extract the ZIP; do not look for separate downloads from SAVE ACTIVE or SAVE ALL.
- Unexpected image colour in another editor: compare source profiles and LUT interpolation. Exact Photoshop equivalence is not claimed.



ACV Curve Parser Tooltip Library

Version 3.9 | 13 October 2026

This reference supplies plain-English descriptions of the v3.9 controls. It documents their current behaviour; the descriptions are not a claim that new tooltips have been installed in the application.

Toolbar controls

Control	Suggested description
LOAD	Choose image and ACV files. Imported curves are not applied until selected.
Background swatches	Change the black, grey or white surround. This does not change output pixels.
ZEBRA	Show near-black green and near-white magenta warnings in the preview only.
HOLD SOURCE	Hold to compare the original image. Release to restore the adjusted preview.
UNDO	Restore the previous recorded edit state. Cannot recover removed files or the previous source image.
REDO	Reapply the next recorded edit state after Undo.
RESET ALL	Clear active preset, Technical and blend edits while keeping image and library.
START OVER	Confirm a fresh session: remove image and curves, reset edits and restore the test card.
LEDGER	Download timestamped local state and events as CSV.
CLEAR LEDGER	Confirm removal of the locally stored ledger. This cannot be undone.
EXPORT menu	Choose active JPEG and LUT output, all preset LUTs or the session ledger.

Keyboard shortcuts

L opens LOAD, U performs UNDO, Y performs REDO and E starts SAVE ACTIVE. These single-key shortcuts are ignored while typing in inputs, using a select/button, or holding Ctrl, Alt or Meta. Focus a curve row and press Space or Enter to select it.



Image and library controls

Control	Suggested description
LOAD IMAGE	Choose a JPEG, PNG or WEBP source. A rejected load leaves the current image intact.
Drop area	Drop images or ACVs anywhere over the page. For folders the browser may request direct file selection instead.
QUICK FIX	Expand or collapse the Auto Tone controls.
AUTO TONE	Use the source mean and fixed offsets to set a starting Technical correction.
RESET QUICK FIX	Zero Technical values, reset white balance and clear Auto Tone state.
TECHNICAL	Expand or collapse white balance and tonal adjustments.
LOAD INTO STACK	Add one or more ACV presets to the library without applying them.
Curve row or checkbox	Apply this preset only. A different selection replaces it; unchecking removes its effect.
Drag curve row	Reorder the library and batch sequence. This does not combine presets.
Red cross	Confirm removal of this preset. Deleting the active row does not activate another.
FIRST	Select the first preset and update automatic output naming.
CLEAR	Remove active preset selection. Keep the library and Technical corrections.
CLEAR STACK	Confirm removal of all imported curves. Technical corrections remain.
RENAME field and button	Replace the selected curve label. Automatic active naming and individual batch filenames follow it.



Adjustment and diagnostic controls

Control	Suggested description
White balance	Choose unchanged channel gains, warmer, cooler or fixed daylight gains. No camera white-balance metadata is recovered.
Exposure	Adjust exposure from -1 to +1 stop across the slider range.
Highlights and Shadows	Adjust stronger or weaker RGB channel values.
Whites and Blacks	Concentrate tonal correction towards the upper or lower ends.
Contrast	Expand or compress values around the midpoint.
RESET TECHNICAL	Zero all Technical sliders and return white balance to As Shot.
Curve Integrity Scope	Show the effective response of the current corrections. Separate RGB curves appear when channels differ.
Adjusted Luminance Histogram	Show brightness distribution before zebra warnings. HOLD SOURCE changes it to Source.
SOURCE MEAN	Original image brightness mean measured at full resolution.
ADJUSTED MEAN	Mean brightness of the adjusted reduced preview.
Blend mode	Mix graded colour with the original. A mode change resets Strength to its mode default.
Strength	Set curve blend amount; Technical corrections remain independently applied.

Naming and output controls

Control	Suggested description
SAVE FILENAME PREFIX	Type a manual naming override. Clear it to allow automatic naming on the next selection.
SAVE ACTIVE	Request one ZIP containing three adjusted JPEG sizes, a 33-point CUBE and manifest.
SAVE ALL LUTS	Request one ZIP of individually named CUBEs and an accuracy/settings manifest.
SAVE ACTIVE PRESET LUT ONLY	Request only the active 33-point CUBE, including current blend and Technical settings.
Active Curve Info	Identify the active preset and its channel records. Channels beyond RGB are not rendered.



ACV Curve Parser Technical Guide and Release Standard

Version 3.9 | 13 October 2026

This guide records the implemented v3.9 behaviour, output contracts and verification boundaries. It supports maintenance and release review of the standalone ACV Curve Parser; it does not change the shared LumaticLAB Core Specification or authorise integration work.

Release identity and scope

Item	Release record
Application	ACV_CURVE_PARSER_v3-9.html, displayed version 3.9.
Documentation	Issued 13 October 2026; four manuals in PDF and editable Word.
Architecture	Standalone local HTML, browser canvas, File APIs, worker brightness measurement and Blob downloads. No application upload endpoint or external script dependency.
Supported processing	One active ACV preset, separable RGB blending and channel-based Technical corrections.
Excluded	GRD conversion, HSL grading, spatial effects, multi-preset activation, arbitrary 16-bit curve coordinates and guaranteed Photoshop pixel parity.

Source and documentation control

The documentation describes the workspace v3.9 source, identified by its SHA256 in the package index. The application is not edited during documentation production. Earlier v3.7 descriptions of multi-row composition and independent JPEG downloads do not apply to this release.

Resource and state limits

Resource	Bound
Image file	50 MiB
Decoded image	40 megapixels
ACV file	128 KiB
Curve library	50 files
Interactive preview	1200 px longest side
Edit history	20 scalar-state snapshots
Ledger	1000 records, oldest evicted first



ACV structure and validation

The parser reads unsigned big-endian integers. Version 1 uses a 16-bit bitmap to identify the base channel records; version 4 uses a sequential count from 1 to 19. Channel slot 0 is Composite and slots 1, 2 and 3 are Red, Green and Blue. At least one of these RGB-relevant records must be present.

Each record declares 2 to 19 points. A point stores output first, then input, each in the 0 to 255 domain. Input coordinates must rise strictly. Buffer bounds are checked before reading; unsupported versions, bad counts, truncation and invalid coordinates return a named rejection without adding a preset.

A recognised trailing Crv-space marker is followed by extra-record version 4, a 32-bit item count and indexed curve records. Up to 19 extra records are accepted; channel indices must be 0 to 18 and must not repeat within that block. An extra record can replace its base channel. Any unrecognised remainder is rejected.

Only Composite and RGB slots affect output. Higher channel slots may be retained and reported as not rendered. The parser does not infer colour space from channel count and does not implement CMYK, spot-colour or alpha-curve processing.

Curve interpolation

Validated points become 256-entry Float64 channel tables. Cubic Hermite interpolation uses slope limiting to prevent overshoot within monotone segments; a slope reversal sets its shared tangent to zero. Values outside the first/last input positions use the nearest endpoint output. Results are clamped to 0 to 255 without intermediate integer rounding.

Fractional table lookups use linear interpolation between adjacent entries. This is the implemented LumaticLAB approximation; the internal interpolation algorithm used by Photoshop has not been established by comparative tests.

Safe loading

Images are decoded and both full and preview buffers are staged before state is committed. Failed dimensions, decoding or allocation leave the previous source untouched. Request tokens suppress stale image callbacks; generation tokens suppress stale source-mean results. Presets use a serial import queue, check the cap at commit time and invalidate pending imports when the library is cleared.



Colour processing order

Each render starts from an immutable source copy. The active Composite curve is applied first, followed by the corresponding channel curve. The resulting channel value is blended against its original value using the selected mode and Strength. Technical correction follows that blend, in the order below.

Technical stage	Implemented operation
White balance	RGB gain sets: As Shot 1/1/1; Warmer 1.06/1/0.94; Cooler 0.94/1/1.06; Daylight 1.02/1/0.98.
Exposure	Multiply by 2 raised to the slider value divided by 100.
Weight reference	Let n be the current value divided by 255, clamped to 0 to 1. This n is fixed for all four following tonal offsets.
Highlights	Add slider value times n squared times 0.45.
Shadows	Add slider value times one minus n squared times 0.45. The square applies to the whole one-minus- n term.
Whites	Add slider value times n to the fourth power times 0.6.
Blacks	Add slider value times one minus n to the fourth power times 0.6; the power applies to the whole term.
Contrast and bounds	Scale the distance from 128 by one plus the contrast value divided by 150, then clamp to 0 to 255.

Blend supports Normal, Multiply, Screen, Overlay and Soft Light. Strength interpolates between the original channel and the blended channel. Mode changes set Strength to 100% for Normal or 50% for other modes. Technical corrections are not reduced by this Strength control.

Diagnostics and source comparison

The adjusted histogram uses 256 brightness buckets and RGB weights 0.299, 0.587 and 0.114. It is calculated before zebra painting. Source mean is measured on full pixels using a worker, with a main-thread fallback; adjusted mean uses preview pixels.

Zebra paints magenta when all RGB values exceed 252, or green when all are below 3. HOLD SOURCE bypasses every edit and zebra, relabels the histogram and returns the scope to its neutral reference. On release, the adjusted render is restored.



Output contract

Output	Contract
Active output ZIP	PREFIX_OUTPUT.zip: adjusted _FULL.jpg, _SOCIAL.jpg, _ARCH.jpg, _33.cube and _manifest.json. Requires image plus active preset or non-neutral Technical settings.
Active CUBE	PREFIX_33.cube: current selected preset with current blend and Technical correction. No JPEGs or manifest from this button.
All preset ZIP	PREFIX_ALL_LUTS.zip: one named _33.cube per row and a JSON array of manifests. Preset names are captured before asynchronous export starts.
JPEGs	Full original dimensions; social cap 1200 px; archive cap 200 px. No upscaling. Alpha flattened on black. Quality 0.95/0.95/0.92.
CUBE	LUT_3D_SIZE 33; DOMAIN_MIN 0/0/0 and DOMAIN_MAX 1/1/1; 35,937 rows, red fastest, six decimal places.

Each CUBE is newly generated. Its header identifies LumaticLAB ACV Curve Parser, the output prefix and the sampled approximation. TITLE uses the sanitised prefix with _33. The active manual prefix overrides automatic naming; batch filenames use captured row names. Collisions are resolved case-insensitively by numerical suffixes.

Export isolation and packaging

Active export captures source pixels, dimensions, source/preset names and edit settings before asynchronous JPEG encoding. Batch export captures the row list and settings. The library may then change without altering that export. Concurrent save requests are refused until the current export finishes.

ZIP packaging is local, uncompressed and includes CRC32 checksums and UTF-8 names. It has a 4 GB bound. Download requests use Blob URLs; the browser still determines whether a download is written. No claim of successful disk storage is made solely from triggering an anchor.

Accuracy manifest

Manifest fields identify app/version, prefix, export time, blend, Technical settings and output contract. Active export adds source dimensions/name and the preset; each batch record identifies the preset and its source filename. Accuracy contains a description plus Red, Green and Blue maximum/RMS errors in 8-bit units.

The error calculation compares all 256 input positions with linear interpolation through the written 33 six-decimal samples. It measures LUT sampling relative to the application tables only. JPEG compression, display profiles, receiving-application colour management and Photoshop interpolation differences are outside this measure.



Persistence and audit record

The versioned session key is `lumatic_acv_curve_parser_session_3.9`. It stores scalar settings, prefix ownership and legacy combination-name state, not image or curve bytes. The ledger key is `lumatic_acv_ledger`; its CSV has Timestamp and State columns, with JSON edit states or events. The ledger is not a restoreable project file.

Undo snapshots retain item identifiers, row order, names, selection, prefix and manual/automatic ownership, blend and Technical settings. Removed curve data is not kept, so undo cannot recover deletion or library clearing. New-image loads reset edit history.

Verification record

The recorded local-file Chrome headless run passed 57 assertions. Test downloads succeeded with normal browser permissions after restricted execution cancelled even a plain-text control download. The final test record is included in the package.

Area	Recorded evidence
ACV fixtures	v1 sparse bitmap, v4 RGB, indexed Crv extension and 19-record input accepted; malformed inputs rejected.
Real collection	36 files accepted; Darker.ACVC and Increase Contrast.ACVC rejected explicitly as version 5.
Interactive workflows	Manual image/preset loading, synthetic file drop, single selection, clearing/deletion, naming and undo/redo checked.
Corrections	All six Technical sliders changed image pixels and histogram; source hold and zebra separation checked.
Outputs	Actual CUBE and ZIP downloads checked; 35,937 LUT rows, names, titles, five-file active bundle and captured settings verified.
Bounds	Oversized image retained old dimensions; simultaneous import respected 50-file cap; Start Over cleared the library.

Independent ZIP CRC checks found no corrupt member. The test suite is not Photoshop parity testing, a complete browser-support matrix, native operating-system drag simulation, stress testing at every size limit or proof of every future input file.

Release changes and remaining acceptance

Version 3.9 corrects selection/checkbox synchronisation, keeps SAVE controls lit, captures export state, handles v1 bitmap and extra records, removes zebra contamination from the histogram, stages safe image loading, restores naming ownership in history and reports LUT approximation honestly. The version badge is also legible.

Before public release, run representative personal images and presets in each supported desktop browser, verify downloads and receiving-editor LUT behaviour, and check transparent-image export expectations. These are remaining acceptance activities, not claims of completed certification.

Format reference: Adobe Photoshop File Formats Specification, Curves section.
<https://www.adobe.com/devnet-apps/photoshop/fileformats.html/>