

PreviewVideoMonitorPro Manual

v5.2

CrateTools

PreviewVideoMonitorPro User

Manual

Version 5.2 | Professional Monitor and Video Inspection for ComfyUI

Welcome! 🎉

PreviewVideoMonitorPro transforms how you review AI-generated video and images in ComfyUI.

Whether you're creating videos at home or managing a studio pipeline, this tool gives you frame-accurate playback, technical inspection capabilities, and professional comparison tools—all without leaving your workflow.

This manual is designed for everyone: if you're new, follow the guided walkthrough. If you're an advance/tech/coder user, check the Advanced Notes at the end for details.

Quick Start: Your First Session

**We'll be making a video tutorial soon.
Check for that link on
<https://github.com/CrateTools/comfyui-preview-video-monitor>**

Setting Up the Node

Add the Node In ComfyUI search PreviewVideoMonitorPro

Connect Your Input Connect either: - Video source (MP4, etc.) to the video input - Image sequences data to the images input (vae decode) - Image (single) to the images input (vae decode or a load image node)

source Selects the input type: video or images. Use video when connecting a VIDEO output, or images when connecting an IMAGE sequence or single image.

monitor The monitor parameter lets you select which physical screen displays the PVM viewer

power_state Set power_state to ON (true). Turn it Off to switch to another physical monitor and then back to On.

target_resolution Sets the internal processing resolution for the selected monitor: 1920x1080 or 3840x2160 depending on your physical monitor resolution, GPU video card and graphics settings.

generations_name A custom label prefix for saved generations (e.g., "Generation", "the project name", "Test", "Final"). This name appears in the Generations dropdown and is used when naming cached files. Useful if you'll be creating a lot of iterations and you need a base name for all gens or a "project name" prefix, etc. This can be changed later at any point on the Generations dropdown.

Snapshot Workflow When enabled, saving a snapshot will also embed the workflow JSON that generated it. This lets you recover the exact workflow settings later.

Snapshot Path Where snapshots are saved. Use smart for the default location (snapshots/ inside the node's folder in custom_nodes), or enter a custom directory path.

video Output

At the moment, we need this output for technical reasons. Passes through the input video, allowing the node to be chained with other video nodes. Not tested and would be a rare use for this node. Not recommended at all.

Run Your Workflow Queue your prompt. You'll see a waiting screen. The monitor window opens automatically on your selected display.

Keyboard Reference (Complete)

Key	Action
SPACE	Play/Pause
←	Previous frame (hold for scrubbing)
→	Next frame (hold for scrubbing)
END	Display selected Generation
I	Set IN point
O	Set OUT point
P	Reset IN OUT Points
1	Toggle 1:1 mode
2	Fit mode
3	Width mode
4	Height mode
5	Toggle Fullscreen
R	Toggle Red channel
G	Toggle Green channel
B	Toggle Blue channel
W	Enter and Exit wipe/SBS modes
Shift+Q	Close monitor window and end its running process
Mouse Wheel	Zoom in/out
Right-Click + Drag	Pan (when zoomed)
Middle-Click	Reset zoom

Understanding the Monitor Window

When the monitor opens, you'll see:

The Main Viewing Area Your video displays here. This is where all the magic happens—playback, inspection, comparison.

The Toolbar (Bottom) A clean row of controls for everything you need: - Timeline with frame counter - Playback controls (IN/OUT markers, play/pause, frame stepping) - FIT modes (how video scales to screen) - Vision controls (technical inspection) - Generations dropdown (manage multiple runs) - Snapshot (save workflows) - Clear Cache (manage storage)

Chapter 1: Playback & Navigation

Basic Playback

Play/Pause Click the ▶/■ button or press SPACEBAR

The video plays at the speed you set in the FPS control (more on that in a moment).

Frame Stepping ← Left Arrow: Previous frame → Right Arrow: Next frame - Hold arrow keys: Smooth 30fps scrubbing through your video

Scrubbing the Timeline Click and drag anywhere on the timeline bar to jump instantly to any frame. The frame counter updates in real-time.

Setting Your Playback Speed

The FPS Button (grey circle with a dot) Click it to open the FPS dropdown menu:

FPS Presets: Choose fps preset - usual industry standards - 60, 59.94, 50, 48, 30, 29.97, 25, 24, 23.976, 15, 12, 8

Custom FPS (Yellow Box): Click the yellow-outlined field at the bottom, type your exact frame rate (e.g., 120), press Enter.

First Frame Number (Blue Box): Any video starts counting at 1, but sometimes you may want to change it to match editing or other departments so that everyone is talking about the “same frame.”

Below the FPS field is a blue-outlined field. This sets what number your first frame displays as.

Example: If a shot/video is frame 1001-1200 of a larger sequence, set this to 1001 so the counter shows the correct frame numbers.

Marking IN and OUT Points

Shortcuts: I O P

Sometimes you only want to review a specific section of your video.

Set IN Point: Navigate to your desired start frame, click the IN button. A red pillar appears on the timeline.

Set OUT Point: Navigate to your end frame, click the OUT button. Another red pillar appears. The area between them turns yellow.

Playback with Markers: When markers are set: - Play starts at IN point - Stops at OUT point - Loops back to IN

Pong Mode: Click Pong to enable ping-pong playback (plays forward, then backward, continuously between IN/OUT or the full range)

Toggle Markers Off: Press P or Click IN or OUT yellow and red circles

Keyboard Shortcuts (Playback)

Key	Action
SPACE	Play/Pause
←	Previous frame (hold for scrubbing)
→	Next frame (hold for scrubbing)

Chapter 2: Viewing Modes

Understanding FIT Modes

Your video's resolution might not match your screen. FIT modes control how the video scales and positions.

The FIT Buttons: 1:1 Fit Width Height Fullscreen Reset

1:1 Mode (Keyboard: 1) Shows actual pixels—no scaling. Great for pixel-perfect inspection. Press 1 again to toggle back to Fit mode.

Fit Mode (Keyboard: 2) Scales video to fit screen while preserving aspect ratio. Black bars appear if needed. This is the default.

Width Mode (Keyboard: 3) Scales video to fill screen width. Height may exceed screen (you'll pan to see it all).

Height Mode (Keyboard: 4) Scales video to fill screen height. Width may exceed screen.

Fullscreen Mode (Keyboard: 5) Hides the toolbar, maximizes viewing area. Press 5 or ESC again to exit.

Reset Button Returns to default Fit mode and resets zoom/pan.

Zoom and Pan

Zooming In: Scroll your mouse wheel UP to zoom in. The video enlarges around your mouse cursor position—point at the detail you want to inspect!

Zooming Out: Scroll your mouse wheel DOWN to zoom out.

Panning: Once zoomed, right-click and drag to pan around the video. Zoom can go up to 16x!

Why Use Zoom: Inspect fine details, check edge artifacts, examine texture quality—essential for technical review.

Return to Fit: Middle mouse wheel click or Reset button in the main bar

Keyboard Shortcuts (Viewing)

Key	Action
1	Toggle 1:1
2	Fit
3	Width
4	Height
5	Toggle Fullscreen
Mouse Wheel	Zoom in/out
Right-Click + Drag	Pan (when zoomed)

Chapter 3: The Vision Module ↴

Vision transforms your monitor into a technical inspection lab. These aren't creative color grading tools—they're diagnostic controls for analyzing what the AI actually generated.

Opening Vision

Click the **Vision** button (toolbar). A panel slides up with technical controls.

RGB Channel Isolation

The R/G/B Buttons: Click to isolate individual color channels: - **R (Red Channel):** See only red information (displayed as grayscale) - **G (Green Channel):** See only green information - **B (Blue Channel):** See only blue information - **RGB (Full Color):** Back to normal view

Keyboard Shortcut:

Use R G B keyboard keys to cycle RGB channels.

Why Use Channel Isolation: AI generation artifacts often hide in individual channels. Compression issues, color banding, and encoding problems become visible when channels are isolated.

The Vectorscope

What Is It: A circular display showing color distribution in your video. Each pixel's color is plotted as a dot.

How to Read It: - Center = No color (grayscale) - Edges = Saturated colors - Specific Directions = Specific hues (Red at 0°, Yellow at 60°, Green at 120°, etc.)

Why Use Vectorscope: Instantly see if your video has color casts, clipping, or unusual color distributions.

Waveform RGB

Displays brightness levels for each color channel (Red, Green, Blue) in three stacked sections. The horizontal axis matches your frame left-to-right - pixels on the left of your video appear on the left of the scope. The vertical axis shows brightness: bright values at the top, dark values at the bottom. Use it to see WHERE in your frame brightness

issues occur (unlike the Histogram which only shows how much). If values hit the very top or bottom, you're clipping - losing detail in highlights or shadows. When all three channels align at similar heights, your image is color-balanced (neutral).

Histogram

Shows how many pixels exist at each brightness level (0-255) for Red, Green, and Blue channels overlaid together. The horizontal axis represents brightness - black/shadows on the left, white/highlights on the right. The height shows how many pixels have that value. Use it for a quick overall exposure check: a histogram bunched to the left means underexposed, bunched to the right means overexposed. Peaks hitting the edges indicate clipping. Unlike the Waveform, the Histogram doesn't show you where in the frame these values are - just how much of each exists.

3 Diagnostic Sliders

Move them left and right by clicking the red arrows, reset them by middle mouse wheel clicking anywhere on the sliders.

Gain: Lightens or darkens the image. Drag right to reveal shadow detail, left to check highlight clipping.

Gamma: Adjusts midtone brightness without affecting pure blacks or whites. Reveals detail in shadows (drag right) or highlights (drag left) while preserving contrast endpoints.

Saturation: Boosts or reduces color intensity. Crank it up to spot subtle color artifacts.

Why These Aren't Creative Tools: You're not grading the video—you're testing it. Push brightness to extremes to see if shadow areas hold detail. Max out saturation to reveal color noise.

These controls help you evaluate generation quality—they don't produce an output at all.

Keyboard Shortcuts (Vision)

Key	Action
R	Toggle Red channel
G	Toggle Green channel
B	Toggle Blue channel

Zebra Pattern - (Clipping Indicator)

Overlays diagonal stripes on areas of your image that exceed a set brightness threshold. This is a real-time warning tool borrowed from broadcast cameras - the stripes themselves are not recorded, they just show you where detail is being lost to overexposure (clipping). When pixels hit maximum brightness (100%), they become pure white with no recoverable detail. Zebras let you see exactly WHERE in your frame this is happening, unlike the Histogram which only tells you that clipping exists somewhere. Use it to protect highlights before they blow out - if you see stripes on skin, clouds, or important details, reduce exposure until they disappear.

Color Picker (P)

A draggable sampling tool that reads pixel values directly from the original frame. When activated, a small red 5x5 crosshair appears that you can drag anywhere over your video. The picker samples the pixel under the crosshair and displays six values in an info panel:

R G B — The Red, Green, and Blue channel values (0-255) of the sampled pixel, shown in their respective colors A (Alpha) — The transparency value. Displays “none” for standard RGB video frames that don’t contain alpha channel data SAT — Saturation (0.00 to 1.00). Measures color intensity - 0.00 means pure grey (no color), 1.00 means fully saturated color. Calculated from the difference between the brightest and darkest RGB channels LUMA — Perceived brightness (0-255) using the Rec. 601 formula ($0.299 \times R + 0.587 \times G + 0.114 \times B$), which weights green highest because human eyes are most sensitive to green

Use it to check exact color values at specific points in your frame - verify skin tones, check if shadows are truly black, or compare color values between different areas of your image.

Guides

Overlays four composition and broadcast-safe reference guides onto your video. All guides adapt to your video’s aspect ratio, resolution, and any zoom/pan transformations. They can persist on screen after closing the Vision module.

Rule of Thirds (White) — Divides the frame into a 3×3 grid. Place key elements along these lines or at their intersections for balanced, visually pleasing compositions. Action Safe (Green) — A rectangle with 5% margin from all edges (90% of frame). Important action should stay within this boundary to ensure nothing gets cut off on TVs that overscan the image. Title Safe (Blue) — A rectangle with 10% margin from all edges (80% of frame). Text and graphics must stay within this area to guarantee visibility on all displays, including older TVs with significant overscan. Center Cross (Red) — Marks the exact center of the frame. Useful for aligning subjects, checking symmetry, or positioning center-weighted elements.

Masks

Overlays black bars (letterbox or pillarbox) to preview how your video would look cropped to different aspect ratios. Left-click the M button to cycle through available formats. Middle-click the M button to reset back to OFF. The mask automatically adapts to your video - if the target ratio is wider than your footage, you get letterbox (horizontal bars top/bottom). If the target ratio is narrower, you get pillarbox (vertical bars left/right). Masks can persist on screen after closing the Vision module. Available Aspect Ratios:

OFF — No mask (default)
2.39:1 — Anamorphic widescreen (modern cinema scope)
2.35:1 — Classic CinemaScope / Panavision
2.00:1 — Univisium (Netflix preferred for some originals)
1.85:1 — Theatrical flat widescreen (US cinema standard)
16:9 — HDTV / standard widescreen video (1.78:1)
3:2 — Classic 35mm still photography / some mirrorless video
4:3 — Standard definition TV / vintage footage (1.33:1)
1:1 — Square format (Instagram posts)
9:16 — Vertical video (Stories, Reels, TikTok, Shorts)
4:5 — Portrait format (Instagram portrait posts)

Mirror

Flips the image horizontally, vertically, or both. Left-click to cycle through four modes:

Normal — No transformation (default) H-Flip — Horizontal mirror (left becomes right) V-Flip — Vertical mirror (top becomes bottom) Both — Flipped horizontally and vertically (180° rotation)

Why mirror your image? Your brain adapts to what it sees. After staring at the same frame for a while, you stop noticing problems - asymmetries, balance issues, awkward compositions, or artifacts become invisible. Flipping the image tricks your brain into seeing it fresh, as if for the first time. Suddenly things that were hidden become obvious: a face looks lopsided, a horizon isn't level, or an artifact jumps out that you missed before. This is a classic technique used by artists, painters, and animators for centuries - they would look at their work in a mirror to catch mistakes. Digital mirror does the same thing for your video.

Chapter 4: Comparison Tools

When you generate multiple gen versions, you need to compare them side-by-side. PreviewVideoMonitorPro gives you two professional comparison modes.

The Generations Dropdown

Click **Generations** to see all your cached runs. Also navigate them with up and down arrow keys. Then press END key to display the selected one, same as clicking it. - A timestamp (when it was created) - A prefix (v_ for video, i_ for images), what's node input belongs to, images or video - A comparison button (small square on the right)

Loading a Generation: Press Enter to deploy generations menu or click the Generations button in the main bar. Click any generation name to load it into the viewer or press END key.

Renaming: While a generation is selected, press Enter again to rename, then press Enter again to confirm.

Deleting: Middle mouse wheel click over a generation, confirm. The generation is removed from disk.

At the moment of this release, the Generations dropdown has a visible max of 10 gens. If more are created they will actually "be there" but you have to move with the UP and DOWN arrows to "slide/move" the menu vertically and scrub them in. We will add the mouse wheel in the next version of PVM to make this more intuitive.

Comparison Mode: WIPE

Activating Wipe: Click the small square next to any generation to compare to. It turns yellow.

What Happens: As soon as you click and hold, the yellow wipe interface divider disappears and you see a clean wipe that you can move side to side. You can even zoom and pan while in wipe mode.

As soon as you release the left click, the yellow wipe divider interface comes back right where your pointer is. Deactivate wipe with W shortcut.

Wipe Behavior: - Respects your current zoom and pan - Both videos move together - The line stays at your chosen position as you scrub frames

You can grab the yellow line from the small square or anywhere else on the line. The line has a capture radius of 12 pixels which makes it comfortable to use.

Deactivating Wipe: Press W (instant exit) or click the square again.

Keyboard Shortcut: W = Exit comparison modes

Comparison Mode: SIDE-BY-SIDE

Activating SBS: Click the yellow square (wipe mode) again. It turns blue.

What Happens: Screen splits in half with a fixed blue line at center: - **LEFT half:** Your current video - **RIGHT half:** Comparison video

SBS Behavior: - Blue line never moves (fixed at screen center) - Each video stays in its own half (clipped at boundaries) - Zoom is synchronized: both videos zoom equally - Zoom anchor: where your mouse is when you scroll - Pan is synchronized: both videos pan together

Why This Matters: Point your mouse at a point on the left generation, zoom in—both generations zoom to the same relative position. You're inspecting the same detail on both generations simultaneously!

Frame-Space Zooming: Unlike wipe mode (which zooms the whole view), SBS zooms each frame independently within its window. The frames can grow huge (extending beyond their boundaries), but clipping keeps them separated.

Cycling Through Modes: - Grey Square = No comparison - Yellow Square (1st click) = Wipe mode - Blue Square (2nd click) = Side-by-side mode - Grey Square (3rd click) = Back to normal

Keyboard Shortcut: W = Exit any comparison mode (wipe and SBS) instantly

Chapter 5: Managing Your Work

Generations and RAM

How Generations Work: Every time you queue your ComfyUI workflow, PreviewVideoMonitorPro: 1. Decodes your video/images 2. Caches all frames in RAM (for instant playback) 3. Saves frames to disk as JPEG sequence (for later reload) 4. Registers the generation in the Generations dropdown

Why Cache to RAM: Reading frames from RAM is 100-1000x faster than decoding from disk. This enables: - Instant scrubbing - Smooth playback - Real-time vision slider feedback - Lag-free comparison modes

The Trade-Off: RAM usage! Just keep an eye on free RAM if you are working with hi-res video and a lot of generations.

Understanding the Cache System (Simple)

Two Caches:

RAM Cache (Fast, Temporary) - Decoded frames in memory - Used for instant playback - Cleared when you close monitor

Disk Cache (Slow, Persistent) - JPEG sequences saved in `runs_cache` folder - Survives closing ComfyUI - Can reload quickly (JPEGs decode fast!) loads into RAM again when displayed

Normal Workflow: Generate → Loads to RAM + saves to disk → You review → Close monitor → RAM cleared, disk remains → Open monitor later → Reloads from disk to RAM

We use an advanced content detection system that prevents a Generation about to enter the node's inputs to be written into cache if it already exists there.

The Clear Cache System

Clear Gens - delete all generations (with confirmation
“ClearForever?”) Explore - open `runs_cache` folder in file explorer

Click **ClearCache** button to open options:

“Clear All Cache” (Current Option) - Deletes all generation folders from disk - Clears RAM (FUTURE VERSION - NOT READY) - Empties the Generations dropdown - Frees up disk space

Coming in v5.3: Advanced Cache Management Future versions will offer: - Clear RAM Only (keep files on disk, free memory) - RAM usage display (see how much memory you're using) - Automatic management (smart cleanup when RAM is full - selected by user)

For Now: Manage your generations manually—delete old ones you don't need via the Generations dropdown.

Snapshots: Saving Your Workflow

What Is Snapshot: Captures your current ComfyUI workflow and saves it alongside your generation in a WebP file/image. Think of it as version control for your prompts and settings. If node is set to “smart” in “snapshot_path”, snaps go to `_nodes`. If node is set to “your custom path” in “snapshot_path”, snaps go to that custom path. Type “smart” again and the node will automatically know you’re sending to `_nodes`

How It Works: 1. Enabled by default (`snapshot_workflow: true` in node) 2. Automatically saves workflow in temp directory when generation completes 3. Stored in snapshots folder

Snapshot Button: Opens a menu to manage and save/capture workflows

Take - manually take a snapshot Clear Snaps - delete all snapshots (with confirmation) Explore - open snapshots folder in file explorer

EXIT the Preview Video Monitor Window

Shift+Q

Closes monitor window and exit the tool (and it's Windows/Pygame process). Not technically necessary to set power_state to Off unless you want to continue doing stuff in ComfyUI running prompts and not want them to trigger PVM to re-open. Also you need power_state before you change to a different physical display.

Advanced Notes: For Technical Directors, Pipeline Managers, Developers and Coders in general.

Pipeline Integration

Node Parameters: | Parameter | Description | |-----|-----| | source | "video" or "images" | | monitor | "Monitor 0", "Monitor 1", etc. (auto-detects displays) | | power_state | Boolean (true = on, false = off) | | target_resolution | "1920x1080" or "3840x2160" (UI resolution) | | generations_name | String (prefix for generation folders) | | snapshot_workflow | Boolean (auto-save workflows) | | snapshot_path | "smart" (auto) or custom directory path |

Cache Architecture

Storage Location:

ComfyUI/custom_nodes/PreviewVideoMonitorPro/runs_cache/

Generation Folder Structure:

```
runs_cache/
├── v_Generation_14-23-45_a1b2c3d4/ (video generation)
│   ├── frame_0000.jpg
│   ├── frame_0001.jpg
│   └── ...
└── i_Generation_14-25-12_e5f6g7h8/ (image generation)
    ├── frame_0000.jpg
    └── ...
└── snapshots/
    └── workflow_a1b2c3d4.webp
        └── ...
```

Naming Convention:

{prefix}_{generations_name}_{timestamp}_{uuid}

- **Prefix:** v_ (video) or i_ (images)
 - **Timestamp:** HH-MM-SS (filesystem safe)
 - **UUID:** 8-char unique identifier
-

Metadata System

File: generations_metadata.json

Structure:

```
{
    "gen_id_uuid": {
```

```

        "folder_path": "path/to/generation",
        "display_name": "v_Generation_14-23-45",
        "timestamp": 1735382625.123,
        "runs_name": "Generation",
        "source_type": "video",
        "total_size": 123456789,
        "frame_count": 1000,
        "format": "jpg"
    }
}

```

Duplicate Detection

Mechanism: Before registering a new generation, checks for existing entries with: - Identical total_size (folder size in bytes) - Identical frame_count

Behavior: If duplicate found: 1. Deletes newly created folder 2. Loads existing generation 3. Logs: “Duplicate content detected”

Edge Case: If cache is completely empty (`len(generations_metadata) == 0`), duplicate check is skipped. This ensures re-generation works after full cache clear.

RAM Management (Current Implementation)

Frame Storage:

```

self.cached_original_frames = [numpy_array, ...] # All frames
self.cached_comparison_frames = [numpy_array, ...] # Comparison
frames

```

Memory Calculation:

Per frame: width × height × 3 (RGB) bytes
Example: 1920 × 1080 × 3 = 6,220,800 bytes ≈ 6MB
1000 frames: 6MB × 1000 = 6GB RAM

Caching Strategy (v5.2): All frames loaded into RAM on generation load. No lazy loading or LRU eviction.

Planned Improvements (v5.3+): - Lazy loading (cache ±50 frames around current position) - LRU eviction (oldest frames dropped when memory limit reached) - Manual RAM clear (free memory without deleting disk files) - Compressed RAM cache (store JPEGs in memory, decode on-the-fly)

GPU Acceleration

OpenCV CUDA Support: If opencv-contrib-python with CUDA is installed: - Frame resizing uses `cv2.cuda.resize()` - Significant performance boost for 6K/8K video - Fallback to CPU if CUDA fails

Detection:

```
CV2_CUDA_AVAILABLE = cv2.cuda.getCudaEnabledDeviceCount() > 0
```

Log Message:

```
GPU acceleration enabled: cv2_cuda=True, torch_cuda=True
```

Performance Impact:	Resolution Improvement	----- -----
1080p Negligible (PCIe overhead > benefit)	4K ~10-20%	
faster 6K/8K ~50-70% faster		

Temp Workflow Folder (`runs_cache/temp_workflow/`)

This folder contains instance_## subfolders (e.g., instance_10, instance_48) that are created each time the node executes. Each instance is assigned a unique random number that will never conflict with existing folders, even across multiple ComfyUI sessions or browser tabs running simultaneously. These folders persist across sessions and store the workflow JSON used by the snapshot feature. They accumulate over time and can be safely deleted when ComfyUI is not running. Clearing this folder periodically is normal maintenance and won't affect your saved generations or snapshots.

Known Performance Considerations

Zoom Slowdown (v5.2): At high zoom levels (5x+), rendering slows due to pygame blitting large surfaces (25-100x more pixels).

Root Cause:

```
# Current implementation
zoomed_surface = scale(frame, huge_size) # e.g., 9600x5400
screen.blit(zoomed_surface, position)      # Processes all pixels,
even clipped ones
```

Planned Fix (v5.3): Crop visible portion BEFORE scaling:

```
visible_crop = crop(frame, visible_area) # Only what's on screen
zoomed = scale(visible_crop, screen_size) # Always ~2M pixels
screen.blit(zoomed, (0, 0))            # Fast regardless of zoom
level
```

Threading Model

Main Thread: Pygame event loop, rendering, UI

Worker Thread: Video decoding, frame caching (started on new generation)

Synchronization: - cache_lock: Protects frame cache access -
new_content_ready: Event signals cache completion - running flag:
Controls thread lifecycle

Extension Points

Custom Vision Filters: Add to `_apply_vision_to_frame()` function.
Input: RGB numpy array, Output: modified RGB array.

Custom Comparison Modes: Follow wipe/SBS pattern in
`_draw_wipe_overlay()` and `_draw_sbs_overlay()`.

Custom Metadata: Extend `generations_metadata` structure in
`_register_new_generation()`.

Environment Variables

Not currently used but could be added for:
- PVMP_CACHE_DIR: Override default cache location
- PVMP_MAX_RAM_GB: Set RAM limit for auto-cleanup
- PVMP_JPEG_QUALITY: Adjust disk cache quality

Troubleshooting

Monitor window doesn't open: - Check power_state is set to ON (true) - Verify all dependencies are installed - Check ComfyUI console for error messages

Performance issues: - Close other applications using RAM - Reduce number of cached generations - For 6K/8K, install opencv-contrib-python with CUDA

Can't see comparison video: - Ensure comparison generation has same frame count - Check that both videos loaded successfully - Try exiting comparison (press W) and re-entering

Keyboard shortcuts not working: - Click the monitor window to give it focus - Check if you're editing text (shortcuts disabled during text entry)

Thank you for using PreviewVideoMonitorPro!

We're committed to making video review in ComfyUI fast, intuitive, and professional. Happy creating! 🎉*

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