# Matrox *RT.X100 Xtreme Pro* HW

*Product Guide  June 2006*

**matrox**
*Digital Video Solutions*

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# Overview

If you're a serious professional looking for a way to maximize productivity and create compelling content that stands out from the crowd, Matrox RT.X100 Xtreme Pro HW is the solution for you. It's ideal for corporate communicators, event videographers, project studios, educational facilities, and digital filmmakers.

Combined with the latest Adobe software, the Matrox RT.X100 Xtreme Pro hardware unifies and streamlines the workflow of editing, graphics design, compositing, DVD authoring, and web video production. You get:

· Full-quality, full-resolution, no-compromise DV editing with Adobe Premiere Pro
· Superior realtime 3D effects with advanced keyframe control
· Sought-after realtime filters and color tools – pan & scan, old movie, soft focus, color match, and more
· Realtime analog and DV capture and print-to-tape
· Realtime MPEG-2 capture and encoding
· WYSIWYG video output with Adobe After Effects and Adobe Photoshop as well as other leading applications

Matrox RT.X100 Xtreme Pro HW includes the Matrox RT.X100 Xtreme hardware and Matrox X.tools software for use with your copy of Adobe Premiere Pro or Adobe Production Studio.

# Serious hardware for Adobe digital video artists

On its own, Adobe Premiere Pro is an outstanding digital video editing application for professional users. With the addition of Matrox RT.X100 Xtreme Pro, it becomes a true editing powerhouse. You get full-quality, full-resolution, no-compromise editing with superior realtime 3D effects and many sought-after realtime filters. You also get a full complement of superior acquisition and delivery tools including realtime analog and DV capture and print-to-tape, realtime MPEG-2 capture and encoding for DVD authoring, and hardware-accelerated simultaneous batch encoding of VCD, SVCD, DVD and web formats.

### No-compromise editing

With Adobe Premiere Pro alone, you typically can't edit with full-resolution, full-quality video. You choose between "draft" quality (lower resolution, higher frame rate) and "highest" quality (higher resolution, lower frame rate) to preview edits. To see your project in its final finished quality or to record to tape, you must spend the time to render, no matter how fast your computer. If you want to see your edits on a video monitor rather than in a VGA window, you must enable "realtime video playback on DV hardware" and connect your DV camera/deck or a DV-to-analog video converter box to the 1394 port. This significantly degrades realtime editing performance and generates an annoying lag between VGA and video output.

With Matrox RT.X100 Xtreme Pro, you edit with full-resolution, full-quality video in real time with unequalled responsiveness, even on a P4 2.4 GHz machine with 512 MB RAM. You always see your edits simultaneously on the VGA and video monitors, without the need to connect a DV device. There is no need to render your realtime projects before you print to analog or DV tape or encode MPEG-2 streams for DVD authoring.

### Superior realtime 3D effects

The right realtime 3D engine, in the hands of a professional video editor, can add significant production value to any project. Elegant 3D effects on titles and graphics, as well as on video, can even provide the extra edge that lets producers compete effectively for those all-important eyeballs.

Adobe Premiere Pro provides a few 3D picture-in-picture effects with limited control parameters.

With Matrox RT.X100 Xtreme Pro, you can easily bring movement and life to your images. Video, titles, and graphics actually become true 3D objects that you can animate in 3D space in real time with complete keyframe control over many parameters such as borders, shadows, lighting, radius, angle, softness, etc.

### Sought-after realtime filters and color tools

Adobe Premiere Pro offers a basic selection of filters. Matrox RT.X100 Xtreme Pro takes it to the next level with many sought-after realtime filters and effects such as pan & scan, old movie, soft focus, color match, super-smooth field-blended fast and slow motion, and advanced chroma keying with 4:4:4 up-sampling.

### Realtime analog and DV capture and print-to-tape

With Adobe Premiere Pro you need an analog and/or 1394 capture card to get video into and out of your computer. You will need to render your projects before you can record them to tape.

With Matrox RT.X100 Xtreme Pro, for not much more than the price of the software alone, you get realtime (no-render) DV-1394, S-video and composite I/O, plus faster, better capture tools.

### Realtime MPEG-2 capture and encoding

With Adobe Premiere Pro you cannot capture directly in MPEG-2 from 1394. You must first capture a DV file to disk, drag it to a timeline, and then export the timeline to MPEG-2. To create an MPEG-2 stream from a project you are editing, you would first render it (in DV format) to see the final finished product and then export it to MPEG-2. This two-step transcoding process takes time and degrades quality.

With Matrox RT.X100 Xtreme Pro you can capture directly from analog or 1394 to an MPEG-2 file in real time. You can also encode your realtime projects straight to MPEG-2 from the timeline without rendering.

# Serious hardware for Adobe digital video artists

**Faster, more versatile capture and export tools**

Matrox RT.X100 Xtreme Pro includes a variety of productivity tools for capture and export.

Matrox SinglePass technology cuts capture time dramatically by automatically scanning, logging, and batch capturing DV clips in a single pass, as the tape plays, without stopping or cueing. This not only saves time but also eliminates repetitive rewind and pre-roll to save wear and tear on camcorders, VTRs, and tapes.

Single-frame capture lets you easily create photomontages.

When capturing analog footage, Matrox RT.X100 Xtreme Pro gives you control over hue, saturation, contrast and brightness, complete with vectorscope and waveform monitors.

Matrox RT.X100 Xtreme Pro provides realtime MPEG-2 capture and export for your DVD authoring needs.

Matrox MediaExport provides hardware-accelerated simultaneous batch encoding of Windows Media/RealMedia streaming formats and MPEG-1/MPEG-2 formats with multiple resolutions, bit rates, and frame rates.

# Key features

· Full-quality, full-resolution, no-compromise editing with Adobe Premiere Pro

· Most powerful realtime 3D technology for video, titles, and 32-bit graphics

· Sought-after realtime filters and color tools – pan & scan, old movie, soft focus, color match, and more

· Advanced realtime, 3-way, 18-parameter YUV color correction plus 8-parameter RGB gain/offset colorization

· Professional waveform and vectorscope monitors

· Realtime chroma and luma keying with 4:4:4 up sampling

· Realtime super-smooth, field-blended fast and slow motion

· Realtime DV-1394, composite, and Y/C input and output

· Realtime SinglePass DV scan and capture

· Realtime MPEG-2 capture and encoding for DVD authoring

· Video capture using OHCI and Video-for-Windows compliant applications

· Hardware-accelerated simultaneous batch encoding of DVD, SVCD, VCD, and web formats

· For use with Adobe Premiere Pro or Adobe Production Studio

# System Requirements

A complete list of computers, motherboards, display cards, sound cards, storage devices, and DV-1394 devices validated for use with RT.X100 Xtreme Pro can be found in the support section of our web site.

### Minimum

· Pentium 4 at 2.2 GHz or Athlon XP 1500+
· Windows XP Home or Professional
· 1 GB RAM
· Free PCI slot
· Display card (Matrox G550, P650, P750, or Parhelia recommended)
· 16-bit sound card (DirectSound compatible)
· CD-ROM drive (DVD-ROM drive for Adobe Encore DVD installation)
· At least 2.5 GB of free space on system drive to install all included software
· Separate hard drive for A/V content
· Video camera or VCR

Realtime DV output and certain complex realtime effects require the recommended system configuration.

### Recommended

· Pentium 4 at 2.4 GHz, Athlon XP 2100+, or faster
· 1 GB DDR RAM or RDRAM
· DV-1394 camcorder or VTR
· Additional A/V drive for realtime export to disk

### DualHead and TripleHead editing using Matrox display cards

Many video editors prefer the larger desktop workspace that two or three monitors can provide. We recommend the Matrox Millennium G550, P650, P750 and Matrox Parhelia display cards, which are optimized for DualHead and/or TripleHead editing with Matrox RT.X100 Xtreme Pro.

# Realtime CPU-based effects

Using the full potential of your computer's CPU, Matrox RT.X100 Xtreme Pro gives you fully-keyframeable realtime 18-parameter color correction with professional waveform and vectorscope monitors, realtime color match, color pass, color replace, chroma/luma keying, and super-smooth speed changes.

## Advanced realtime color correction

Matrox RT.X100 Xtreme Pro features a 3-way, 18-parameter YUV color corrector that can be combined with an 8-parameter RGB gain/offset colorization filter for superior realtime color control.

· State-of-the-art, 3-way, 18-parameter color corrector

The 18-parameter color corrector lets you fix even the most problematic shots in post-production. The RT.X100 Xtreme Pro interface design, featuring all 18 parameters in a single dialog box, lets you efficiently fine-tune your video.
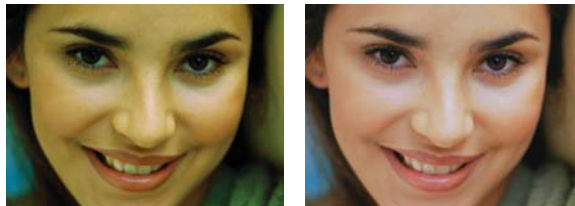


*Realtime proc amp controls*

Matrox RT.X100 Xtreme Pro lets you easily adjust 4 proc amp controls – hue, saturation, brightness, and contrast. Hue lets you change the overall color tone of an image. Saturation lets you adjust the overall purity of that color. Brightness and contrast let you adjust the tonal range of all pixels in the image. You can also use these controls to create special effects, such as black and white, in real time.
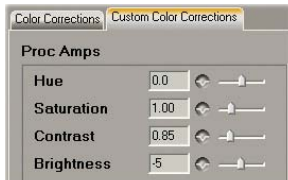


*Realtime color balance with automatic blacks/mids/whites balance*

Colors can be corrected using 9 parameters related to the black (shadow), midtone, and white (highlight) levels of your clips for professional tonal correction. The intelligent automatic balance button does it for you in one simple step. You can manually refine the results if needed.

The "preserve luminosity" feature ensures that the overall brightness of your image will not be affected by color balance adjustments. This is especially important when you make radical color changes.
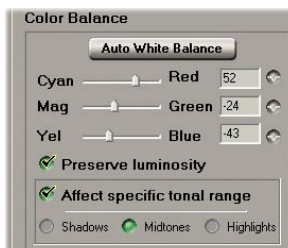
# Realtime CPU-based effects

*Realtime input/output level control with auto level*

Using the histogram display and level controls, luminance levels can be remapped to maximize the dynamic range of a clip. For example, bright areas can be made brighter and dark areas can be made darker. 5 parameters are available – black, white and gamma levels on the input, and black and white levels on the output.
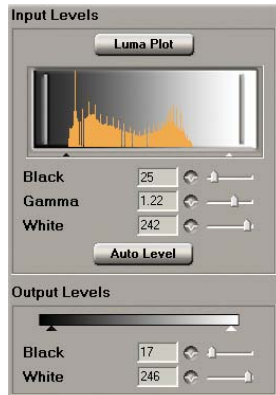
The auto level button automatically redefines the lightest and darkest pixels as white and black, then adjusts the intermediate pixel values proportionally.



· Vectorscope and waveform monitors

Professional waveform and vectorscope monitors, available from the color correction interface, offer four digital representations of your video clips – a vectorscope for hue and saturation, a Y waveform for luma only, a YC waveform for luma/chroma, and an RGB parade for individual color components. You can analyze the entire image, a single scan line, or a rectangular region of interest. These monitors let you accurately calibrate source material, perform color matching, and ensure you always output a broadcast-legal signal.

You can customize the look of the monitors to suit the way you work and place them anywhere on your desktop.
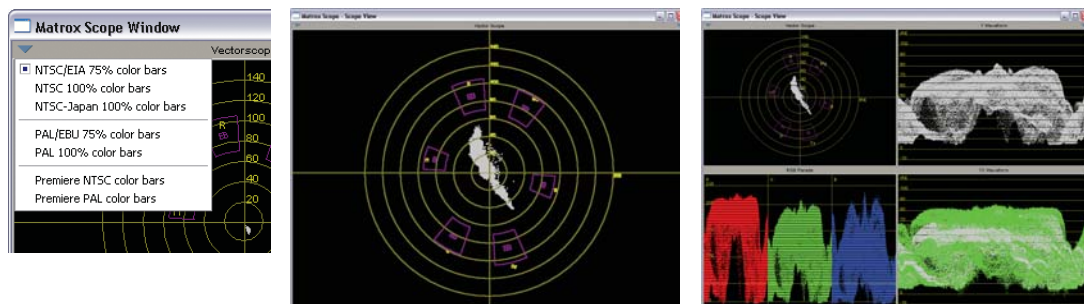


· Realtime RGB colorization

The realtime keyframeable colorization filter (page 14) offers 8 parameters that let you adjust the gain and offset of the red, green, blue, and alpha components of your images independently. You can use this feature to complement the YUV color corrector when you need to adjust specific color components. For example, you can use the RGB colorization filter to make the reds redder without affecting the greens and blues.

# Realtime CPU-based effects

## Realtime color match

Realtime color match uses a reference clip to match color and brightness to a target clip. You can use the color wheels to easily fine tune a match if required.



Reference clip

Original target clip

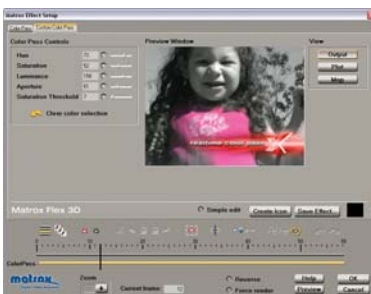Color matched clip

## Realtime color pass

Realtime color pass lets you isolate a single color in a video clip to be your point of focus while automatically making the rest of the scene black and white.



## Realtime color replace

Realtime color replace lets you isolate a single color to replace with another color in your video clips. You can make a green car blue or a blue sky red, for example.

# Realtime CPU-based effects

## Realtime chroma and luma keying with auto key

The Matrox RT.X100 Xtreme Pro realtime chroma keyer makes clean blue- and green-screen keys easy to achieve, even with DV material shot in less than optimal lighting conditions. It up-samples your DV video to 4:4:4 resolution and uses advanced noise reduction algorithms to ensure superior results.

The auto key button intelligently adjusts the key with soft edges, spill removal, and shadow preservation. If needed, you can further refine the key with 8 manual controls.
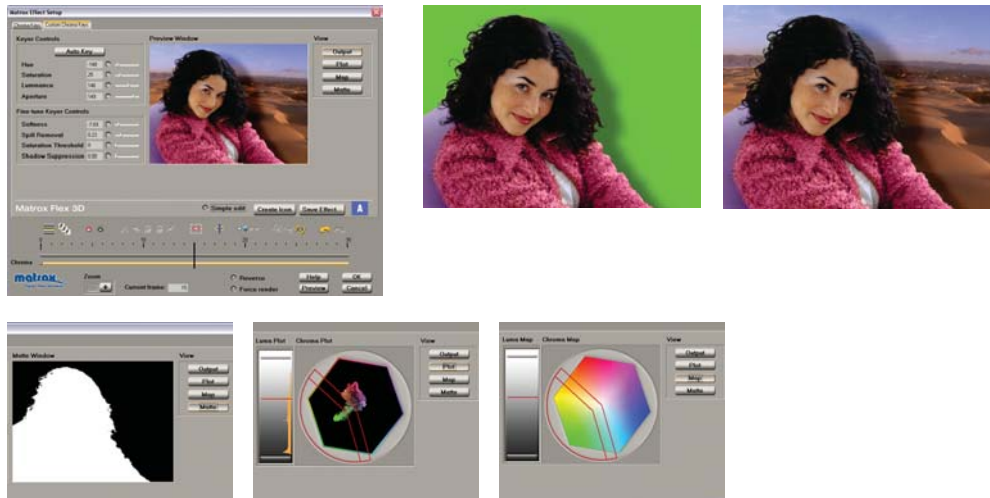


The realtime luma keyer gives you 5 controls – low clip, low gain, high clip, high gain, and transparency.
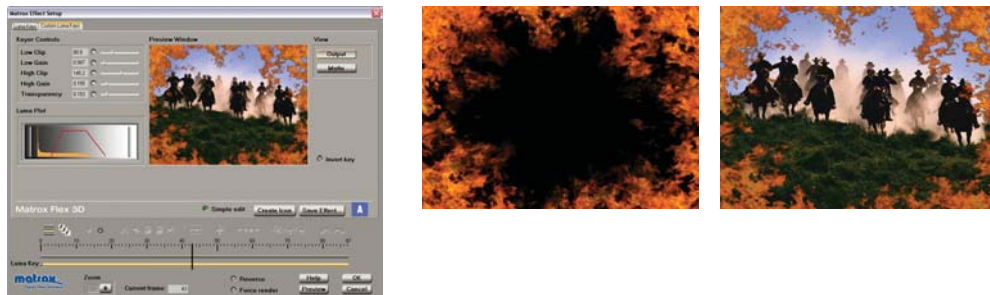


## Realtime super-smooth fast and slow motion

Matrox RT.X100 Xtreme Pro provides two methods of speed control – repeat-field and blended-field – that are perfect for special effects and fit-to-fill.

Repeat-field speed control mimics the classic "bob and weave" algorithm found on Betacam machines. It typically works well on fast action material.

Blended-field speed control typically works well on slow-paced video and camera pans. Wedding videographers, in particular, will appreciate the nice smooth effects they can achieve with field blending.

# Realtime Matrox Flex 3D effects and transitions

Using the power of dedicated hardware, Matrox RT.X100 Xtreme Pro lets you create an unlimited number of fully-keyframeable, broadcast-quality 2D and 3D digital video effects and transitions that turn Adobe Premiere Pro into a video editing powerhouse. Currently there are 26 classes of effects including 3D DVE, blur, ripple, and pan & scan. More are in the works. All of these effects can be applied to video or graphics on any layer. They can all be controlled with cropping and transform attributes – position, scale, zoom, and rotate. Over 60 of Adobe Premiere Pro's native transitions and the motion, opacity and volume fixed effects can be used in real time.

Of course, not everyone wants to do page curls and wacky transitions. RT.X100 Xtreme Pro was designed with the knowledge that even in simple and elegant productions, 3D effects can play an important role. For example, you can fix a shot taken with a tilted tripod using zoom and rotation around the Z-axis to level the horizon. 3D effects can also be extremely effective for manipulating text and graphics. The key is to give you full control so you can use effects in subtle ways.

The RT.X100 Xtreme hardware is powered by Matrox Flex 3D, a fully programmable architecture that applies 3D texture mapping to video in real time using a Matrox 3D graphics accelerator chip and graphics memory. Motion video or graphics are treated as source textures and mapped onto polygon-based 3D shapes. Broadcast-quality effects are achieved using special features that are built into the 3D-accelerator chip and exploited through the Flex 3D architecture. Control and quality are what differentiate Matrox Flex 3D technology.

To achieve a superior degree of control, Matrox Flex 3D features:

· Complete keyframeability with linear and spline interpolation of all effects parameters for smooth, natural movements
· In-context editing for precise layer positioning
· Control over edge cropping and softness on all filters
· Control over zoom, scale, position, and rotation in true 3D space, for all filters
· Control over ambient and spot lighting to produce reflections in true 3D space to enhance realism
· Control over projected drop shadows in true 3D space
· Full alpha channel support to enable linear keying of titles and 32-bit graphics
· Consistent and efficient user interfaces to streamline workflow

To achieve professional quality video and produce sharp, crisp effects, Matrox Flex 3D features:

· High chroma bandwidth RGBA 4:4:4:4 processing combined with high-precision YUV-to-RGB and RGB-to-YUV color space conversion
· Trilinear and anisotropic filtering to prevent pixelization artifacts even on challenging effects such as highly skewed perspectives and slow rotations
· Subpixel precision to guarantee ultra-smooth DVEs and transitions
· Anti-aliasing to ensure smooth edges at all angles
· Field-based processing to eliminate motion artifacts

# Realtime Matrox Flex 3D effects and transitions

**Realtime 2D move & scale and basic, advanced and masked 2D/3D DVEs**
Realtime DVEs let you position, scale, zoom, and rotate your video and graphic layers in 2D or 3D space, in real time. You can easily create picture-in-picture (PiP) effects, tumbles, and spins. Matrox RT.X100 Xtreme Pro features 4 classes of DVEs with high-quality scaling and smooth sub-pixel motion:

· **The move & scale effect** lets you apply up to six 2D DVEs simultaneously in real time. For example, you can use this effect to create a realtime animated title with four single-frame graphics clips, keyed over two picture-in-picture effects on video.



· **Basic 2D/3D DVEs** let you simultaneously apply DVE effects to two layers of video and/or graphics.



· **Advanced 2D/3D DVEs** let you position your clips anywhere in 3D space while adding soft edges, borders, and true shadows in real time.



· **Masked 2D/3D DVEs** let you use any 8-bit gradient TGA image to create a cutout shape that's textured with video. You can create stunning effects such as soft-edged frames, or flying logos textured with video in real time. You can also apply a realtime shadow, and position it in 3D space.

# Realtime Matrox Flex 3D effects and transitions

### Realtime RGB colorization

The realtime keyframeable colorization filter offers 8 parameters that let you adjust the gain and offset of the red, green, blue, and alpha components of your images independently. You can use this feature to complement the YUV color corrector when you need to adjust specific color components. For example, you can use the RGB colorization filter to make the reds redder without affecting the greens and blues.
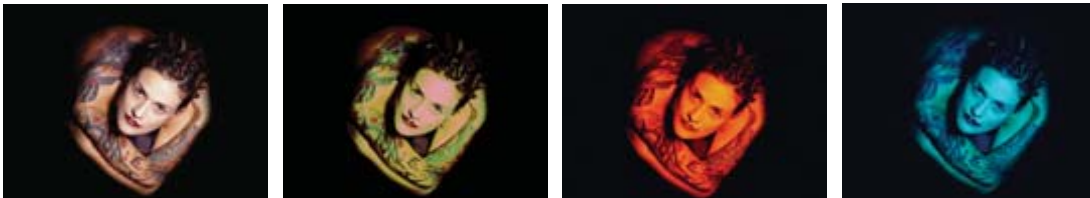


### Realtime page curls

Matrox RT.X100 Xtreme Pro lets you add smooth page curls and page rolls to your projects. These are true 3D page curls with full-motion video on the reverse side and realistic highlights. Page curls on graphics let you create great-looking text effects. You control the position, rotation, scaling, and zooming of page curls in 3D space. You also have control over the softness of the edges.



### Realtime blur

The blur effect lets you simulate camera defocus or create unique fader effects in real time. Graphic clips can be attenuated with a specific color during a blur to create a subtle halo effect.
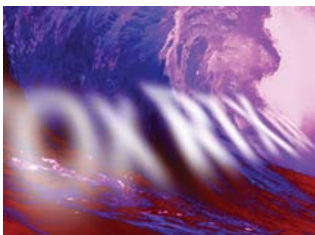


### Realtime particle effects

Explode, shatter, blast, and break apart your images with realtime particle effects. Each particle piece is controlled by real world attributes such as gravity and dispersion.

# Realtime Matrox Flex 3D effects and transitions

### Realtime 3D tiles

3D tile effects slice your video into a variety of different tile and slab patterns that rotate, flip, swirl, pivot, or spin in real time to reveal another clip.
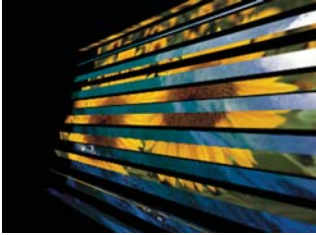
### Realtime distortions

Matrox RT.X100 Xtreme Pro provides an unlimited variety of realtime distortions – shimmers, waves, bevels, shower door effects, and more.

### Realtime mesh warps

Matrox RT.X100 Xtreme Pro lets you manipulate the curvature of a clip by adjusting up to 5 individual forces in 3D space. You can control the elasticity of adjacent points to create graceful, flowing effects such as a falling feather, or drastic effects such as a vortex.

### Realtime ripples

Based on real-world water dynamics, realtime ripple effects let you create wavy flags, subtle silk sheets, or undulating wave patterns on a clip, like the ripples on the surface of a pond. Advanced controls let you adjust the amplitude, number of periods, attenuation, shadow, and highlight.
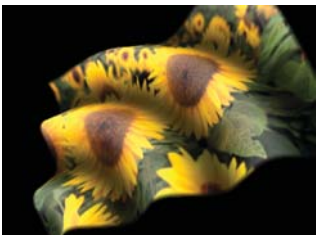
# Realtime Matrox Flex 3D effects and transitions

### Realtime twirls

Matrox RT.X100 Xtreme Pro provides a variety of realtime twirl effects that twist and rotate your clips into spirals, coils, or whirlpools.

### Realtime cubes

Matrox RT.X100 Xtreme Pro lets you map video, graphics, or solid colors to the faces of 3D cubes and slabs, then rotate them in 3D space to create effects such as those you often see during sports broadcasts.

### Realtime lens flare

Matrox RT.X100 Xtreme Pro includes a realtime lens flare effect that simulates the unique refraction pattern caused by shining a bright light into the lens of a camera. Keyframeable parameters include depth of field, focal length of camera, flare intensity, and position.
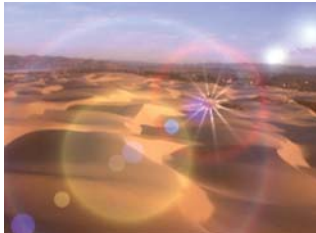
### Realtime organic wipes

Realtime organic wipes use grayscale gradients to transition from one layer to another in a particular pattern. You can choose from a wide variety of pre-created effects or easily create your own customized wipe patterns using applications such as Adobe Photoshop.

# Realtime Matrox Flex 3D effects and transitions

### Realtime spheres

Realtime sphere effects let you morph your video into spheres with shadow and highlight. The degree of morphing, the radius of the sphere, and the location of your light source are all keyframeable.

### Realtime mosaic

Realtime mosaic effects let you fill your video or graphic clips with solid or antialiased color rectangles that simulate low resolution displays. Mosaics are ideal for censoring faces, license plates, or whatever else you need to hide. You can also use mosaics with custom mask borders to create interesting border effects.

### Realtime emboss

Realtime emboss effects let you sharpen the edges of objects in the image and remove color to simulate a wood carving. Emboss also lets you highlight the edges from a specific angle and control how deep the edges appear.
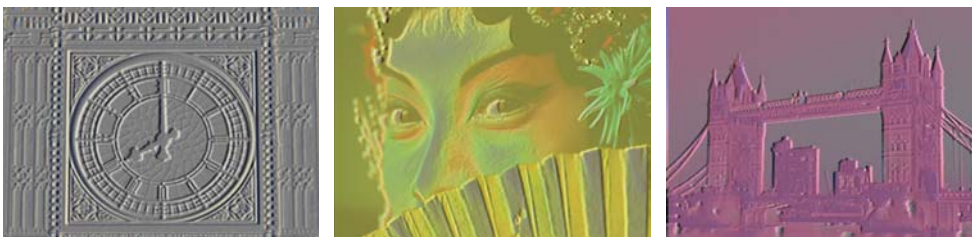
# Realtime Matrox Flex 3D effects and transitions

## Realtime pan & scan

The fully keyframeable realtime pan & scan filter lets you easily convert footage from any aspect ratio to any other. Tracking on-screen action to make accurate judgments is easy because you see the entire source clip and the section of it that will become the final result. For example, DV 16:9 footage is always captured anamorphically and therefore appears vertically stretched when viewed on a 4:3 monitor. To restore the proper aspect ratio, the realtime pan & scan filter lets you letterbox or pan & scan your footage, or use a combination.


Original 16:9 footage


Anamorphic 4:3
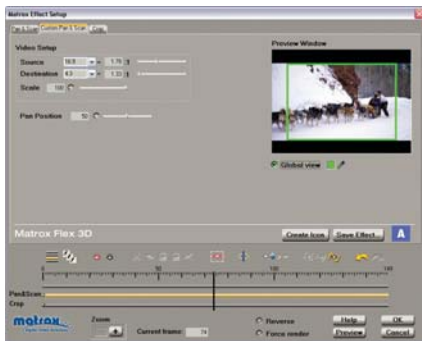

Pan & scan interface


Full letterbox output


Combination of letterbox and pan & scan


Full pan & scan output

# Realtime Matrox Flex 3D effects and transitions

### Realtime soft focus

The realtime soft focus effect gives a soft glow to your clips. It looks great on full screen, zoomed, and DVE'ed images. Brides get that dreamy airbrushed look they love. You can warm up your images by adjusting the red, green, and blue components.



### Realtime old movie effect

The old movie effect lets you create an old film look on your clips by adding scratches, flicker, jitter, and grain.



### Realtime corner pin

The realtime corner pin effect lets you anchor each corner of a video or graphics clip onto points in another clip, even if the underlying clip is angled or skewed. This effect is useful if you want to overlay a video clip onto an underlying clip of a television screen, for example.
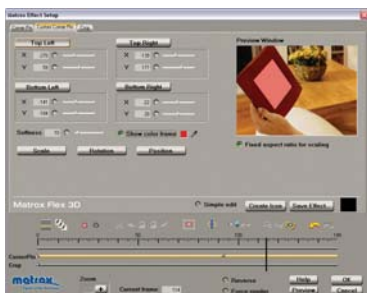
# Realtime Matrox Flex 3D effects and transitions

### Realtime lens warp

The realtime lens warp effect lets you create optical distortions on video, titles, or graphics.



### Realtime time code

Realtime time code lets you generate and overlay a time code counter on a video production. You can use it to make a VHS or DVD dub of source tapes with time code "burn-in" then use these tapes to log scenes, create edit decision lists, or get client feedback on your finished production.
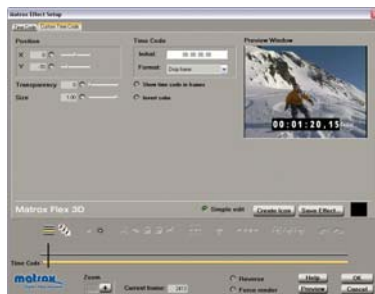


### Realtime bulge

The realtime bulge effect lets you make a circular region of your video stand out by distorting it using a "bubble" shape. This effect is ideal to emphasize text or create funny-looking faces. The bulge effect can be fully customized, with support for cropping and 3D transform.
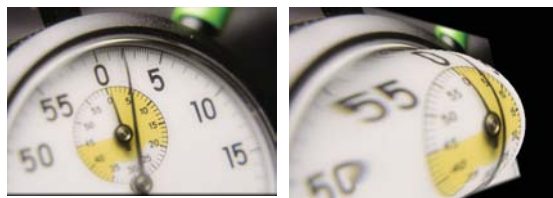
# Realtime Matrox Flex 3D effects and transitions

### Realtime mask blur

The realtime mask blur effect lets you create a "region of interest" by adding a mask and applying blurring to it. You can either create your own custom made mask, or select one of the many pre-created masks included with the effect.



### Realtime native Adobe Premiere Pro transitions and motion

Over 60 of Adobe Premiere Pro's native transition effects, including cross dissolve, can be used in real time on Matrox RT.X100 Xtreme Pro. The effects you've been accustomed to rendering in Premiere Pro can now be played back in real time at full quality. Matrox RT.X100 Xtreme Pro also lets you work with Adobe Premiere Pro's fixed effects in real time. Animate, scale and rotate video or graphics using the native Motion Effect. Create fades and dissolves with the Opacity Effect. Change audio levels with the Volume Effect.
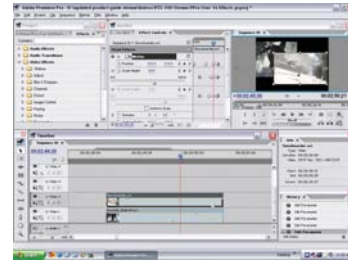


### www.fxzone.matrox.com

www.fxzone.matrox.com is an exchange community website that lets registered users of Matrox video products download new effects from Matrox and exchange their own effects keyframe sequences and DVE masks with other users.
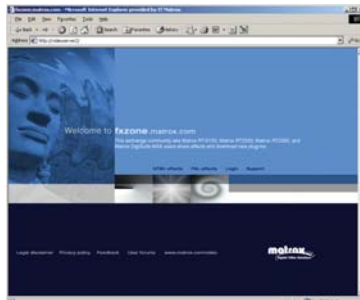
# Complete control for the ultimate in creative freedom

Exploiting the power of both your CPU and the dedicated hardware onboard Matrox RT.X100 Xtreme, you can currently combine more than 16 effects in real time on two layers of video and four layers of graphics. XtremePreview and advanced keyframing give you an unparalleled level of creative freedom, letting you edit in-context with complete control and flexibility.

### Combine over 16 effects in real time

· 5 channels of transparency
· 2 channels of smooth slow/fast motion control on video
· 2 channels of color balance on video
· 2 channels of input/output level control on video
· 2 channels of proc amp control on video
· 2 channels of keyframeable 3D transform and perspective
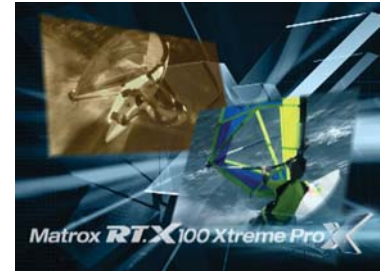  with soft borders
· 2 channels of keyframeable cropping

### Realtime broadcast-quality titling and multiple graphic file format support

RT.X100 Xtreme Pro lets you create realtime broadcast-quality title sequences with Adobe Premiere Pro.
All graphic file formats supported by Adobe Premiere Pro can be used in real time.

### XtremePreview

With Matrox RT.X100 Xtreme Pro, as you adjust the effects parameters of a clip, you can see the other layers of your project to more accurately fine-tune your changes in context, on a full-sized NTSC or PAL monitor instead of in a tiny window on your VGA display.

When you exceed the realtime capabilities of the system, the XtremePreview feature kicks in to ensure smooth workflow. You still see your layers and effects in context, on your computer and NTSC/PAL monitors, without rendering. There's no interruption in the editing process. The frame rate of the playback will vary depending on the number of layers, the number of effects, and your system's resources.

With RT.X100 Xtreme Pro, you have complete visibility and control of the positioning and timing of all the elements in your projects. Experimenting to get exactly the look you want is faster and easier than ever.

### Advanced keyframe control

Advanced keyframe control is an important advantage of Matrox RT.X100 Xtreme Pro. Working directly in the preview window using your mouse, you can set multiple keyframes that adjust all effects parameters and resize, position, and rotate your clip over time. You're not limited to choppy linear interpolation as provided with Premiere Pro, you can also choose smooth spline motion. You have maximum creative control to easily design exactly the look you want.

Keyframing features include:

· Automatic keyframe creation
· Unlimited keyframes
· Cut/copy/paste
· Selective paste
· Group select and move
· Undo/redo
· Fine/coarse adjustments
· Track select, solo, and mute
· Snap to keyframes
· Reverse keyframes
· Simple edit mode
· Audio preview

# Complete control for the ultimate in creative freedom

### Custom keyframe library

The keyframeable effects you create may be saved so you can readily duplicate them later in your project or in new projects. You can make and save icons for the effects you want to include in your own effects library. You can also share your creations with other users at www.fxzone.matrox.com.
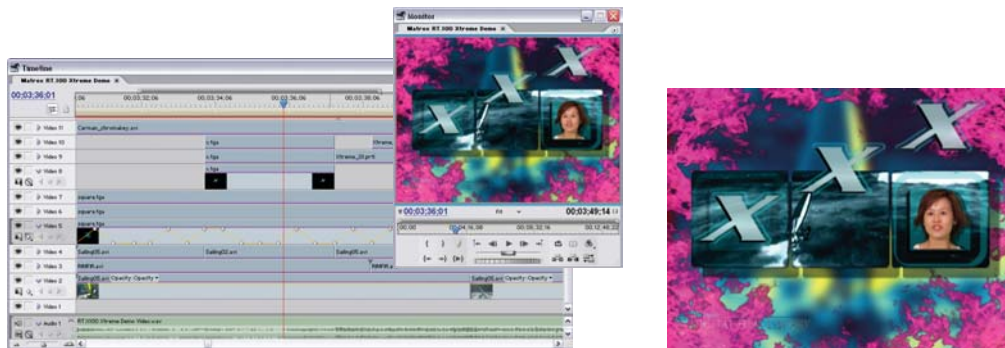


### A smooth, responsive editing experience

RT.X100 Xtreme Pro has been designed and fully optimized for instant feedback while editing. There is no lag in play, stop, scrubbing, and effects adjustment operations.

### Matrox TurboDV multi-layer compositing engine

When you exceed the realtime capabilities of Matrox RT.X100 Xtreme Pro, Matrox TurboDV kicks in, taking advantage of the processing power of your computer and the RT.X100 Xtreme hardware to perform blazingly fast rendering.



### WYSIWYG video output plug-in for Adobe After Effects, Adobe Photoshop, NewTek LightWave, and Discreet 3ds max

Matrox RT.X100 Xtreme Pro includes a WYSIWYG (What You See Is What You Get) video output plug-in for Adobe After Effects, Adobe Photoshop, NewTek LightWave, and Discreet 3ds max that lets you see your work directly on a broadcast video monitor. This lets you ensure proper 4:3 or 16:9 aspect ratio in NTSC or PAL, and check for exact color temperature, safe-title area, and any interlace artifacts that may be present in your images.



### WYSIWYG video output support for standard DirectShow-based applications

As you work with standard DirectShow-based applications, you get instant output on your NTSC or PAL video monitor. You can preview video files, such as MPEG, DivX, and AVI on your broadcast monitor using Windows Media Player.

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# Full complement of superior acquisition and delivery tools

Matrox RT.X100 Xtreme Pro provides all the tools you need to work with today's most important acquisition and delivery formats – analog Y/C and composite video; DV; MPEG-2 for DVD and SVCD authoring; and MPEG-1, Windows Media, and RealMedia for VCD, multimedia, and web delivery. Matrox RT.X100 Xtreme Pro increases your productivity with Adobe Premiere Pro by providing superior capture tools and faster export to a variety of formats. It also includes a capture driver for use with standard Video-for-Windows applications.

### Realtime composite and Y/C analog input and output

Using either composite (RCA-type connector) input, or the higher quality S-Video (Y/C-type connector) input from the RT.X100 Xtreme Pro breakout cable, video can be captured, edited, and recorded to VHS or S-VHS tape in real time, without rendering.

As you capture video from analog sources, waveform and vectorscope monitors help you calibrate your signal using the color bars recorded on your tape and ensure broadcast-legal levels for chroma and luma. You can easily make proc amp adjustments for hue, saturation, contrast, and brightness.
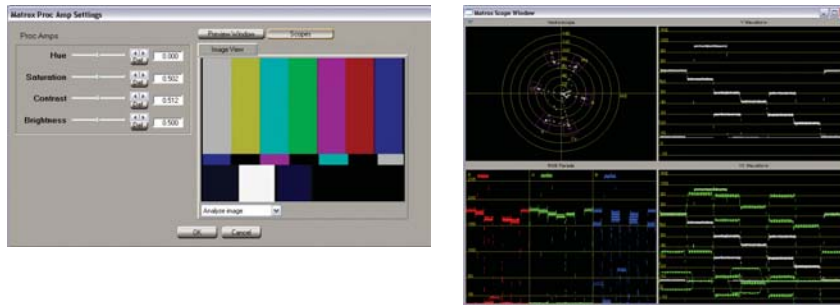


You can mix clips captured from analog video with native-DV clips in the same project. Presets have been created for Adobe Premiere Pro so that all audio, video, and capture parameters will be correctly set for the video format you've chosen.

### Realtime DV acquisition and output

Matrox RT.X100 Xtreme Pro provides a fully optimized array of DV capture tools and lets you record to DV tape in real time, without rendering. The built-in 1394 port lets you digitally transfer your DV material from DV, DVCPRO, and DVCAM devices to your editing system in its native DV format. You can create video clips of unlimited size using the NTFS file system in Windows XP.

· **Matrox MediaTools for realtime SinglePass DV scan and frame-accurate capture**

Matrox MediaTools is a frame-accurate capture and logging application that lets you efficiently manage your DV video footage and capture still images from DV tape or a live source.

# Full complement of superior acquisition and delivery tools

Matrox SinglePass technology cuts capture time in half by automatically scanning, logging, and batch capturing DV and DVCPRO clips in a single pass, in real time. That means a one-hour tape can be captured in one hour. A clip is logged and created on your disk, on the fly, for each shot you physically recorded on the tape. You can easily delete any clip that you do not need to keep. This process is far superior to scene detection technology that erroneously creates clips where you never intended, and that prevents you from removing unneeded material that wastes disk space.

Matrox SinglePass technology also eliminates repetitive rewind and pre-roll to save wear and tear on camcorders, VTRs, and tapes. You save hours of tedious logging and capturing time.

Alternatively, you can simply log all the clips from your tape, and then choose which ones you want to batch capture to your hard drive. Once you've performed the scan and capture operation you can export the entire contents of the batch capture list directly into an Adobe Premiere Pro project.

You can also use Matrox MediaTools to grab single-frame TGA images or single-frame AVI clips with automatic de-interlacing to create flicker-free photomontages. Single-frame AVI clips are useful because you can apply realtime effects between two stills without file conversions or rendering.

· Video capture using OHCI and Video-for-Windows (VFW) compliant applications

Matrox RT.X100 Xtreme Pro lets you capture DV video over the 1394 port using OHCI-compliant applications. It also includes the Matrox VFW (VidCap) capture driver so you can capture analog video using standard VFW editing and authoring applications such as Sonic Foundry Vegas Video, Ulead MediaStudio Pro, Ulead DVD Workshop, Ulead DVD Movie Factory, Windows XP Movie Maker. You can also capture analog video with many messenger and video conferencing programs, such as Microsoft NetMeeting, to send streaming video over the internet or your corporate intranet.

· Realtime DV output

Matrox RT.X100 Xtreme Pro will output DV to either tape or disk directly from the Adobe Premiere Pro timeline, in real time, without rendering.

· Frame-accurate insert edits

The Matrox DV export-to-tape module lets you export a complete project, or only a specific part of a project to a specific location on a DV tape. It even lets you do frame-accurate insert edits if your camera or VTR supports this function. You save time because you don't need to reprint your entire project when you make small changes. You can cleanly overwrite the old sections with the new ones.

# Full complement of superior acquisition and delivery tools

## Realtime MPEG-2 for DVD authoring

Matrox RT.X100 Xtreme Pro greatly simplifies the DVD creation process by integrating audio and video acquisition, realtime editing, graphics creation, realtime MPEG-2 encoding, DVD authoring, and pre-mastering in a single, affordable system. Adobe Encore DVD is included in the Matrox RT.X100 Xtreme Pro bundles.

· **Realtime MPEG-2 IBP capture from analog and DV sources**

Matrox RT.X100 Xtreme Pro lets you capture clips in realtime from analog and DV sources directly to MPEG-2 IBP files for immediate use in your DVD authoring program. There is no need to capture video first, then place clips on the timeline to finally export them into the MPEG-2 format. This feature is an invaluable tool when archiving stock footage and projects on digital servers or DVD disks.

· **Realtime MPEG-2 IBP encoding from the Adobe Premiere Pro timeline**

Matrox RT.X100 Xtreme Pro lets you create your DVD video and audio assets by exporting your project directly from the editing timeline in real time.

## Hardware-accelerated simultaneous batch encoding of DVD, SVCD, VCD, and web formats

Matrox MediaExport provides hardware-accelerated simultaneous batch encoding of Windows Media/RealMedia streaming formats and MPEG-1/MPEG-2 multimedia formats with multiple resolutions, bit rates, and frame rates.

Ligos GoMotion technology, incorporated into the Matrox MediaExport plug-in for Matrox RT.X100 Xtreme Pro, lets you perform high-quality MPEG-1 and MPEG-2 compression. MPEG-1 is ideal for VCD and CD projects since it allows you to put up to one hour of video on a CD and can be exported from Adobe Premiere Pro at faster-than-realtime speeds. MPEG-2 is used for SVCD and DVD creation.

You can also use encoding applications from Discreet, Microsoft, Sorenson, and RealNetworks that are compatible with Matrox RT.X100 Xtreme Pro.
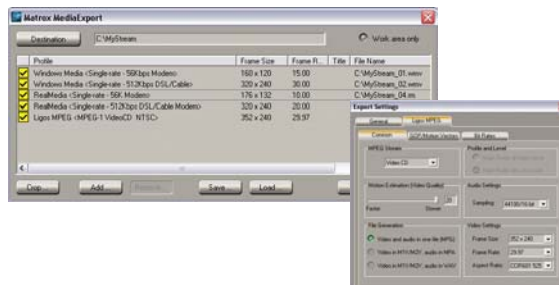


## www.matrox.tv free web video hosting

www.matrox.tv is a free video hosting site available to all registered Matrox video products users. You can use the site to simplify and speed up the client approval process. Instead of shipping tapes via FedEx or e-mailing monstrous video files, you can quickly upload mockups or finished projects to a private, password-protected area. The link and the password can be sent to one or many viewers, anywhere in the world, so they can watch your video on demand. While watching, viewers can record notes, suggest changes, and leave messages that are then e-mailed to you.

## HDV and Matrox RT.X100 Xtreme Pro

Adobe Premiere Pro 1.5.1 and 2.0 provides support for the HDV format. You can use your Matrox RT.X100 or RT.X10 system for HDV editing with Adobe Premiere Pro 1.5.1 and 2.0 in software-only mode. It's a great way to start working in HDV while taking advantage of all the realtime productivity features of Matrox RT.X100 Xtreme Pro for your day-to-day work in Standard Definition (SD) NTSC or PAL formats.

Please note the following:

· Adobe Premiere Pro can use the Matrox 1394 port for HDV acquisition and output.
· HDV editing is done using the Adobe software plug-ins only. There is no acceleration by your Matrox card.
· HDV playback is viewable only on the VGA. There is no WYSIWYG output to a video monitor.
· Matrox realtime inputs, outputs, plug-ins, and effects are only available at SD resolutions.

# Productivity tools

Matrox RT.X100 Xtreme Pro HW includes the Matrox RT.X100 Xtreme hardware and Matrox X.tools software for use with your copy of Adobe Premiere Pro or Adobe Production Studio.

It includes a wide variety of productivity features to make your work faster and easier.

### Matrox MediaTools

Matrox MediaTools is a frame-accurate capture and logging application that lets you efficiently manage your DV video footage and capture still images.

### Matrox MediaExport

Matrox MediaExport provides hardware-accelerated simultaneous batch encoding of Windows Media/RealMedia streaming formats and MPEG-1/MPEG-2 multimedia formats with multiple resolutions, bit rates, and frame rates.

### Matrox Video-for-Windows software codec

The Matrox Video-for-Windows codec lets you read and write RT.X100 Xtreme-compatible DV files using popular digital media applications such as Adobe After Effects, Discreet Combustion, Discreet 3ds max, and NewTek LightWave, with or without the RT.X100 Xtreme hardware installed in your system.

### Matrox WYSIWYG video output plug-in for Adobe After Effects, Adobe Photoshop, NewTek LightWave, and Discreet 3ds max

Matrox RT.X100 Xtreme Pro includes a WYSIWYG (What You See Is What You Get) video output plug-in for Adobe After Effects, Adobe Photoshop, NewTek LightWave, and Discreet 3ds max that lets you see your work directly on a broadcast video monitor. This lets you ensure proper 4:3 or 16:9 aspect ratio in NTSC or PAL, and check for exact color temperature, safe-title area, and any interlace artifacts that may be present in your images.

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### Pixélan SpiceRack

Pixélan Software Video SpiceRack Lite is included with Matrox RT.X100 Xtreme Pro, providing over 150 realtime organic transition patterns.