

Boris Final Effects Complete™ Version 5.0 for AVX

Release Notes

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Introduction

Welcome to Boris Final Effects Complete 5.0 AVX. Boris Final Effects Complete is a plug-ins package with 100+ powerful visual effects filters re-designed for Avid's plug-in architecture, providing seamless integration with all Avid systems running the AVX 2.0 architecture. Avid® Visual Extensions (AVX) is a plug-in architecture that dynamically extends the effects supported by Avid systems. FEC 5 AVX also supports Avid AVX 2.0 systems running on the Macintosh Intel platform.

The heart of Final Effects Complete is its ability to generate full-featured two-dimensional and three-dimensional particle animations including ball action, explosions, distortions, jet trails, hair, liquid mercury distortions, spotlights, and color transitions. FEC AVX also delivers a complete range of unique auto-animating transitions. Ranging from graceful blur dissolves to radical warps; FEC AVX lets you easily create dramatic effects with minimal adjustment.

These Release Notes contain information regarding features, supported hosts, supported operating systems, installation instructions, known limitations, and other important information about the product.

For information about FEC 5 software updates, other Boris products, and additional resources, visit our web site at <http://www.borisfx.com>.

FEC 5.0 AVX Filters

Blur & Sharpen

Blur
Channel Blur
Chroma Luma Blur
Directional Blur

Sharpen
Soften
Spin Blur
Spiral Blur

Unsharp Mask
Vector Blur
Zoom Blur

Color Correction

Brightness-Contrast
Color Balance HLS
Color Balance RGB
Color Offset

Gamma-Pedestal-Gain
Invert
Replace Color
Threshold

Threshold RGB
Tint
Toner

Distort

Bend It
Bender
Bulge
EZ Lazy Waves
EZ Ripples
Flo Motion

Griddler
Lens
Power Pin
Ripple Pulse
Slant
Slant Matte

Smear
Spherize
Split
Tiler
Twirl
Water Waves

Edges

Burn Edges
Gradient Blur
Power Ramp
Sparkle Edges

Spot Blur
Spot Feather
Spot Frame
Spot Tatter

Spot Turbulence
Wiggle Edges

Image

Channel Noise
Composite

Median
MinMax

Noise
Simple Wire Removal

Light

Light Blast
Light Rays

Light Sweep
Light Tornado

Light Whirl
Spotlight

Particle

Ball Action
Bubbles
Drizzle
Hair

Mr. Mercury
Particle Systems II
Particle World
Pixel Polly

Rain
Snow
Star Burst

Perspective

Advanced 3D
Cylinder

Page Turn
Simple Shadow

Sphere
Super Shadow

Real Time

Bend It RT
Brightness-Contrast RT
Bubbles RT
Burn Film RT
Channel Noise RT
Color Balance HLS RT
Color Balance RGB RT
Color Offset RT
Composite RT
Emboss RT

Fractal RT
Gamma-Pedestal-Gain RT
Grid Wipe RT
Image Wipe RT
Invert RT
Jaws RT
Mr. Smoothie RT
Noise RT
Page Turn RT
Power Ramp RT

Rain RT
Scale Wipe RT
Simple Wire Removal RT
Snow RT
Spotlight RT
Star Burst RT
Threshold RT
ThresholdRGB RT
Tint RT
Toner RT

Stylize

3D Relief
Blobbylize
Burn Film
Emboss
Fractal

Glass
Glow
Glue Gun
Kaleida
Lens Star

Mr. Smoothie
Repetile
Scatterize
Video Fragment

Time

Wide Time

Transition

Blur Dissolve TR
Glass Wipe TR
Grid Wipe TR
Griddler Wipe TR

Image Wipe TR
Jaws TR
Lens Wipe TR
Light Wipe TR
Pin Wipe TR

Radial Scale Wipe TR
Rain Wipe TR
Slant Wipe TR
Spherize Wipe TR
Twister TR

Transition Effect

Blur Dissolve
Glass Wipe
Grid Wipe
Griddler Wipe

Image Wipe
Jaws
Lens Wipe
Light Wipe
Pin Wipe

Radial Scale Wipe
Rain Wipe
Slant Wipe
Spherize Wipe
Twister

Two-Input Effect

Advanced 3D TR
Burn Film TR
Page Turn TR
Pixel Polly TR
Scale Wipe TR

FEC 5.0 AVX Feature Highlights

FEC 5 AVX has many new and improved features, most of which will be familiar to [Boris Continuum Complete AVX](#) users.

User Interface

- Working in the native **Avid interface** reduces your learning curve to virtually zero. See the “FEC AVX Common Controls Guide” for more information on FEC AVX integration and controls.
- Avid AVX 2.0 architecture support including extensive use of onscreen control widgets for easier on-screen navigation as well as contextual controls.
- Avid's advanced keyframing mode is available for most parameters.
- EZ parameter display mode and ability to display only modified or animated filter parameters.
- Detailed **Help documentation** is provided for every filter via a PDF that can be opened from within the UI by clicking the Filter Help button at the top of each filter in the Effect Editor.
- Detailed Motion Tracker and Pixel Chooser help documentation is also available at the click of a button.
- All parameter options are now readily available as native parameters; you no longer have to open modal dialog windows as in previous versions of FEC.

Functionality and Performance

- Preset support including over **600 new custom presets**.
 - The filters can load and save preset settings
 - Each preset setting contains a snapshot of the filter's settings at the CTI location at which the preset was saved
- **Auto-Animation** is included with many of the transitions.
- 30 **Real Time** processing filters.
- 16-bit color processing support for all filters.
- The filters work on **Intel-based Macintosh** systems.
- Most FEC filters contain a **PixelChooser** that provides integrated channel or region-based masks. A Custom option lets users draw animatable, vector-based **Bézier spline** masks using onscreen controls. Some filters take the pixelchooser model even further by offering powerful new selective filtering apply modes that allow you to create effects that could not be made by applying the filter and matting it in a separate operation. Many of the included filter presets demonstrate the use of the PixelChooser.

- Documentation on the use of the PixelChooser can be found by clicking the **Help** button located above the PixelChooser menu in any filter that contains a PixelChooser.
- **Motion Tracking** is integrated into all appropriate filters. The Motion Tracker can be used to control any point control in the filter. The amount of tracking, time offset, and motion smoothing can all be animated within the filter. You can also pre-process your image to increase tracking accuracy. Documentation on the use of the Motion Tracker can be found by clicking the **Help** button located right above the Motion Tracker Preprocess menu in any filter that has a Motion Tracker.
- An FEC favorite - the **Particle World** filter has been re-tooled and is now fully animatable and more convenient and user friendly than earlier versions of FEC.
- The fixed lighting in many of the filters has been replaced with fully user-configurable **3D lighting** controls.
- Many effects are optimized to improve render quality.
- All filters have been optimized from the original version to take full advantage of multi-core and **multi-processor** computing platforms. This translates to faster render times.
- A **Random Seed** control added to filters that produce random patterns like noise, as well as a **Mix with Original** slider added to filters for blending the source and filtered images.
- Many **new Apply (transfer) modes** added to appropriate filters to provide a wide variety of looks and compositing options.

Supported Hosts

Boris Final Effects Complete 5 supports the following AVX 2.0 hosts:

- **Windows**
 - *Avid Media Composer v.2.5+, Avid Xpress Pro v.5.5+, Avid NewsCutter Adrenaline / Avid NewsCutter XP v.6.7+, and Avid Symphony Nitris (with AVX 2.0 support).* FEC 5 AVX does not support *Avid | DS* or *Avid Liquid*.
- **Macintosh**
 - *Avid Media Composer v.2.5+ and Avid Xpress Pro v.5.5+*

Minimum System Memory Requirements

The following memory requirements are recommended for Windows and Macintosh users:

- Minimum 1.5GB (assigned to host application)
- Recommended 2GB for HD and high-stream count SD projects

Supported Operating Systems

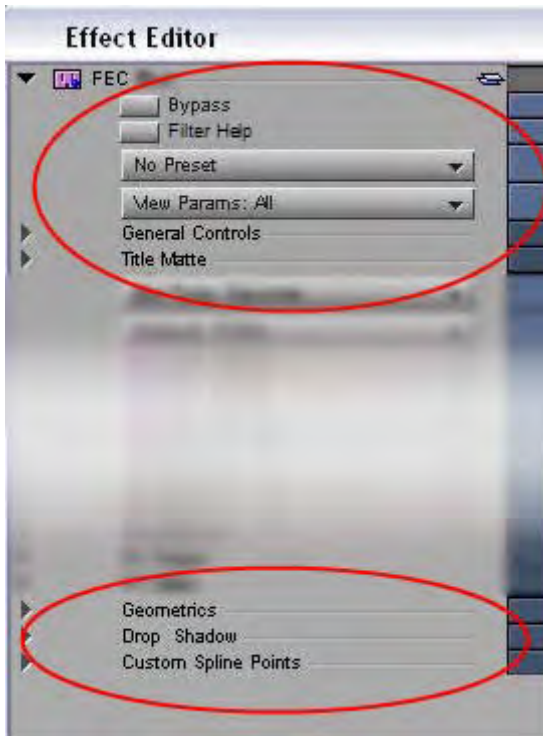
Boris Final Effects Complete 5 for AVX supports the following operating systems:

- **Windows**
 - Microsoft Windows XP SP2 (Microsoft Vista support is planned for a future release)
- **Macintosh**
 - Mac OS X 10.4.7 and later. Universal version for PowerPC and Intel-based systems. Tiger only. Earlier versions of Mac OS X are not supported. Mac OSX Leopard support is planned for a future release

Working in 16-Bit Color Space

Final Effects Complete can work with both 8-bit-per-channel and 16-bit-per-channel media (16-bit-per-channel makes a larger range of colors available). To set your project color space to 16-bit, go to your Avid's Project Window > Settings tab > Media Creation > Render tab, and select 16-Bit.

FEC AVX Common Controls



FEC AVX Common Controls

The **FEC AVX Common Controls** were designed to support Final Effects Complete within the AVX environment. To take full advantage of what FEC has to offer, understanding and using these controls is essential. The controls can be found at the top and bottom of most FEC filters. The ***FEC AVX Common Controls Guide*** includes detailed information on these controls as well as tips like sharing custom presets, saving and applying effect templates, applying FEC effects to titles, applying multiple filters and more. The *FEC AVX Common Controls Guide* is a PDF document that was installed with your product and is located:

- **Windows** C:\Program Files\Boris FX, Inc\Final Effects Complete AVX 5.0\Documentation
- **Macintosh** \System Drive\Applications\Final Effects Complete AVX 5.0

Applying FEC Effects

Once Final Effects Complete is installed, the effects automatically appear in the **Effect Palette**. The Final Effects Complete filters are arranged alphabetically, by category in the Effect Palette. Some effects can be applied as either a filter or a transition. For more information on applying an FEC effect as a transition, see [“FEC Effects as Transitions”](#) following this section.

Steps to apply an FEC effect:

1. Choose 'Effect Palette' from the Avid Tools menu.
2. Click to select the appropriate Final Effects Complete effect category on the left.
3. Choose the appropriate effect on the right.
4. Drag the icon for the desired effect onto a clip or transition.
5. Enter Avid's 'Effect Mode' and adjust the effect parameters.
6. FEC effects render exactly the same as Avid effects. For more information, consult your Avid documentation.

FEC Effects as Transitions

Most transition filters appear in both the **FEC Transition** and **FEC Transition Effect** categories, providing two alternate workflows for applying transitions to a sequence. The most common method is to apply a filter from the FEC Transition category as a normal Avid transition directly to the overlap between two clips on the same track. The second method is to overlap two clips on separate tracks and apply a filter from the FEC Transition Effect category to the top clip. Each method has advantages.

- Applying transition filters as normal Transitions offers the convenience of a native Avid transition - for example, trimming and duration changes are easily made.
- Applying transition filters as Effects, however, offers greater flexibility and more ability to customize results - for example, the ability to pick additional gradient layer tracks in filters such as Glass Wipe and Image Wipe is only available when applied as an Effect. Most FEC transitions appear in both categories and can be applied either way with the exception of Scale Wipe that can only be applied as an Effect.



*Minor variations in parameters exist when a filter is applied as a transition versus as an effect. Most notably, several filters offer a **Reverse Transition** option that is only available when applied as a Transition.*

FEC Effects as Two-Input Effects

Unlike the standard transitions in the Transition and Transition Effect categories, the Two-Input Effects apply as transitions but do not have automatically defined 100% completion states.

Meaning, they do not automatically conform to the duration of the overlap and must be manually tweaked or keyframed to achieve the desired transition progression. Filters that can be used as transitions in this manner are grouped into the **FEC Two-Input Effect** category. These plug-ins can be applied directly as transitions to the overlap region between two clips on the same track, just like a normal Avid transition – where changes to trim and duration can easily be made. For more fine-tuning capability, you can always use the standard effect version of the filter found in its normal category instead, and apply it to individual clips rather than to transition regions.

FEC Real Time Filters

The filters in the FEC AVX **Real Time (RT)** category play back in real time on certain Avid systems. This collection of real time filters is a subset of the existing filters.

Important Notes on the FEC Real Time Effects

The real time effect playback is largely determined by the speed of the system hardware. Supported systems include **Avid DNA** hardware - *Nitris*, *Adrenaline* and *Avid Mojo*.

When you work with the real time filters, the Render menu only applies if you choose to render the effect. It does not affect previews and playback. To achieve real time playback of FEC AVX RT plug-ins without dropped frames, make sure that your system meets the following requirements.

- Set your Avid to real time Playback mode (green dot in the Timeline, not blue dot).
- Open your project's Video Display settings and set Real-time Effect Quality to High Performance (more simultaneous effects). This increases the system's ability to process effects at the expense of reducing image quality.
- Use the Expert Render command on parts of the sequence where the system has difficulties during playback. The system marks these sections of the sequence in the Timeline. For more information, see your Avid documentation.
- If possible, start playback earlier in the sequence, before the effects that cause difficulties. This allows the system to process some of the effect frames before displaying them, decreasing the chance of playback difficulties.
- If you still experience dropped frames, open your project's Video Display settings and set a Video Pre-Fill amount of a few seconds. This preloads the specified amount of video and can help if the system has trouble maintaining real time playback.
- Some FEC AVX RT effects can play in real time with Real-time Effect Quality set to High Quality within the Video Display Settings. Experiment with combinations of the Real-time Effect Quality and the Pre-Filled Frames settings to find the settings that are best suited to your project and workflow.
- Some aspects of FEC AVX RT effects appear a bit different during real time preview than in non-real time preview and final render to disk. This is particularly true of effects using geometric distortions (Scale, Tumble, Spin, Rotate) and effects that blur and choke edges (PixelChooser Region Blend and Keys). While fine-tuning these parameters, it is recommended to toggle to non-real time mode to check the quality of the final render. To do this, click the green dot in the Timeline and step to another frame or change an effect parameter to force the Composer window to update. In non-real time mode you can also check the output on an external (NTSC or PAL) monitor.

Applying FEC Real Time Effects to Titles

FEC Real Time filters are not fast enough to apply to Avid titles, therefore the RT version of FEC AVX filters do not include a Title-Matte parameter group. Use the non-RT version of the FEC filter to apply it to a title or matte.

Working with Presets

FEC 5.0 AVX includes a collection of hundreds of presets for you to use. After you apply an FEC filter and adjust the filter parameters, you can save the parameter settings independently of the media or project. This allows you to apply your favorite filter settings to multiple projects. Good to know:

- Presets are only compatible with the filter in which they were created. For example, if you attempt to load a Ball Action preset into a Blur filter, the preset is ignored.
- The **PixelChooser** has its own presets, where you can load into any FEC filter that contains a Pixel Chooser. However, PixelChooser presets load even if they were saved from another filter's Pixel Chooser parameter group.
- Presets do not save Motion Tracker data. Loading a preset does not overwrite existing motion tracker data. This allows you to select the preset after you have finished Motion Tracking.

For more detailed information on using Presets (for example - the Preset menu, how to load and save a preset, sharing presets with other hosts/systems, etc.), refer to the "*FEC AVX Common Controls Guide*".

Filter Apply Modes

Many filters (e.g. Mr. Smoothie) or transitions (e.g. Blur Dissolve) use Apply Modes to apply the filtered output (or light, or some other aspect of the effect) to the source image. Apply Modes control the blending of the two images, giving the effects many additional creative possibilities. The Apply Mode menu may contain any or all of the apply modes described in the following table.

Normal - Applies the light or filter directly to the source image, and the filtered pixels replace the source pixels.

Lighten - Compares the color channels values in the original pixels and in filtered pixels, and chooses the lighter (higher) value for each channel in each pixel. If a pure red pixel is applied to a pure blue pixel, the result is pure magenta.

Darken - Compares the color channels values in the original pixels and in filtered pixels, and chooses the darker (lower) value for each channel in each pixel. If a pure red pixel is applied to a pure blue pixel, the result is black.

Multiply - Applies the light or effect to the source as if it were a transparency placed over the source. The resulting image is darker than either. If a pure red pixel is applied to a pure blue pixel, the result is black. If a 50% gray pixel is applied to another 50% gray pixel, the result is 25% gray.

Screen - Applies the light or effect to the source as if a photographic double image was taken of the light or effect and the source. The resulting image is lighter than either the light or effect or the source. If a pure red pixel is applied to a pure blue pixel with Screen, the result is magenta. If a 50% gray pixel is applied to another 50% gray pixel with Screen, the result is 75% gray.

Difference - Outputs the difference between the light or filtered color and the source color for each channel. Difference modes can produce some very striking colors and create glow effects when used with Blurs. Difference modes can also exacerbate the noise in noisy video sources. Difference can generate non-Color Safe output.

Lighter - Uses the lighter of the source and filtered colors for each pixel for all channels. If a dark green pixel is composited with light red, the result is light red.

Darker - Uses the darker of the source and light or filtered colors for each pixel for all channels. If a dark green pixel is applied to a light red pixel, the result is dark green.

Scale Multiply - A useful variation of Multiply that produces a brighter image than the standard Multiply. This is often the most realistic Apply mode for light effects.

Scale Screen - A useful variation of Screen that produces a darker and less washedout image than the standard Screen.

Difference X 2 - A variation of Difference that produces a more intense effect than the standard Difference. The enhanced difference modes can be particularly effective in creating glows with the Blur effects.

Difference X 4 - A variation of Difference that produces an even more intense effect than Difference X 2. The enhanced difference modes can be particularly effective in creating glows with the Blur effects.

Add - Includes the light or filtered output with the source. The resulting color values are clipped at white.

Subtract - Removes the light or effect from the source. This can produce intense and unpredictable colors and make the image appear noisy.

Overlay - Puts the light or effect over the source. The result is brighter than the result of a Multiply and darker than the result of a Screen.

Soft Light - Simulates shining a diffuse light (whose color is the light color or filtered output) on the source image. Most of the detail in the final output comes from the source image.

Hard Light - Simulates shining a harsh light (whose color is the light color or filtered output) on the source image. The source image and the light or filtered output contributes roughly equal amounts of detail to the final output.

Hue - Creates a result color for each pixel that takes its Hue value from the light color or filtered output, and takes the Lightness and Saturation values from the source image.

Saturation - Takes the Saturation of each pixel from the light color or filtered output, and takes the Lightness and Hue from the source image.

Color - Takes the Color for each pixel from the light color or filtered output, and takes the Lightness from the source image.

Lightness - Takes the Lightness or Luminosity for each pixel from the light color or filtered output, and its Color from the source image.

Boost Expo 1 - Blends the color channels in the source and filtered pixels by subtracting an offset value from each pixel, exponentiating the value, adding the results, and then adding back the offset.

Boost Expo 2 - Similar to Boost Expo 1, except that this mode uses offset and exponent values different from those used by Boost Expo 1.

Boost Eq Power + - Uses an algorithm modeled on the audio concept of an equal power crossfade. This algorithm emphasizes the light pixels in the blend of the source and filtered pixels, which is useful when working with darker images.

Boost Eq Power -- - Similar to Boost Eq Power +, but uses the difference between the channel value and 255 in computing the contrast. This algorithm emphasizes the dark pixels in the blend of the source and filtered pixels, which can be useful when working with lighter images.

Boost Bias Bias - Increases the contrast of the pixels whose channel values are highest.

50 50 Mix - Reduces the opacity of the source and filtered pixels by 50% and the blends them equally. If the source and/or filtered pixels are partially transparent, their opacity is reduced proportionately.

Important Plug-In Information for AVX Users

- The FEC 5 AVX installer will install the 8-bit plug-in files into the Avid AVX2_Plug-Ins folder, and the 16-bit plug-in files into the following locations:
 - **Windows** C:\Program Files\Boris FX, Inc\Final Effects Complete AVX 5.0\FEC 16bit Dlls\
 - **Macintosh** System Drive\Library\Application Support\BorisFX\Lib\FEC5AVX\BitDepthSupport\

Good to know:

- The filters will automatically render in 16-bit or 8-bit, depending on your project bit depth.
- The default settings and the effect of any particular filter preset may vary depending on how the host application processes color space.

Registration

Make sure to register your product to receive the latest technical and upgrade information. You can register by filling out the registration form online at:

- <http://www.borissfx.com/product/support/register.php>

Contacting Technical Support

For technical support, contact Final Effects Complete technical support specialists:

- Web: <http://www.borissfx.com/product/support/>

- Email: support@borisfx.com
- Phone: 888-77-BORIS (772-6747)
- Hours: 9am-5pm Eastern Time (United States & Canada, GMT -05:00)