



What's New in eFilm Workstation 1.8.3

Bugs Fixed in eFilm™ Workstation™ 1.8.3

1. Two HIS/RIS SDK related problems have been resolved. Calling **oleShowMainWindow** with the **SW_HIDE** parameter now properly hides the eFilm Workstation window. eFilm Workstation accelerator keys no longer override certain keystrokes targeted at modeless dialog boxes created in the HIS/RIS DLL.
2. eFilm Workstation now properly handles the YBR_FULL photometric interpretation when viewing images using Image Channel.
3. A defect, which caused eFilm Workstation to crash when rotating images, has been corrected.
4. eFilm Workstation now properly displays images with a window center (i.e. level) of 0.
5. A defect that caused eFilm Workstation to crash when attempting to MIP a series that contained a scout as its first image has been corrected.

Bugs Fixed in eFilm™ Workstation™ 1.8.1

1. The MPR tool can now accommodate multiple views of the same location within the same series. For example, in the case of single series dynamic acquisition images, where there are multiple images at the same location within a series, the MPR tool now creates a separate view for each duplicate set of images.
2. A problem that caused error messages to display when sending large volumes of images has been fixed. eFilm now creates one association per series instead of one association per image.
3. A problem that prevented viewing of eFilmLite CD's on Windows 2000 or XP has been fixed.
4. The method of reading DICOMDIR's has been re-designed to accommodate different DICOMDIR structures and image formats.
5. When changing the film orientation prior to DICOM printing, the layout format now stays selected.
6. A problem which caused the eFilm toolbar to display improperly when using a static grayscale palette on DOME® monitors, has been fixed.
7. A problem that prevented users from moving the template label on Windows 95 and 98 has been fixed.

New Features in eFilm™ Workstation™ 1.8.0

1. *Multi-Planar Reformatting (MPR)*
eFilm Workstation now supports the MPR volume rendering technique. This allows the clinician to reconstruct a cross sectional image in any plane, from any cross-sectional data. MPR has truly been enabled by the progress in CT and MRI that now routinely provides very thin sections of the body. The eFilm MPR application is an interactive tool that allows real-time reconstruction in an orthogonal or oblique plan of the data with exquisite image quality. You can create MPR views of an existing data set from either 2D images or 3D volumes. eFilm Workstation can automatically divide your image by orthogonal lines or you can draw your own dissecting planes. Create as many dissections as you want; each image is created in a different series and added to the study. You can even stack through the dissection as you would any other image, or check the slice's relative position on the source image.
2. *Improved 3D Functionality*
An Advanced Loading Dialog has been provided to allow the user to specify and alter volume loading parameters that would normally be hidden or automatically chosen by the software. For example, users can now select to load only a subset of a series.



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The volume-loading algorithm has also been improved in order to handle series with irregular slice spacing or gantry tilt.

Users can now export, print, or scrapbook a 3D image.

3. *eFilm Ortho*

Without film, orthopaedic surgeons are unable to size prosthetic implants in the manner they are used to with acetate overlays. eFilm Ortho is an add-in module for eFilm Workstation designed for orthopaedic surgeons that solves this problem. eFilm Ortho gives orthopaedic surgeons the ability to interactively position and size digital prosthetic templates. Featured tools include automatic scaling, rotation, mechanical linking of prosthetic components, measurement, printing and support for template libraries from most prosthetic manufacturers. Only sample template files are included with the evaluation version. Support for a specific manufacturer's templates can be purchased as an add-in module to eFilm Workstation.

4. *Re-design of the Search List Dialog*

The Search List Dialog (re-named the Study Manager) has been re-designed to provide additional functionality. For example, users can now query by modality and study description on all tabs, preserve the size and position of the Study Manager window, preserve the order and size of the columns, and expand the study list to the series level to retrieve or send only a selected series from a study.

5. *DICOM Print Enhancements*

Improvements have been made to DICOM Print including better error handling, the ability to get a printer's status, and the ability to perform DICOM verification using C-Echo ("ping") on a printer.

6. *Improved Measurement Tools and Overlay*

The Measurement tool caption now updates dynamically as the user re-sizes or moves the tool. Drop shadows have been added to both the tools and overlay text to improve their visibility.

7. *Non-Linear Window Levelling Support*

eFilm Workstation now supports non-linear window leveling.

8. *New PET Support*

eFilm Workstation now supports the PET SOP Class.

9. *New Scrapbook Creation Type*

When creating a scrapbook, you can now choose to preserve the original image dimensions and pixel spacing information.

Bugs Fixed in eFilm™ Workstation™ 1.8.0

1. A problem that caused complex patient names to display in reverse order has been fixed.
2. A problem with printing images that caused annotations and measurement captions to appear small and in the wrong location has been fixed.
3. A problem which resulted in discrepancies in the slice location overlay labeling has been corrected.
4. When creating a scrapbook as an additional series in a multi-echo MR, the 'even' and 'odd' images from the scrapbook series are now displayed in separate series viewports.
5. Defects occurring as a result of selecting Allow Window Levelling of Individual Images in the Advanced Properties dialog have been fixed. Users can now use the scrapbook and use the Magnification tool on these images.
6. Performance and robustness improvements were made to the database compaction process.
7. The inconsistent toolbar positioning that occurred when maximizing/minimizing the window has been corrected.



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Bugs Fixed in eFilm™ Workstation™ 1.7.1

1. When selecting 'View' to retrieve and view a study from Remote, all images in each series are now visible when you change the screen layout.
2. A problem with DICOM printing that resulted in either an "Invalid Argument 0x115" error or an "Invalid Argument 0x112" error has been corrected.
3. Performance and robustness improvements were made to eFilm Workstation services.
4. eFilm Workstation now supports the display of colour 3D reconstructions from GE's ADW.
5. A problem with duplicate entries appearing in the Patient table has been fixed.
6. A problem with printing images occurred in cases where zoom and pan preferences were utilized, and caused the printed image to be different than what was shown on the monitor. This defect has been repaired.
7. A toolbar problem that occurred when maximizing or minimizing windows has been fixed. Your customized toolbar options are maintained when maximizing and minimizing the main screen.
8. eFilm Workstation's C-Store-RSP had incorrect Presentation ID Context set. This error prevented eFilm Workstation from receiving complete US studies from the Acuson™ Sequoia. The C-Store-RSP problem has now been fixed.
9. DICOM JPEG images saved by eFilm Workstation can now be loaded by other viewers.
10. Slice location on all reformatted CT or MR images is now reported with reference to the center of the image.

New Features in eFilm™ Workstation™ 1.7.0

1. *MIP*
eFilm Workstation now supports the MIP volume rendering technique. At the click of a button, CT and MR DICOM images can now be viewed in MIP mode. Also included are an orientation guide, and rotate and crop tools.
2. *Simgram™ Image*
eFilm Workstation supports Voxel's Simvision renderer, which simulates on a 2D screen the appearance of a three-dimensional Voxgram® image. The user can rotate, crop, and locate the Simgram image prior to sending the data to Voxel to order a holographic film.
3. *AVI Creator*
eFilm Workstation supports the creation of .avi files. Users may now display cine loops in real time.
4. *Angle Measurement Tool*
eFilm Workstation can now display the angles between intersecting lines.
5. *Arrow Tool*
Arrows can now be drawn to point to areas of interest on an image.
6. *Movable Measurement Captions*
Linear and elliptical measurement captions can now be moved independently of the line or ellipse.
7. *Magnification Tool*
The magnification tool has been re-designed such that the magnifying window moves in conjunction with the cursor as it magnifies the area of interest.
8. *DICOM Importer (efDcmlm.exe)*
eFilm Workstation is capable of importing external DICOM images to the database. These images may be imported either individually, or as entire directories including subdirectories.
9. *DICOM Dump Tool*
The DICOM Dump tool allows the user to view and edit the DICOM tags in a DICOM file. When accessed, the tool opens a selected image.



What's New in eFilm Workstation 1.8.3

10. DICOM Verification

eFilm Workstation is capable of DICOM verification using C-Echo ("ping").

11. New US Multiframe Support

eFilm Workstation now supports the new Ultrasound Multiframe SOP Class.

12. Sending Compressed Images

13. Lossy Compression Indicator

Bugs Fixed in eFilm™ Workstation™ 1.7.0

1. eFilm Workstation now supports the proper querying of GE Pathspeed PACS.
2. The time displayed on the overlay for a given image will be prefixed by a three letter acronym to indicate which time is being used: Acquisition Time (ACQ), Image Time (IMG), or Study Time (STY). To determine which time to display, eFilm Workstation will check first if there is an acquisition time, than an image time, and finally a study time.
3. A problem with the reference lines displaying on the key image when you switch the screen layout has been fixed.
4. DSA tool was re-designed such that subtraction is now only performed if the DSA tool is activated.
5. The eFilm Workstation database has been re-designed to accommodate the case in which a Patient ID corresponds to more than one patient.

Bugs Fixed in eFilm™ Workstation™ 1.5.3 Service Pack 2

1. On dual monitor Windows 2000 systems, window maximization was implemented in a non-standard way. This inconsistency has been corrected.
2. A window re-painting problem when maximizing the main window on Windows NT systems has been fixed.
3. The window width and level settings are now preserved when the bone slider is moved in the Digital Subtraction Angiography feature. The bone value is now also set to 0 by default.
4. A problem with the **Toggle Survey/Explode Mode** tool has been corrected so that reverting to survey mode now preserves the series/image selection.
5. Images which are already calibrated may now be re-calibrated as necessary.
6. A problem that was causing certain registry settings to be re-set has been rectified.
7. An image repainting problem associated with the 3D Cursor tool has been eliminated.
8. Multiframe RF images are now properly recognized and displayed as multiframe.
9. A bug that was causing the GE PACS software to crash when queried by eFilm Workstation has been fixed. As a result, querying for modality information at the study level is now supported.
10. The new DICOM Monitor tool performs regular C-Echo requests to the DICOM Server to verify that it is still active. If no response is provided, the DICOM Monitor restarts the DICOM Server.
11. The Elliptical ROI tool now properly reports mean values for images with signed pixel representation
12. A bug which prevented some of the DICOM Print settings from being sent in the print request (e.g., film type and resolution) has been corrected.
13. The group length tag in the DICOM file meta header is now no longer 4 bytes too short.



What's New in eFilm Workstation 1.8.3

New Features in eFilm™ Workstation™ 1.5.3

1. *Support for eFilm HIS/RIS Connectivity SDK v.0.2*
eFilm Workstation supports HIS/RIS Interface DLLs created using the eFilm HIS/RIS Connectivity SDK v.0.2. This feature provides third-party developers the ability to write plug-ins that will allow seamless viewing and creation of HIS/RIS reports from eFilm Workstation.
2. *Improved Mouse Wheel Support*
3. *Improved Responsiveness when Window/Levelling*

Bugs Fixed in eFilm™ Workstation™ 1.5.3

1. A problem that occurs when the 3-D cursor is used in conjunction with rotated volumes has been rectified.
2. DR and DS images now load correctly again.
3. A palette problem that occurs when eFilm is used with Dome cards has been corrected.

New Features in eFilm™ Workstation™ 1.5.1

1. *Enterprise-wide Device Updating*
The new eFilm Enterprise Management feature automatically updates the network device list each time a search is performed. The addition of this feature means that each time a new device is added or an old one is removed from the network, the device lists of all workstations on the network are updated simultaneously. The eFilm Enterprise Management feature will be available as an add-on service purchased through eFilm Medical Inc.
2. *Digital Image Markers for Mammography*
eFilm Workstation can display the electronic image markers which are attached to DICOM images taken by digital mammography scanners. Users can position the markers to suit their own preferences.

Bugs Fixed in eFilm™ Workstation™ 1.5.1

1. Multiple image export to TIFF format now functions correctly.
2. Toolbar now visible on greyscale monitors with DOME cards set to **Dynamic Palette**.
3. Facility added to limit the number of incoming DICOM associations. This feature prevents the workstation from being overloaded.
4. eFilmLite™ now loads lossy 8-bit DICOM JPEG files properly.
5. Periodic crashing of efUpM.exe has been eliminated.
6. "Simple" window/level algorithm has now been applied properly.
7. Occasional crashes when using the 3D cursor have been eliminated.
8. eFilm Workstation now connects properly to HIS/RIS dlls written using the eFilm Connectivity SDK.



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New Features in eFilm™ Workstation™ 1.5.0

- Advanced Image Manipulation Ability*

External image effects may now be programmed to be used with eFilm Workstation, thereby greatly extending eFilm Workstation's image manipulation capabilities. If you would like information on how to program custom image effects, please have a look at our website www.efilm.ca or contact us and we will gladly assist you. A sample filter is included with this version of eFilm Workstation.
- Customized User Settings*

Users may now customize their settings.
- Customized Automatic Screen Layout*

You may pre-define how you would like to layout the main window according to series and images.
- Automatic Selection of Reference Lines*

You may now select to automatically display reference lines when viewing CT or MR studies.
- Support for Bicubic Interpolation*

Previously only bilinear interpolation was available. You may set your interpolation mode to be either None (fastest, lowest quality), Bilinear, or Bicubic (slowest, highest).
- Automatic Series Synchronization*

You may select for all series to be automatically synchronized whenever you view a new study.
- Pan and Zoom Combination Functions*

You may select for the **Pan** and **Zoom** functions to be automatically and/or simultaneously selected when viewing images.
- Automatic Window and Level Algorithm*

Window levelling may now be set for optimal estimations.
- Customized Local/Remote Exam Lists*

Local and Remote Exam lists may now be customized. You may select which headings you would like displayed and how the list should be sorted.
- DICOM Printing*

You are now able to print to a DICOM enabled printer, printing to film or other media.
- DSA Control*

Digital Subtraction Angiography now supports integration of images as well as positive (opaque) and negative (CO₂) contrast. The DSA control is also updated.
- Toggle Survey/Explode Mode*

An "explode" mode has been added that allows series to be expanded to full screen easily. You may also quickly toggle back to the survey mode. This is useful for studies with several series, such as CR skeletal surveys.
- Windows Installer Support*

When installing eFilm Workstation 1.5, previous versions (down to version 1.320) are detected. Old registry entries are no longer deleted. Installations/upgrades should be considerably more robust and reliable.
- DICOM JPEG Read*

DICOM JPEG read now works with all modalities.
- MS SQL Server Support*

An SQL server database may be swapped in via ODBC to replace the Access database that comes with eFilm Workstation.