



AMPED
FIVE

FORENSIC IMAGE AND VIDEO ENHANCEMENT

- Load images and videos in any format
- Convert proprietary video to standard files
- See license plates, faces and anything else better
- Generate a detailed scientific report

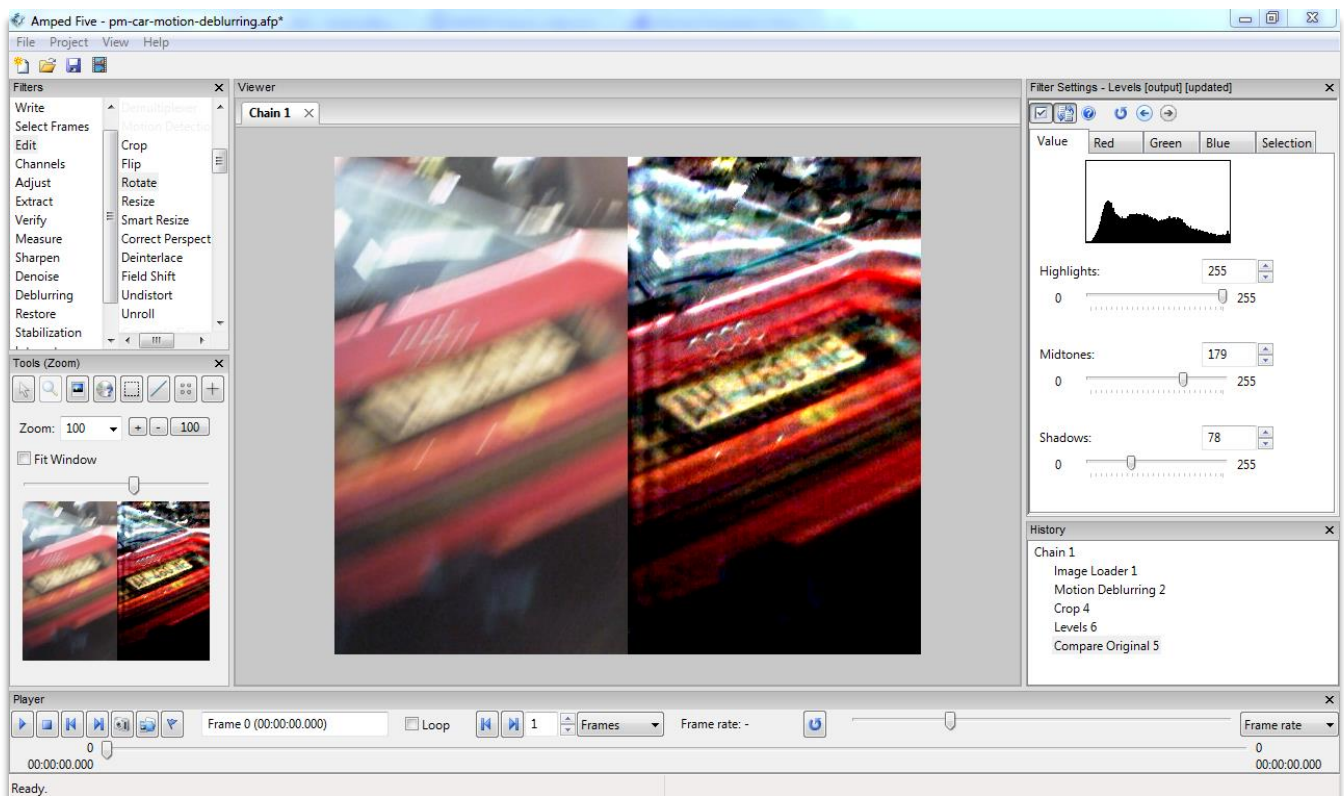


WHAT IS AMPED FIVE?

ANALYZE. ENHANCE. CERTIFY.

Amped FIVE is the leading forensic image and video enhancement software and is acclaimed for its simplicity, ease-of-use and completeness. Amped FIVE is specifically designed for investigative, forensic, military and security applications. Its primary purpose is to provide a complete solution to process and restore, clarify, and analyze images and video in a simple, fast, and precise way.

Amped FIVE is used by the world's top forensic labs, law enforcement, government, military, and security organizations. Municipalities, court experts and private companies working in the surveillance and forensic fields also benefit from this revolutionary solution.



"Today, I may have 25-30 cases to process. Tomorrow, I may have 25 more. With Amped FIVE I can quickly determine, in a matter of minutes, which video evidence is usable and which is not. This way I can spend my time on the video evidence where I can get a result and not waste hours working on dead ends."
Jim Hoerricks, Forensic Video / Image Analyst

Maintaining the original evidence integrity is a key element in the design of Amped FIVE. In the law enforcement arena, courts, judges, prosecutors, and defense attorneys can sense the weakness of evidence and exclude it if there is even a hint that any manipulation has been done. The current judicial trend for admission of digital evidence shows that undocumented or modified files have a strong chance of being excluded; as do many files that have been worked on with photo editing software without full documentation of steps and validation of the process. If this is the key evidence in a case, the case is likely to be lost.

With Amped FIVE, our core philosophy in designing the product is that everything is done by simply applying a filter. This means that there is no re-rendering, no modifying, no altering and no disturbing of the original evidence. Whether you are loading a video, exporting a sequence, applying some denoising, selecting frames, taking measurements and so on; this concept of filtering allows for a very fast and predictable workflow.

For each step in the process, every filter takes as input the image or video generated by the previous filter and, after the processing, passes the result to the output filter. You can even modify a filter and see the real time output effects on another one down the chain. In this way you can see how modifying some values on a previous filter will modify the final result. This is very effective especially for complex problems and long chains of filters.

Trial and error is often the most common scientific method that is applied in forensic analysis. Experimenting with different filters and settings is done to find the right filter group, settings, or combination of steps to correct unique problems. With most other forensic image processing software, this is a very long process that often must be restarted if one filter has to be changed or results are not optimal; then restarted again should the results of the second (or third or fourth, etc.) prove to be less than ideal. We have designed the architecture of FIVE with this in mind. Reviewing and modifying any step of the processing is as quick and easy and as simple as replacing, deleting, turning off, or moving filters anywhere in the chain. In this way FIVE guarantees speed, effectiveness and scientific methodology.

THE COMPLETE WORKFLOW

A NEW AND BETTER WAY TO HANDLE VIDEO EVIDENCE

Amped FIVE is a single and complete solution to process and analyze images and video in a simple, fast, and precise way and does not require additional plug-ins, third-party software or special expensive hardware. The Amped FIVE workflow is illustrated below:

1. Import any type of image, video, or sequence of images. If the video is an unsupported proprietary DVR format it can easily be imported into Amped FIVE with no loss of quality with the new DVR convert and capture tools.
2. Analyze specific details of images (like EXIF metadata) and videos (like video codec and encoding type of every single frame).
3. Speed-up workflow on long videos by locating the frames of interest with the motion detection feature and select only the useful ones, either in an interval or in random positions.
4. Process the frames combining more than 100 available filters in unlimited ways, in order to restore specific defects or clarify image features.
5. Take specific linear and 3-dimensional measurements on the images or video frames.
6. Save the result of the processing as image, video or sequence. You can even show all original frames side by side with the enhanced version, to illustrate your work.
7. Automatically generate a report containing the scientific methodology of the processing and all the processing steps. The report provides the scientific references for each filter used, the settings, and specifics of the particular frame or image. This reporting feature is extremely valuable for US users in states that adhere to the Frye or Daubert standard.

MAIN FEATURES

THE ONLY SOFTWARE OF ITS KIND



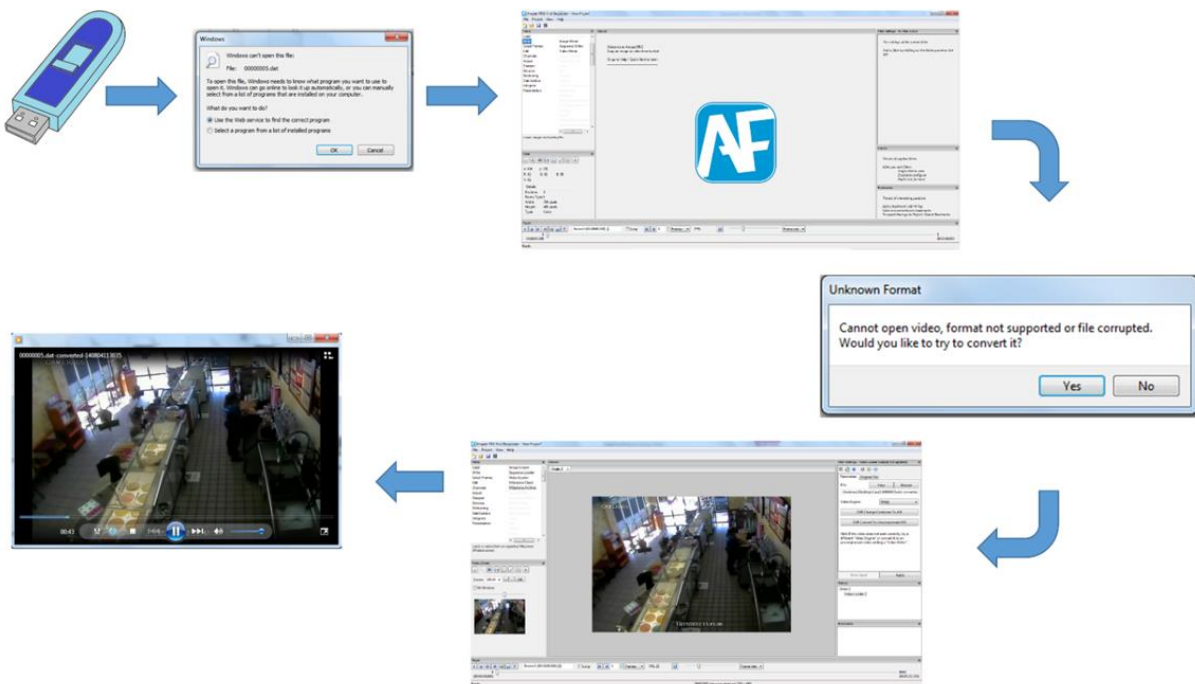
Powerful

Amped FIVE provides more than 100 filters to analyze, restore, and enhance digital images and videos. Amped FIVE offers specialized features like redaction, photogrammetry, stabilization, perspective correction, object tracking, FFT, etc.



Compatible

Amped FIVE works with any type of image and video data, from CCTV recordings to latent fingerprints, and supports any image and video format, including automatic conversion of the majority of proprietary formats typically used in video surveillance. The software has a built in utility to convert or capture video from proprietary DVR formats quickly and easily and is also directly compatible with any video management servers such as Milestone XProtect®.





Portable

Works on a laptop in the field as easily as on a desktop in the lab.



Real-time

Enhances live feeds (from pole cameras, drones, etc.) as easily as recorded evidence.



Accredited

Is included in the approved programs listings of multiple local/state/federal agencies, courthouses, and accredited laboratories around the world.



Certifies Evidence

Amped FIVE automatically generates a report detailing all of the processing steps, settings and algorithms used in analysis, as well as their source information (including publication date and page number), which makes it easy to present in court in order to validate the integrity of the digital evidence.



Flexible and Affordable

Amped FIVE is a single solution and does not require additional plug-ins, third-party software or special expensive hardware. This means there is just one platform to learn, maintain and deploy on hardware you already own. Because FIVE is compatible with standard PCs (Windows XP, Vista, Windows 7/8/10, 32 bit and 64 bit versions), the time and cost to deploy are minimal. As hardware standards change quickly, Amped FIVE does not bind you to a platform that will soon be obsolete or cannot be upgraded without major expense (if at all). Amped FIVE shows a clear advantage over competitors in cost effectiveness in a budget analysis based on total cost of ownership.

SAMPLES

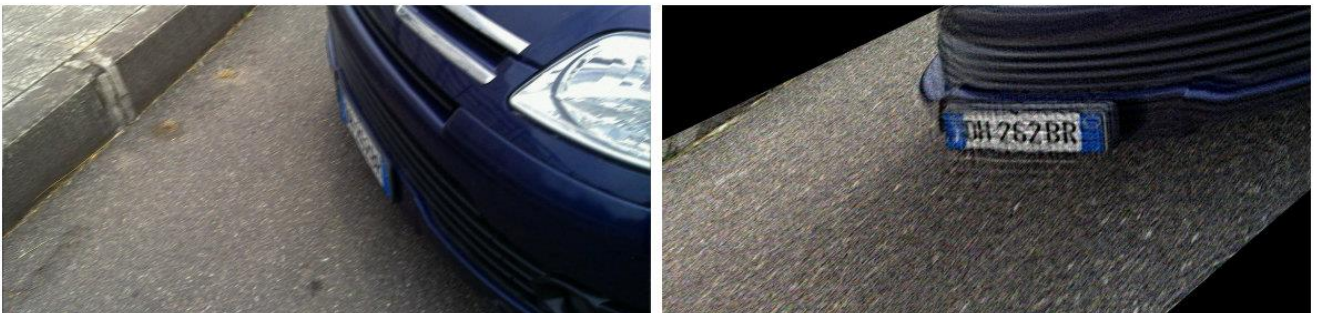
BECAUSE A PICTURE IS WORTH A THOUSAND WORDS

Below you can see a few sample images where different Amped FIVE filters were used to improve and enhance details in the image. For each example, you can see the original image on the left, and on the right, the result after enhancing with Amped FIVE.

Restore moving objects



Correct the perspective of objects



Improve dark videos



Measure the height of a subject or something in the environment



Enhance images due to fog and environmental conditions



Redaction of sensitive subject or object in a video



PURCHASE INFORMATION

APPLICATIONS

Kind of Data	Types of End Users
<ul style="list-style-type: none"> ▪ CCTV ▪ Body Worn ▪ Vehicle camera ▪ Accident reconstruction videos ▪ Crime scene photos ▪ Digital forensics investigations / personal media ▪ UAV / Drones ▪ Internet search / Open source intelligence ▪ Traditional forensics (fingerprints, footprints, document examination, ballistics... 	<ul style="list-style-type: none"> ▪ Law Enforcement Forensic Labs ▪ Covert Surveillance Units ▪ Local Police Departments ▪ Prosecutor Offices ▪ Intelligence / Secret Services ▪ Military Units ▪ Urban Surveillance / Municipalities ▪ Private Forensics and Expert Witnesses ▪ Enterprise Security ▪ Media / News Outlets ▪ Education / Research

MATERIAL AND LICENSING

The standard Amped FIVE software package includes:

- 1 Installation DVD
- 1 USB license activation/protection dongle (1 license is valid for use on one workstation at a time)
- User manual in electronic format
- 1 year of software updates
- 1 year of technical support via email

SOFTWARE MAINTENANCE AND SUPPORT (SMS)

Software Maintenance and Support (SMS) subscription allows you to always work with the latest version of Amped FIVE. We continually add support for new file formats, so you want to make sure you have the latest version on hand. And if you run into any issues using Amped FIVE, an active SMS subscription will provide you with access to technical support.

Software upgrades and unlimited technical support via email is included for one year from the date of purchase of the Amped FIVE license. You may purchase additional years of SMS at any time. Please [inquire](#) for details and pricing.

Renewal of SMS is not mandatory, so the license purchased is still valid and can be used even without an active SMS plan. Continued software upgrades and technical support however require the purchase of an SMS subscription plan.

TRAINING

We provide complete hands-on [training](#) on the use of Amped FIVE at our Amped Software Training Lab in Trieste, Italy and in the USA. For some countries we can also arrange for in-house training at your organization. Please contact us for details and availability.

The purpose of the Amped FIVE training is to:

- Provide students with the theory and the basics of image processing
- Understand different issues affecting images and videos in an investigative context
- Acquire an in-depth knowledge of all Amped FIVE features
- Work effectively on real cases and be able to testify on the results

The course is mainly oriented to practical applications. The instructor will explain the usage of every tool in Amped FIVE and the technical and scientific background behind the implemented techniques. Students will then try to apply the same techniques to solve real or simulated cases. Many different situations will be covered, both using very simple and very complex samples. Overall, students will analyze several hundred images and videos during the training course.

AVAILABLE VERSIONS

AMPED FIVE PROFESSIONAL

Amped FIVE Professional is our premier platform. It is an essential tool for law enforcement, investigators and forensic professionals. This version includes advanced features required for forensic video and image enhancement and analysis, including the following industry leading features:

- ✓ automatic generation of a scientific report
- ✓ advanced image processing functions for video surveillance
- ✓ filters for specific cases, such as crime scene photos and fingerprints

AMPED FIVE EXPRESS

Amped FIVE Express is a simplified version of Amped FIVE Professional, designed for first responders and security experts, for quick and easy enhancements of surveillance videos. This version includes the most common functions for video surveillance but lacks advanced forensic functions.

WHERE TO BUY

Amped FIVE can be purchased directly from Amped Software or through one of our authorized worldwide partners.

AMPED FIVE TECHNICAL SPECIFICATIONS

GENERAL FEATURES

Feature	Description
	Overview
Complete	More than 100 different filters for all possible needs during forensic investigations. Every filter is a solution to a specific technical problem.
Single Solution	Does not require additional plug-ins or third party software.
Portable	Works on a laptop in the field as easily as on a desktop in the lab.
Reliable	Meets and exceeds the quality standards required by forensic labs and courts worldwide.
	User Interface
Processing Workflow	Add, configure, move, and modify an unlimited number of filters, in real time even while playing video. You can apply real-time, non-destructive image adjustments that don't require re-rendering as changes are applied. Every process is a filter: filters have a common workflow and interaction and can be modified, added, copied, pasted, disabled or deleted in any moment.
Bookmarks	Bookmarks allow to quickly select interesting frames in a video, or different steps in the processing. Every bookmark is associated to a specific frame of a specific filter and has a name and a description for quick access. Bookmarks can be edited moved or deleted. Images from bookmarks are included in the report.
Tracking	Track areas or target of interest (such as people or objects) through static, dynamic, and manual tracking.
Filters Selection	All local filters support applications on the whole image, a static region or the tracking of a moving object with either static (more precise) or dynamic (more robust) template.
Configurability	All filters and tools always visible on the screen. Different panels can be resized, moved, docked and undocked to fit user needs.
Keyboard Shortcuts	Most features of the software are available through keyboard shortcuts, carefully chosen to match those commonly used in standard photo editing software and non-linear video editors.
Theme	Support for multiple themes of different colors in addition to the system theme to fit the user working environment.

Font Size	Customizable font size in addition to the system defined font dimensions.
Log	All operations performed by the user are logged on a text file, together with system info and other critical information. The feature can be optionally disabled.
Pixel Values Visualization	Display current pixel coordinates and values.
Image Statistical Information	Display in real time the histogram and statistical features of the image, on one or multiple color channels. Optionally mark on the image white saturated or black areas to avoid excessive processing.
Selections Tools	Multiple selectors available to best interact with different filters with pixel level precision.
Ruler Tool	To measure distances in pixels and the angle on a picture.
Essential File Information	Current filename, image size and number of frames always visible on screen for quick reference.
Format and Metadata Visualization	Display file format and metadata information, such as EXIF data, present in image and video files.
Zoom Tool	Precise zoom tool with no interpolation to see actual pixels value. Interpolation can be applied under the user control with the specific filter.
Video Playback	Advanced video playback with frame by frame navigation, adjustable frame rate and jog controls. Includes a special seek function which allows to move on user specified intervals based on units of (frames, Iframes, or different time units). The user can manually input frame number or a time position to quickly move there. Visualization of frame type in videos (I, P, B).
Audio Support	Volume and mute controls when audio is enabled.
Integrations	With a single click it is possible to send the current image to Word, PowerPoint or copy it onto the clipboard for pasting in any other tool. It is possible just to copy the image data, the full software user interface, or the whole screen. This makes it very easy and quick to prepare custom reports and instructions for colleagues.
Notes	The Notes panel is always available on screen and the notes are automatically saved with the project. This tool eliminates writing textual investigative notes related to the video onto a separate text file or with pen and paper.
Input and Output Formats	

Input Image Formats	Supports any standard digital image format (i.e. jpeg, tiff, png, bmp, targa, ...).
Input Video Formats	Supports any standard video format (avi, mp4, mkv, flv, 3gpp, wmv, mov...), also without the need of the codec installed on the system. Expandable by system codecs.
Multiple Video Engines Support	Switch on runtime between different codec frameworks (FFmpeg, FFMS, DirectShow, VideoForWindows, QuickTime) to test different decoding capabilities.
Image Sequences	Multiple images can be loaded together to work on them as if they were frames of a single video file.
Proprietary CCTV/DVR formats	Supports the conversion of most proprietary video formats from video surveillance systems (approximately more than 75% of the formats encountered) to AVI, MP4, MOV, MKV formats. For most of them it is a simple format change which does not involve transcoding and thus quality loss, but preserves the quality of the original data. More than 200 formats are supported and new formats are added upon request of the users. Optionally, files can be converted to a specific format and codec, concatenated. Batch processing can automatically convert all the files in a folder and optionally concatenate them. The conversion writes a log file with the details of the process. Supported formats include videos with extensions 264, 400, 600, 787, acsm, aira, aov, arv, asf, asx, av, avc, avd, ave, avf, avi, avr, awlive, bdb, bin, blk, body, bes, bfs, bix, box, bpv, bwm, cx3, d, da, dar, dat, dav, dbx, dga, djp, dmi, dmskm, dpv, drv, dv4, dv5, dvr, dvt, edr, eds, exe, exp, eye, gbf, gop, h263, h264, hgd, hme, icf, ifv, image, img, irf, jv, k26, lvf, lwx, lxf, m2v, m4v, m65, max, mgv, mjpg, mod, mov, mp4, mpc, mpg, mpg2, mrd, mxg, nvf, nvr, omv, par, pic, pns, ps, pvf, raw, rec, rsv, sdr, sec, snx, ssf, strg, stw, svf, teb, umv, v, vdd, vfs4, vid, video, video.data, vls, vmf, vse, vsr, wmv.
Surveillance Server Integration	Some proprietary video formats, as those coming from a Milestone XProtect server are integrated thanks to the official SDK supplied by the producer which also grants direct access to the server data both on recorded images, live images or exported data in native format.
Screen Capture	Integrated screen capture with the option to save standard uncompressed video files for maximum quality and compatibility.
Video Input	View, grab and process any stream coming from a DirectShow compatible device.

Export Video	Export the current video frames with any supported FFmpeg, VideoForWindows, DirectShow and QuickTime codec and format.
Export PDF	Export the current video frames to a PDF with the number of images per page configurable by the user.
Audio Support	The user can optionally enable the support for audio, which includes playback of the audio stream in video and the copying or converting of the video stream from input to output files.
Project Format	The project format is a simple and readable text based format that instructs the system on which filters and parameters to apply on specific files. It guarantees transparency, repeatability and reproducibility of the process, since the processing is reapplied from scratch every time a project is reloaded. Supports multiple images, videos and processes related within the same project workspace. If the input files are missing or have been moved, they can be relocated while loading the project.
Print	Print generated images and video frames.
Automatic Report Generation	Automatic generation of a report containing all the scientific methodology and details of the processing steps, settings, and the bibliographic references to the algorithms in HTML, PDF or DOC format. This reporting feature is a critical advantage for US users working in Frye or Daubert states. The user can customize different parts of the report such as case, author, description, image size and which frames and processing steps to include in the report, including the images with a proper title and description (<i>feature not included in Amped FIVE Express version</i>).
Export Images	Selected images can automatically be exported from the current project.
Image and Project Snapshots	With a single click of a button the user can save the temporary status of the project (the currently displayed image and the project file needed to recreate it). This allows for a very quick experimentation and to review at a later time different attempts and results. The filename of the snapshots can be assigned automatically or customized by the user.
Advanced File Info	Automatic callback of three different analysis tools (MediaInfo, ExifTool and FFprobe) to quickly analyze and compare the digital information of image and video files.
File Verification	Supports the visualization and verification of hash codes of input and output files in saved projects to detect unexpected alteration.
System and Documentation	
Compatibility	Runs on any standard PC, with Windows XP SP3, Vista, 7, 8, 10 both 32 bits and 64 bits. Macs are supported via Bootcamp or virtual machines.

Available in 32 and 64 bits	The standard installer includes both the 32 and 64 bits version of the program and the user can switch freely between the two. While the 32 bits version guarantees maximum compatibility with legacy codecs, the 64 bits version can better exploit the user workstation hardware.
High Resolution Support	Support for HiDPI (Retina) screens keeping the proper layout of text and panels.
Licensing Mode	Standalone software protected by a USB dongle for easy license management. The same license can be installed on multiple computers by just moving the dongle. No online or telephone activation needed. Operates completely offline with no Internet or other network connection. The software is provided on DVD.
Updates	All software updates, both minor and major, are guaranteed when the SMS (software maintenance and support) is active. The first year of SMS is included with the initial purchase of the license, additional years can be purchased together with the license or at a later time.
Supported Languages	Available in English, Spanish, Italian, Chinese, Japanese, French, Russian, Polish. All languages are installed, and can be freely switched by the user with a simple restart. Additional languages can be added upon request. Localization includes the user interface, manuals and generated reports.
Documentation and Tutorials	Complete and in depth documentation which includes: Quick Start Guide, Tutorials, Program Reference Guide, Filter Reference Guide, Keyboard Shortcuts. The Filter Reference Guide includes bibliographic references with ISBN number of books and web links to the scientific papers.
Samples	Includes more than 50 different sample projects and files to learn how to apply the software in numerous situations.
Training	In depth training on the use of the software available worldwide (to be purchased separately, not available for all countries).

AVAILABLE FILTERS

Filter	Description	Express	Professional
Load	Loads image and video files.		
Image Loader	Loads an image from file.	Yes	Yes
Sequence Loader	Loads multiple images as video.	Yes	Yes
Video Loader	Loads a video from file.	Yes	Yes

Milestone Client	Connects to a Milestone XProtect image server to get archived or live images.	Yes	Yes
Milestone Archive	Loads a video exported from a Milestone XProtect server without need for conversion.	Yes	Yes
Image Paster	Pastes the image from the clipboard for further processing.		Yes
Video Input	Live stream DirectShow video sources for real time display or capture.		Yes
Link	Connects and mixes different source filters.		
Video Mixer	Overlays or displays two different chains side by side. Supports synchronization of streams and similarity metrics computation.		Yes
Write	Writes image and video files after processing filters have been applied.		
Image Writer	Writes the current image to a new file.	Yes	Yes
Sequence Writer	Writes all frames as image files.	Yes	Yes
Video Writer	Writes the current video to a file.	Yes	Yes
Select Frames	Selects video frames.		
Single Selector	Selects a single frame of the video.	Yes	Yes
Range Selector	Selects frames of the video within an interval with an optional step. Support the trimming of the original video stream without transcoding.	Yes	Yes
Sparse Selector	Selects a list of frames that are defined by the user.		Yes
Remove Duplicates	Removes duplicate frames with the ability to set a similarity threshold.		Yes
IFrames Selector	Selects IntraFrames of a video.		Yes
Auto Selector	Automatically selects similar frames (to discard bad frames) with the ability to set a similarity threshold and a reference frame.		Yes
Demultiplexer	Separates different scenes multiplexed in the same video. Supports the automatic export of multiple channels with a single action.		Yes
Motion Detection	Finds events in a video and marks the areas with movement in red.		Yes
Interlace	Processes interlaced frames.		
Line Doubling	Correct the aspect ratio of field based video.	Yes	Yes

Interleave	Converts a video with juxtaposed fields into an interlaced video.		Yes
Deinterlace	Converts interlaced videos into progressive ones. Supports several options to choose active fields, their order and the interpolation method.	Yes	Yes
Field Shift	Aligns the two fields of an interlaced frame.		Yes
Edit	Edits image geometric features.		
Crop	Crops a region of interest of the image.	Yes	Yes
Flip	Mirrors the image.	Yes	Yes
Rotate	Rotates the image.	Yes	Yes
Resize	Resizes the image.	Yes	Yes
Smart Resize	Resizes the image with a smart zoom algorithm preserving better details.		Yes
Frame Size	Resizes the image canvas.		Yes
Correct Perspective	Removes the perspective effect on a plane of interest in the image (image rectification).	Yes	Yes
Aspect Ratio	Corrects the aspect ratio of field based video.		Yes
Undistort	Corrects the geometric distortion caused by capturing optics (barrel and pin-cushion lens distortion). Supports the selection of multiple lines for the estimation of the curvature to compensate.	Yes	Yes
Correct Fisheye	Compensate the distortion of common fisheye lenses. Supports the selection of multiple lines for the estimation of the curvature to compensate.		Yes
Unroll	Converts an omnidirectional image into a panoramic one.		Yes
Channels	Color conversion and extraction functions.		
Grayscale Conversion	Converts the image to grayscale.	Yes	Yes
Color Conversion	Converts the image from grayscale to RGB, cloning the three channels.		Yes
Color Switch	Exchanges R and B color channels in the image, to correct wrong colors in video.		Yes
Extract Channel	Extracts a single channel from the image. The output image has one channel.		Yes

Enable Channels	Displays only the selected color channels in the image. The output image has three channels.		Yes
Adjust	Adjusts image values.		
Contrast Brightness	Adjusts the contrast and brightness values of the image.	Yes	Yes
Exposure	Adjusts the image exposure.		Yes
Hue Saturation Value	Adjusts the hue, the saturation and the color values of the image.		Yes
Curves	Adjusts the tone values following a smooth curve defined by control points. Supports independent modification of intensity and the RGB channels and multiple interpolation modes.	Yes	Yes
Parametric Curves	Adjusts the tone values by setting the gain in four portions of the luminance range.		Yes
Levels	Adjusts intensity and color levels.	Yes	Yes
Histogram Equalization	Improves the image contrast by uniformly distributing the pixel values. Supports the optimization of a specific region of the image.	Yes	Yes
Contrast Stretch	Improves the image contrast by expanding the range of intensity values. Supports a sensitivity threshold to tune the filter effect.		Yes
Temperature Tint	Manually select the color temperature and tint of the light source illuminating the scene.		Yes
White Balance	Adjusts an image in order to make neutral objects appear gray or white.		Yes
CLAHE	Applies a contrast limited histogram equalization, useful on images with high dynamic range (both very dark and very bright areas).		Yes
Homomorphic Filter	Adjusts separately the contrast of the illumination and detail in an image.		Yes
Retinex	Corrects an uneven illumination in the image using the Retinex algorithm.		Yes
Automatic Color Equalization	Reduces color casts and adjusts the contrast using the Automatic Color Equalization (ACE) algorithm.		Yes
Extract	Extracts and analyzes image features.		
Negative	Negative of the image.		Yes

Threshold	Thresholds the image values to the desired values. Supports several thresholding modes.		Yes
Adaptive Threshold	Extracts the edges with an adaptive thresholding algorithm.		Yes
Laplace	Extracts the edges with a Laplacian algorithm.		Yes
Sobel	Extracts the edges with a Sobel algorithm.		Yes
Scharr	Extracts the edges with a Scharr algorithm.		Yes
Canny	Extracts the edges with a Canny algorithm.		Yes
Linear Filter	Filters the image with a user-defined kernel.		Yes
Bilinear Filter	Filters the image with two user-defined kernels and combines the results.		Yes
Channel Mixer	Mixes the ratio of color in every channel as a linear combination of the input image channels.		Yes
Color Deconvolution	Maximizes the differences between specific colors in the image.		Yes
Component Separation	Separates signals due to different informative components in the image.		Yes
Fourier	Removes periodic noise, background and interferences in the Fourier domain. Useful for latent fingerprints, capture artifacts and electromagnetic interferences in videos.		Yes
Verify	Tools to authenticate digital images.		
File Info	Saves file information and EXIF metadata on the report.		Yes
Hash Code	Calculates the input file hash code to check data integrity when loading the project. Supports several hashing algorithms.		Yes
Macroblocks	Visualize the macroblock type and motion vectors from a MPEG based video.		Yes
Measure	Extracts real-world measurements from images.		
Measure 1d	Takes a measurement on the planar image. Reference and unknown measure must be on the same plane and the plane must be parallel to the image plane.		Yes
Measure 2d	Takes a measurement on planar image after perspective correction. Reference and unknown measure must be on the same plane.		Yes

Measure 3d	Takes a measurement on the image with a reconstruction model of the perspective. Supports error calculation and multiple measures.		Yes
Sharpen	Enhances image details.		
Laplacian Sharpening	Sharpens the image using a Laplacian filter algorithm.	Yes	Yes
Unsharp Masking	Sharpens the image using an unsharp masking filter.	Yes	Yes
Denoise	Reduces the image noise.		
Averaging Filter	Smooths the image with an averaging filter.	Yes	Yes
Gaussian Filter	Smooths the image using a Gaussian filter algorithm.	Yes	Yes
Wiener Filter	Smooths the image with a Wiener filter.		Yes
Bilateral Filter	Smooths the image with a bilateral Gaussian filter.		Yes
Median Filter	Reduces the impulsive noise by applying a Median filter algorithm.	Yes	Yes
Deblocking	Reduces block artifacts from lossy compression, such as that of JPEG or most video formats.	Yes	Yes
Deblurring	Reduces image blurring.		
Motion Deblurring	Corrects the blur caused by linear motion (moving subjects or camera).	Yes	Yes
Optical Deblurring	Corrects the blur of objects that are out of focus (big blur).	Yes	Yes
Nonlinear Deblurring	Corrects the blur caused by nonlinear motion.		Yes
Blind Deconvolution	Corrects the blur of objects out of focus with blind deconvolution (automatic estimation of little blur).		Yes
Turbulence Deblurring	Corrects the blur caused by air turbulence on long distances or by high ambient air temperature/humidity.		Yes
Stabilization	Stabilizes video frames.		
Local Stabilization	Stabilizes a shaking video by keeping the current selection steady. The object of interest must be present in all frames. Supports different stabilization modes.	Yes	Yes

Global Stabilization	Stabilizes the overall scene of a shaking video. Does not need a specific object, but also stabilizes a changing scene.		Yes
Perspective Registration	Aligns the perspective of different images of the same object, taken from different points of view. Supports any kind of motion (shift, rotation, zoom, perspective changes).		Yes
Integrate	Enhances image by multiple frames.		
Temporal Smoothing	Reduces the noise integrating multiple frames. Gives the same number of frames in output as in input.		Yes
Motion Smoothing	Reduces the noise integrating current and previous frames and avoiding halos on moving objects.		Yes
Frame Averaging	Reduces the noise by creating an image which is the average of all the frames. Gives an output of a single image.	Yes	Yes
Super Resolution	Generates a single higher-resolution image by merging all the frames with subpixel motion estimation.		Yes
Presentation	Prepares a video or image for presentation.		
Compare Original	Juxtaposes or overlays original and enhanced images for comparison.	Yes	Yes
Spotlight	Adds a spotlight effect to a selection. Supports different tracking methods and inverse selection.		Yes
Hide Selection	Pixelates, darkens or blurs an area of interest in a video (redaction for privacy, witness protection, or sensitive subjects). Supports different tracking methods and inverse selection.		Yes
Load Timestamp	Displays subtitles on the video frame. Font, color, size and position can be customized.		Yes
Add Timestamp	Indicates date and time for the current frame. Font, color, size and position can be customized.		Yes
Add Logo	Superimposes an external image onto the current image or video to mark it. Supports transparency (alpha) channel or color to transparency conversion.		Yes

Add Text	Inserts text on the image. Supports several macros to dynamically change the content of the text. Font, color, size and position can be customized.		Yes
Add Shape	Draws shapes (arrows, lines, rectangles, ellipses) on the image.		Yes
Add Grid	Superimposes a grid onto the image or video. Useful for compression estimation and other analysis.		Yes
Change Frame Rate	Changes the frame rate of the video.		Yes
Reverse	Plays back the video in the reverse direction.		Yes

HARDWARE REQUIREMENTS

	Minimum requirements	Suggested requirements
CPU	Intel Core i3	Intel Core i5 or faster
RAM	4 GB	8 GB or more
Hard drive space	1 GB free for program files	1 GB free for program files, 10 GB or more for casework files
Screen	13", 1024x768	24" or bigger, 2560x1440 or bigger
Graphic card	No specific requirement	No specific requirement
OS	Windows XP SP3 (32/64 bits) Windows Vista (32/64 bits) Windows 7 (32/64 bits) Windows 8 (32/64 bits) Windows 10 (32/64 bits)	Windows 7 64 bits Windows 10 64 bits

ABOUT US

SETTING THE STANDARD FOR IMAGE AND VIDEO FORENSICS

OUR STORY

Amped Software was founded in Trieste, Italy, in 2008 by Martino Jerian. While working on his master thesis in Digital Image Processing at the University of Trieste, in collaboration with the Scientific Investigation Department of Carabinieri (Italian Military Police), Martino realized that video processing solutions for forensic applications were poor or non-existent, and not one single product could be found that met all of the needs of a forensic analyst. Products offered at the time were a compromise of features or were incomplete and required other products to accomplish common tasks. This is why Martino decided to develop Amped FIVE, the company's flagship product.

Amped Software has thus been recognized as an innovator in the national and international arena. In 2008, barely a year from its founding, Amped Software was awarded as the best Italian start-up at the Tech Garage business competition, held during SMAU trade-show. In 2010, Amped Software was presented in the book "Winning Italy: Almanac of Italian Excellence" by the Ministry of Foreign Affairs, which highlights significant innovation and achievements by Italian companies and individuals. Amped Software was also highlighted as a leader in scientific accomplishments in a world class group which featured prominent companies such as Ferrari, senior "Big Bang" CERN researcher Lucio Rossi, and Lorenzo Thione, the developer of the technology used by Microsoft in the Bing search engine.

Today, Amped Software is a global company with headquarters and R&D labs in Trieste, Italy and a regional office and training facility in Henderson, Nevada, USA. Our US office is registered as a US Department of Defense contractor and sells DoD compliant products. We are also supported by a large network of worldwide partners.

OUR FOCUS

Amped Software is committed to help fight crime to keep communities safe, by offering innovative solutions to help convict criminals and protect the innocent.

We are setting the standard for image and video forensics. We focus on developing the most advanced and complete, yet simple and easy-to-use technologies for all image and video processing needs related to forensics, public security and investigations. With an emphasis on the transparency of the methodologies used, our solutions empower our customers with the three main principles of the scientific method: accuracy, repeatability and reproducibility.

Our customers are our number one priority. We continually listen to our customers and adapt and update our solutions on a monthly basis, in order to meet their evolving needs in digital image and video forensics.

OUR TEAM

Amped Software is made of a team of highly experienced digital forensic experts that use our own software to work on numerous real cases, in which many are of national and international importance. Some team members have also previously served in law enforcement and military. Because of our diverse experience we have a rare insight into how our tools work in practice and are able to emphasize any limitations or missing features for us to improve.

OUR CUSTOMERS

Important forensic labs, law enforcement, government, military, and security organizations worldwide use our solutions. Our products have been sold in more than 60 countries.

OUR PARTNERS

Amped Software has a large worldwide network of resellers and distributors. We also have several strategic and technological partnerships with some of the best companies in the law enforcement and video surveillance fields. As a strategic partner of [Taser International](#), Amped Software technology powers the [Axon Forensic Suite](#). Amped Software is also a [Milestone Solution Partner](#). This partnership allows for our products to have native compatibility with Milestone XProtect VMS and its formats.

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