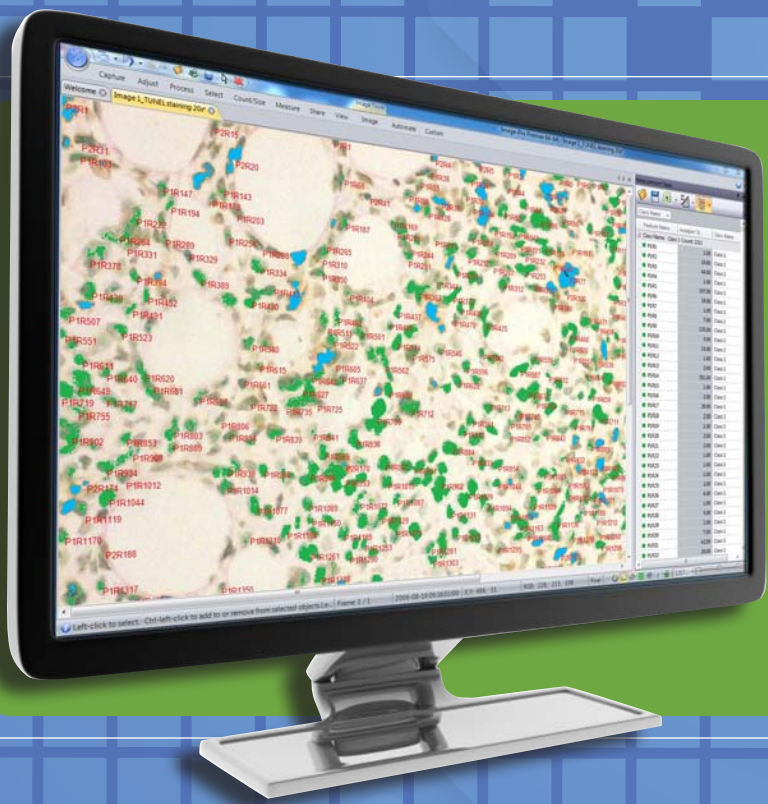


**MediaCybernetics**  
From Images to Answers®

LIFE SCIENCE APPLICATIONS



# Image-Pro<sup>®</sup> Premier

Image Analysis  
Starts Here

# Image Analysis Starts with Image-Pro®

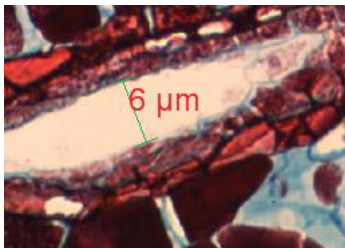
Incorporating more than 25 years of user input, Image-Pro Premier provides intuitive tools that make it easy to capture, process, measure, analyze, and share your images and valuable data. Rely on our worldwide network of Image-Pro partners, superb training tools, and technical support team to help you get started and keep your research moving forward. Try Image-Pro Premier today and discover what makes Image-Pro from Media Cybernetics® the leading image analysis software.

Designed for researchers who need automated measurement and analysis tools:

- Anatomy
- Animal Behavior
- Brightfield Microscopy
- Cell Biology
- Dendrochronology
- Developmental Biology
- Entomology
- Fluorescence Imaging
- Food Science
- Marine Biology
- Otolith and Fish Aging
- Pathology

## Easily Capture Single-Frame Images & Time-Lapse Experiments

Successful analysis begins with high-quality images. Image-Pro Premier supports an ever-growing list of scientific cameras to ensure a superior capture experience.

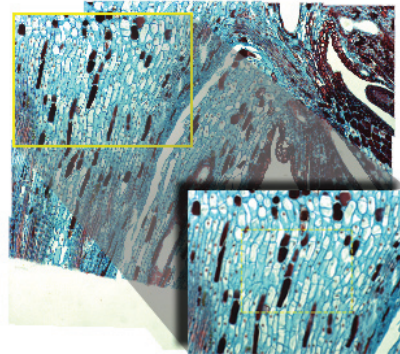


### Live Measurements

Measure distances, angles, object areas, and more while previewing live images. No need to save your image.

## Fast Acquisition & Streaming to Disk

Acquire rapid events or experiments that last for longer periods of time. Image-Pro Premier is not only able to utilize the memory (RAM) available on your computer, it can also stream multi-gigabyte movies directly to your hard drive.



### Live Tiling – No Automation Needed

Stitch together multiple fields of view as you manually move around your specimen. Combine with Live EDF to create a focused, tiled image.

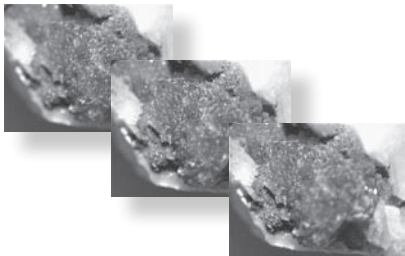


### Live Extended Depth of Field – No Automation Needed

Capture beautifully focused images, regardless of depth.

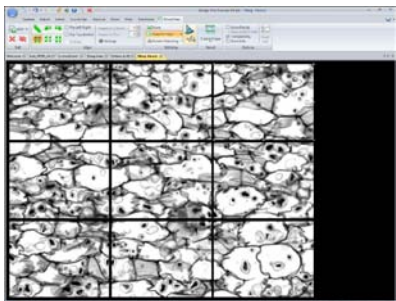
# Process & Analyze

Implement sophisticated image processing and enhancement functions with two clicks or less. Image-Pro Premier makes it easy to analyze and reveal important details within your images.



## Auto-Alignment & Extended Depth of Focus

Correct for microscope shift with post-acquisition auto-alignment tools. Extended Depth of Focus (EDF) creates a focused image from a series of images captured at different z planes.

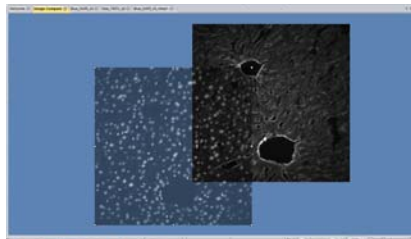


## Post-Acquisition Tiling

Tile together a series of images with post-acquisition tiling tools and view a full representation of your research sample.

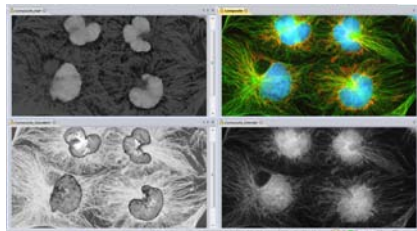


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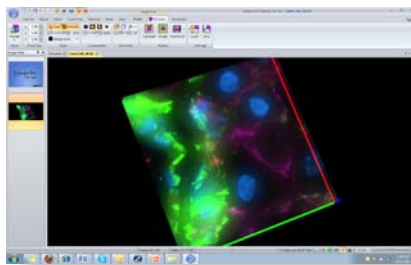
## Overlay & Compare Images

Overlay images on top of one another to see changes over time. Use with previously acquired or live images.



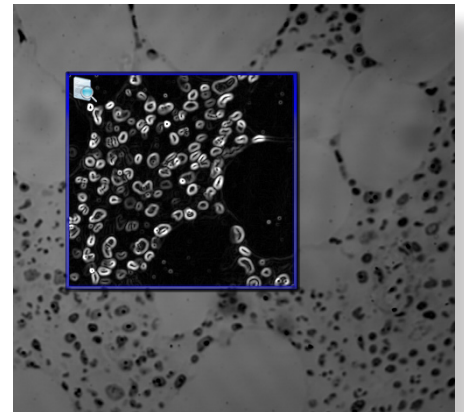
## Extract & Merge Color Channels

Easily combine and separate images into RGB, HSI, and HSL color channels.



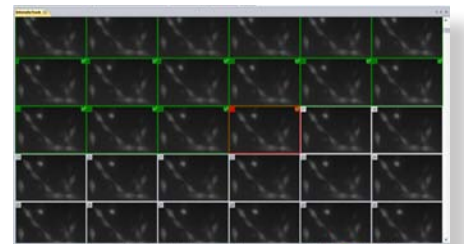
## Visualize Images in 3D

Explore the depth of your images by visualizing in three dimensions. Easily create animations to share.



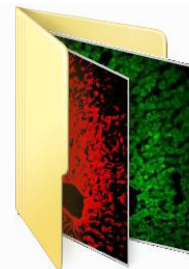
## Correct for Noise & Enhance Detail with Filters

Remove background noise and reveal hidden details with an extensive set of image processing filters. Preview filters on your active image for instant results.



## Navigate & Edit Movies in Gallery View

Navigate through time-lapse and image sequence files with the Gallery View tools.



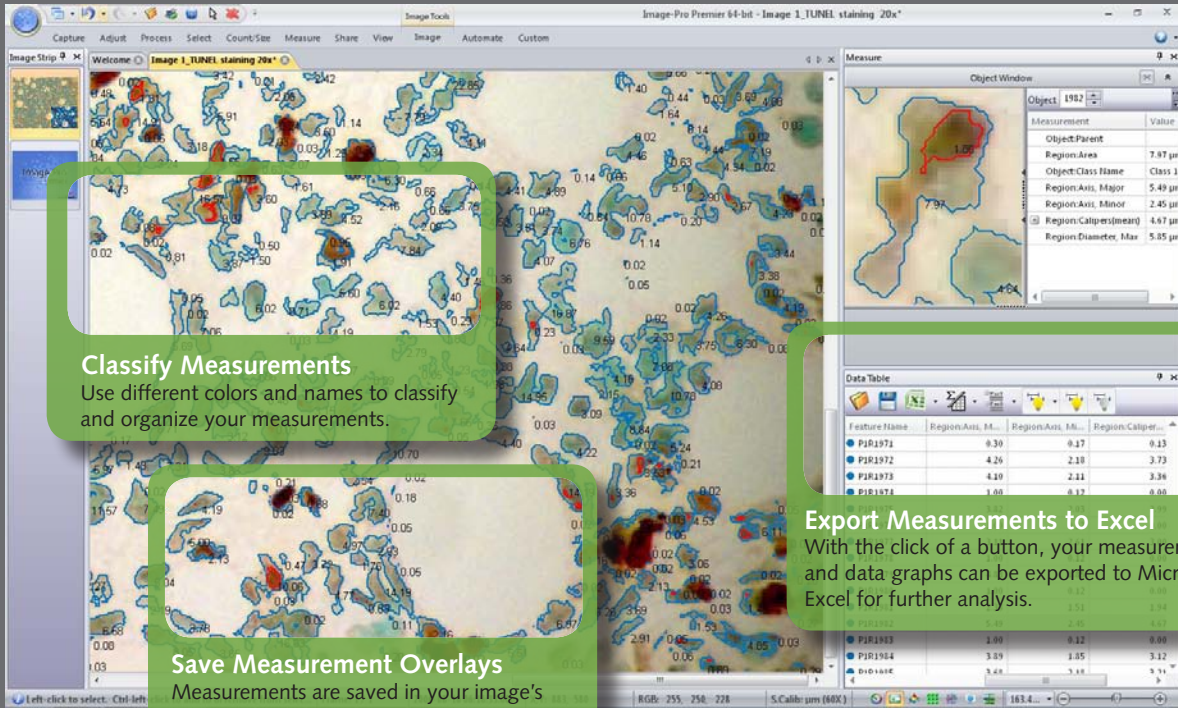
## Batch-Process Multiple Images

Apply your image processing steps to all opened images or entire folders of images utilizing Image-Pro Premier's easy-to-use Batch Processing tools.

# Measure & Quantify

Extract quantifiable data from your images with a variety of measurement tools. Easily measure distances, regions, angles, and more.

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## Classify Measurements

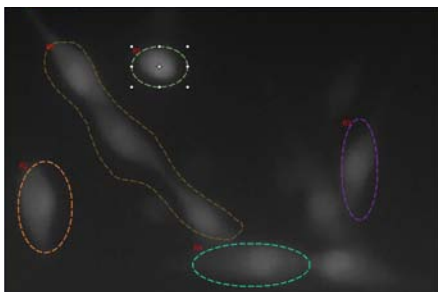
Use different colors and names to classify and organize your measurements.

## Save Measurement Overlays

Measurements are saved in your image's meta data and are recalled the next time you open the image in Image-Pro Premier.

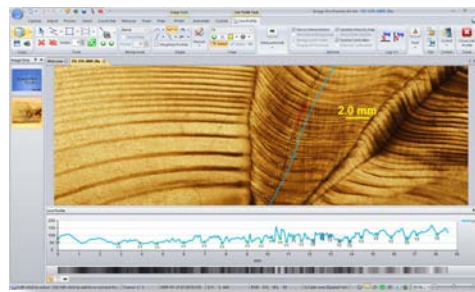
## Export Measurements to Excel

With the click of a button, your measurement and data graphs can be exported to Microsoft Excel for further analysis.



## Measure Intensity over Time

Track and graph the changing of intensity parameters over time within an area of interest.



## Analyze Ringed Structures & Detect Edges

The Caliper/Line Profile tool automatically detects edges along a defined line. Measure distances between these changing intensity levels to analyze aging. Classify edges to aid in analysis and reporting.



## Track Moving Objects

Manually or automatically follow cells or other organisms as they move through time and space. You can even track challenging objects that fade out of view and move out of the image workspace.

# Count & Classify

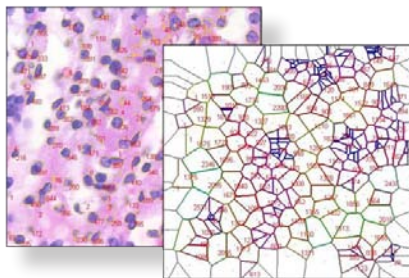
Use one-click tools to automatically segment, count, measure, and characterize objects.

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The screenshot displays the Image-Pro Premier software interface. The main window shows a segmented image with yellow objects on a cyan background. Several objects are labeled with their area values: 8459.00, 3185.00, 181.47, 250.84, 1287.00, 9950.00, 7443.00, 6194.00, 313.08, 4942.00, 544.00, 8718.00, 2112.00, and 110.00. A green callout box on the left is titled "Measure Distances between Objects" and describes measuring one-to-one and one-to-many distances. A central green callout box is titled "Segment Difficult Objects with Smart Segmentation" and describes using Smart Segmentation for challenging images. A right-side green callout box is titled "Automatically Select & Classify Objects" and describes locating and segmenting objects based on color or intensity levels. The "Measure" window on the right shows a table of measurements for a selected object (9950.00):

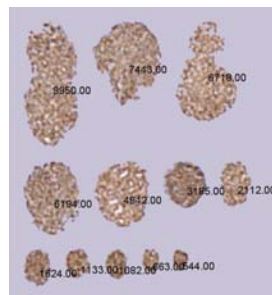
Measurement	Value
Object.Parent	1
Region.Area	9950.00
Region.Width	78.53 pixels
Region.Roundedness	3.37

The bottom status bar shows: Frame: 1 / 1, 2004-03-22 15:45:48.000, X,Y: 71, 623, RGB: 185, 184, 214, Pixel.



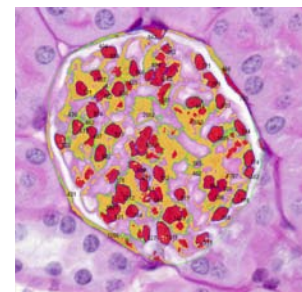
## Analyze the Spatial Distribution of Objects

Use the Voronoi Map feature to analyze and display the spatial distribution of objects.



## Sort Counted Objects

Create a new image displaying all counted objects arranged by size.



## Measure Objects within Objects

Analyze parent/child relationships with tools that allow you to automatically measure and group objects within objects.

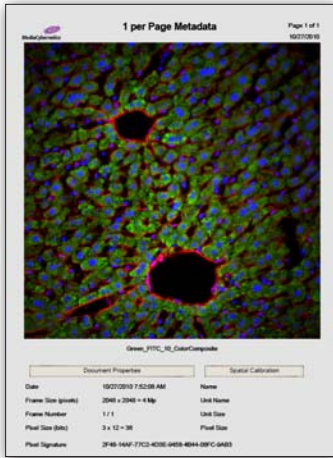
# Report & Share

Now that your analysis is complete, you need to be able to share your findings. With Image-Pro Premier, it's easy to prepare your imaging research to share with others.



## Annotate & Copy Images

Add descriptive annotations to single images or within movie frames. Choose to save annotations as independent overlays or as part of the image data. Create zoomed-in copies of your images and measurement overlays to use in print or web publications.



## Create Reports in PDF, Microsoft® Word®, PowerPoint® & Excel®

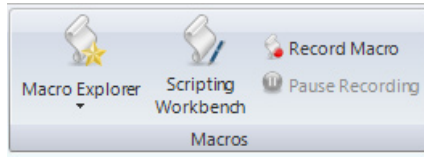
Sharing your images and data is simple with easy-to-use report templates. Export images, graphs, and measurements to Excel. Send single images or groups of images directly to PowerPoint slides.



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# Automate Your Imaging Processes

Image-Pro Premier's automation tools not only save time by eliminating repetitive steps, but more importantly, they minimize the chance of errors or inconsistencies.



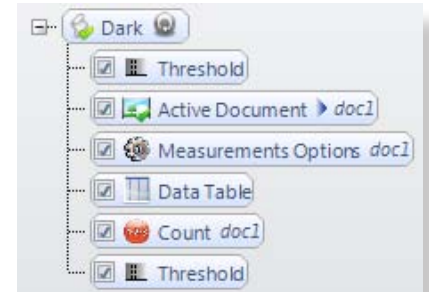
## Record Your Work

Automate your imaging tasks with simple macro recording tools. Play back macros or combine multiple macros to ensure accurate results every time.

Session	Software	Version	User	Identity
Command	Finished			Input
Smart Segmentation	4/3/2012 9:25:07 AM			
Options	4/3/2012 9:27:27 AM			
Measurements Options	4/3/2012 9:27:58 AM		Image 1_TUNEL staining 20x	
Smart Segmentation	4/3/2012 9:28:20 AM			
Add	4/3/2012 9:28:26 AM		Image 1_TUNEL staining 20x	
Count	4/3/2012 9:28:46 AM		Image 1_TUNEL staining 20x	
Add	4/3/2012 9:28:50 AM		Image 1_TUNEL staining 20x	
Options	4/3/2012 9:29:11 AM			
Add	4/3/2012 9:29:13 AM		Image 1_TUNEL staining 20x	
Count	4/3/2012 9:29:24 AM		Image 1_TUNEL staining 20x	

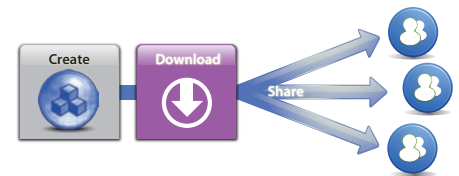
## Document Your Steps Using the Audit Trail

Save and document your image processes with the Audit Trail. Document entire sessions as well as steps performed on specific images. Export your audit trail as an XML file or to Microsoft Excel.



## Graphical or Code-Based Macro & App Editing

Macros and apps are easy to edit with Image-Pro Premier's graphical drag-and-drop editing interface. You can also use the code-based editing tools to test, edit, and debug your scripts.



## Create, Download & Share Custom Apps

Image-Pro Premier's custom apps allow you to easily design step-by-step workflows that walk you through your image analysis processes. Download apps from Media Cybernetics' Solutions Zone website or choose to develop and package your own apps to share with colleagues.

# Image-Pro Premier Features



## Capture

- Single-frame & movie acquisition
- Streaming to disk
- Instant acquisition
- Crosshair grid overlay
- Live image comparison
- Live tiling & Live EDF acquisition
- TWAIN acquisition



## Process & Analyze

- Post-acquisition alignment & EDF
- Post-acquisition tiling
- Image overlay & comparison tools
- Fast Fourier Transform
- Frame averaging
- Color composite
- Pseudocolor
- Image math
- Filters – enhancement, edge, large, morphological, 3D
- Binary mask
- Sequence/movie editing
- Bitmap analysis
- High-dynamic-range processing
- Overlay Features Manager
- Background subtraction/correction
- Auto trace and magic wand
- ROI inverse (donut ROI)
- Batch-process folders of images
- Grid tool



## Measure & Quantify

- Advanced line profile analysis
- Manual measurements
- Measure live images
- Snap-to-edge measurements
- Best-fit measurements
- Track moving objects
- Track merging & fading objects
- Measure intensity over time
- Auto calibration
- Collect data from multiple images & image frames
- Manually tag objects



## Count & Classify

- Automatically find, count & measure objects
- Classify objects
- Smart Segmentation
- Sort objects
- Automatic object splitting
- Parent/child analysis
- Percent area analysis
- Count objects on multi-frame image
- Measure distances between counted objects
- Measure distance of objects from reference object
- Create Voronoi map to measure neighboring objects



## Automate Imaging Tasks

- Automate tasks with recorded macros
- Macro programming for more advanced users
- Macro packaging for easy sharing
- Custom application builder



## Report & Share

- Annotate
- Quick save for publication & analysis
- Export to Excel, PowerPoint & Word
- Create automatic reports (including PDF)
- Create snapshot of zoomed image
- Create snapshot with overlays



## View

- Surface plot view & movie creator
- Gallery view
- Lock & zoom multiple images
- Full-screen mode
- 3D viewer & movie creator
- Slicer view

## Supported File Formats

Description	Extension	Read	Write
TIFF	*.tif, *.tiff	•	•
JPEG	*.jpeg, *.jpg	•	•
JPEG 2000	*.jp2, *.jpf	•	•
Microsoft Windows bitmap	*.bmp	•	•
PNG file	*.png	•	•
Raw binary data file	*.raw	•	
Flat file	*.fff	•	
Flex. Image Transport System	*.fts, *.fit, *.fits	•	•
OME-TIFF	*.tiff	•	
Media Cybernetics Image-Pro sequence	*.seq	•	•
AVI movie file	*.avi	•	•
Microsoft Windows Media Video	*.wmv	•	
StreamPix sequence	*.seq	•	
PerkinElmer®	*.tim	•	

Description	Extension	Read	Write
Applied Precision® DeltaVision®	*.dv	•	
Image Cytometry	*.ics	•	
Media Cybernetics Image-Pro Plus set	*.ips	•	
Media Cybernetics set	*.mcs	•	•
Media Cybernetics AutoQuant®	*.deb	•	
Micro-Manager	*.metadatatext	•	
Olympus® FluoView® FV1000	*.oif, *.oib	•	
Molecular Devices® MetaMorph®	*.nd, *.stk	•	
Nikon® NIS-Elements	*.nd2	•	
Carl Zeiss®	*.lsm, *.zvi	•	
Leica®	*.lei, *.lif	•	
Aperio®	*.svs	•	
BigTIFF	*.btf	•	

# Exceptional Service & Support

## Training

Our image analysis training courses provide valuable information you can apply towards your imaging research. Whether you are new to imaging or are a more experienced imaging professional, our courses are designed to help you make optimum use of the latest imaging software techniques.

## Technical Support

Receive installation and configuration troubleshooting from our technical support engineers via phone or email. Purchase an Image-Pro Premier Maintenance Agreement to receive a full year of technical support and software updates.

## Get Started with Free Video Tutorials

As an Image-Pro Premier user, you'll have access to a growing library of free 3- to 5-minute video tutorials. Learn timesaving tips and familiarize yourself with the wide range of analysis tools available to you – without ever having to leave your computer.

## Image-Pro Users Email List

When you choose Image-Pro software, you instantly join a community of image analysis professionals. Join the free Image-Pro users email list to ask questions and learn from other users.

## Share Tools on the User-Contributed Solutions Zone Website

Explore our Solutions Zone website to find a wealth of useful information about Image-Pro Premier. The Solutions Zone is an easily searchable online database of macros, device drivers, plug-in modules, application programs, and development consultants that support Image-Pro Premier and other Media Cybernetics software programs.

## System Requirements

### Supported Operating Systems:

Microsoft Windows XP® SP 3 and later – 32 bit  
Microsoft Windows® 7 Professional and Ultimate – 32 and 64 bit

### Minimum Requirements:

- Dual-core processor
- 4 GB RAM
- 5 GB of available hard-disk space
- 1,024x768 display with 32-bit video card
- DVD-ROM/CD-ROM drive
- Full Microsoft.NET Framework 4.0 (automatically installed by application)
- USB port required for hard licenses and offline license activation
- Internet connection required for online services

### Recommended Requirements:

- Four-or-more-core processor
- 64-bit operating system
- 16 GB RAM or more
- 20 GB or more of available hard-disk space
- 1,280x800 display with 1 GB video card
- DVD-ROM/CD-ROM drive
- Full Microsoft.NET Framework 4.0 (automatically installed by application)
- USB port required for hard licenses and offline license activation
- Internet connection required for online services

*Specifications are subject to change. Please contact Media Cybernetics or your local reseller for the latest features.*



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Toll Free - North America: 800-263-2088

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