

# Questions and Answers

Make the most of rasterized scanned drawings, maps, aerial photos, satellite imagery, and digital elevation models. Get more out of your raster data and enhance your designs, plans, presentations, and maps with AutoCAD® Raster Design software.

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## 1. General Product Information

### What is AutoCAD Raster Design 2010 software?

AutoCAD Raster Design 2010 software is one of the leading raster applications for design professionals in any industry who need to use or reuse scanned paper drawings, maps, satellite images, aerial photos, digital elevation models (DEMs), and similar digital data with their design projects. It is the Autodesk solution for managing, converting, analyzing,

and editing all types of raster images in AutoCAD® software and applications based on AutoCAD.

### **What is new in AutoCAD Raster Design 2010?**

AutoCAD Raster Design 2010 software provide several improvements to existing features, including

- **Additional AutoCAD products**—AutoCAD Raster Design 2010 software is now compatible with AutoCAD P&ID, AutoCAD Civil, and Autodesk Topobase 2010 software.
- **More Deployment options**—AutoCAD Raster Design 2010 is now a Citrix Ready™ application, enabling deployment via a Citrix application delivery environment when used with AutoCAD Map 3D 2010 software.
- **Updated User Interface (UI)**—Improved integration with new ribbon UIs in most AutoCAD and AutoCAD Map 3D–based software.
- **Improved file format support**—Enhanced file support for more TIFF, BIL, and 64-bit MrSID® Codec images.

### **Why do I need AutoCAD Raster Design if AutoCAD has raster functionality?**

AutoCAD software enables you to insert, view, and plot raster images, but you cannot edit and modify these images or perform image processing with AutoCAD software alone. With AutoCAD Raster Design, you can modify and save or export images for use with other drawings or applications.

As a raster conversion and editing application, AutoCAD Raster Design includes an easy-to-use image management tool to help manage the numerous raster files you may be using in your project. AutoCAD Raster Design also improves DWG™ image management by providing the ability to embed images in the DWG file so you do not have to manage separate image reference files. It also includes additional tools such as tonal adjustment, palette controls, REM with SmartPick, raster snap, image rubbersheeting, OCR, and vectorization tools with SmartCorrect.

In addition, AutoCAD Raster Design supports a wide range of industry-standard raster data such as the JPEG 2000, ECW, and LizardTech™ MrSID formats.

### **Why do I need AutoCAD Raster Design when AutoCAD Map 3D, AutoCAD Civil, and AutoCAD Civil 3D can view and display digital elevation models?**

AutoCAD Map 3D, AutoCAD Civil, and AutoCAD Civil 3D software provide the ability to view and display DEMs. With AutoCAD Raster Design software you can extend the image-handling capabilities of AutoCAD Map 3D–based software. Image-capture capabilities allow image data accessed through the AutoCAD Map 3D FDO raster provider to be edited, processed, analyzed, and saved within AutoCAD Raster Design. With the addition of AutoCAD Raster Design you can extend editing capabilities to include images. It also enables you to display and analyze DEM and multispectral data (satellite imagery such as Landsat and IKONOS) to assist in better decision making.

The following table compares raster data functionality in various industry-specific applications with and without AutoCAD Raster Design.

AUTOCAD RASTER DESIGN QUESTIONS AND ANSWERS

	AutoCAD AutoCAD Architecture AutoCAD MEP AutoCAD Mechanical AutoCAD Electrical AutoCAD P&ID	AutoCAD Map 3D AutoCAD Civil 3D AutoCAD Civil Autodesk Topobase	With AutoCAD Raster Design	Image Type
<b><i>Raster Functionality</i></b>				
<b>Drawing Cleanup Tools</b>				
Despeckle			<input checked="" type="checkbox"/>	Bitonal
Deskew			<input checked="" type="checkbox"/>	All
Change bias			<input checked="" type="checkbox"/>	All
Invert			<input checked="" type="checkbox"/>	All
Touch up (pixel-level edit)			<input checked="" type="checkbox"/>	Bitonal
<b>Raster-to-Vector Conversions</b>				
Vectorize primitives and text			<input checked="" type="checkbox"/>	Bitonal
Bitonal raster entity manipulation			<input checked="" type="checkbox"/>	Bitonal
Optical character recognition			<input checked="" type="checkbox"/>	Bitonal
REM region operations			<input checked="" type="checkbox"/>	All
<b>DWG Image Management</b>				
Save images in DWG file			<input checked="" type="checkbox"/>	Bitonal
<b>Image Insertion/Manipulation</b>				
Correlate		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Scale, rotate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Mask			<input checked="" type="checkbox"/>	All
Mirror	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Clip	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Affine transformation upon insert		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Edit color map (change data interpretation, value distribution, color assignment, create/save color palettes)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Digital elevation models
Edit color map (assign bands)			<input checked="" type="checkbox"/>	Multi-spectral

AUTOCAD RASTER DESIGN QUESTIONS AND ANSWERS

	AutoCAD AutoCAD Architecture AutoCAD MEP AutoCAD Mechanical AutoCAD Electrical AutoCAD P&ID	AutoCAD Map 3D AutoCAD Civil 3D AutoCAD Civil Autodesk Topobase	With AutoCAD Raster Design	Image Type
<b><i>Raster Functionality</i></b>				
Apply color ramps		<input checked="" type="checkbox"/>		Digital elevation models
Merge images			<input checked="" type="checkbox"/>	All
Merge vector to image			<input checked="" type="checkbox"/>	All
Crop			<input checked="" type="checkbox"/>	All
Remove			<input checked="" type="checkbox"/>	All
Export or save as other formats			<input checked="" type="checkbox"/>	All
Export world file correlation			<input checked="" type="checkbox"/>	All
True coordinate transform upon insert			<input checked="" type="checkbox"/>	All
Rubbersheet			<input checked="" type="checkbox"/>	All
Capture (snapshot)			<input checked="" type="checkbox"/>	All
Raster data query			<input checked="" type="checkbox"/>	All
Direct editing of multiresolution imagery			<input checked="" type="checkbox"/>	MrSID, ECW, JPEG 2000
<b>Image Enhancement</b>				
Adjust brightness, contrast, and fade	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	All
Turn transparency on/off	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Bitonal, grayscale, index color, true color
Change colors		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Bitonal
Show image as grayscale		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Grayscale, index color, true color
Filter (smooth, thicken, thin, skeletonize)			<input checked="" type="checkbox"/>	Bitonal

AUTOCAD RASTER DESIGN QUESTIONS AND ANSWERS

<i>Raster Functionality</i>	AutoCAD AutoCAD Architecture AutoCAD MEP AutoCAD Mechanical AutoCAD Electrical AutoCAD P&ID	AutoCAD Map 3D AutoCAD Civil 3D AutoCAD Civil Autodesk Topobase	With AutoCAD Raster Design	Image Type
Histogram edit of brightness and contrast			<input checked="" type="checkbox"/>	Grayscale, index color, true color
Nonlinear contrast adjustment			<input checked="" type="checkbox"/>	Grayscale, index color, true color
Equalize, threshold, convolve			<input checked="" type="checkbox"/>	Grayscale, index color, true color
Combine or change colors			<input checked="" type="checkbox"/>	Grayscale, index color
Assign transparency to a specific color			<input checked="" type="checkbox"/>	Grayscale, index color, true color
Export and import palettes			<input checked="" type="checkbox"/>	Grayscale, index color
Change color depth			<input checked="" type="checkbox"/>	Bitonal, grayscale, index color, true color

**Note:** Image types include bitonal (1-bit), grayscale (4-bit or 8-bit), indexed color (8-bit), true color (24-bit or 32-bit), single-band integer (16-bit or 32-bit), and multispectral (multiple 8-bit or 16-bit bands). AutoCAD Raster Design adds the ability to use multiple bands of multispectral imagery and digital elevation models (floating point).

**What functionality does AutoCAD Raster Design provide?**

AutoCAD Raster Design includes the following functionality:

- **Raster-to-vector conversion**—Choose from among a wide range of raster-to-vector conversion tools that help you quickly and accurately convert various types of raster drawings into vector data for cleanup, editing, and revision. Use dynamic dimensioning and grip editing, now available with VTools, to speed the conversion and verification processes.

## AUTOCAD RASTER DESIGN QUESTIONS AND ANSWERS

- **Raster cleanup tools**—Quickly, effectively, and accurately clean up scanned raster drawings.
- **Presentation tools**—Integrate raster data into your design projects to create compelling presentations.
- **Standard file formats**—Use a wide variety of industry-standard file formats, including single-image and multispectral file formats such as CALS, ECW, ESRI® GRID, GIF, JPEG, JPEG 2000, MrSID, TIFF, and more.
- **Image management**—Work effectively in an intuitive graphical environment for managing and displaying complex raster data used in your project.
- **DWG image management**—Embed bitonal images within the drawing file, so DWG files can contain both imagery and design data without using external image reference files.
- **Tonal adjustment**—Improve the appearance of scanned imagery by bringing the detail out of dark areas without affecting highlights.
- **Palette Manager**—Enhance the usefulness of your color images by combining, changing, and eliminating colors in images. Produce special effects and standardize on specific color palettes for your projects.
- **Rubbersheeting**—Make the most of inexpensive aerial photography by rectifying imagery to your projects, taking advantage of alternative rubbersheeting algorithms.
- **Optical character recognition (OCR)**—Recognize machine- and hand-printed text and tables on raster images to create AutoCAD text (single-line text) or multiline text (mtext). Use interactive verification to correct results with dictionary matching. OCR saves manual data entry time and improves accuracy when converting drawings with lots of text.

### **Additional capabilities with AutoCAD Raster Design include:**

AutoCAD Raster Design graphics software adds additional raster editing, visual analysis, and geospatial image processing when using AutoCAD Civil, AutoCAD Civil 3D, AutoCAD Map 3D, and Autodesk Topobase software. Additional functionality includes

- **Support for geospatial image formats**—Utilize images that contain georeferencing information including Landsat, DigitalGlobe® QuickBird, IKONOS, National Transmission Imagery Format (NITF) version 2.0 and 2.1 satellite imagery, DEM, ASCII and binary format ESRI GRID files, and others.
- **Perform image transformations and edits**—Transform multispectral (8-, 11-, or 16-bit) and DEM data from native coordinate systems to the current coordinate system when using AutoCAD Map 3D or AutoCAD Civil 3D. Crop these images and merge images to cover larger areas with a single image. Change image density to handle images more efficiently. Save the results of edits on DEM or multispectral data in GeoTIFF or DEM format.
- **Raster data analysis**—Represent and analyze DEMs and multispectral satellite imagery in new and powerful ways and assist with better decision making. Use the Raster Query tools to obtain point information for elevation, slope, and aspect from DEMs and reflectance values from multispectral imagery.

### **How does AutoCAD Raster Design benefit users in the mapping industry?**

Geographic information system (GIS) projects often cover large areas. Using aerial photography and satellite imagery is an effective way to add needed reference information. AutoCAD Raster Design takes advantage of precorrelated data and image mosaics to help mapping professionals manage large amounts of data. Users can also analyze elevation information by applying elevation, slope, or aspect color mapping to visualize the underlying data. Mapping users can combine bands of multispectral satellite imagery into false color images that can be analyzed for information on land use, land cover, vegetation type, impervious surfaces, and so forth.

Many mapping users need to work from existing paper maps. These maps need to be used for reference, updated, or converted to vector format. Typical applications include tax mapping, land use planning, and resource management. Aerial photography and satellite imagery are often combined with other forms of mapping data to enhance understanding. Imagery also serves as a source of up-to-date base mapping information.

Mapping users typically spend many hours performing tedious tasks, such as correlating data, entering information, verifying maps, and evaluating and converting data. Raster Design can help mapping users to

- Enhance scanned maps and plans
- Minimize linear and nonlinear distortions after scanning
- Merge or crop images, or both, to better support project extents
- Edit raster data as if it were vector data
- Use existing maps and plans for new projects
- Convert parcels, buildings, infrastructure, and other features to vector format
- Prepare data for further use in GIS systems and AutoCAD Map 3D Display Manager
- Trace contours and roads selectively or across an entire image

### **How does AutoCAD Raster Design benefit users in the civil engineering industry?**

AutoCAD Raster Design extends the image-handling capabilities of AutoCAD Civil and AutoCAD Civil 3D software with powerful features that are particularly applicable to surveying and civil engineering. Incorporating raster imagery, grayscale aerial photographs, or scanned drawings helps to increase the value of information presented on a selected site. Use these tools in all phases of land suitability analysis, design, and management. More easily convert scanned maps, including contour or parcel maps, to vector form using interactive line-following commands.

When working in AutoCAD Civil or AutoCAD Civil 3D, use the contour follower to create 2D or 3D polylines directly from scanned maps. 3D polylines can then be used to create a surface. When working with scanned photographs define your site area by merging or cropping images and then use the Palette Manager and tonal adjustment tools to isolate features in maps or to enhance the imagery.

For more detailed information, go to [www.autodesk.com/rasterdesign-whitepapers](http://www.autodesk.com/rasterdesign-whitepapers) and read the paper "Getting the Most out of Raster Imagery in AutoCAD Civil 3D."

**How does AutoCAD Raster Design benefit building design professionals?**

Raster imagery, grayscale aerial photographs, scanned floor plans, sections, and detail drawings provide an excellent way to increase the visual information on a building plan. For instance, combine a scanned drawing of existing conditions with proposed walls, doors, and windows in rehabilitation projects when using AutoCAD Architecture software. Develop building systems such as an HVAC layout using a scanned floor plan for reference. And, when your project requires paper-based information, AutoCAD Raster Design interactive vectorization tools and OCR help you get accurate results.

**How does AutoCAD Raster Design benefit professionals in the manufacturing industry?**

When used with AutoCAD Mechanical or AutoCAD Electrical software, AutoCAD Raster Design provides vectorization tools with SmartCorrect functionality. These raster-to-vector conversion features take full advantage of the powerful drafting settings in AutoCAD software, so you can easily and accurately convert a scanned drawing to a vector drawing. The advanced raster editing tools provide the most cost-effective way to revise scanned paper drawings. The OCR functionality in AutoCAD Raster Design recognizes machine- and hand-printed text and tables on raster images to create AutoCAD text or mtext.

For more detailed information, go to [www.autodesk.com/rasterdesign-whitepapers](http://www.autodesk.com/rasterdesign-whitepapers) and read the paper “AutoCAD Raster Design for Manufacturing Professionals.”

**What file formats does AutoCAD Raster Design support?**

AutoCAD Raster Design supports a variety of industry-standard file formats including:

• BMP	• GEOTIFF	• PICT
• PCX	• CALS	• GIF
• PNG	• JPEG/JFIF	• ECW
• IG4	• RLC	• TGA
• FLIC	• TIFF	• MrSID
• JPEG 2000	• GEOSPOT	•

When used with AutoCAD Map 3D-based software, AutoCAD Raster Design supports the following additional industry-standard file formats:

• DOQ	• DTED (level 0,1,2)	• DEM
• ESRI GRID	• DigitalGlobe QuickBird Imagery	• Landsat-FAST Imagery
<ul style="list-style-type: none"> <li>• National Imaging Transmission Format (NITF) versions 2.0 and 2.1</li> <li>• Up to 16-bit single band TIFF (IKONOS and other 11-bit single-band data)</li> <li>• Multispectral GEOTIFF 8- and 16-bit (most satellite data including IKONOS 8-bit, 11-bit, and Landsat)</li> </ul>		

The image file formats supported by the program include some of the most common formats used in major technical imaging application areas: computer graphics, document management, engineering, mapping, and GIS. Images can be bitonal, 8-bit gray, 8-bit color, or 24-bit color.

### **What is the Image Insert functionality in AutoCAD Raster Design?**

The Image Insert functionality in AutoCAD Raster Design 2010 includes the following:

- The ability to insert multiframe imagery and choose individual frames, using them as independent image insertions or as bands of a multispectral data set. This functionality allows a wider range of image data to be used in projects.
- The image preview capability during image insertion has its own processing thread, which helps you to take action regardless of the state of the preview. In addition, you can see more information regarding the image before insertion and see when image default parameters are being applied.

### **Can I save DEM and multispectral images after transforming and editing these types of raster data?**

Yes, AutoCAD Raster Design enables you to save the results of coordinate transforms and edits to multispectral and DEM files to industry-standard formats. You can then reuse the edited images in existing or new projects.

### **What type of digital terrain elevation data can AutoCAD Raster Design 2010 read?**

AutoCAD Raster Design 2010 can read digital terrain elevation data (DTED) level 0, 1, and 2 files. This support increases the usability of AutoCAD Raster Design for federal agencies such as the U.S. Department of Defense and also increases the amount of data available for use in your projects.

### **Does AutoCAD Raster Design support the National Elevation Data (NED) database that replaces the older digital elevation model SDTS images offered by the U.S. Geological Survey?**

Yes, NED data can be downloaded from the USGS site in TIFF or ESRI GRID format, both of which are supported by AutoCAD Raster Design 2010.

### **I've created a color-mapped image in AutoCAD Raster Design that I'd like to use in another application. How can I do that?**

The Image Capture tool in AutoCAD Raster Design enables you to capture a snapshot of a color-mapped image. The result is a standard TIFF file with the same correlation and resolution as the original.

### **How does AutoCAD Raster Design improve raster data cleanup tasks?**

AutoCAD Raster Design includes several features that improve the ease and efficiency of the raster data cleanup process, including the following:

- With the Despeckle tool you can despeckle multiple areas of the same image within a single instance of the command, change the pixel size to work on different areas of the image, and undo an operation within the command.
- The Touch Up tool provides on-the-fly raster drawing and erasure capabilities for making small changes that do not require precise geometry. Many cleanup tasks involve re-forming characters and symbols or filling in gaps in a line. Requiring precise geometry for these operations would create an unnecessary step. In

contrast, the Touch Up feature is a Microsoft® Paint-like tool, making the operation more interactive.

- There are several REM editing commands, including the ability to extend and trim, generate fillets between REM entities, and offset existing REM entities. All these commands work like the corresponding AutoCAD commands, for simplicity in learning and use.

### **Why would I edit a raster image instead of converting it?**

You can use AutoCAD Raster Design to revise (raster edit) and interactively convert scanned paper drawings. When working with numerous scanned drawings, you can establish internal guidelines for decision making. You might find the following guidelines helpful:

- If 5 percent or fewer of the graphics will change, make changes by raster editing and adding vectors, but save all in raster form.
- If 5 to 40 percent of the graphics will change, make changes the same way, but save the hybrid (raster-vector) files.
- If more than 40 percent of the graphics will change, interactively convert the entire drawing to vector form.

Full, accurate drawing conversion can be a time-consuming, labor-intensive process, but it may be a project requirement. AutoCAD Raster Design streamlines and optimizes this process, helping you obtain better results and improve productivity over other methods of drawing conversion.

### **How do AutoCAD Raster Design 2010 improve the raster-to-vector conversion process?**

AutoCAD Raster Design 2010 can increase productivity with the vectorization process by taking advantage of heads-up input, dynamic dimensioning, and real-time feedback. The VTool primitives (to create circles, arcs, rectangles, and so forth) are Dynamic Input-enabled, so users can enter and verify geometry directly on the screen. Furthermore, grips are available to assist in the verification process.

### **Does AutoCAD Raster Design automatically convert raster images to AutoCAD vector drawings?**

AutoCAD Raster Design includes semiautomatic and interactive raster-to-vector conversion and OCR features that can produce highly accurate results, meeting the needs of most AutoCAD users. Some scanned drawings may be compatible with automatic converters, but the data resulting from these automatic processes may require significant cleanup and geometry verification. Because of this, there is a continued focus on the semiautomatic and interactive raster-to-vector conversion tools to help ensure more accurate results.

Additional raster imaging functionality is available from independent Autodesk Registered Developers in the form of stand-alone applications or add-on to AutoCAD 2010 and AutoCAD Raster Design 2010 software. The Partner Products Catalog (found at [www.autodesk.com/partnerproducts](http://www.autodesk.com/partnerproducts)) contains information on thousands of products and services that complement Autodesk software.

**How do I plot raster and vector?**

Software products based on AutoCAD can plot raster and vector data. Most plot drivers available for AutoCAD print or plot raster images and vector data properly. For specific device support, check with the output device manufacturer.

**Does AutoCAD Raster Design support wavelet formats such as LizardTech MrSID files and ER Mapper ECW?**

Yes, you can insert wavelet format imagery, including ECW and MrSID. AutoCAD Raster Design adds the ability to utilize georeferencing information contained within the imagery for accurate positioning when used with AutoCAD Map 3D–based software. Municipal government agencies may already be providing data in these popular formats on the web or on CD, which can save time, money, and disk space as well as reduce transmission time with highly compressed imagery.

**Can I save an existing image to LizardTech’s MrSID or ER Mapper’s ECW format?**

While AutoCAD Raster Design 2010 does not currently allow saving to MrSID or ECW image format, you can directly edit MrSID and ECW images. By saving the changes or edits (such as cropping and highlighting areas of interest) to JPEG 2000 format, you retain the multiresolution advantages of a small file size and fast performance while retaining high visual image quality.

**Why should I consider using the JPEG 2000 image format when saving images?**

The JPEG 2000 image format is an enhancement to the original JPEG standard and provides high-quality images at low bit rates. In addition, JPEG 2000 includes features and functionality for client-server imaging applications and resource-constrained wireless devices. Saving to the JPEG 2000 format yields good image quality and smaller file sizes, even at high compression ratios.

**When I scan drawings, what file format and resolution should I use?**

When scanning a drawing, good formats to use are those that support Group 4 compression, such as TIFF and CALS. Typically, you should scan drawings at a resolution between 200 and 400 dpi. A good rule is to make sure that the thinnest line in the drawing is two to three pixels wide.

For more detailed information, go to [www.autodesk.com/rasterdesign-whitepapers](http://www.autodesk.com/rasterdesign-whitepapers) and read the paper “Scanned Drawing Cleanup with Autodesk Raster Design.”

**When I scan photographs, what file format and resolution should I use?**

The TIFF file format is one of the most universally used and is lossless, meaning that the quality of the image is not affected by the image compression. JPEG 2000, MrSID, and ECW formats are also widely used. A scanned aerial photograph should have enough resolution to represent the smallest item needed for identification with at least four pixels.

**How do I convert contours or boundaries?**

AutoCAD Raster Design provides powerful line following tools that enable easy creation of 2D polylines. AutoCAD Raster Design adds the ability to create 3D polylines. These vectorization tools are specifically designed for semiautomatic conversion of scanned contour and soils maps. You control every aspect of the vectorization process, including output linetype, color, and action at decision points.

**Does a hybrid drawing consist of two separate files: image and DWG? If so, how do I make my document management system handle it as one file?**

When you save a hybrid drawing (an AutoCAD drawing containing an image), by default the image frame is stored in the DWG file and the software maintains the raster image itself as a separate file, in a fashion similar to traditional xrefs.

AutoCAD Raster Design 2010 enables you to save bitonal raster images within the DWG file instead of maintaining the image as an external reference. You can embed or unembed images at any point in the process.

This capability reduces the need to track external image references and simplifies document management tasks when it is necessary to maintain and transport only one file. You can easily and reliably send drawings containing images to clients, partners, and agencies and avoid problems with image paths at the receiving end.

**How accurate is the OCR technology? Do I still need vectorization tools (VTools) with OCR?**

AutoCAD Raster Design enables you to select areas of text for recognition with industry-leading OCR technology. You verify the OCR results with the aid of both a user dictionary and your AutoCAD dictionary. So your final AutoCAD text (or mtext) should be accurate.

Still, the OCR results depend on the quality of the original text. The technology is best suited for machine-printed and hand-printed text. Hand-written text, cursive, and script are generally not suitable for OCR on engineering drawings and maps.

If the text is unclear or if there is too much interfering geometry or image noise, then the VTools Follower feature is your best choice. Although OCR makes the most sense when you have a clean block of text, the VTools VText feature is more efficient if you need to do only a line or a few characters. In addition, OCR provides Rub erasure, whereas the VTools VText feature has a more sophisticated erasure mode.

**Does AutoCAD Raster Design 2010 support viewing and editing of satellite imagery?**

Yes. AutoCAD Raster Design supports the viewing and editing of multispectral satellite imagery in 8-bit- as well as 16-bit-per-band formats. Refer to the [table](#) above for a list of Raster Design editing functionality for AutoCAD, AutoCAD Map 3D, AutoCAD Civil, AutoCAD Civil 3D, and other applications.

For more detailed information, go to [www.autodesk.com/rasterdesign-whitepapers](http://www.autodesk.com/rasterdesign-whitepapers) and read the paper "Editing DEM and Multispectral Data in AutoCAD Raster Design."

## 2. Compatibility and Interoperability

**Is AutoCAD Raster Design 2010 compatible with Windows Vista?**

Yes, AutoCAD Raster Design 2010 is supported on the Windows Vista<sup>®</sup> 32-bit and 64-bit platforms. Support for the following editions is provided: Windows Vista Enterprise, Business, Ultimate, Home Premium, and Home Basic.

**Does AutoCAD Raster Design work with AutoCAD 2010 and other AutoCAD 2010–based products?**

Yes, AutoCAD Raster Design 2010 is the raster application for AutoCAD 2010 and the industry-specific products based on AutoCAD 2010 software. AutoCAD Raster 2010 is compatible with the following products:

- AutoCAD 2010
- AutoCAD Architecture 2010
- AutoCAD MEP 2010
- AutoCAD Mechanical 2010
- AutoCAD Electrical 2010
- AutoCAD Map 3D 2010
- AutoCAD Civil 2010
- AutoCAD Civil 3D 2010
- Autodesk Topobase 2010

**Can I use AutoCAD Raster Design 2010 with earlier versions of AutoCAD?**

Because AutoCAD Raster Design 2010 is an add-on product, it only works with AutoCAD 2010 and AutoCAD 2010–based products.

**Can I use data from earlier versions of AutoCAD Raster Design and Autodesk CAD Overlay software?**

AutoCAD Raster Design 2010 supports most data created with earlier versions of Raster Design and Autodesk CAD Overlay, including RLC, IG4, and RES format files.

**Does AutoCAD Raster Design work with Autodesk® Inventor®, Autodesk® Revit® Architecture or Autodesk® Revit® MEP 2010 software?**

No. AutoCAD Design 2010 only works with AutoCAD 2010 and AutoCAD 2010 software–based products.

**Does AutoCAD Raster Design work with AutoCAD LT software?**

AutoCAD Design cannot be installed with AutoCAD LT® software. If you have drawings containing image references that can be viewed in AutoCAD software–based products without the Raster Design object enabler installed, you can view them in AutoCAD LT. If AutoCAD requires the object enabler to view a particular image, you cannot view that image in AutoCAD LT.

**Can I share hybrid files created in AutoCAD Raster Design with other AutoCAD users?**

AutoCAD software products support inserting, displaying, and plotting of standard AutoCAD raster images. As long as you use standard AutoCAD images, you can share any hybrid file you create or edit using AutoCAD Raster Design and AutoCAD products with any other AutoCAD user. However, if you want to share AutoCAD Raster Design custom images (16-bit, multispectral, and DEM image types), the target AutoCAD application requires the Raster Design object enabler to be installed.

## 3. Training

### **Where can I find information to learn more about AutoCAD Raster Design?**

The AutoCAD Raster Design product website offers a wealth of information, including white papers with detailed technical information, success stories and video testimonials from your peers, webcasts and video demonstrations where you can see the product in action, plus much more. See it all at [www.autodesk.com/rasterdesign](http://www.autodesk.com/rasterdesign).

## 4. Purchase Information

### **Where can I purchase AutoCAD Raster Design?**

AutoCAD Raster Design 2010 is available worldwide. Contact your local Autodesk Authorized Reseller for more information. To locate one near you, visit [www.autodesk.com/reseller](http://www.autodesk.com/reseller).

### **Can I get a trial copy of AutoCAD Raster Design to try out before purchasing?**

Yes, you can get a 30-day free\* trial of AutoCAD Raster Design 2010 at <http://www.autodesk.com/rasterdesign-trial>.

### **How do I learn to use AutoCAD Raster Design software for the trial?**

If you are not familiar with AutoCAD Raster Design software, review the User Guide and Tutorials, available as part of the help system. The help system is easy to use, and you can easily search for the information you need. Access the help system from the Help menu within the software.

### **How does the trial version differ from the purchased product?**

Except for some licensing steps that you are required to take for the purchased AutoCAD Raster Design, there is no difference between the trial and the commercial product.

## 5. Citrix Deployment

### **Can AutoCAD Raster Design be deployed on Citrix technology?**

Yes, AutoCAD Raster Design 2010 software completed validation testing with Citrix XenApp™ software through the Citrix Ready program. The Citrix Ready designation identifies products that are compatible with a Citrix application delivery environment, simplifying the selection process for Citrix customers.

### **What are the benefits of deploying AutoCAD Raster Design on Citrix XenApp?**

According to Citrix, deploying AutoCAD Raster Design software on XenApp software organizations can

- Facilitate IT centralization efforts that can help reduce costs through server consolidation and single-point management
- Improve IT efficiency by reducing the need to touch each user desktop
- Remotely troubleshoot through session shadowing over the network
- Centrally install and roll out upgrades and patches to users quickly and painlessly

For more information, visit [www.autodesk.com/citrix](http://www.autodesk.com/citrix).

**Are other Autodesk applications available that are Citrix Ready?**

Yes. AutoCAD Map 3D is an AutoCAD–based application that has been designated Citrix Ready.

**Are there functional limitations for the Citrix Ready AutoCAD Raster Design version?**

Yes, there may be certain functional limitations for AutoCAD Raster Design when run on a Citrix server, as compared with running this application on a desktop. Go to [www.autodesk.com/citrix](http://www.autodesk.com/citrix) to learn more about the results of Citrix Ready validation testing and any documented functional limitations.

**What are the recommended user limits for Citrix Ready AutoCAD Raster Design when used with Citrix Ready AutoCAD Map 3D?**

User limits vary depending on hardware and network parameters. For more information, refer to the *AutoCAD Map 3D Citrix XenApp 4.5 Scalability Analysis* benchmark test at [www.autodesk.com/citrix](http://www.autodesk.com/citrix)

**What are recommended hardware configuration and network requirements for Citrix Ready Raster Design when used with Citrix Ready AutoCAD Map 3D?**

For complete details, refer to the *Citrix Ready AutoCAD Map 3D 2010 Installation and Setup Guide* at [www.autodesk.com/citrix](http://www.autodesk.com/citrix).

**How is Citrix Ready AutoCAD Raster Design software licensed?**

If you purchase the Citrix Ready version of AutoCAD Raster Design, a license addendum allows you to install one copy of the software on your Citrix server, providing access up to a number of concurrent users equal to the number of seats purchased. For more information, see the AutoCAD Raster Design Citrix Ready License Addendum available at [www.autodesk.com/citrix](http://www.autodesk.com/citrix).

**How does Citrix Ready AutoCAD Raster Design licensing differ from AutoCAD Raster Design network licensing?**

Network licensing is appropriate for environments in which a license server is fulfilling requests for licenses to AutoCAD Raster Design clients running on desktop systems. Citrix Ready licensing is appropriate for environments in which both the license server and the AutoCAD Raster Design application are running on a server system with Citrix XenApp 4.5 or 5.0. Network licensing and Citrix Ready licensing differ in the way licenses are granted to requests that originate from the same server. With network licensing, requests for a license from the same machine result in the same license returned to the user. With Citrix Ready licensing, requests for a license from the same machine (in this case the Citrix server) result in a different license returned to the user, up to the number of Citrix seats purchased.

**Can I exchange single-user or network licensing for AutoCAD Raster Design Citrix licensing?**

If you have already purchased an AutoCAD Raster Design single-user or network license, it may be crossgraded to an AutoCAD Raster Design Citrix license. For more information, contact your Autodesk Account Executive or your local Autodesk Authorized Reseller.

**Where can I find more information about Citrix licensing?**

More information about Citrix licensing can be found at [www.autodesk.com/citrix](http://www.autodesk.com/citrix).

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