Autodesk®
AutoCAD® Raster Design
2011

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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Autodesk® AutoCAD Raster Design 2011 Questions and Answers

1. General Product Information

1.1 What is AutoCAD Raster Design software?

AutoCAD Raster Design 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 in the course of their design projects. Raster Design is the Autodesk solution for managing, converting, analyzing, and editing all types of raster images in AutoCAD® software and applications based on AutoCAD.

1.2 When will AutoCAD Raster Design 2011 be available?

AutoCAD Raster Design 2011 is expected to ship to customers (FCS) on July 20, 2010. Localized versions are anticipated to become available during August 2010. No change to current pricing or languages available are expected.

1.3 What is new in AutoCAD Raster Design 2011?

The AutoCAD Raster Design 2011 release provides compatibility with AutoCAD-based 2011 products and with Windows® 7 operating system.

1.4 I'm using one of the AutoCAD-based 2011 products today and want to use AutoCAD Raster Design. What do I do before AutoCAD Raster Design 2011 is available?

AutoCAD Raster Design works as an add-on product. The add-on version needs to match the AutoCAD release version it is being installed with, so customers using AutoCAD-based 2011 products will need to purchase AutoCAD Raster Design 2011 (or receive it as a AutoCAD Raster Design Autodesk® Subscription customer) when it is available.

1.5 Does AutoCAD Raster Design 2011 work with Windows 7?

Yes, AutoCAD Raster Design 2011 is supported on Microsoft® Windows® 7.

1.6 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 includes additional tools such as tonal adjustment, palette controls, REM with Smart-Pick, 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.

1.7 Why do I need AutoCAD Raster Design when AutoCAD® Map 3D, AutoCAD® Civil, and AutoCAD® Civil 3D® products 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.

1.8 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 can 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.
- **Raster cleanup tools—**Quickly 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 in 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 a large amount 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.

1.9 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. AutoCAD 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

1.10 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. Users can incorporate raster imagery, grayscale aerial photographs, or scanned drawings to help increase the value of information presented on a selected site. These image-handling tools can be utilized 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.

1.11 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 help 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.

1.12 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 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.

1.13 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
- ESRI GRID
- DTED (level 0,1,2)
- DigitalGlobe QuickBird Imagery
- DEM

- Landsat-FAST Imagery
- National Imaging Transmission Format (NITF) versions 2.0 and 2.1
- Up to 16-bit single band TIFF (IKONOS and other 11-bit single-band data)
- Multispectral GEOTIFF 8- and 16-bit (most satellite data including IKONOS 8- bit, 11-bit, and Landsat)

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.

1.14 What is the Image Insert functionality in AutoCAD Raster Design?

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

- You can 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.

1.15 What type of digital terrain elevation data can AutoCAD Raster Design read?

AutoCAD Raster Design 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 increases the amount of data available for use in your projects.

1.16 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.

1.17 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, such as cleanup tasks that involve re-forming characters and symbols or filling in gaps in a line. Requiring precise geometry for these operations would create an unnecessary step. The Touch Up feature is a Microsoft® Paint-like tool, which helps make 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.

2. Compatibility and Interoperability

2.1 Is AutoCAD Raster Design 2011 compatible with Windows 7?

Yes, AutoCAD Raster Design 2011 is supported on the Window® 7 32-bit and 64-bit platforms.

2.2 Does AutoCAD Raster Design 2011 work with AutoCAD 2011 and other AutoCAD 2011–based products?

Yes, AutoCAD Raster Design 2011 is the raster application for AutoCAD 2011 and the industry-specific products based on AutoCAD 2011 software. AutoCAD Raster 2011 is compatible with the following products:

- AutoCAD 2011
- AutoCAD Architecture 2011
- AutoCAD MEP 2011
- AutoCAD Mechanical 2011
- AutoCAD Electrical 2011
- AutoCAD Map 3D 2011
- AutoCAD Civil 2011
- AutoCAD Civil 3D 2011
- Autodesk Topobase 2011

2.3 Can I use AutoCAD Raster Design 2011 with earlier versions of AutoCAD?

Because AutoCAD Raster Design 2011 is an add-on product, it only works with AutoCAD 2011 and AutoCAD 2011–based products.

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

No. AutoCAD Raster Design 2011 only works with AutoCAD 2011 and AutoCAD 2011 software–based products.

2.5 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 AutoCAD 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.

3. Purchase Information

3.1 Where can I purchase AutoCAD Raster Design?

AutoCAD Raster Design is available worldwide. Contact your local Autodesk Authorized Reseller for more information. To locate one near you, visit **www.autodesk.com/reseller**.

3.2 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 at **www.autodesk.com/rasterdesign-trial**.