



Features and Benefits

Autodesk® Raster Design 2004 software is the leading raster application for design professionals in any industry who need to use or reuse scanned paper drawings or maps, satellite images, aerial photos, and similar digital design data with their design projects. It is the Autodesk® solution for managing, converting, and editing all types of raster images in AutoCAD® software and AutoCAD software-based products.

Autodesk Raster Design is part of the new series of products that provide a powerful solution for the entire design team. Autodesk offers products like Autodesk® Architectural Desktop 2004 for building design; AutoCAD® Mechanical 2004 and Autodesk® Mechanical Desktop® 2004 for manufacturing; Autodesk® Map 2004 for GIS and mapping; and Autodesk® Land Desktop 2004 for civil engineering, land use, and development. All these products are built on the AutoCAD® 2004 software platform. This family of products helps improve the overall productivity of the design team.

Autodesk Raster Design 2004 adds value to your existing digital design and mapping data by

- Enabling you to take advantage of existing hard-copy design and mapping data
- Helping eliminate costly data reentry and therefore reducing your time to market
- Helping to verify design and data accuracy during the design process
- Securely communicating design intent electronically

Image Display

Feature	Description	Benefit
Read and write georeferenced images to and from the Internet with URL support	Extend your file system to include Internet and intranet file locations. Use sophisticated imagery in civil, mapping, and infrastructure management projects. Use precorrelated image data to match the project coordinate system.	Improve productivity and communication of information through seamless data sharing, and reduce the time required to position images accurately.
Insert georeferenced wavelet format imagery, including ECW and MrSID®	Use images from your favorite municipal government agency that may already be providing data in these popular digital formats on the Web or on CD.	Save time, money, and disk space, and reduce transmission time with highly compressed imagery.
Adjust correlation parameters using the Correlation wizard	The Correlation wizard divides the correlation process into several phases, beginning with the data included in the correlation source and ending with the actual coordinates of the image after it has been inserted into your drawing.	Save time using pre-correlated image data to match project coordinate system. Save money by adapting existing data to your new project.
Access object properties in the AutoCAD Properties window	View and change object properties for any object using the standard AutoCAD interface. Control image, raster entity manipulation (REM) object, mask, and other properties from the drawing database.	Reduce learning time and improve productivity with seamless AutoCAD integration.

Autodesk Raster Design 2004 Features and Benefits

Feature	Description	Benefit
View image properties and thumbnails before insertion	Use the Insert Image dialog box to select one or more images to insert into a drawing. You can view information about an image and preview the image before you insert it.	Save time and improve accuracy by ensuring that the correct image is inserted.
Use a polygonal mask boundary to display image subsets	Mask provides greater flexibility than using the Image Clip feature in AutoCAD software by working across multiple image boundaries. Mask enables you to display and plot a subset of the images in your drawing.	Save time and improve accuracy by working with a single image mask instead of multiple clip objects.
Access right-click image object and application-sensitive commands	Autodesk Raster Design commands and operations are all integrated with standard AutoCAD menu systems.	Seamless integration with familiar AutoCAD interface helps reduce learning time and improve productivity.
Use and customize Places List in the Insert and Save dialog boxes	Customize Insert and Save dialog boxes to quickly and accurately handle your most commonly used Internet and network file storage locations. (Customization available only for products based on AutoCAD 2004.)	Save time locating raster data for your project. Seamless AutoCAD integration reduces learning time.

Vectorization Tools with SmartCorrect

Feature	Description	Benefit
Enhanced optical character recognition (OCR)	Recognize machine- and hand-printed text and tables on raster images to create AutoCAD text or multiline text (mtext). Use interactive verification to correct results with dictionary matching.	Save manual data entry time and improve accuracy when converting drawings with lots of text.
One Pick with SmartCorrect technology and geometry verification	One Pick vectorization tools give you more accurate results when creating lines and polylines from raster data. Use the verification step to get precisely the results you require.	Increase value of existing design data with faster conversion. Save time and improve accuracy by eliminating cleanup steps.
Create circles, arcs, rectangles, and text with improved vectorization tools	Fast One Pick vectorization tools integrate with AutoCAD software drafting settings to give you more accurate results. Use the verification step to get precisely the results you require.	Seamless integration with AutoCAD software program improves accuracy and reduces learning time.
Follow raster to create polylines. Generate contour objects on the fly	Quickly create polylines or Autodesk Land Desktop contour objects, controlling the process with sophisticated options by tracing the raster data semiautomatically.	Improve accuracy when vector models are needed.
Control output with Vector Separation options	Vector Separation assigns layer and polyline width values to created vectors based on the width of the underlying raster for continuous and noncontinuous entities. Control contour creation using seamless integration with Autodesk Land Desktop settings.	Save time and get results that meet your design standards.
Create profiles from raster drawings with the 3D Polyline Follower command	The 3D Polyline Follower traces a defined fence or existing vector polyline, stopping at each point where it intersects raster to prompt for elevation data. The resulting AutoCAD 3D polyline represents the elevation of the raster contours it intersects.	Save time by capturing the most appropriate data for rapid analysis of existing conditions. Quickly analyze profiles or surfaces.

Image Manipulation and Editing

Feature	Description	Benefit
Tonal Adjustment	Use a nonlinear contrast curve to transform the histogram and improve the appearance of scanned photos and satellite imagery. Support for single exponent (gamma) value, fitted curve, or piecewise linear curve.	Improve the appearance of scanned imagery by bringing detail out of the shadows without affecting highlights.
Palette Manager	Determine the number of colors a palette color or grayscale image contains, determine which colors are actually used, change existing color entry (or entries) to map to a different color, combine several color indexes into a single mapped color, compress the palette, and import and export palettes (color tables). Change or rearrange image colors to modify the image file (indexes), to the color LUT (look-up table) or both.	Standardize the use of color images, improve efficiency of color usage in images, and improve control of transparency color selection.
Rubbersheeting	Automate the control point selection by picking points on a grid. Use triangulation algorithm to affect only specific regions of the image.	Improve accuracy and get more predictable results from rubbersheeting.
Edit images by smoothing raster geometry or making it thicker or thinner	Use the bitonal filters to clean up raster images. These can be used with other cleanup commands such as Despeckle and Deskew to bring new life to old drawings.	Maximize the value of your scanned drawings. Make old, illegible data an understandable, working part of your design information.
Control display order and manage images and insertions	Using the Display Order buttons in the Image Manage dialog box, you can move an insertion forward or backward in the display order in relation to other insertions.	Create powerful image mosaics with streamlined control of images and image insertions.
Clean up and correct images with Despeckle, Bias, and Mirror commands	Despeckle removes stray pixels in images resulting from scanning of imperfect drawings or blueprints; Bias corrects distortions in an image's aspect ratio; and Mirror reflects an image along the horizontal or vertical axis to correct problems when scanning software mirrors drawings.	Improve usability and legibility of your scanned images with powerful image cleanup tools.
Change color depth and image density	Create smaller files by decreasing the number of colors displayed. Control image density to reduce the file size of the image or drawing.	Standardize image formats for your organization. Adjust and improve images with image-processing tools. Save time, money, and disk space and reduce transmission time with smaller files.

Autodesk Raster Design 2004 Features and Benefits

Feature	Description	Benefit
Erase raster using existing geometry	Use existing vector geometry to remove portions of the underlying raster image. For instance, trace a complex spline in your image and then remove the traced raster.	Save time and reduce confusion during vectorization of raster images.
Use unlimited-point rubbersheeting	Transform or stretch an image so that specified control points in the image match corresponding points in the drawing as closely as possible.	Use readily available aerial photography and scanned maps to save on the costs associated with expensive ortho-corrected imagery.
Import and export control point files for rubbersheeting	Apply and correct saved control points for images to be rubbersheeted.	Save time and improve accuracy by modifying previously defined complex control point sets.
Erase and crop raster data	Crop raster data in an image or across multiple images. Image frame size changes in cropped images to compensate for any removed border data. Rub or erase raster data in an image or across multiple images.	Update images as an alternative to costly and time-consuming vectorization.
Match images to AutoCAD scale and rotation based on known points	Align an image to existing vector linework by specifying control points on the image and drawing. The Match command rotates, scales, and moves the image.	One-step image registration saves time and improves accuracy when working in raster or hybrid files.
Save image correlation information to the drawing file or to an external file	Civil, mapping, and GIS projects require correlated imagery to enhance presentations. Use powerful options to save the correlation information to a resource file, a world file, or the image file.	Save processing time and file storage space by exporting correlation as a world file without the associated image.
Save images to different file formats	Read in any image format and then save in your standard image format. Use images in other software applications. Save images to another file name, file type, or location, without saving the drawing file.	Share and use data in other applications. Standardize your image formats for consistency within your organization.
Enhance images with Histogram, Convolve, and Invert commands	The Histogram command equalizes images, adjusts brightness and contrast, converts grayscale or color images to binary images, and converts color images to grayscale. Convolve uses smoothing filters to reduce harshness and noise, and sharpening filters to make differences in shading more distinct. Invert reverses the light and dark shades of binary, color, and grayscale images.	Improve and adjust the appearance of an image with image-processing tools. Take full advantage of your investment in existing imagery.
Highlight image details by adjusting RGB or individual color channels	In color images, you can adjust the brightness and contrast of individual color channels for the whole image or a subregion.	Improve and adjust the appearance of images to communicate project information.

Raster Entity Manipulation (REM) with SmartPick

Feature	Description	Benefit
Use standard AutoCAD commands to operate on raster regions and primitives	Edit raster entities in binary, color, and grayscale images. Adjust the radius of a raster circle, remove some dimension lines on a mechanical drawing, or use REM to copy electrical symbols between images. REM commands define raster entities as REM objects. Use AutoCAD commands to move, scale, copy, rotate, and perform other operations on those objects. You can merge the modified raster data into the existing image or create a new image from the data.	Save time by reusing legacy data instead of redrawing. Seamless integration with AutoCAD software program speeds learning and improves productivity.
Create REM primitives using SmartPick, One Pick, or multipoint selection methods	Use a primitive object to select raster lines, circles, or arcs. Primitives are more flexible than regions because their dimensions can be changed. Change the diameter of a circle yet still maintain its original width. Use grip stretch commands or the Properties window to change the dimensions of a primitive object.	Fast, accurate, and powerful raster selection methods save time and improve productivity.
Create enhanced bitonal REM regions using smart or connected options and standard data selection techniques	An enhanced bitonal region object includes complete raster entities within the region, which is defined by the selection option you choose. After you define an enhanced bitonal region object, use AutoCAD commands to modify it. Merge the REM objects back into the original raster image, or create new images from them.	Save time using powerful AutoCAD selection techniques on raster data.
Erase raster lines, arcs, and circles using the quick delete functionality of SmartPick technology	Delete a raster line, arc, or circle that you define as a primitive object. Autodesk Raster Design automatically detects the geometry of the selected raster entity, deletes it, and automatically cleans up intersections with other raster entities.	Modify scanned drawings quickly and accurately.

Raster Snap

Feature	Description	Benefit
Snap to raster inside any command, on the fly, across multiple images	Snap your cursor to end, center, corner, intersection, or edge points on a binary raster entity. Raster snap works on raster objects the same way that AutoCAD object snap works on vector objects. Snap to more than one image at a time.	Save time and improve accuracy when modifying scanned drawings.

Configuration and Automation

Feature	Description	Benefit
MSI/Wise installer	Use standard Autodesk installation routines to select program components and bind to one or more AutoCAD software or AutoCAD software-based products.	Save time with common, simplified administration.
Installation and licensing	Installation and licensing configurations are consistent with AutoCAD software.	Save time with simplified administration.
Automate key commands with ActiveX [®]	Customize and integrate Autodesk Raster Design commands with existing document or data management systems interface using VBA, Visual LISP [®] , or Java [™] programming languages.	Improve productivity and accuracy with customized applications built on industry-standard technology.

This Autodesk Raster Design features and benefits matrix represents Autodesk's understanding concerning the expected content and functionality of the prospective product Autodesk Raster Design as of the time of publication. Autodesk reserves the right to modify or remove features or otherwise change the functionality of this or any of its products, without notice. [Autodesk, Inc., provides this information 'as is,' without warranty of any kind, either express or implied.](#)

autodesk[®]

Autodesk, Inc.
111 McInnis Parkway
San Rafael, CA 94903
USA

Autodesk, AutoCAD, Mechanical Desktop, and Visual LISP are registered trademarks of Autodesk, Inc., in the USA and/or other countries. All other brand names, product names, or trademarks belong to their respective holders.

© Copyright 2003 Autodesk, Inc. All rights reserved.