Rasterize, vectorize, mesmerize.

Edit, manipulate, and incorporate raster images for better decision making and eye-popping presentations.

The Autodesk Raster Design product allows us to take old drawings that don't have a rasterized image, rasterize it, bring it into AutoCAD, and then work with that linework. We are really in the age now that we can eliminate the digitizer as a tool and it's very exciting.

— Eric Galvan
    G.C. Wallace Engineering

When you're ready to unlock and extend the value of scanned drawings, maps, aerial photos, satellite imagery, and digital elevation models, you're ready for Autodesk® Raster Design 2007 software. Raster Design 2007's powerful and intuitive raster tools integrate seamlessly with AutoCAD® 2007–based applications. Use Autodesk Raster Design to clean, edit, and vectorize scanned drawings without expensive redrafting or conversions. Edit, manipulate, and prepare raster data for use in presentation and authoring applications. Incorporate scanned drawings, maps, and photographs into projects to improve decision making and enhance communications. With Autodesk Raster Design, organizations facilitate the design process, maximize productivity—and get maximum value from raster assets.

Make the Most of Your Image Archive

Using Autodesk Raster Design's comprehensive toolset, designers can integrate raster data within projects to communicate design or intent accurately. Powerful cleanup tools make it easy to enhance raster image quality. And state-of-the-art vectorization and raster editing tools mean designers spend less time editing images—and more time on higher-value tasks.

Use Industry-Standard Image Formats
Autodesk Raster Design supports numerous image formats so designers can easily integrate and use imagery within their projects. Raster Design supports multiresolution image formats like MrSID®, ECW, and JPEG 2000 and provides additional write support for JPEG 2000. Saving to JPEG 2000 decreases the size of files without compromising visual image quality by taking advantage of the high compression ratio of the image format. Other supported formats include

BMP	GEOTIFF	PNG
CALS	GIF	RLC
DEM	IG4	SID
DOQ	JPEG/JFIF	TGA
ECW	JPEG 2000	TIFF
FLIC	PCX	
GEOSPOT	PICT	

Up to 16-bit single-band TIFF (IKONOS and other 11-bit single-band data)
8- and 16-bit multispectral GEOTIFF (most satellite data including Landsat and IKONOS)

Work with Several Images Simultaneously
Work in a simple and intuitive graphical environment for managing and displaying complex raster data. Get up and running quickly when working with new raster data types and operations.
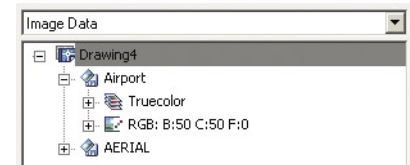
Use Drawing Cleanup Tools
Improve usability and legibility of scanned images with these powerful image cleanup tools. Despeckle removes stray pixels in images resulting from scanning of dirty or faded drawings or blueprints. Deskew corrects drawings that were skewed or tilted as they were fed through a scanner. Bias corrects distortion in an image's aspect ratio. Mirror corrects transparencies that have been scanned upside down.

### Enhance AutoCAD-Based Imaging Functionality
Use Autodesk Raster Design to extend the use of image archives. Complement AutoCAD software and AutoCAD-based products with Raster Design as the preferred raster editing tool. Civil engineering and geospatial professionals use Raster Design for data editing, manipulation, and preparation. The software's image editing and saving functionality includes the ability to
- Perform (true) coordinate transforms on raster data
- Crop large data sets to include only the area of interest
- Merge sections of raster together to create a larger "seamless" image
- Tile large data sets into several smaller ones
- Convert from one file format to another
- Export alternative forms of georeferencing information
- Change color depth of imagery as well as perform threshold operations

Autodesk

AUTODESK®
RASTER DESIGN
2007
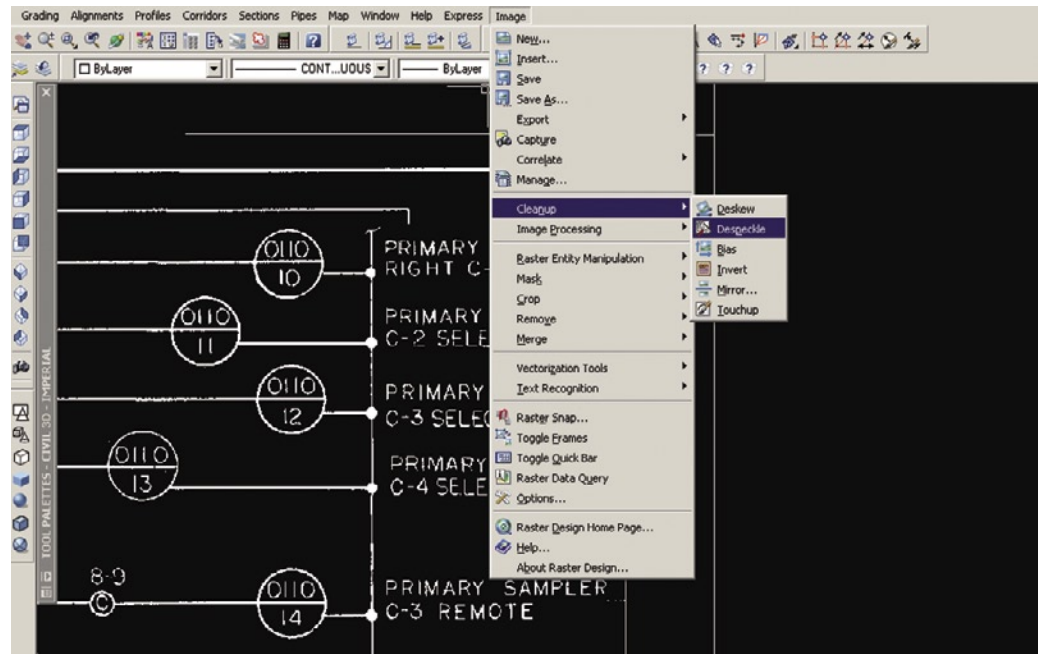
- Perform image-processing functions to enhance or correct imagery
- Make color palette changes
- Set up multispectral data sets
- Clean up scanned maps
- Convert scanned data to vector

Clean Raster Drawings and Images

Use the Touch Up tool to reduce time and effort in cleaning up scanned drawings and maps. This paint-style drawing tool uses multiple resizable brushes that paint in either foreground or background image color. Use it to fill in gaps, touch up characters, or quickly delete unwanted information on drawings.

Make the Most of Color and Grayscale Images

With the Palette Manager tool, designers can
- Determine which colors an image uses
- Change existing color entry (or entries) to map to a different color
- Combine several color indexes into a single mapped color
- Compress the palette
- Import and export palettes
- Rearrange image colors
- Standardize the use of color images, improve efficiency of color usage in images, and improve control of transparency color selection


Enhance Images Using Advanced Image Processing Tools

There are several image processing features that enable designers to get the most from existing imagery. The Histogram feature equalizes images, adjusts brightness and contrast, converts grayscale or color images to binary images, converts color images to grayscale, and performs nonlinear tonal adjustment. The Convolve feature uses smoothing filters to reduce ruggedness and noise as well as sharpening filters to make differences in shading more distinct. The Invert feature reverses the light and dark shades of binary, color, and grayscale images. These and other image processing features in Raster Design can improve the appearance of existing images, so organizations get the full benefit from their investment in image archives.

Modify Raster Entities Without Converting to Vector

The Raster Entity Manipulation (REM) tools provide the ability to directly edit and modify raster objects. Extend and trim REM entities to each other, as well as to AutoCAD entities. Create offset or fillet REM entities from existing raster entities. Working directly on raster objects saves time and effort in cleaning up scanned drawings and maps.
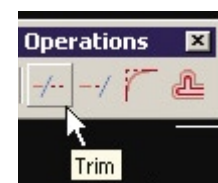
AUTODESK®
RASTER DESIGN
2007

Use Standard AutoCAD Commands 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. Merge modified raster data into an existing image, or create a new image from the data. Save time by reusing existing data instead of redrawing. Smooth integration with AutoCAD speeds learning and improves productivity.

Match Images to Your Project

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 with raster or hybrid files.

Preserve Image Correlation Information

Civil, mapping, and GIS (geographic information system) projects require correlated imagery to enhance presentations. Use powerful options to save the correlation information to a resource file, a World file, or a GeoTIFF file. Save processing time and file storage space by exporting a correlation as a world file without the associated image.

Erase Raster Lines, Arcs, and Circles Easily

Delete a raster line, arc, or circle defined as a primitive object using the Quick Delete functionality of SmartPick. Autodesk Raster Design automatically detects the geometry of the selected raster entity, deletes it, and cleans up intersections with other raster entities. Modify scanned drawings quickly and accurately.

Convert Raster Data to Vector

Do you often have to update or modify scanned engineering drawings or maps? Are you forced to convert raster lines, arcs, and text to vector for use in AutoCAD-based products as part of your drawing, model, or design? Not any more. With Autodesk Raster Design's vectorization tools, designers can interactively convert raster to vector to accelerate project turnarounds and efficiency.

Create Circles, Arcs, Rectangles, and Text

The fast One Pick vectorization tools integrate with AutoCAD drafting settings to give designers more accurate results. Use the optional verification step to get precisely the results required. Furthermore, the integration with AutoCAD software improves accuracy and reduces learning time.

Use Optical Character Recognition

Recognize machine and hand-printed text and tables on raster images to create AutoCAD text or multiline text (Mtext) automatically. Use interactive verification to correct results with dictionary matching. Save manual data entry time and improve accuracy when converting drawings with lots of text.

Create Polylines and Contour Objects Rapidly

Quickly create polylines or Autodesk® Land Desktop contour objects, controlling the process with sophisticated options by tracing the raster data semi-automatically. This capability enables designers to improve the accuracy of the converted raster entity when using vector models in AutoCAD-based design applications.
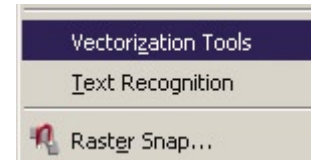
Create Profiles from Raster Drawings

The 3D Polyline Follower command traces a defined fence or existing vector polyline, stopping at each point where it intersects the 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 by quickly analyzing profiles or surfaces.

Control Output with Vector Separation Options

The Vector Separation feature assigns layer and polyline width values to create vectors based on the width of the underlying raster for continuous and noncontinuous objects. Use it to control contour creation by integrating with Autodesk Land Desktop settings. This capability saves time and gets better results.

AUTODESK®
RASTER DESIGN
2007

When our customers bring in their old drawings that might have been sitting in a drawer for 30 years, it's safe to say that the quality of the drawings may have degraded from age, water damage, or just plain old dirt. Scans that result from such damaged drawings aren't the highest quality; however, with the powerful suite of tools in Raster Design, including rubbersheeting, despeckling, and others, we can massage the data and make it accurately convey the design intent once again.

— Michael C Johnson, CEO
  Advanced Career Development

Communicate Ideas Precisely and Effectively

Create compelling presentations that combine information-rich raster images and intelligent vector drawings. Present proposals and internal communications that integrate maps, satellite data, and other forms of imagery. Share design and analysis findings with a high degree of specificity, and provide detailed graphical representations that speed project approvals.

Improve Accuracy with Rubbersheeting
Assist control point selection for grid points. Two rubbersheeting algorithms are available: polynomial and triangulation. Use the triangulation algorithm when working with global positioning systems (GPS) and surveyed control points. Improve accuracy and get more predictable results.
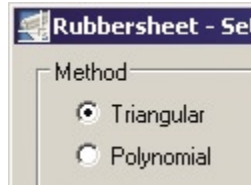
Use Elevation Data for Better Analysis
Digital elevation model (DEM) data provides readily available surface information for large areas. Analyze DEM data for elevation, slope, and aspect. Use color-mapped DEM files for interpretation and map composition. Take advantage of easily obtained, low-cost data for timely and effective evaluations and presentations. Use DEM data as input for site suitability analysis.

This elevation data is supported in USGS DEM, DTED, and ESRI® GRID formats.
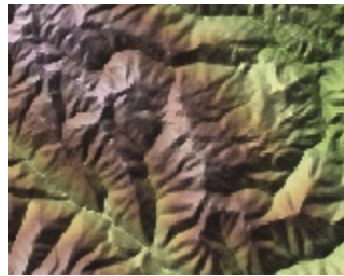
Enhance Presentations by Capturing the Moment
With the Image Capture feature designers can create a TIFF-format snapshot of color-mapped imagery at the same insertion point, resolution, and scale as the original. Extend DEM or multispectral data analysis for use in other applications such as Microsoft® Word and PowerPoint® programs, and AutoCAD software. Use the snapshot to produce "what-if" scenarios and enhance presentations.

Manipulate Multispectral Imagery and DEM Data to Fit Projects Needs
Multispectral and DEM data must often be edited before it can be used efficiently in a project. Available editing operations include transforming data from native coordinate systems when using Autodesk Map® 3D or Autodesk® Civil 3D® software. Crop these images to conform to your project area, and merge images to cover larger areas with a single image. Change image density to handle images more efficiently. Save time by adapting multispectral and DEM data to match the coordinate system in use. Make easier use of large multispectral images by reducing them to cover just the area needed for a project.

To learn more about Autodesk Raster Design 2007, visit **www.autodesk.com/rasterdesign.**

For more information about Autodesk® Subscription, visit **www.autodesk.com/ subscription,** and for more information about Autodesk Consulting, visit **www.autodesk.com/consulting.**

Autodesk®