



## Datasheet

FeatureObjex™ is a new user-friendly software tool for the automatic and semi-automatic extraction of visual features in satellite and aerial images, including buildings, roads, fields, urban areas and waterways. FeatureObjex™ seamlessly blends two state of the art automated feature extraction algorithms with interactive intelligent editing tools, to maximize the productivity of image analysts.

FeatureObjex™ extracts features of interest from raster images using colors, textures and shapes of pixel values. Users can teach the software to recognize these characteristics that correspond to a feature of interest. GIS-ready vectors are exported from FeatureObjex™ after post-processing, allowing the output to be imported into GIS software, PCI Geomatica, Google Earth or your spatial database.

### Feature Extraction

FeatureObjex™ incorporates two feature extraction tools: Active Fill and Auto Fill. Both use computer learning to quickly aid the analyst in extracting target classes from satellite or aerial images. The user marks up sample of the target class and provides background markup interactively to quickly create extraction models. Both tools have:

- Quick intuitive user interface to build extraction models
- Built-in option control shape filtering and smoothing
- Operates at different pixel scales to speed up computation
- Fully Undoable and Re-doable interaction
- Set threshold with mouse wheel
- Save and load extraction models

### Active Fill

Active Fill feature extraction uses a naïve Bayes algorithm to build models to extract target classes.

- More interactive of the two tools but can be used for automated extraction
- Extraction model created and applied within a preview area
- Markup created using vector paint or polygon drawing tool
- Background markup, created by drawing with the control key pressed, controls spillage into non-target areas and provides shape filtering.
- Provides quick visual feedback to the user as they supply the training markup
- Option to limit extraction to areas connected to markup for complex classes
- Adaptive model for interactive extraction

### Auto Fill

Auto Fill uses a sophisticated extraction model incorporation markup and background markup from the entire image.

- Provides better automation and development of a extraction model
- Incorporates background markup into the extraction model
- Uses viewer's toolbar and tool to provide target and background markup
- View preview areas while developing extraction model



## Features

<b>Supported Image Types</b>	GXF, GIF, TIFF, GeoTIFF, BMP, PNG, JPEG, JPEG2000 PCI Geomatics (PCIDSK, .aux), ESRI (.hdr), ERDAS USGS Formats, GDAL Virtual (.vrt) EOSAT Fast Format, NASA ELAS More
<b>Vector File Support</b>	SHP Files KML
<b>Databases – Vector Shapes</b>	PostgreSQL ArcSDE
<b>Drawing Tools</b>	Vector Paint – Sizable Brush Vector Erase – Sizable Brush Polygon, Line, Points Polygon Erase Automatic Polygon Merge Select/Move/Delete Vertices Merge Polygons Undo/Redo
<b>Viewer Tools</b>	Linear Stretch Zoom, Fit to Extent, Set 1:1 Scale Virtual Raster Layers Band Selection Multi-Band Image Support Layer List and Layer Order Layer color selection and properties Navigation window
<b>Miscellaneous Tools</b>	Attribute Viewer and Editor Shape Squaring Tool Shape Alignment Tool Pixel Viewer Shape Smoothing Shape Filtering Extract Centroids
<b>User Interface</b>	Dockable Windows Multiple Viewers Viewer Toolbar for Ergonomic Functionality Intuitive and Easy to Use Image Viewer, Navigator, Layer Window, Pixel Viewer, Attribute Viewer, Extraction Tool Windows