

AMod_BrdOutline User Guide

© Copyright 2000 -2005, CopperCAD Design inc.

Purpose

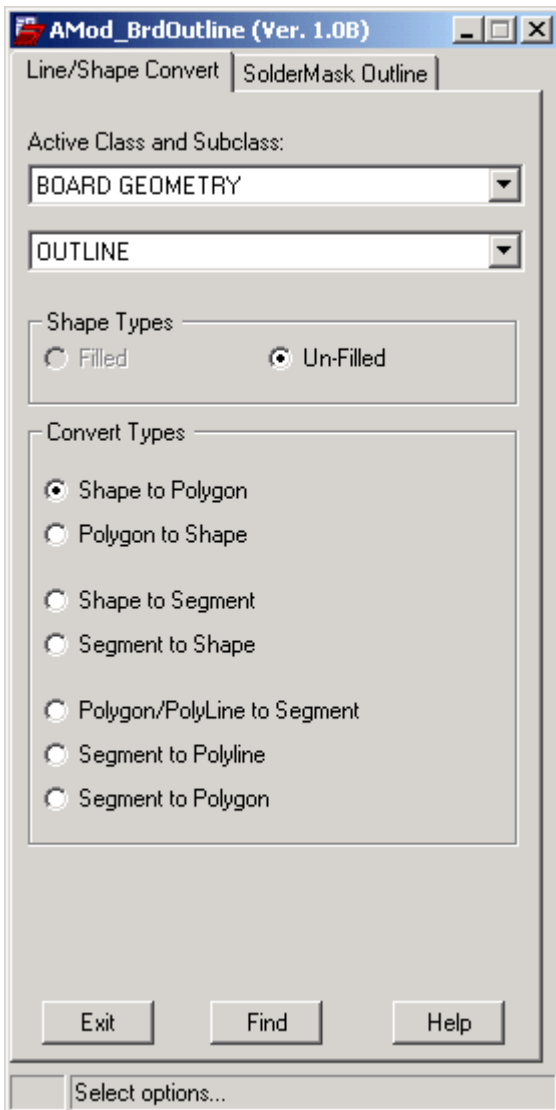
Converts shapes to polygons or individual line segments or line segments into polygons and shapes. Also can generate soldermask outlines from the board outline.

Description

Editing or modifying complex shapes can be difficult and time consuming in Allegro as it is not designed to be a MCAD tool. AMod_BrdOutline allows the user to convert a shape into a polygon or individual line segments. Once converted, individual line segments can be easily moved stretched or modified. After the desired changes are complete, the user can convert the individual line segments back into a shape, then use Z-copy to transfer it to the desired layers. Additionally AMod_BrdOutline has a second tab which can automatically generate board soldermask outlines and cutout soldermask outlines from the board outline layer. This function is especially useful on boards that have complex outline shapes.

Benefits

Saves time. Edit complex shapes quickly and easily without a MCAD tool suite.



Menu Functions: Line/Shape Tab

Active Class → Select the active class of the target object.

Active Subclass → Select the active Subclass of the target object.

Shape Types:

Filled → Newly created shapes will be the Filled

Un-Filled → Newly created shaped will be Un-Filled.

Conversion Types:

Shape to Polygon → Converts shapes to polygons on the target layer.

Polygon to Shape → Converts polygons to shapes on the target layer

Shape to Segment → Converts shapes to individual line segments

Segment to Shape → Converts individual lines segments to shapes.

Polygon/Polyline to Segments → Converts polygons or poylines on the target layer to individual line segments.

Segments to Polyline → Converts individual line segments to a polyline.

Segements to Polygon → Converts individual line segments to a polygon.

Polygon to Shape → Converts polygons to shapes.

Definitions

Segments→ Individual lines that can be moved or deleted independently

PloyLine → A group of connected segments than react as a single object. Can have open ends or be closed

Polygon → A group of connected segments forming a closed outline. A polygon is always unfilled.

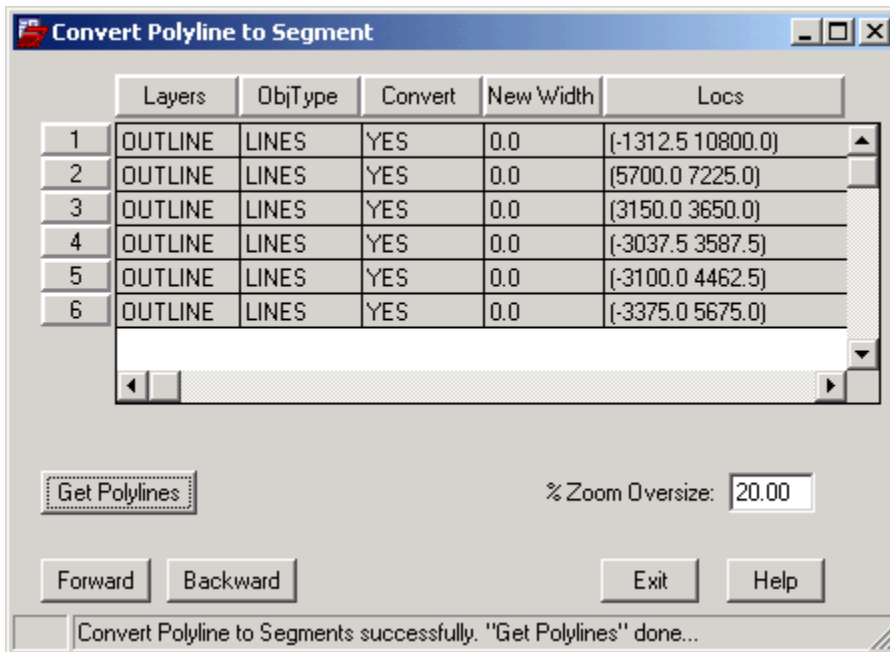
Shapes → A group of connected segments forming a closed outline. Shapes can be filled or unfilled.

Certain layers have strict shape definitions, on Etch layers, shapes are always filled. On the Board Outline layer, Shapes are always unfilled.

Running the Program: Line/Shape Tab

- 1) Select the Class and SubClass of the target object you want you want to convert.
- 2) Select the conversion type.
- 3) Click the **“Find”** button at the bottom of the main menu , and if the target object exists on the target layer a selection menu will pop up.
- 4) If **“Convert Polyline to Segments”** was selected, click the **“Get Ploylines”** and start selecting target poylines.
- 5) After all object are selected, click the **right mouse button** to convert the objects.

Target Menu

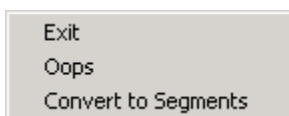


Click the **Get Polylines** button to start selecting objects.

Navigate to individual failures simply by clicking on any line.

The **“Forward”** and **“Back”** buttons allow easy sequential navigation of the objects.

The **“% Zoom Oversize”** allows you to customize the size of window view based on the object size.

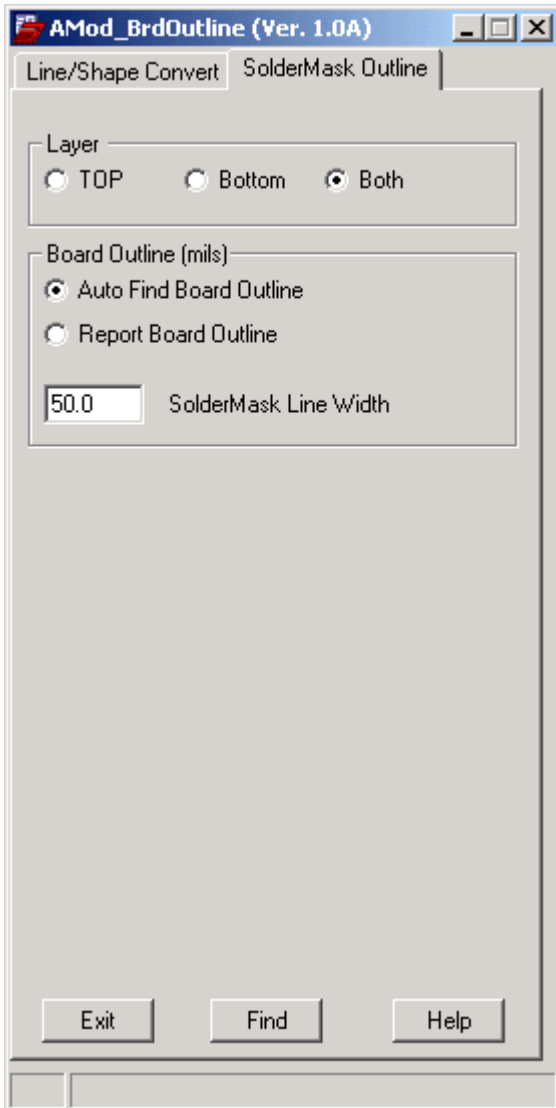


Click the **right mouse button** to exit the selection process, undo the last selection or proceed with the conversion.

Note 1 : When converting line segments into polygons or shapes, the segments must be selected continuously, in either clockwise or counter clockwise order.

Note 2 : The x and y end co-ordinates of the last selected line segment must be the same as the start x and y co-ordinates of the next line segment. Otherwise a continuous line or shape cannot be formed.

Note 3: When converting filled shapes to any other object type, any voids in the shape will be deleted.



Menu Functions: SolderMask Tab

Layer → Select top Bottom or both soldermask layers for soldermask outline generation.

Board Outline Options:

Auto Find Board Outline → Select to automatically locate any lines or shapes on the board outline layer.

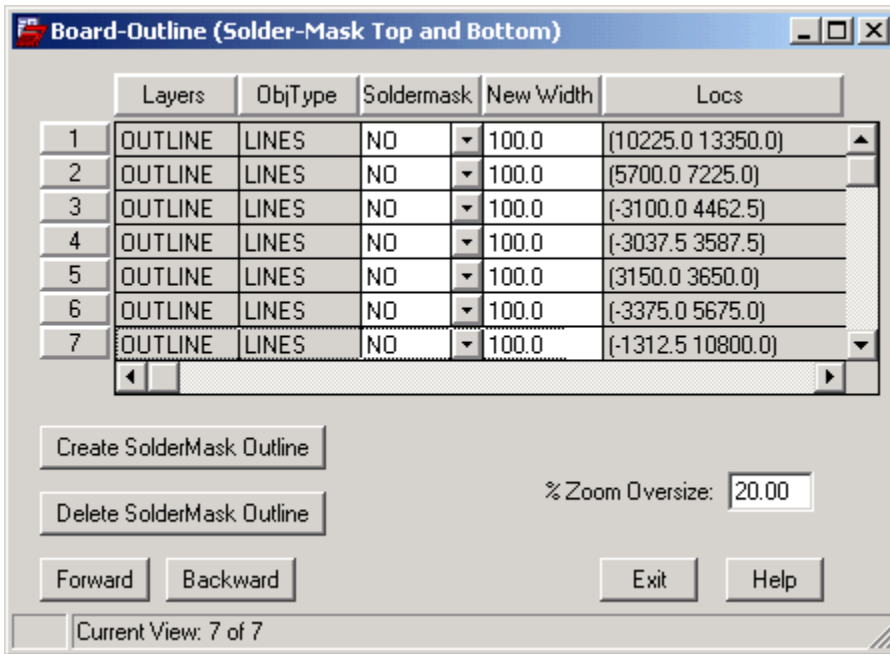
Report Board Outline → Generates a text report of all the individual line segments and shapes on the board outline layer

SolderMask Line Width → Sets the default width of the soldermask line to be generated.

Running the Program: SolderMask Outline Tab

- 1) Select the Solder Mask layers you want to generate.
- 2) Select the Auto find board outline option.
- 3) Select the finished solder mask line width.
- 4) Click the **“Find” button** the bottom of the main menu , and if the target object exists on the target layer a selection menu will pop up.
- 5) From the target menu, you can create or delete all soldermask outlines or interactively change one at a time.

SolderMask Target Menu



Click the **“Create SolderMask”** button to generate a new soldermask outline

Click the **“Delete SolderMask”** button to generate a new soldermask outline

Individually create or modify outline objects interactively one at a time.

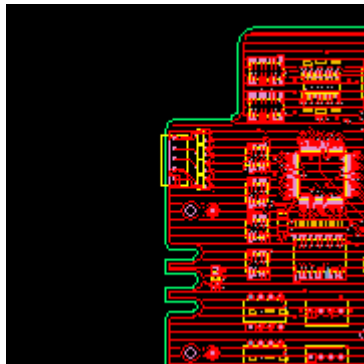
Navigate to individual failures simply by clicking on any line.

The **“Forward”** and **“Back”** buttons allow easy sequential navigation of the objects.

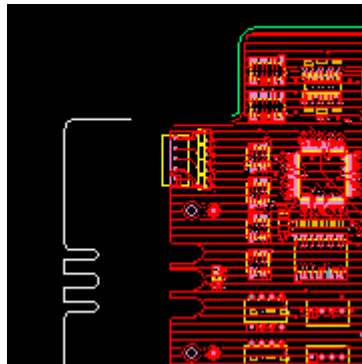
The **“% Zoom Oversize”** allows you to customize the size of window view based on the object size.

Screen Shots

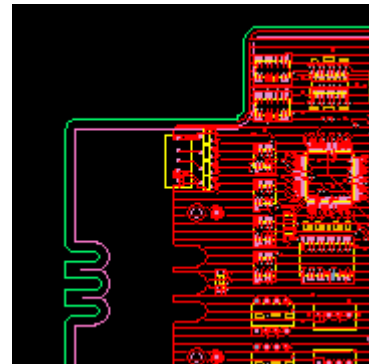
Convert Shape to Segments



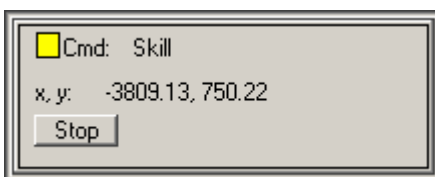
Move or modify the segments



Convert and Zcopy the Shape



The Stop Button



While the program is running, the stop button will be displayed in the bottom right corner of the Allegro tool window. The stop button can be used to terminate the program at any time.

For more information, please contact CopperCAD at [\(905\) 488-8958](tel:9054888958) or www.CopperCAD.com

(c) Copyright 2000-2005 All Rights Reserved. CopperCAD Design Inc.