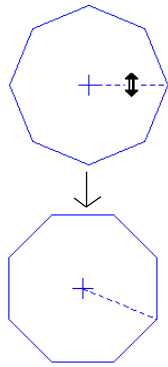


Spatial Editor

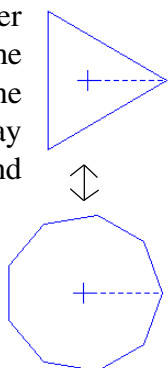
Graphic Tool Updates

The Spatial Editor provides professional, interactive tools to create, georeference, and edit project materials consisting of vector, image, CAD, TIN, shape, and relational database objects. This Technical Guide addresses line and polygon editing features that let you create and edit lines and polygons interactively and manually. These two methods can be mixed by placing vertices interactively and refining their positions using the Manual entry panel. The GeoToolbox, which is available in all TNT processes with a View window, provides integrated sketching, measuring, selection, and region creation by letting you switch seamlessly between these activities. The graphic tools used for these activities have been updated to incorporate new capabilities to make them easier and more intuitive to use. These same tools are used for adding elements in the TNT Spatial Editor. Manual entry and editing using these graphic tools also has a new look. The ability to effortlessly switch between drawing and erasing for lines and polygons in the GeoToolbox and in the Editor is described in a separate Technical Guide entitled *GeoToolbox: Erasing Portions of Lines and Polygons*.

Rotation Handle. Shapes that can be rotated, namely rectangles, ellipses, and regular polygons, have a dashed rotation handle. Simply move the cursor over this dashed line until the cursor becomes the double-headed arrow, then click and drag until the shape is at the desired angle. The earlier method of holding down the <shift> key when the cursor is the left-hand shape (ellipse and regular polygon) or corner-resize shape (rectangle) is also still supported.



Mouse Wheel. You can change the number of sides (segments) for shapes drawn with the Regular Polygon tool by simply rolling the mouse wheel. Roll the wheel forward (away from you) to increase the number of sides and toward you to decrease the number of sides. This mouse wheel function is active regardless of the cursor shape. You can also enter the desired number of segments by clicking on the Manual tab



#	X	Y
1	-1565141.072854	-10629159.101513
2	-1565094.377575	-10629801.161599
3	-1565106.051394	-10630139.702371
4	-1565094.377575	-10630139.702371
5	-1564884.248819	-10630489.916963
6	-1564860.901180	-10630489.916963
7	-1564557.381867	-10630653.350439
8	-1564545.708047	-10630653.350439
Coordinates...	Undefined	

(GeoToolbox) or opening the Manual Entry panel (Spatial Editor).

Manual Vertex Entry. The contents of the Manual tabbed panel of the GeoToolbox for lines and polygons have been redesigned to make it easier to add and delete vertices from the lines and polygons you draw. These same features are in the Editor for adding and editing lines and polygons.

There are two individual controls for each vertex in the line: Insert and Delete. The Insert button inserts a vertex before the vertex the button is associated with. When a vertex is inserted, default coordinates are added that place the new vertex at the midpoint between the vertices before and after it. If a new vertex is inserted at the beginning of the line by using the Insert button at the left of the vertex 1 row, it also has default coordinates assigned that extend the line away from and in a straight line with the original first segment. These default coordinates, just like any other coordinates in the list, can be edited. There is an Add row at the bottom of the list (shown in the illustration below) that lets you type in the coordinates you want to assign to a new endpoint for the line.

#	X	Y
1	-8123.278032	-11335.201844
2	-8059.690404	-11306.697045
3	-8049.823358	-11303.408030
4	-8009.258837	-11312.178738
5	-7950.056562	-11337.394521
6	7904.010348	-11302.311692
Add>		

(over)

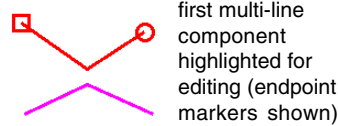
Interactive Element Editing. As you move your cursor over the line or polygon you are drawing with the Geo-Toolbox, the closest vertex is marked with a + and it is highlighted in the list of vertices on the Manual panel. **When a vertex is marked in the view by cursor proximity, it can be dragged to a new location.** You can also add to the start or the end of the line when its corresponding vertex is not marked if you are within the sphere of influence of the start (adds to start) or near the end or not near other vertices (adds to end). Clicking on a line segment five or more pixels from the nearest vertex will insert a new vertex. This integrated drawing and reshaping of lines and polygons is available with the Automatic line drawing mode in the Editor.

Multi-point Elements. Multipoint elements use a similar grid control, but there is no Insert button. As the cursor nears a point, it is marked in the view and highlighted in the grid control to make it easy to identify a point you might want to delete from the multipoint element.

Multi-line/polygon Elements. Use of the mouse wheel in conjunction with the manual entry panel for lines and polygons in CAD, shape, and sketch objects switches you to adding a new line or polygon in a multi-line or multi-polygon element, once other lines/polygons in the element have been cycled through (there will be no vertices listed initially and only the Add entry will be visible on

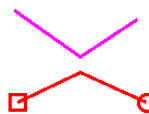
the Manual panel). Note that the View window must have focus for scrolling through elements in a multi-line or multi-polygon on the manual panel to be activated. As you scroll through components, the component with vertices shown on the Manual Entry panel is highlighted in the view. Scroll toward you to move up in the multi-line/polygon component list and away from you to move to earlier added components.

There are also Previous Line and Next Line buttons in the CAD and Shape Tools windows to change the active element component. The corresponding shortcut keys are Page Up and Page Down, respectively, when the View window has focus.



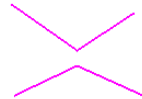
first multi-line component highlighted for editing (endpoint markers shown)

Manual Entry				
#	Longitude	Latitude		
1	W 103 20 31.182	N 42 43 08.532	X	
2	W 103 19 14.071	N 42 42 14.275	X	
3	W 103 18 27.980	N 42 43 10.926	X	
Add>				



second multi-line component highlighted for editing

Manual Entry				
#	Longitude	Latitude		
1	W 103 20 10.950	N 42 41 21.008	X	
2	W 103 19 14.073	N 42 42 15.407	X	
3	W 103 18 01.592	N 42 41 25.673	X	
4	W 103 17 30.826	N 42 41 43.818	X	
Add>				



ready to add new component to multi-line

Manual Entry				
#	Longitude	Latitude		
Add>				

