Drawing with Perspective in DeltaCAD

by

williamj and i44troll
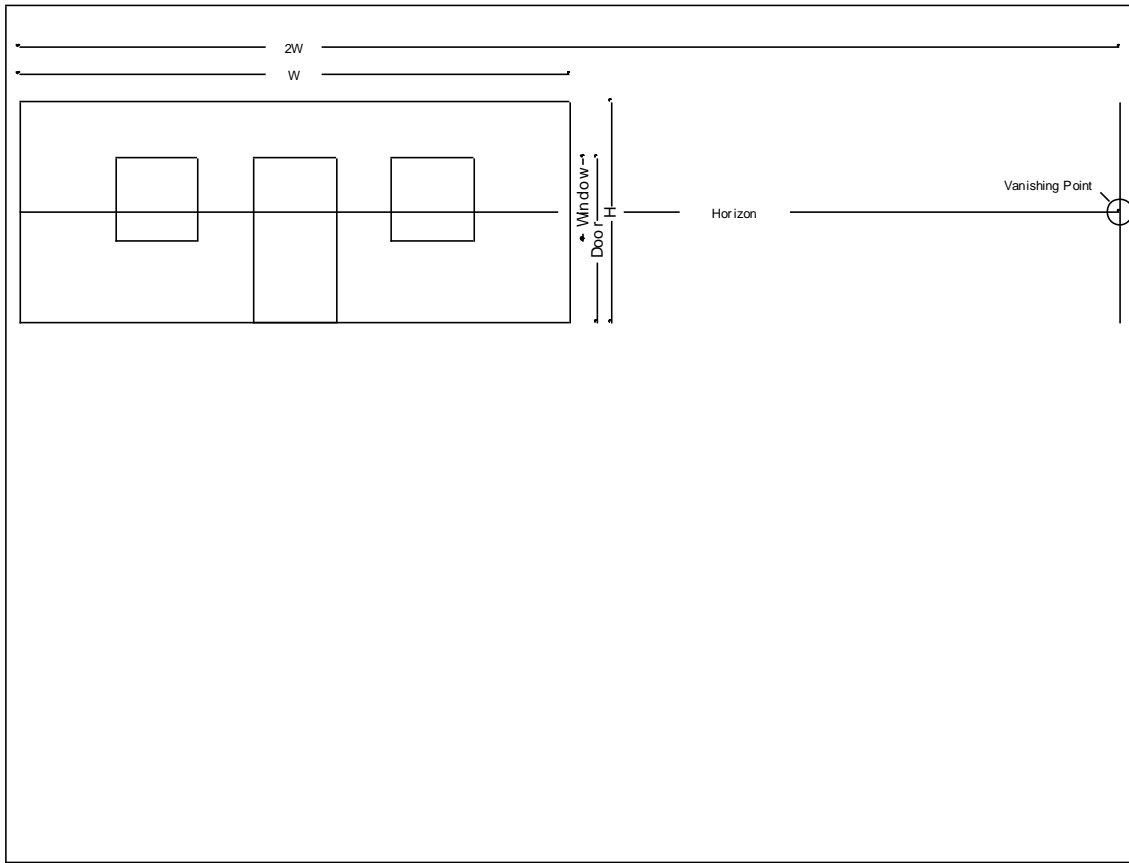
of the

DeltaCAD Users Group Forum

DeltaCad really can do most of what the "higher-priced spreads" can do. Sometimes it just takes a little longer and maybe the burning of a few more brains cells but for the most part, it can be done. This was the case when I wanted to do a drawing in "Perspective", seeing a three dimensional impression in a two dimension form. This probably doesn't match anyone else's definition but it works for me.

Starting with a frontal elevation of a simple block building, the project was going smoothly until it came to the proportional properties of the door and windows. They just didn't match with the proper diminishing dimension of the building itself. After much trial and error and frustration I asked for assistance and i44troll happily came to my aid. There was additional trial and error and then some more trial and error until finally i44troll came up with the idea to use arcs. After that everything seemed to fall into place.
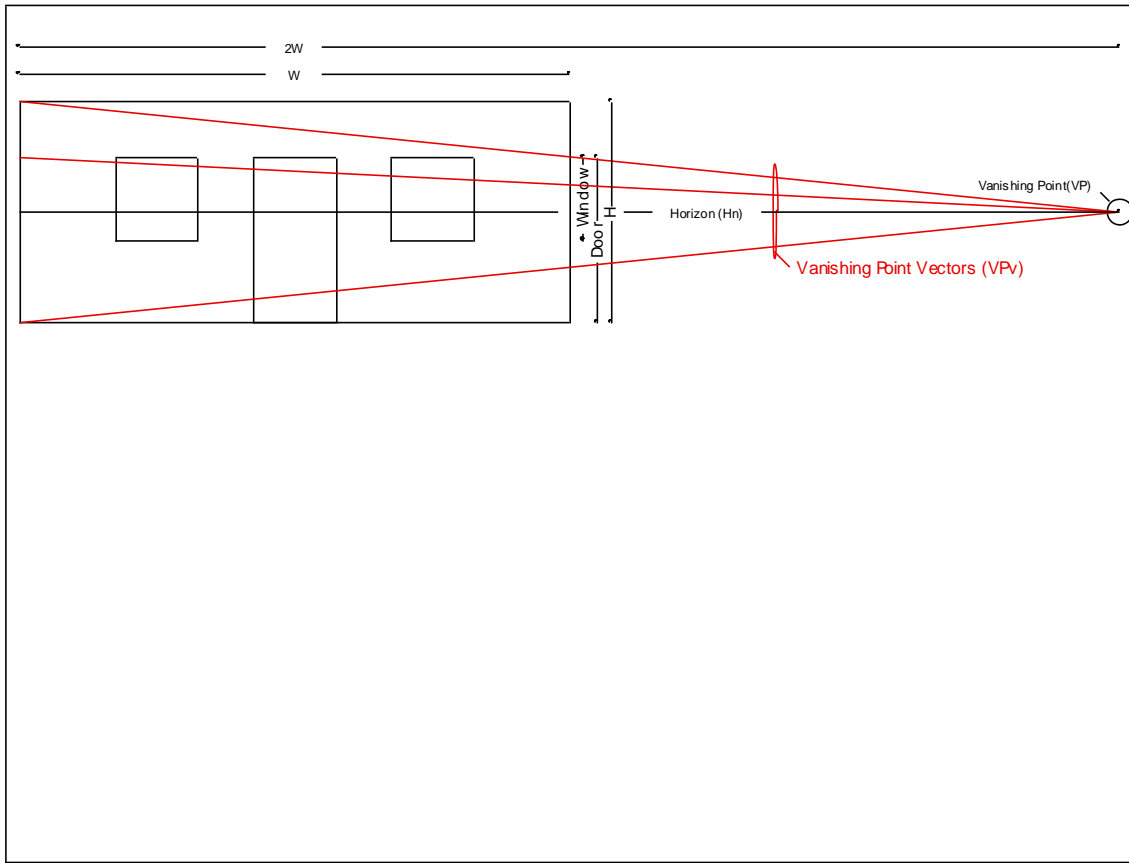
And somehow or another, this is what we ended up with…
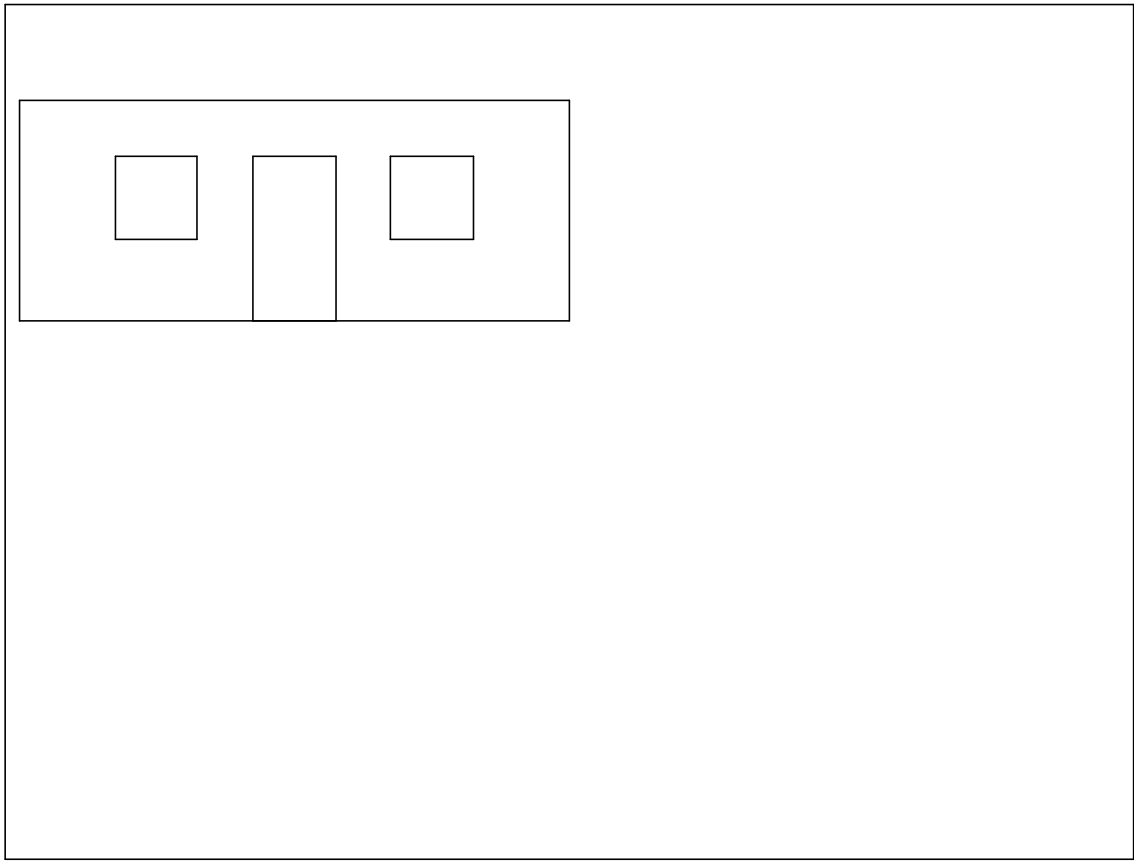
The simple block building shown above is where everything begins
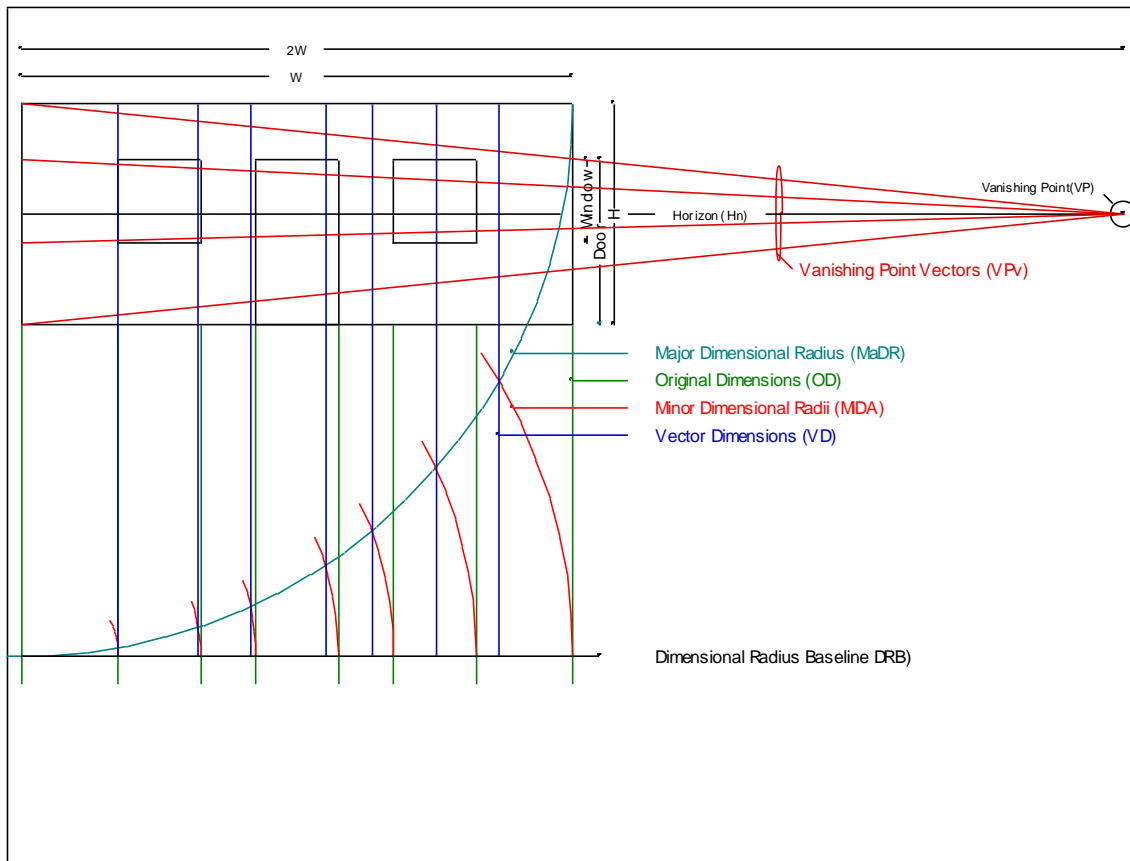
2W

W

Window
Door
H

Horizon

Vanishing Point

To this is added a "Horizon" line twice the length of the building and ending in a "Vanishing Point". Also added are the dimensional points for the windows and the door.

Place a set of all dimensioning points on the left end of the building and from those dimensioning points draw vector lines (Vanishing Point vectors (VPvs)) from each dimensional point to the Vanishing Point. These VPvs are the horizontal layout lines for the door and windows.

2W

W

Window

Doo

H

Horizon (Hn)

Vanishing Point(VP)

Vanishing Point Vectors (VPv)

Major Dimensional Radius (MaDR)

Original Dimensions (OD)

Minor Dimensional Radii (MDA)

Vector Dimensions (VD)

Dimensional Radius Baseline DRB)

This is where it all gets interesting.

Choose the "Circle" tab and then the "Draw a circular arc using the center" button. With the "Circle Arc" tool selected, click on the upper "left" corner of the building for the "center" selection of the arc. Next, click on the upper "right" hand corner of the building to place the "Circle Arc" starting point. Now swing the arc down and left to the furthest left boundary of the building and click just past the boundary to terminate the arc. The "Major Dimensional Radius" (MaDR) arc is now complete.
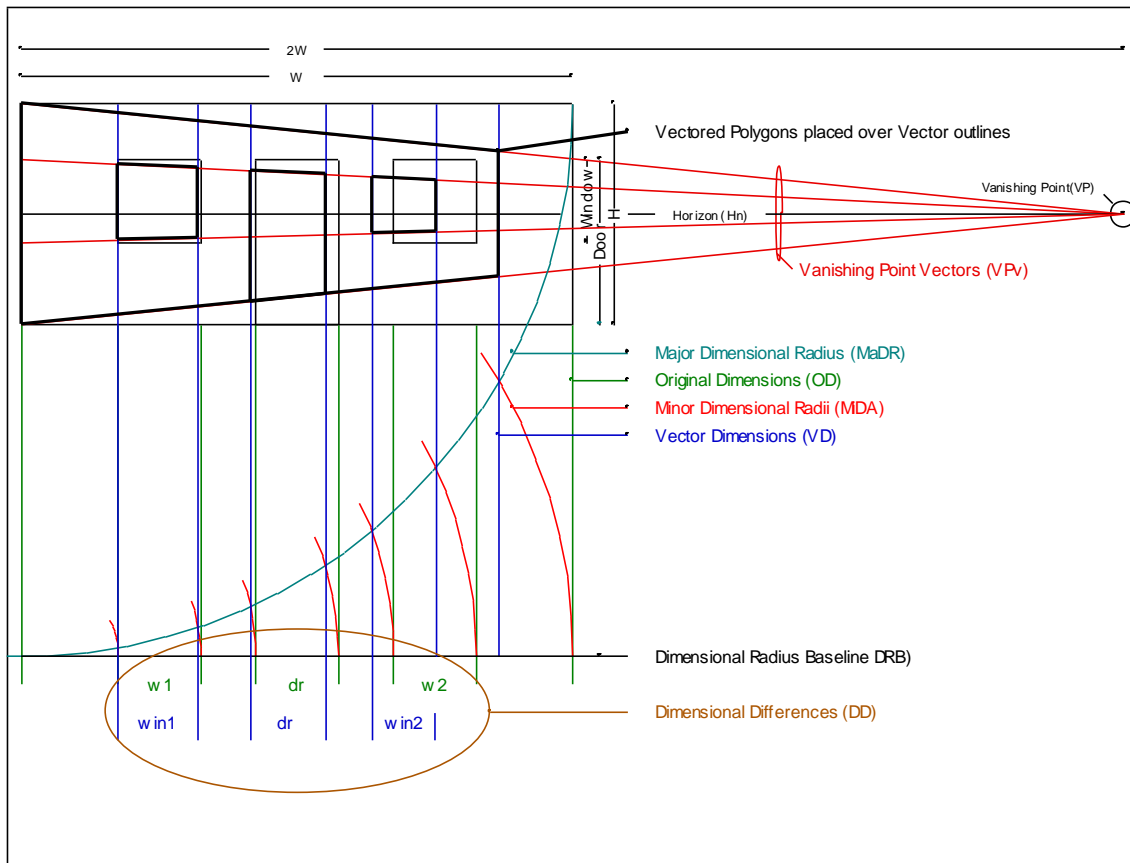
Now draw a vertical line, the first "Original Dimension" (OD), line, down from the lower "left" corner of the building just past the MaDR. From the intersection of the first dimensional line and the MaDR draw a horizontal line, the Dimensional Radius Baseline (DRB), to just past the right most boundary of the building.

Next select the "Line" tab and then "Draw a parallel line" button. With the "Draw a parallel line" active select the first OD and then select the bottom left corner of the Left window and place the first parallel line there. Then continue to place lines on the bottom corners of both windows and the door, as well as the bottom right corner of the building. All OD lines are now in place.

Again select the "Draw a circle arc using center" tool and select the intersection of the first OD line and the MaDR for the center of the arc, (this will be the center for all Minor Dimensional Radii (MiDR)) and select the first OD line's intersection with the DRB as the starting point for the first MiDR arc. Bring the first MiDR arc upwards and just past the MaDR and terminate the arc there. Continue to place MiDR arcs across the DRB using all OD line intersections as arc starting points.

Finally draw vertical line starting at the first MaDR and MiDR intersection and bring it all the way up to the top of the building and terminate it there. Once more select the "Draw a parallel line" tool and place parallel lines at all MaDR and MiDR intersections. These lines are the vertical layout lines of the door and windows.

The layout lines for the perspective block building are now complete.

The drawing above shows the difference between the original dimensions and the dimensions derived from the intersections of the MaDR arc and the MiDR arcs. A true proportional diminishment of width is clearly shown.

2W

W

Vectored Polygons placed over Vector outlines

Vanishing Point(VP)

Window

Door

H

Horizon (Hn)

Vanishing Point Vectors (VPv)

Major Dimensional Radius (MaDR)

Original Dimensions (OD)

Minor Dimensional Radii (MDA)

Vector Dimensions (VD)

Dimensional Radius Baseline DRB)

w 1   dr   w 2

win1   dr   win2

Dimensional Differences (DD)

After going through the "Shapes" menu tab and selecting the "Draw a Polygon" tool, click on a corner of the left most window, where VD lines and VP line intersect, to start the polygon. Continue clicking on the last three VD/VP window intersections and then right click the mouse to finalize the polygon. Repeat the same procedure on the door and remaining window. And finally repeat that same procedure on the building itself.
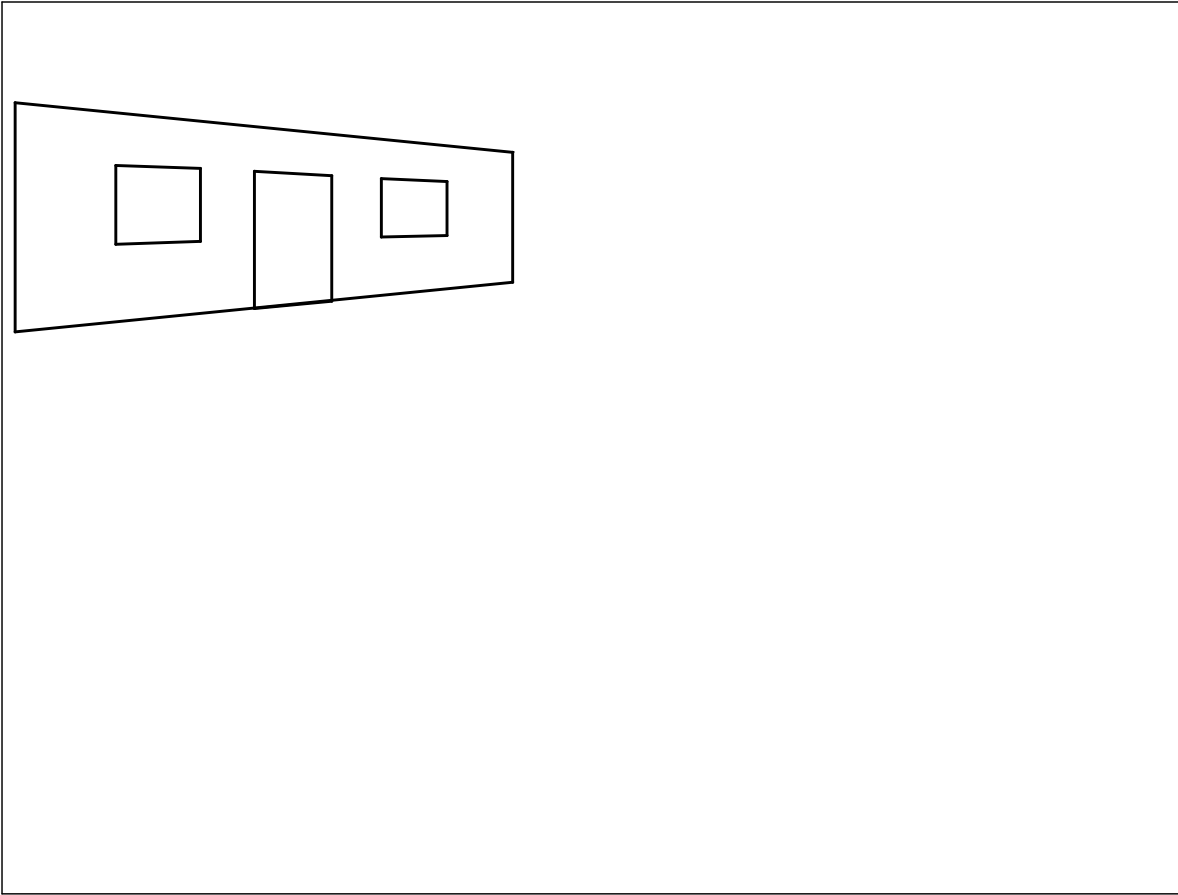
After all perspective objects have been drawn simply delete everything that isn't building, windows or door. The Perspective view of a simple block building is now complete.

If all of this seems a bit complicated, it's only because most people will only see the overall confusion of lines and arcs. Once you've gone through step by step you see that it isn't complicated at all, it's just a logical progression of single step procedures. I've only done three or four and it's all ready beginning to feel "old hat".

Try it I bet you'll be a pro in no time.