
Practical Steps of Making LCD Monitor in Autodesk 3DS Max 2009 Software in the Science of 3D Modeling

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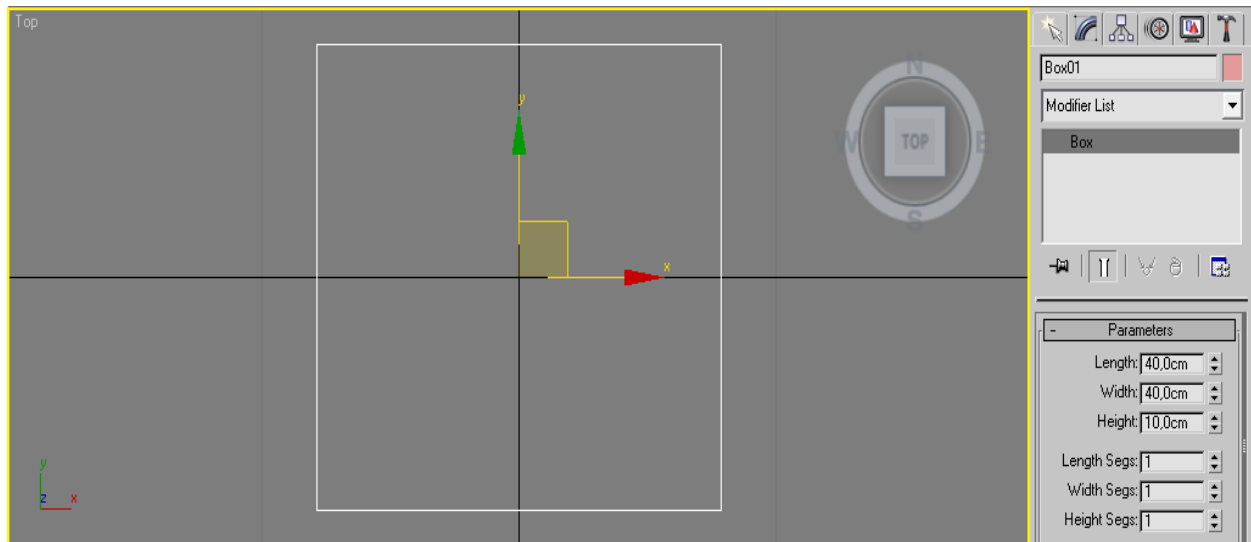
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Abstract: This article provides instructions and recommendations on how to make a monitor device using the simple primitive Box (Parallelepiped) primitive in 3ds modeling and computer graphics.


Keywords: Autodesk 3ds Max 2009 Software, Primitives, Snap Toggle 3D, Convert to Editable Poly, Angle Snap Toggle, Vertex - Dots, Edge - Ribs, Border - Edge, Polygon - Surface, Element - Part, Toolbar (Main Toolbar), Render.

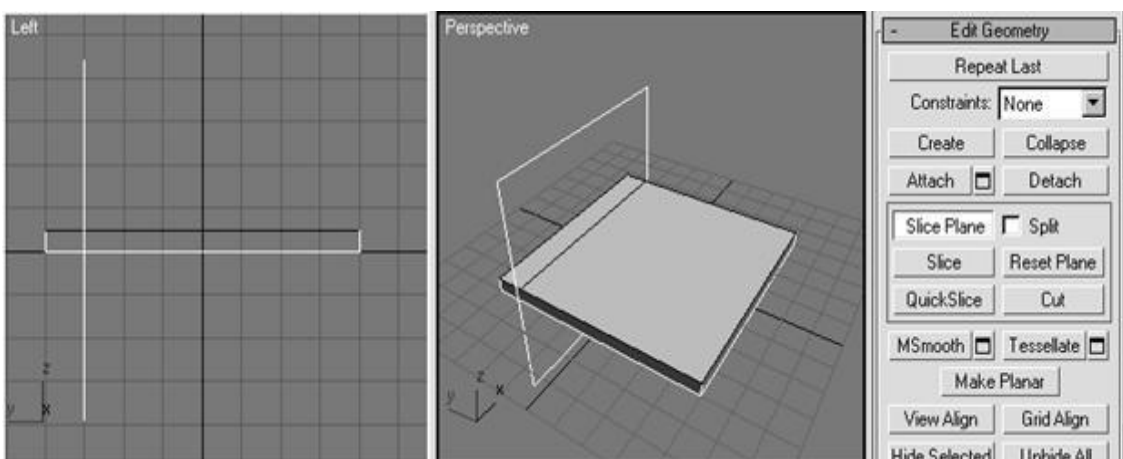
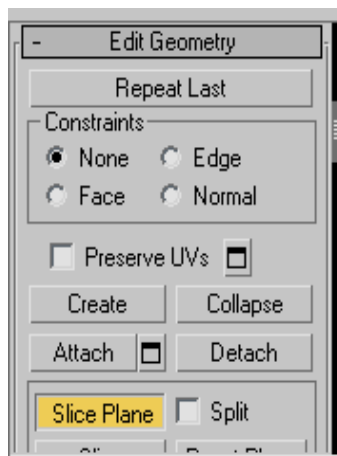
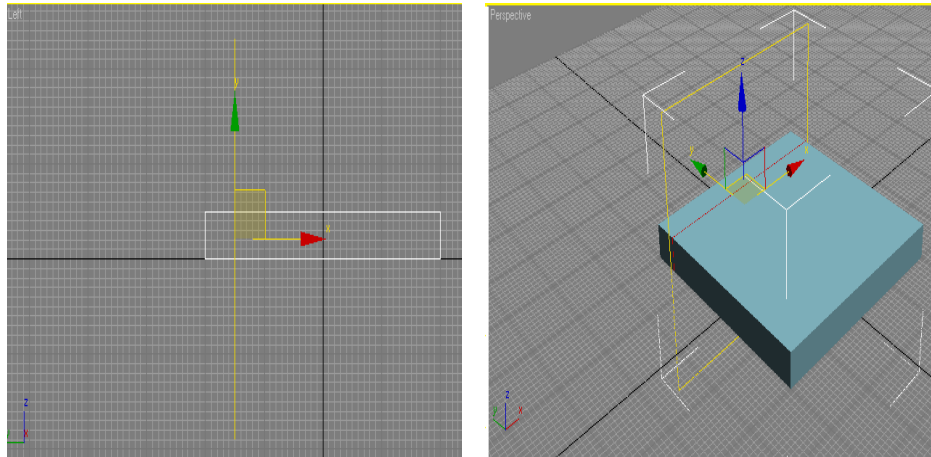
We will perform the practical steps of modeling an LCD monitor. First, run Autodesk 3ds Max 2009, Next, create a Box (Parallelepiped) object with the parameters as shown in the image from the (Top) projection window.



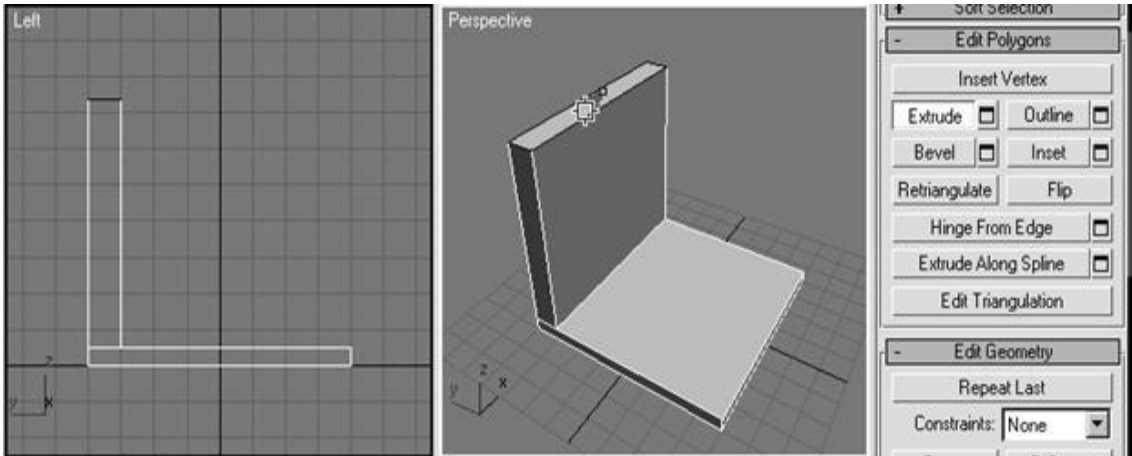
Press the (S) button on the keyboard and enable this **SnapToggle3D**  3 dimension linking mode setting (linking to points is set to screen grids unless otherwise specified).

Now let's change the Box (Parallelepiped) object to an editable polygon. To do this, right-click without canceling the selection, and then select **Convert to Editable Poly**

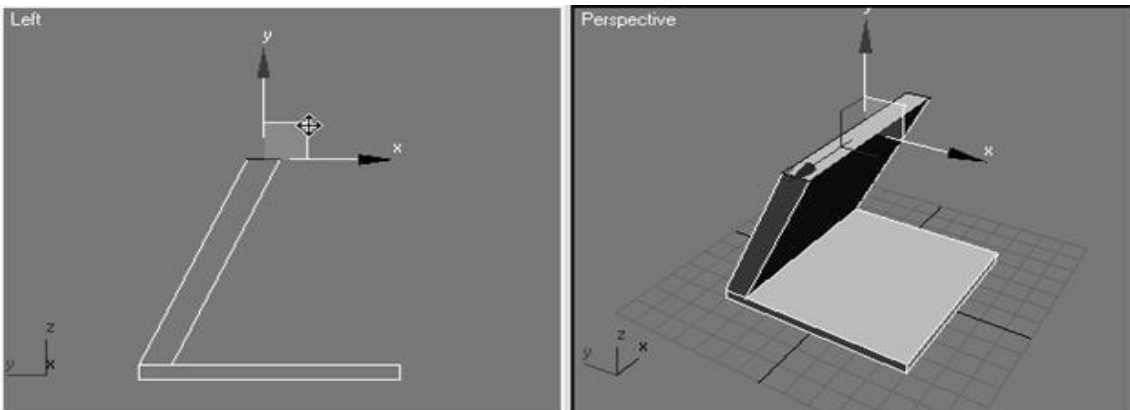
Press the "A" key on the keyboard, which will activate the **Angle Snap Toggle**  to the set poles (corner binding), select the edit at the "Edge" edge level, then click the Slice Plane button from the "Edit Geometry" set In the Left projection window, turn the gizmo ["90"] ^ "0" as shown in the following figure and drag it to the -15 unit along the X axis, if the dots connection is active, this will not cause you trouble.



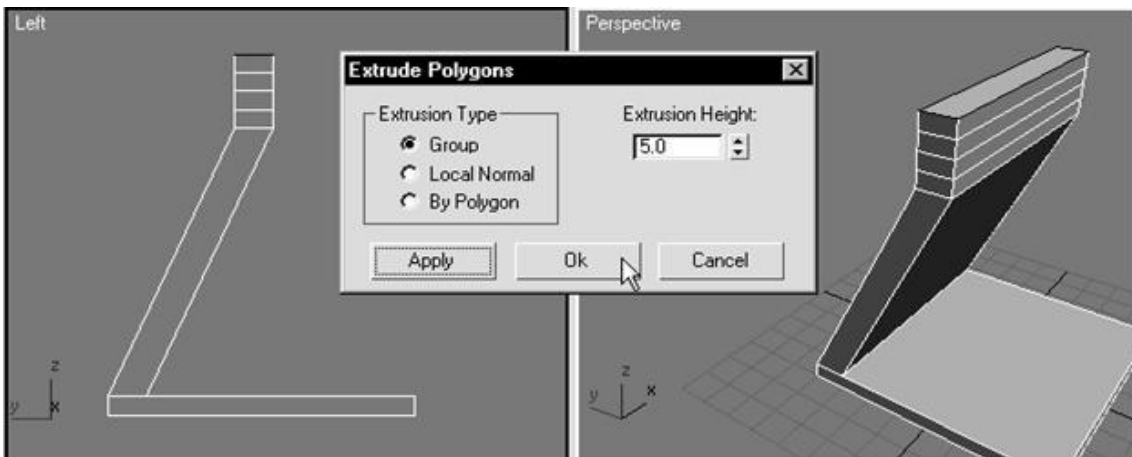
Once you've set the Gizmo (a tool used to place an object in 3D modeling) to the desired location, click the **Slice** button, and do the same in the Edit Geometry suite. To cancel the connection, press (A), then (S) on the keyboard. Select the edit at the polygons level, select the polygon you just created, and click the square next to the "Extrude" button and enter a value of approximately 75.





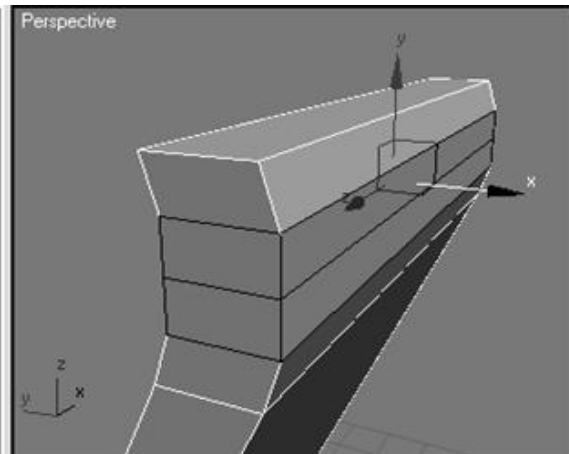
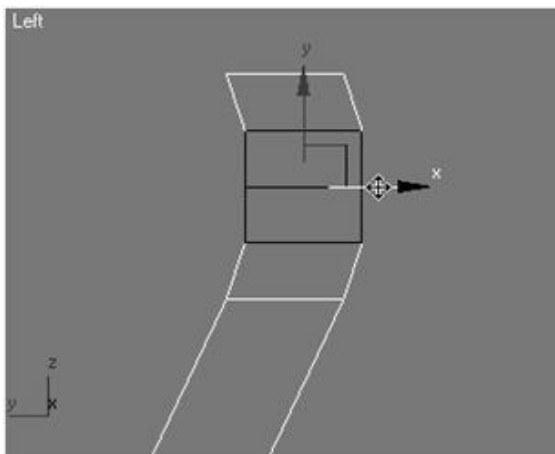
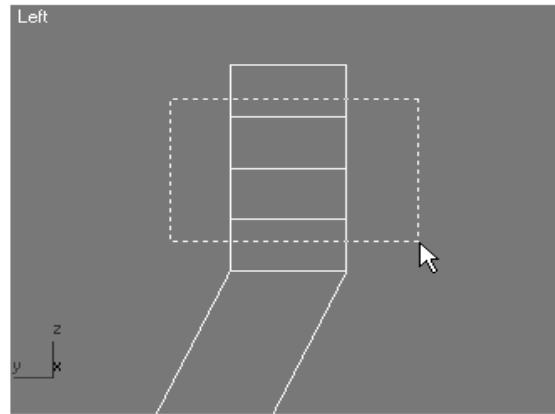
Without canceling the polygon, go to the Left projection window and press the (W) key on the keyboard, which activates the Select and Move function, then swipe slightly to the right. See picture below.



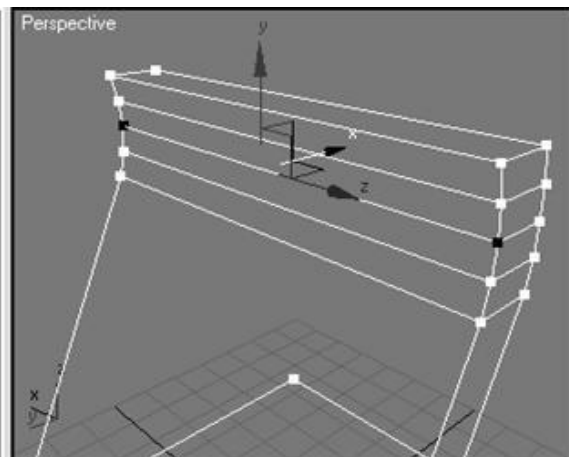
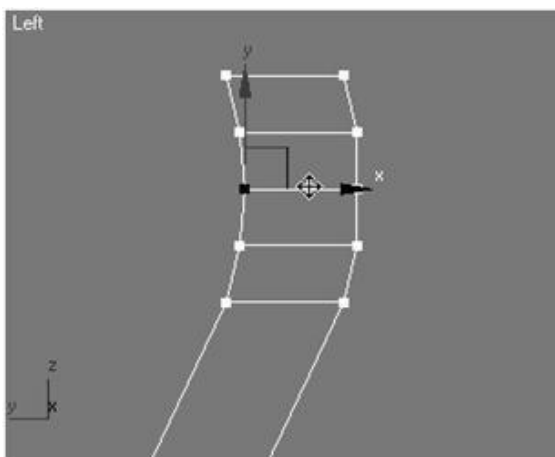
We will continue to work with the landfill. Click the box next to the Extrude button, enter a value of 5 in the window that appears, and click Apply three times in a row, then click OK. You need to do the same as shown in the picture.



Click «**Window/Crossing Selection**»  button, (result should be as follows  when the button is pressed), enable editing at the edge level, and select the 3 center edges. Then swipe right in the Top Projections window.



Activate editing at the «vertex» tip level, mark 2 center points (as shown in the picture) and slide them inwards.

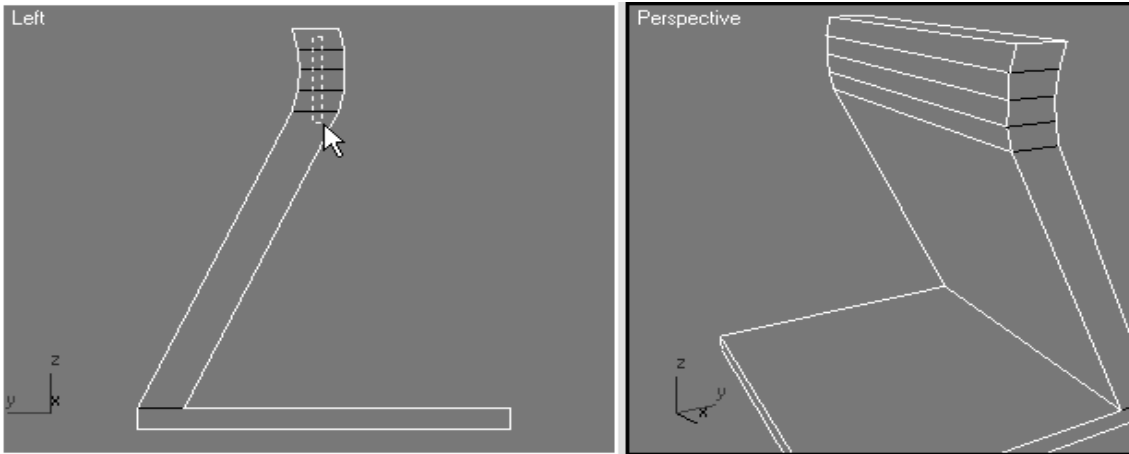


Cancel «**Window/Crossing Selection**» button activation (result should appear as follows

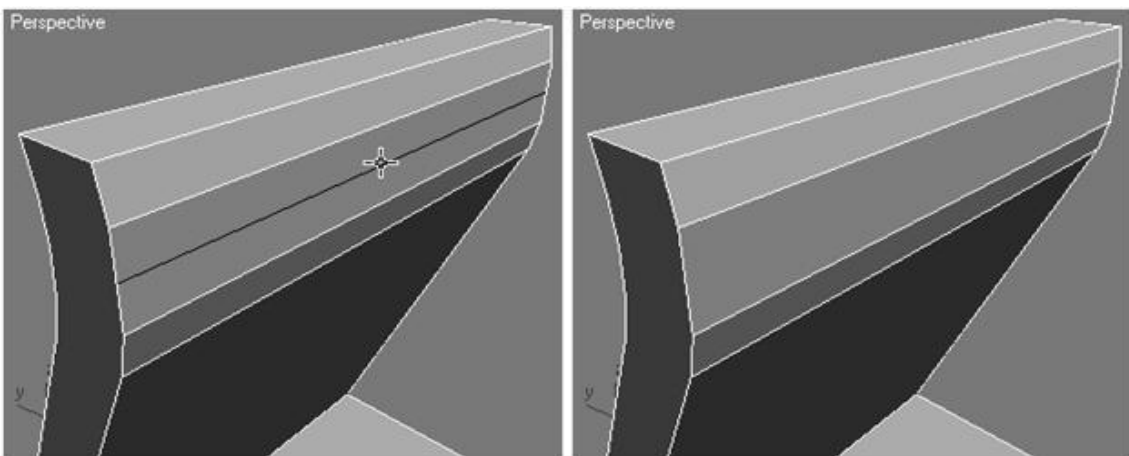


). Select Edit at the «**Edge**» level and select all internal edges by holding down the Ctrl key (as shown) and delete them using the«**Remove**» function.

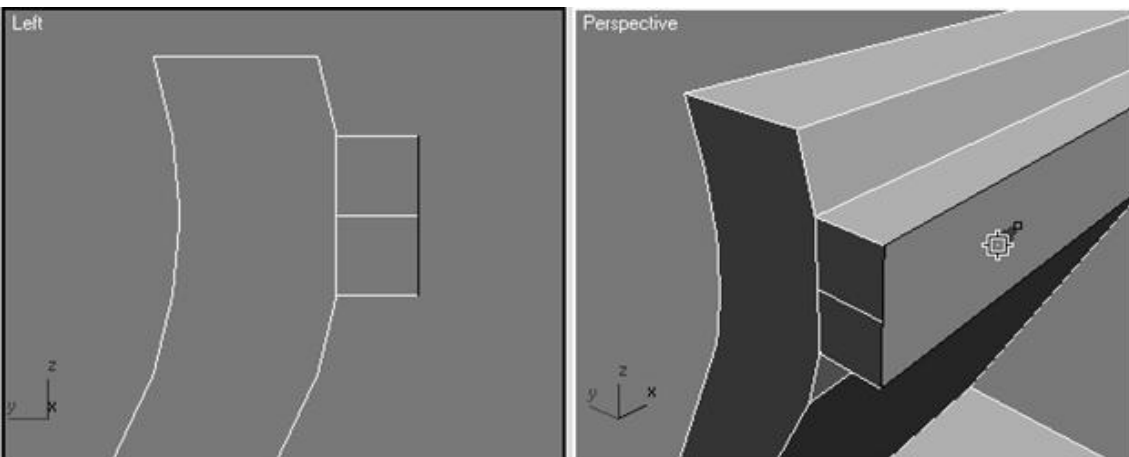
Note that activating the Remove function is not the same as activating the «DELETE» or «BACKSPACE» buttons, which can be done by right-clicking on certain edges (or dots) and selecting «Remove» from the list.



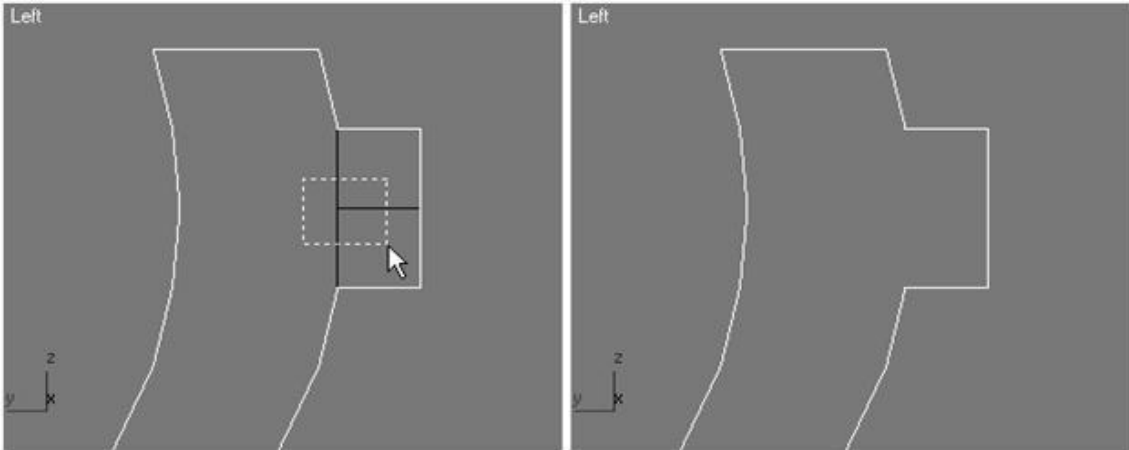
Delete the center edge (using the «**Remove**» function) as shown in the picture.



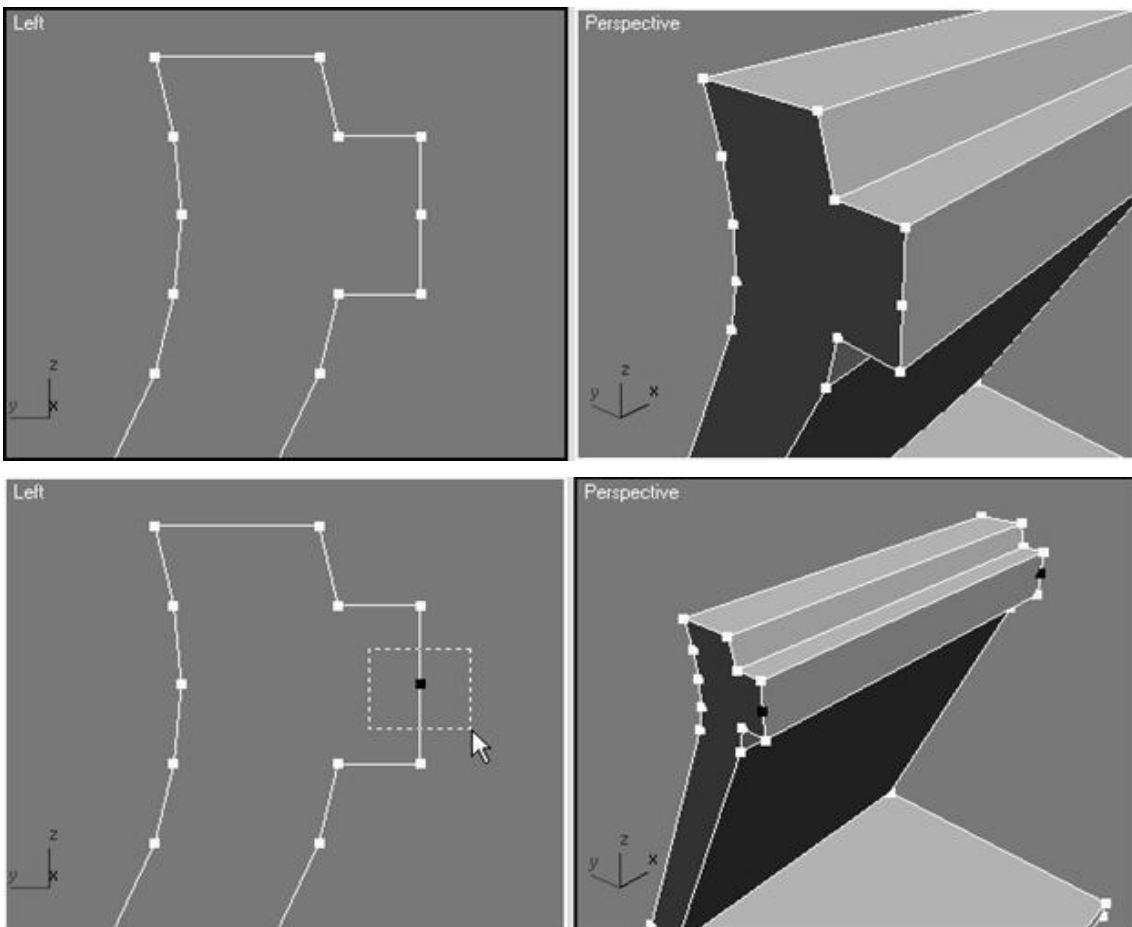
The next thing we do is choose to edit at the polygon level, and select the polygon that was created after deleting, and apply «**Extrude**» to it with a value of 5.

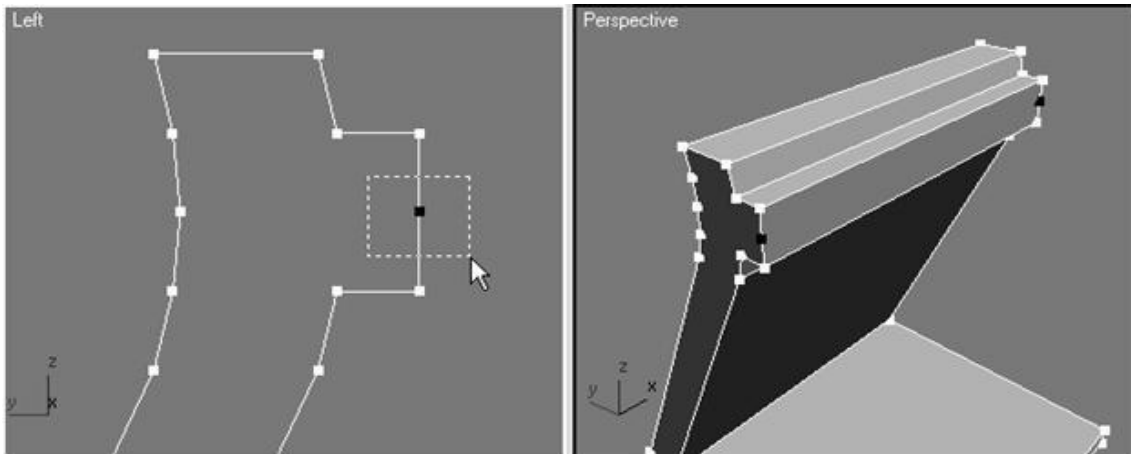


Go to the Left projection window and delete the edges created using that «**Remove**» function.

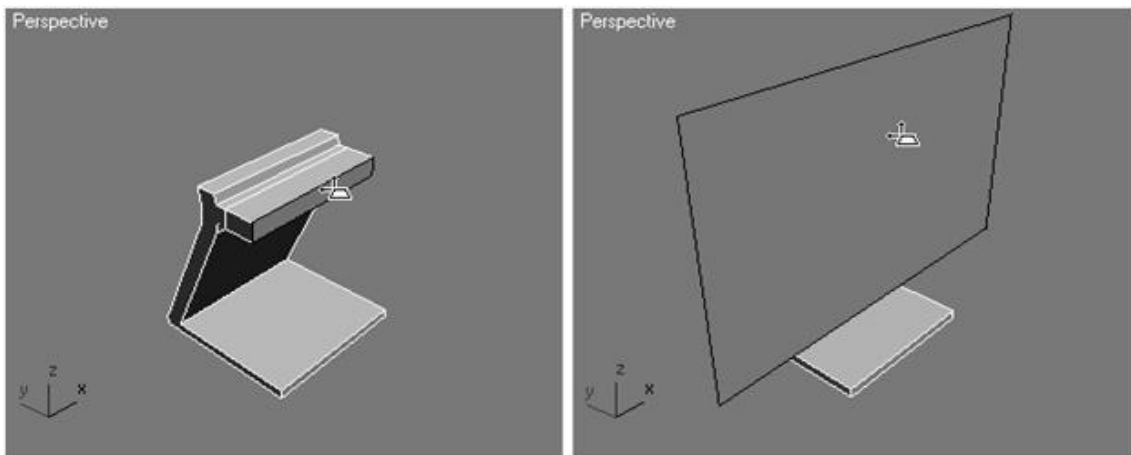


Now enable editing at the «Vertex»tip level. After removing the edges, we have two points that we don't need at all! Select and delete them using our function (described above).

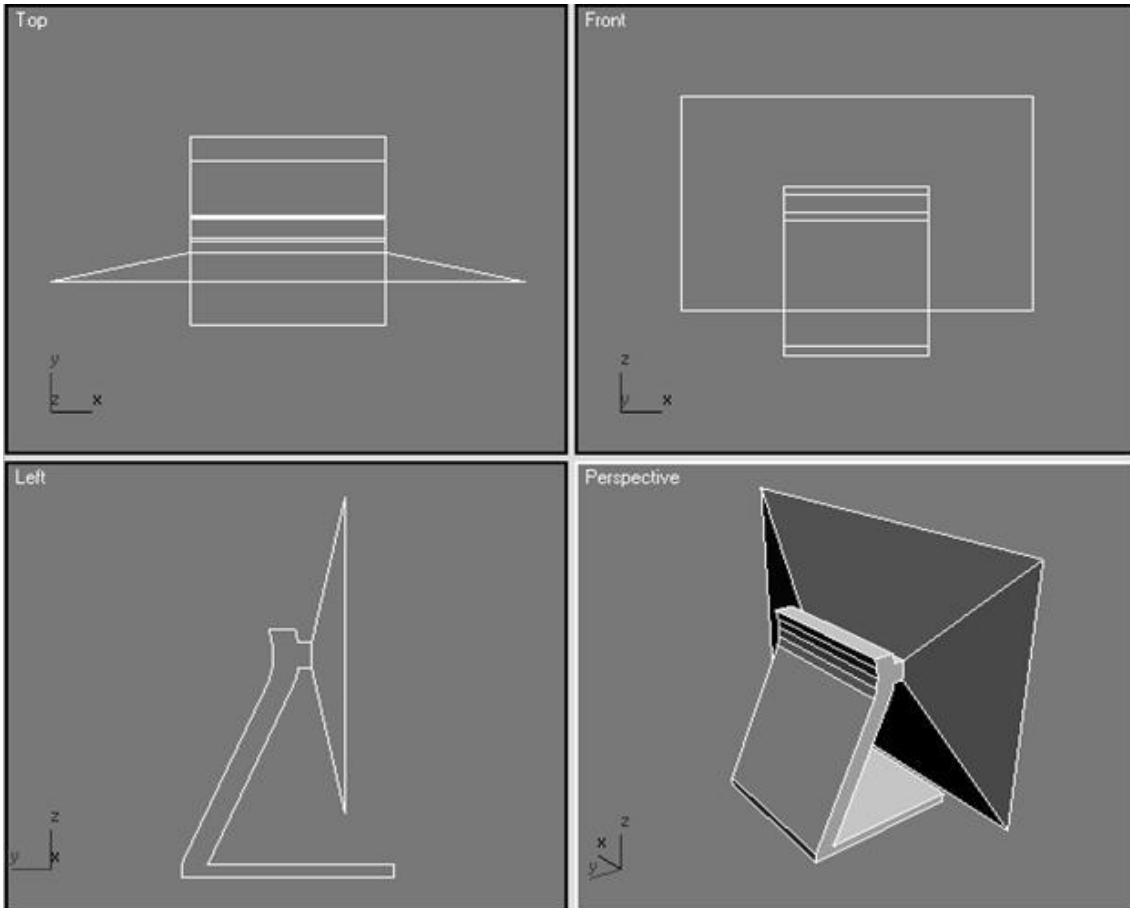




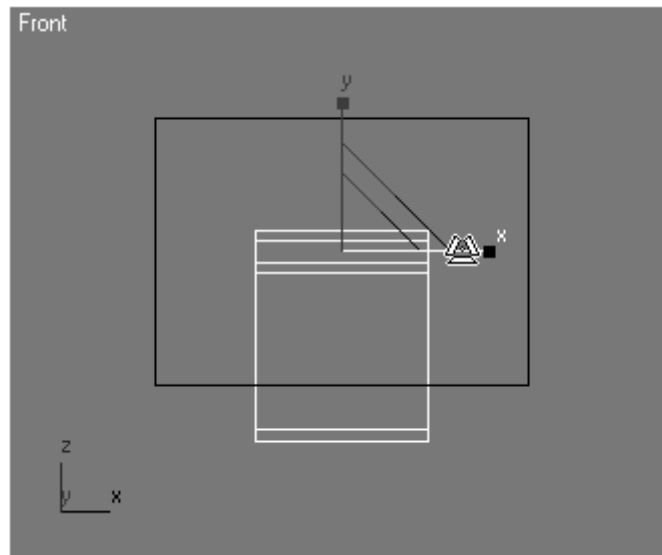
Now we create the screen! Enable polygon-level editing and select the polygon that we are currently working on and delete the points. Click the square in front of the «Bevel» button, set the value to 5 in the first field and 60 in the second field, and click OK.



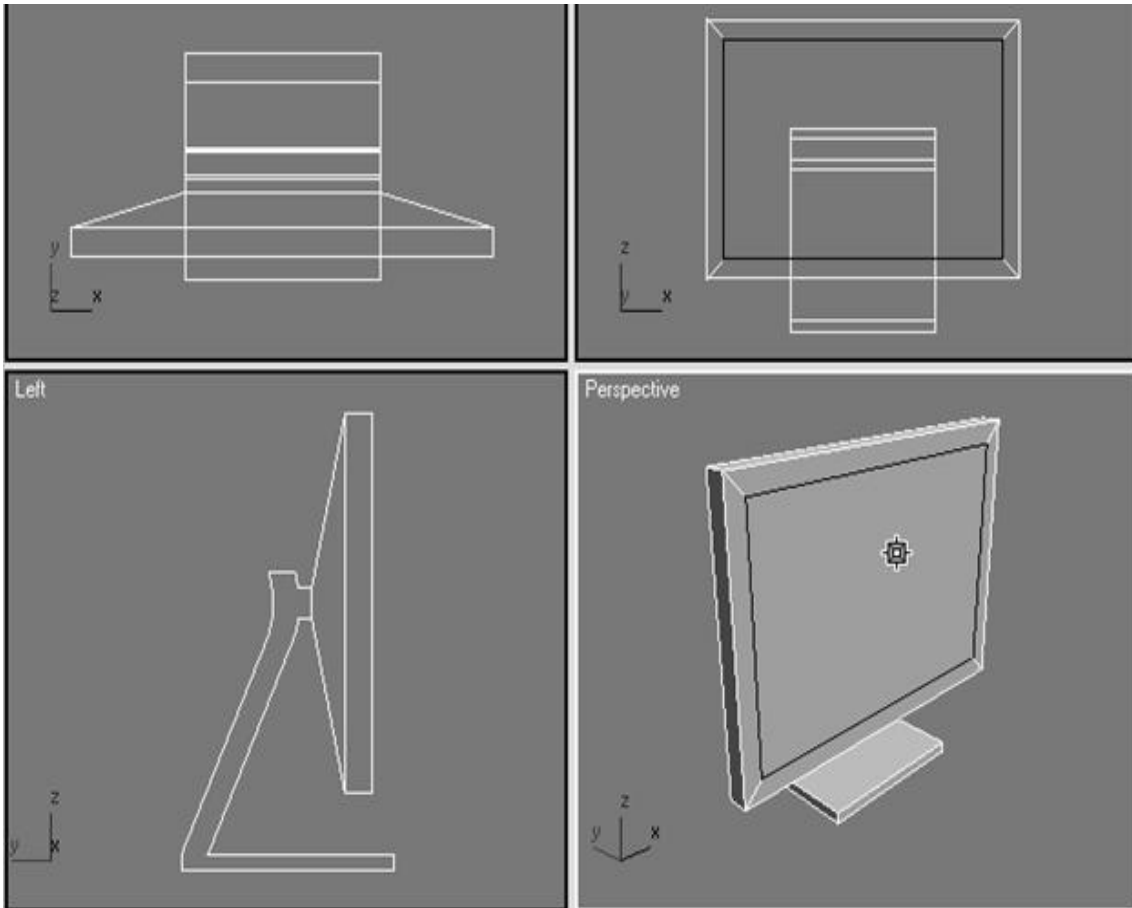
In the Left projection window, drag the polygon slightly to the right (along the X axis).



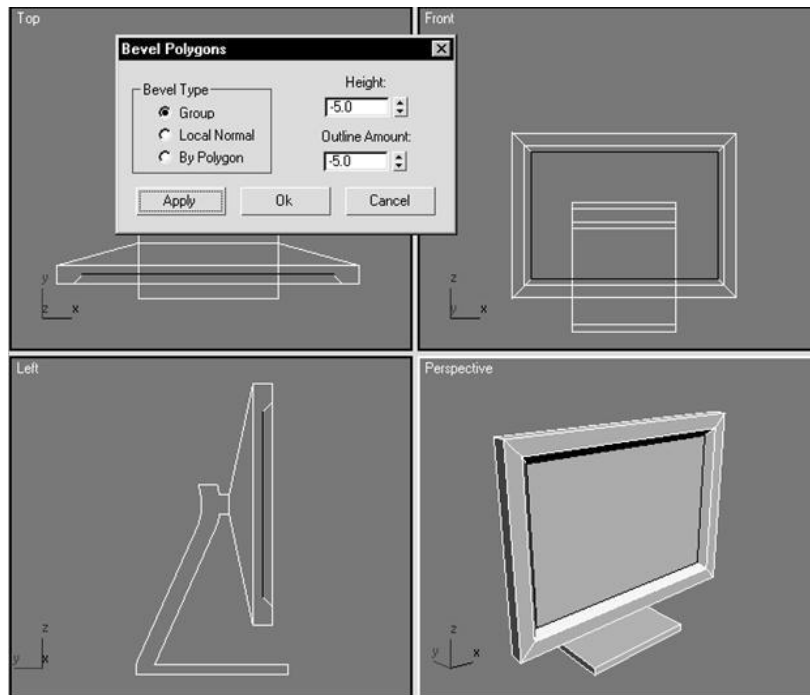
Our model looks more like a TV than a monitor. Therefore, go to the Front projection window and adjust the area of the polygon. You should have an image similar to the one shown in the picture. You don't have to adjust the scale at all, just do as you like!



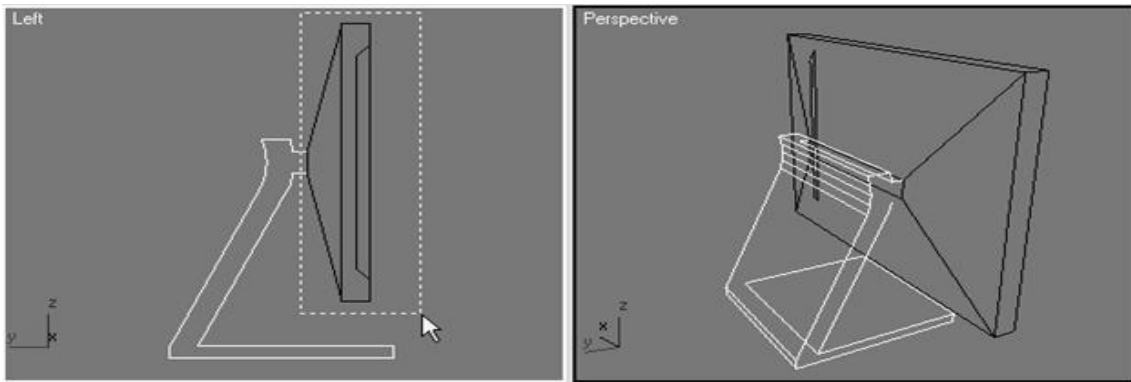
The thicker the screen, the better. To do this, enter a value of 10 by clicking on the square next to the «Extrude» button. Now, without taking the mark from our polygon, click on the small square next to the «Insert» button and enter a value equal to 10.



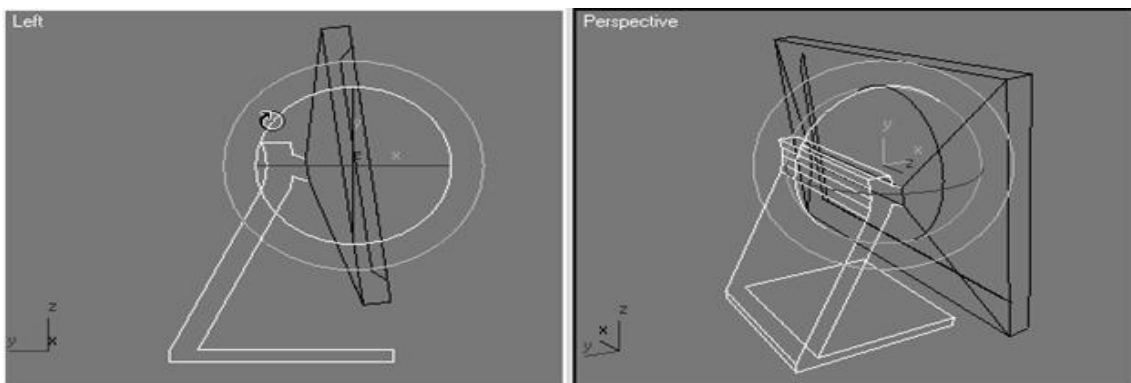
Click the small square next to the «Bevel Type» button, enter a value equal to «-5» in 2 fields. You don't have to enter exactly the values I specify; you can also enter the values you like.




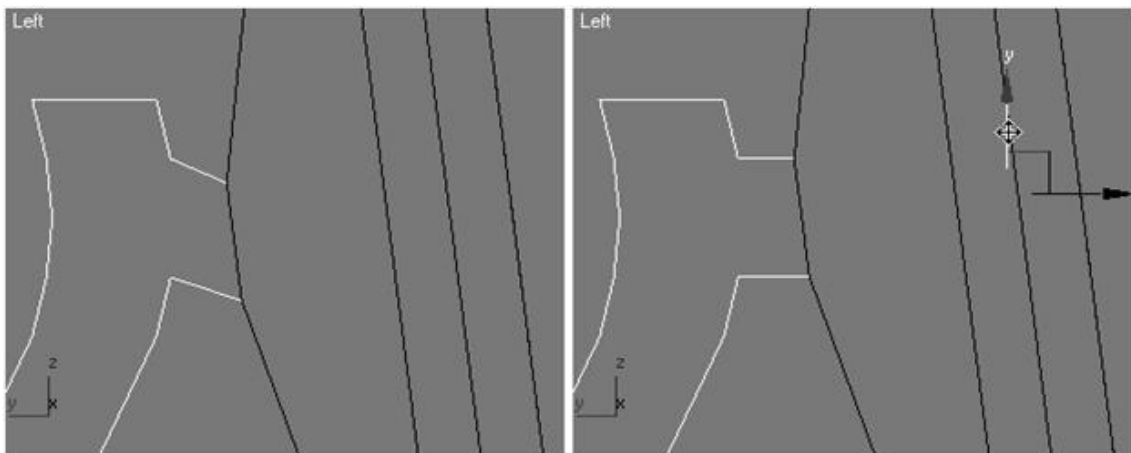
Now let's do some small things. Go to the Left projection window, enable editing at the edge level, and mark the edges as shown.



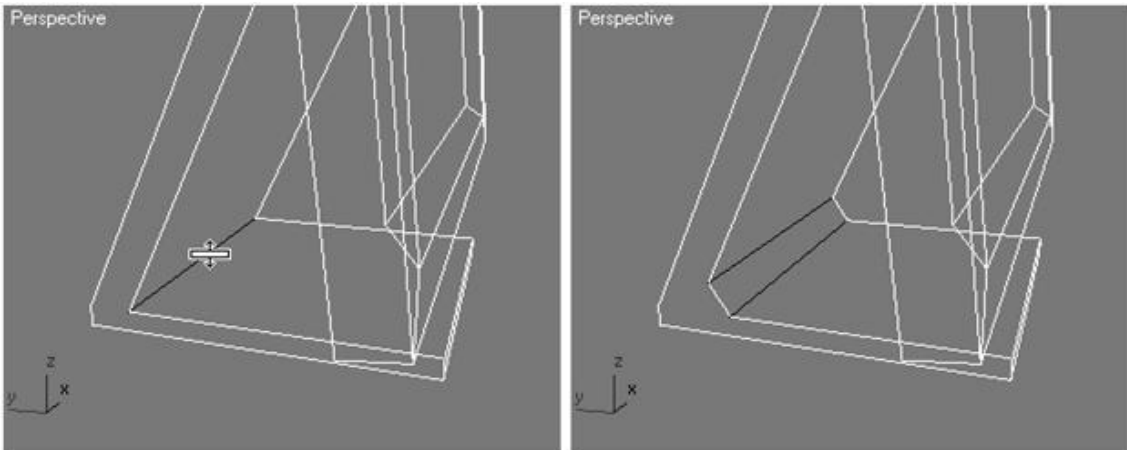
Now, activate «Select and Rotate» button and turn the display.



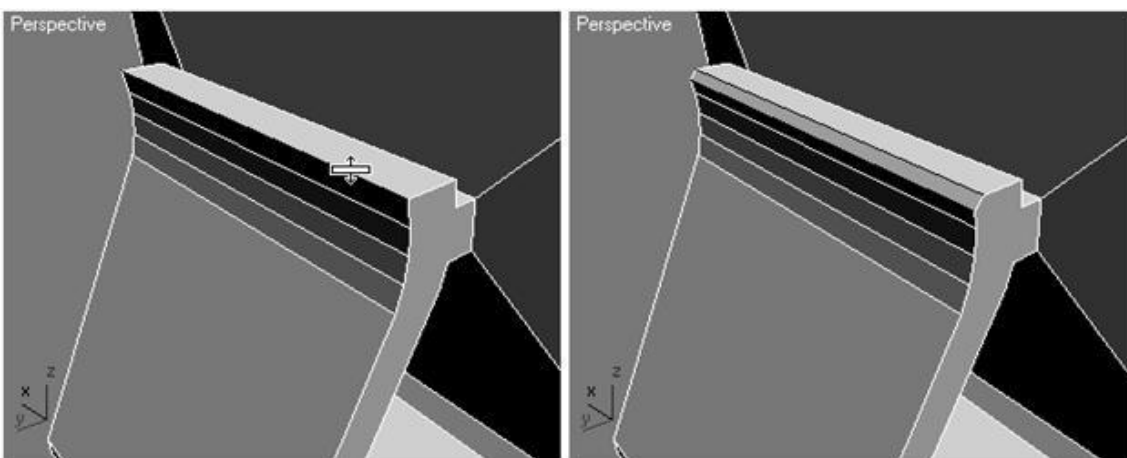
Now, raise the display slightly along the Y axis. Do not forget about «Window/Crossing Selection»  button.



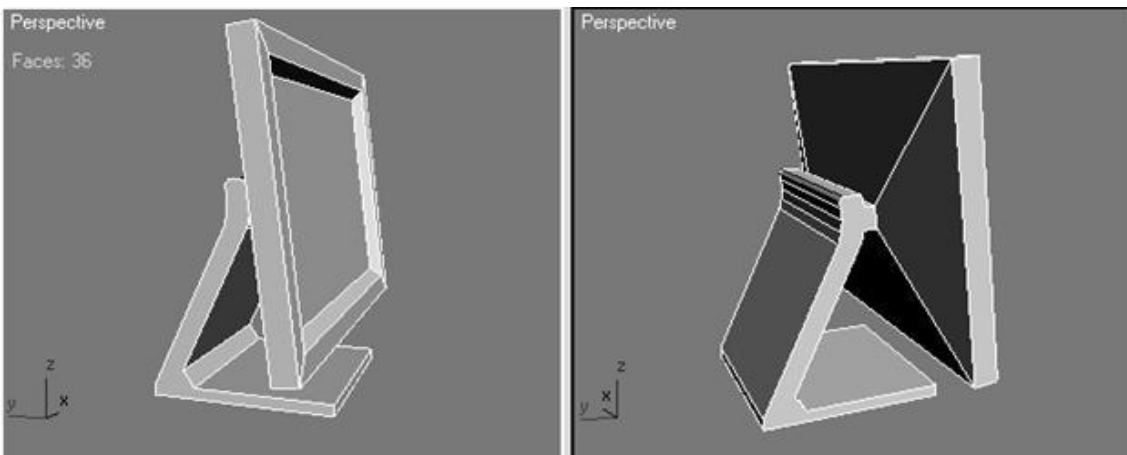
Now, let's get rid of the clutter in some corners. Go to the Perspective projection window and select the base edge as shown in the figure. Click the small square next to the «Chamfer» button, enter 6 in the window that appears, and click OK.



Do the same for the edge on the back of the display, just enter a value equal to 4.



Now our LCD monitor is ready.



In Autodesk 3ds Max 2009, the steps for preparing an LCD monitor have been completed and it will be saved with the Monitor.max extension using the Save Ctrl + S command from the File menu.

References:

1. X.D.Yuldashev. Computer graphics. Textbook. -T.: «Tafakkur», 2020, page 310.
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