


The Surface Tessellator Component

The surface tessellator can be used to add dynamic LOD to your planets/stars. This means that your camera/player/spaceship can move from space to the surface of your star/planet and the level of detail will increase.

Displacement Configuration

This allows you to change the texture configuration used by your surface when reading displacement values.

Texture

This allows you to set the texture(s) used for your surface displacement. You can open the select texture window by pressing the  button. Then depending on your **Source** → **Configuration** search for either '**Surface Sphere**' or '**Surface Cube**', and you'll see a list of suitable prepackaged textures.

Note: If your **Source** → **Configuration** is set to **Cube**, then make sure the texture face (**+X**, **-X**, **+Y**, etc) matches the face you're currently setting.



Scale Min

This allows you to set the minimum displacement scale, this is represented by black pixels.

Scale Max

This allows you to set the maximum displacement scale, this is represented by white pixels.

Patch

Resolution

This allows you to set the amount of rows and columns of quads in each terrain patch. A patch is the smallest section of terrain that gets split into four smaller pieces when the camera gets too close.

Max Levels

This allows you to set the maximum amount of times a terrain patch can be recursively split. A higher value means you can simulate larger planets with a higher level of detail, but it will require more CPU.

LOD Distances

This list allows you to modify the required distance to a terrain patch before it will be split. The numbers are relative the radius of your surface (e.g. if your surface has a radius of 100.0 and this Level 0 LOD distance is set to 1.0, then the camera must be within 100.0 units of the surface for the patch to be split).

Misc

Vertices Per Mesh

This allows you to limit the amount of vertices that get packed into a single mesh when merging patches.

Min Update Interval

This allows you to set the delay (in seconds) between tessellator update cycles.

Task Budget

This allows you to set the amount of time (in seconds) you allocate to the tessellator update cycle per frame.

Max Splits Per Frame

This allows you to set the amount of terrain patches that can be split per frame.

Max Stitches Per Frame

This allows you to set the amount of terrain patches that can be stitched together (to prevent LOD seams) per frame.

Report Budget

If you tick this then every time the **Misc** → **Task Budget** is exceeded you will receive a notification in the editor console.