



Auto_LOD

for X-Plane 10.32

Version 1.3

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Austrian X-Plane Design Group

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1. Overview

What is Auto LOD?

This script is used for adjusting of graphic parameter (tweaking) during the running simulator.

The LOD value (sim/private/controls/reno/LOD_bias_rat) can be automatically adjusted by the script to keep the fps rate between two configurable values (as far as possible).

2. Installation

To install just copy the content of the .zip-file into the 'Scripts' folder of FlyWithLua. The file 'Auto_LOD 1.3.lua' must be in the folder '<X-Plane directory> / Resources / plugins / FlyWithLua / Scripts'.

Attention: FlyWithLua version 2.3 or higher is needed!

3. Display

Upon start of X-Plane in the left lower corner of the screen the display of 'Auto_LOD' will appear.



When running the actual fps value (continuously refreshed) and LOD value are displayed.

Is the script switched into 'Auto' mode, the LOD value will be changed until the fps value will remain between the two configured values.



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4. Configuration

The configuration of the wanted fps values is done inside the script itself:

```
CRFB
-- USER editable values -----CRFB
CRFB
local LOD_fps_min = 30.000 -- minimum FPS, if FPS drops below this value, LOD will be reducedCRFB
local LOD_fps_max = 40.000 -- maximum FPS, if FPS raises above this value, LOD will be increased. must be greater than LOD_fps_min + 10CRFB
local LOD_fps_time = 500.000 -- timeout [ms]: time to wait before to set new LOD (100 .. 1000 recommended) CRFB
CRFB
local LOD_posX = 10.000000 -- horizontal position of window CRFB
local LOD_posY = 10.000000 -- vertical position of window CRFB
CRFB
LOD_Mode_auto = true.000000 -- Start in Auto-Mode set to "true" or "false"CRFB
LOD_Sonderfunktion = true.000000 -- Special function (Landing Lights switch "auto-mode")CRFB
LOD_Sonder_value_off = 1.000000 -- Value if landing-light goes off (manual mode)CRFB
CRFB
----- DONT edit anything below this line !!! -----CRFB
CRFB
```

Here the following values can be configured:

- LOD_fps_min** The lowest value of fps. If the fps drops under this value the LOD will be lowered and the fps will raise again.
- LOD_fps_max** The highest value of fps. If the fps raises above this value the LOD will be raised, more objects are displayed and the fps will drop again.
- LOD_fps_time** The time factor (milliseconds) the script waits until a new adjustment of the LOD will be made.
- LOD_posX** Horizontal position of display (left lower corner).
- LOD_posY** Vertical position of display (left lower corner).
- LOD_Mode_auto** Mode, in which the script is started. Possible values are "true" or "false". For example, if "true" is written there the script will start in 'Auto' mode.
- LOD_Sonderfunktion** If set to "true" the 'Auto' mode will be activated when switching on the landing lights. By switching of the landing lights the 'Auto' mode is disabled again.
The manual change of the 'Auto' mode is still possible.
- LOD_Sonder_value_off** Value for LOD, when switching off the landing-lights

The change of the script can be done with a simple text editor. Don't forget to save after change something! *lol*

Attention: Please change only the values shown in red in the picture above and double check if they are correct. Otherwise the script will crash!

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5. Functions

5.1. Automatic mode

In 'Auto' mode (the background of the fps field is red) the script regulates the LOD value inside the simulator that the fps value stays between the two configured values of **LOD_fps_min** and **LOD_fps_max**.



A new adjustment of the LOD value will be made after the time value of **LOD_fps_time** is over. The value is interpreted in msec (milliseconds).

To low values can cause a 'pumping' effect where objects will continuous appear and disappear. Also a to low difference between the values of **LOD_fps_min** and **LOD_fps_max** can cause such a 'pumping' effect. Thus the script corrects the value of **LOD_fps_max** to the value of **LOD_fps_min** +10.

Since version 1.2 the script tries to hold the FPS-value near the **LOD_fps_min** - value by controlling the LOD-value.

With a click inside the fps field the 'Manual' mode will be activated and the set LOD value will be held constant.

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5.2. Manual mode

With the 'Manuel' mode no correction of the LOD value will be done.



In this mode the background of the fps field is grey.

5.2.1. LOD Mode

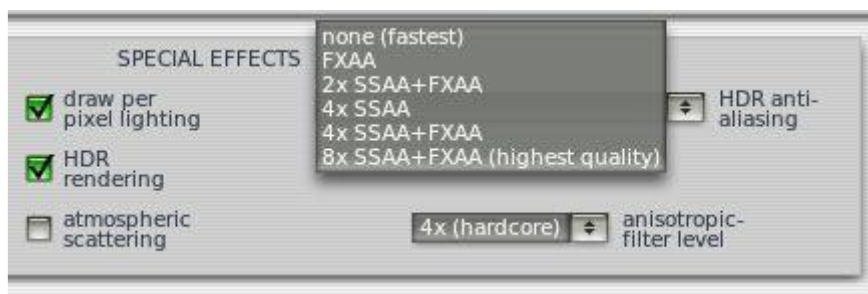
The LOD value can be changed with the mouse wheel when the pointer is inside the LOD field.

5.2.2. HDR Mode

With a click inside the display (LOD field) the HDR mode will be activated:



Here you can change the 'HDR anti-aliasing' like in the simulator:



Due saving space in the display, the labels are abbreviated.

Influenced DataRefs:

sim/private/controls/hdr/fsaa_ratio_x
 sim/private/controls/hdr/fsaa_ratio_y
 sim/private/controls/hdr/use_post_aa

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5.2.3. Anisotropic filter level mode



Another click will change from HDR mode to the 'Anisotropic filter level' mode. Here the value can be changed with the mouse wheel – like in the simulator – to the value of 1, 2, 4, 8 and 16.

Influenced DataRefs:

sim/private/controls/reno/aniso_filter

5.2.4. Ortho boost factor mode



Another click inside the display will switch to the 'Ortho boost factor' mode. Here the value of the appropriate DataRef can be changed between '0.0' to '1.0' in '0.1' steps, again by using the mouse wheel.

This value is changing the rendering of ground textures in the distance, but needs a view seconds to appear.

Influenced DataRefs:

sim/private/controls/tex/ortho_boost_factor

Another click inside the display changes back to the LOD mode (see 5.2.1).

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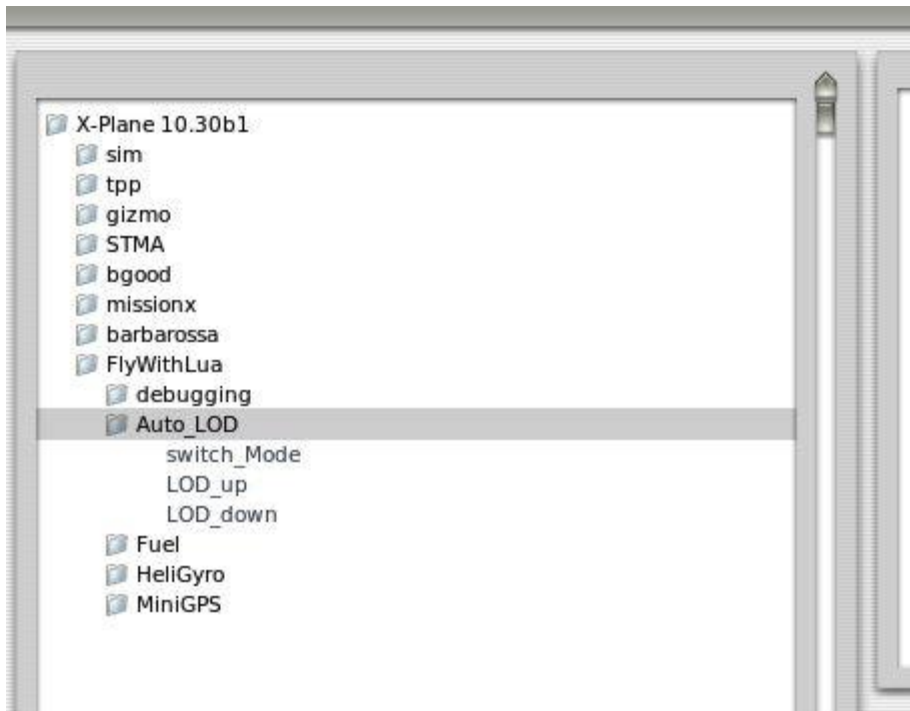
6. Button or Key configuration

The script offers three functions which can be programmed to a joystick button or a key of the keyboard:

"**switch_Mode**" Switches between "Auto" and "Manual" mode.

"**LOD_up**" increases the LOD value by 0.1

"**LOD_down**" decreases the LOD value by 0.1



To do so, open the X-Plane menu "Environment / Joystick & Buttons" and select "Keys" or "Buttons: Adv.".

Configuration of a key (or key combination)

Now add a new key assignment with , click on press your selectec key (or key combination with SHIFT, CTRL or ALT). The new key assignment must be displayed.

Now check the box left of



"sim/none/none" with a click, select the function you want and confirm with a click on the field.

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Configuration of joystick buttons

In "Buttons: Adv." press your selected joystick button. The actual function of this button will be displayed. If it is "none/none" a new function can be bounded to this button.



Now check the box left of



"sim/none/none" with a click, select the function you want and confirm with a click on the field.

7. Support forum

<http://forum.aerosoft.com/index.php?/topic/82431-lua-script-zum-anpassen-des-lod-per-mausclick/>



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8. Credits

LAMINAR RESEARCH® X-Plane®
X-Friese for FlyWithLua and a lot of sample scripts
PetJedi (AXDG) Editor of the manual and the english version

9. Betatester-Team

Members of AXDG.

10. Terms of license

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Have lots of fun flying with the Auto_LOD

oe3gsv, Gerhard

