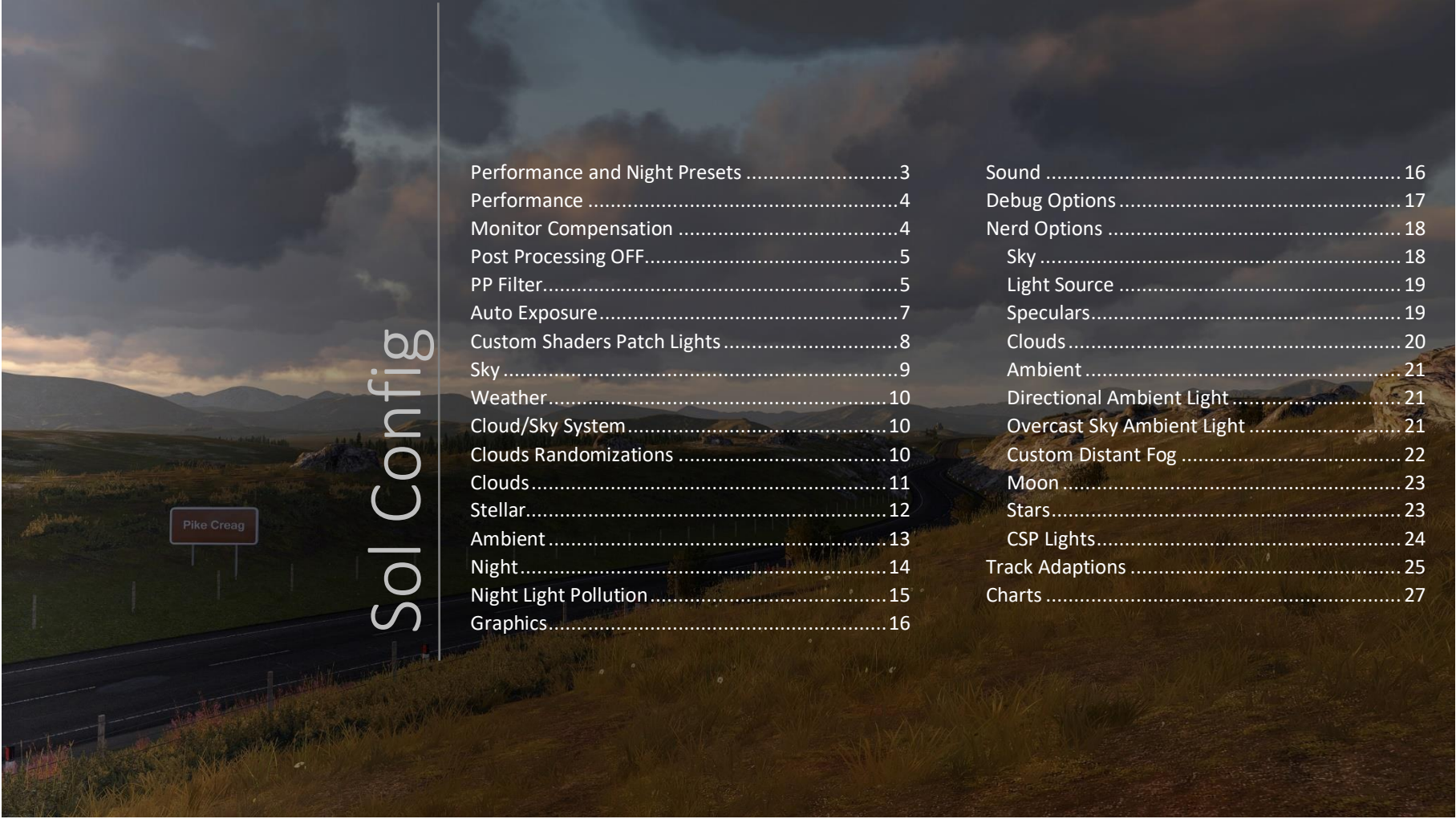




Sol Config

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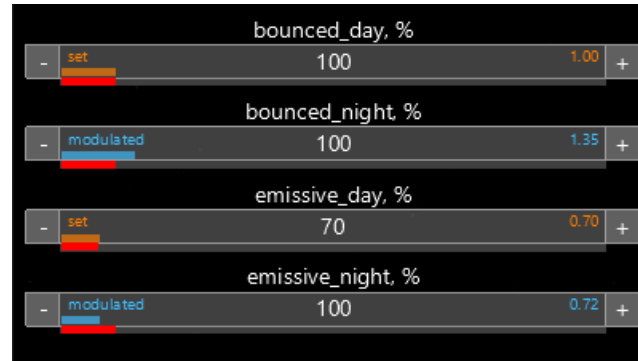
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Parameters of Sol's Config can be modified or overwritten by a "custom config".

A custom config is a script, which is loaded with a Post-Processing filter (PPFilter). PPFilter modders can decide, which parameter is free to use or is needed to be locked at a certain value.

If parameters are set to a certain value, an orange "set" and bar is drawn within the parameter.

If a value is relatively modified – the user can still change it, but the default value is scaled – a blue "modified" and bar is drawn.





Performance and Night Presets

Use the 4 **performance preset buttons** to adapt Sol to your needs. “Low” will give you the highest fps. “Ultra” will have a huge impact on fps, but let the clouds look really nice. Those performance presets will change the 5 parameters below. These parameters are from different pages of sol_config.

Use the **night preset buttons** to adapt Sol’s night look to your taste and need. With the “Dark” preset, you can have a very natural night look, if your monitor is calibrated and/or is able to view the lowest brightness levels.

The night presets adjust these parameters:

- ✓ night__brightness_adjust
- ✓ night__moonlight_multiplier
- ✓ night__starlight_multiplier

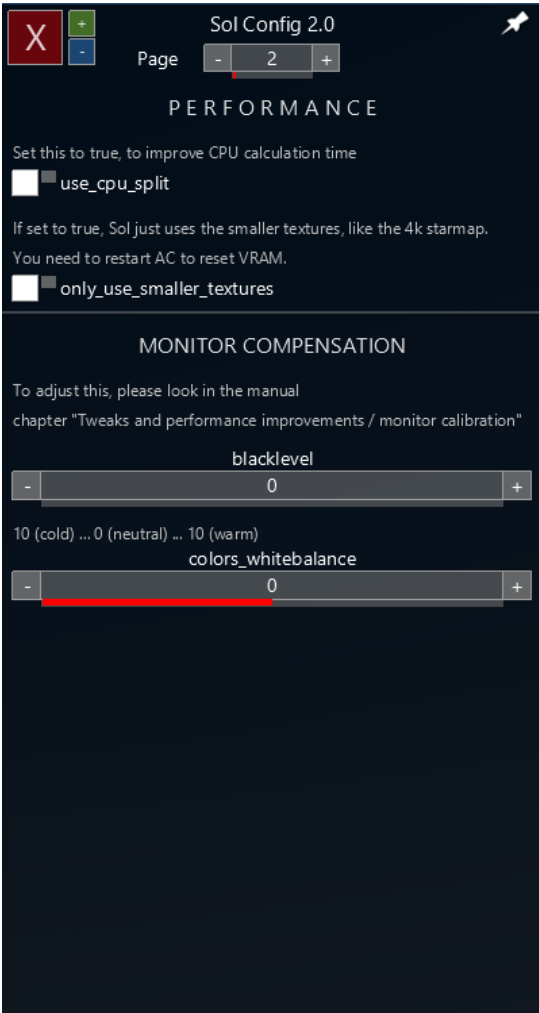
Use “Intense” to have a very artificial night look.

Save/Load Config

Sol’s config is no longer saved automatically! Use load and save to backup and restore your settings.

Reset all settings to default

All Sol parameters will get their default values, except the track adaption parameters.



Performance

`sol__use_cpu_split = false`

If set to true, the calculations of clouds, light and area are separated and sequenced in multiple frames. This will reduce the CPU load. If frame rates are low, you will see the splitted calculations.

Monitor Compensation

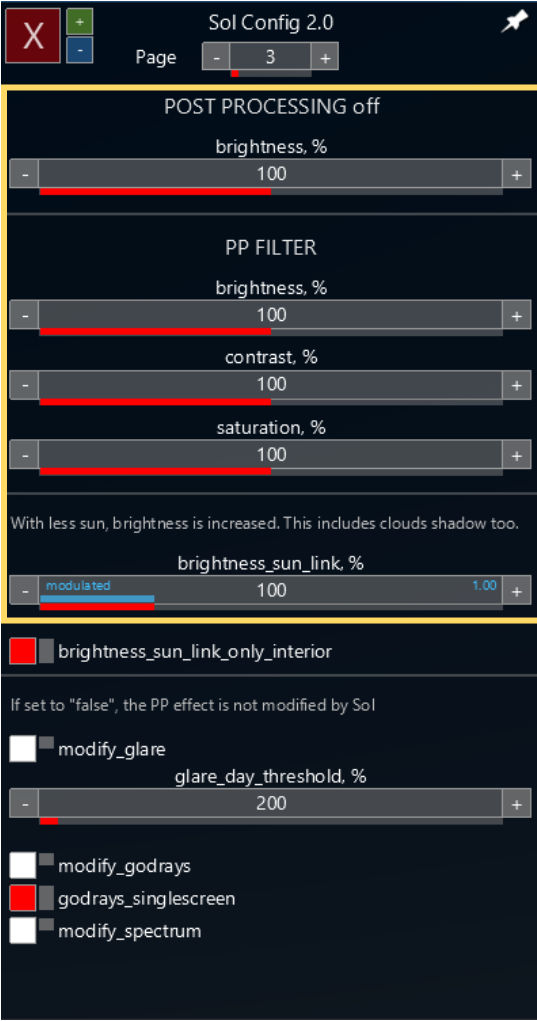
`blacklevel__compensation = 0`

If the settings of your monitor are set wrong, you will not see any details with low color values. Open the [black level chart](#) and make it full-screen. Try to change the settings of your monitor, so you can barely see field 1 or 2. Try to lower contrast a bit to achieve this. If this is not possible, go back to default values. Maybe your monitor is also not able to show detail in that region.

The blacklevel compensation shrinks the color range and lift all values, so the colors are in a practical range.

`colors_whitebalance = 0`

If PostProcessing is used, the overall whitebalance of colors can be adjusted here.



Post Processing OFF

`ppoff__brightness = 1.00`

Sol has a full support of “PP off” mode. If PostProcessing is deactivated, Sol has integrated modifiers to achieve post processing like controls.

PP Filter

`ppfilter__brightness = 1.00`

`ppfilter__contrast = 1.00`

`ppfilter__saturation = 1.00`

You can adjust the 3 main picture settings here. This will not modify the selected PPFilter.

`ppfilter__brightness_sun_link = 1.00`

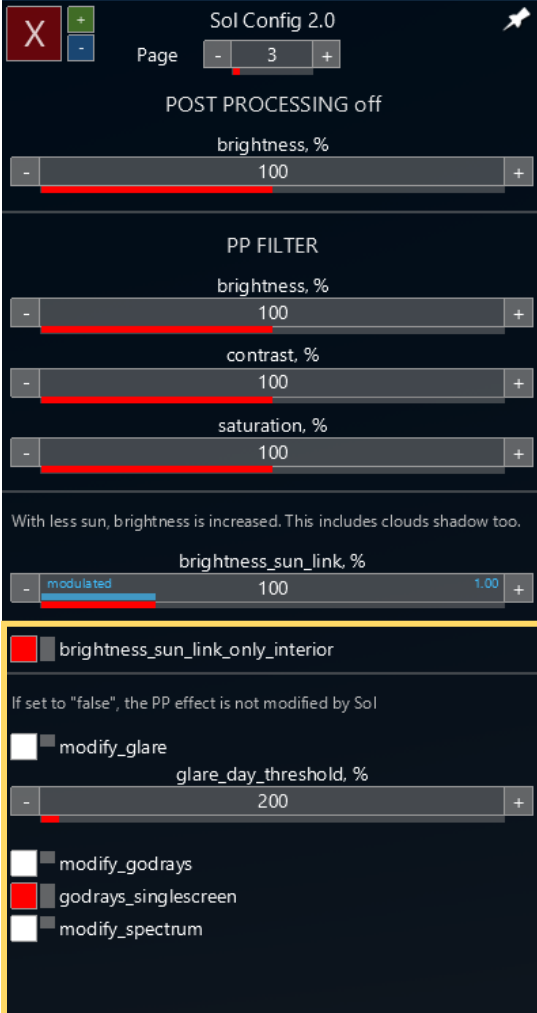
This parameter controls an integrated function, which gains brightness if sunlight decreases. The inputs of this function are sunlight, ambient light, cloud shadow and the overcast modulator. Different to Autoexposure of the PPFilter, this function controls the brightness more static and more stable. It could be described as a control of the needed additional exposure for different light situations.



0.00

1.00

2.00



`ppfilter__brightness_sun_link_only_interior = 1.00`

Just do the brightness control in cockpit views. The brightness with external cams is fixed.

`ppfilter__modify_glare = false`

If activated, Sol controls the glare thresholds of the PPFilter. Mainly they will be lowered in nighttimes, to show camera like effects.

`ppfilter__modify_godrays = false`

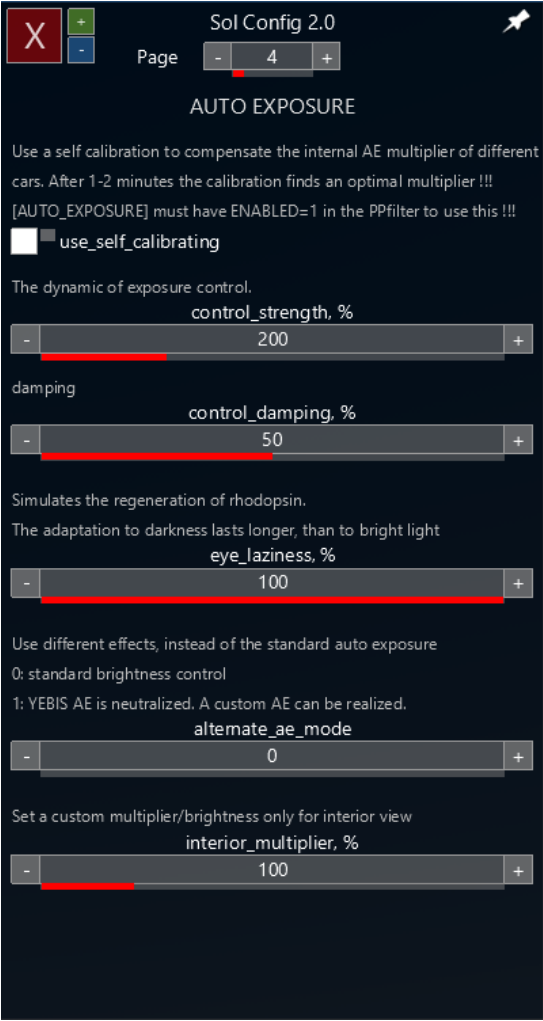
If activated, Sol controls the settings of godrays. Godrays will be lowered for certain weather situations. `ppfilter__modify_godrays` will be activated, if Sun Dazzle Effect is used.

`ppfilter__godrays_singlescreen = true`

If you use triplescreen, deactivate this. This will prevent the double sun glitch.

`ppfilter__modify_spectrum = false`

If activated, Sol will change the color temperature with different inputs, like sunangle or air temperature.



Auto Exposure

`ae__use_self_calibrating = false`

Use a self calibration method to compensate the internal AE multiplier of different cars. After 1-2 minutes the calibration finds an optimal multiplier. **PPFilter.ini: [AUTO_EXPOSURE] ENABLED=1**

In AC there is an internal AE multiplier for every car. With this multiplier, the YEBIS (a Post Processing Suite) Auto Exposure (AE) is adapted to the different shapes of the cockpit, because there are different sizes of the visible environment in different cars. E.g., open wheelers have a big area of visible environment or very little in the Mans prototypes. The internal AE multiplier adapts this area and tries to equal the AE for every car - BUT with less success! That's why AE differs much with different cars. To use an averaging over a certain amount of time stabilizes the AE for many cars.

`ae__control_strength = 2.00`

The dynamic of exposure control

`ae__control_damping = 0.50`

Dampening to prevent too fast controlling.

`ae__eye_laziness = 1.00`

Simulates the regeneration of rhodopsin. The adaptation to darkness lasts longer than to bright light.

`ae__alternate_ae_mode`

Activates a different method for Auto Exposure.

`ae__alternate_ae_mode = 0`

YEBIS controls the PPfilter's exposure.

`ae__alternate_ae_mode = 1`

YEBIS control is neutralized and brightness is fixed. The AE value can now be used independently. Advanced AE logics can now be realized in a custom config by retrieving the AE value via: **weather__get_AE()**

X

+

-

Sol Config 2.0

Page

-

5

+

CSP Lights

The headlights will be switched on or off with certain ambient light levels, sun angle, fog_dense levels, or dependent on the weather badness index

if_sun_angle_is_under, %

-

300

+

if_ambient_light_is_under, %

-

750

+

if_fog_dense_is_over, %

-

70

+

if_bad_weather, %

-

50

+

If this is activated, CSP lights appear with sunset and disappear with sunrise. It will also control CSP's new light's fog glow. Set it to false, if you like to use your own control in sol custom config over `ac.setWeatherLightsMultiplier(x)` and `ac.setGlowBrightness(x)`.

☒

controlled_by_sol

This multi effects all CSP lights, if controlled_by_sol is activated

multiplier, %

-

100

+

Custom Shaders Patch Lights

The headlights of the AI will be switch on or off, with the following conditions:

`headlights__if_sun_angle_is_under = 3.00`

Sun angle

`headlights__if_ambient_light_is_under = 7.50`

Ambient light

`headlights__if_fog_dense_is_over = 0.70`

Fog dense

`headlights__if_bad_weather = 0.50`

All weather are categorized with a “bad” index. E.g., “Light Rain” has 0.2.

`global_CSP_lights_controlled_by_sol = true`

If this is set to true, Sol controls the brightness of bounced and emissive light. While Day, the brightness should be lower, to prevent visible reflections.



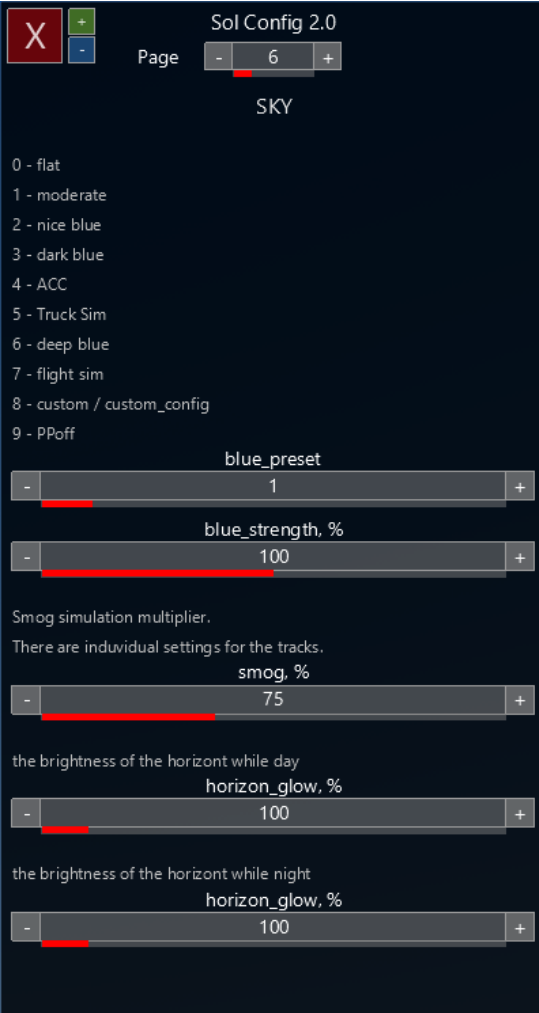
false



true

`global_CSP_lights_multi = 1.00`

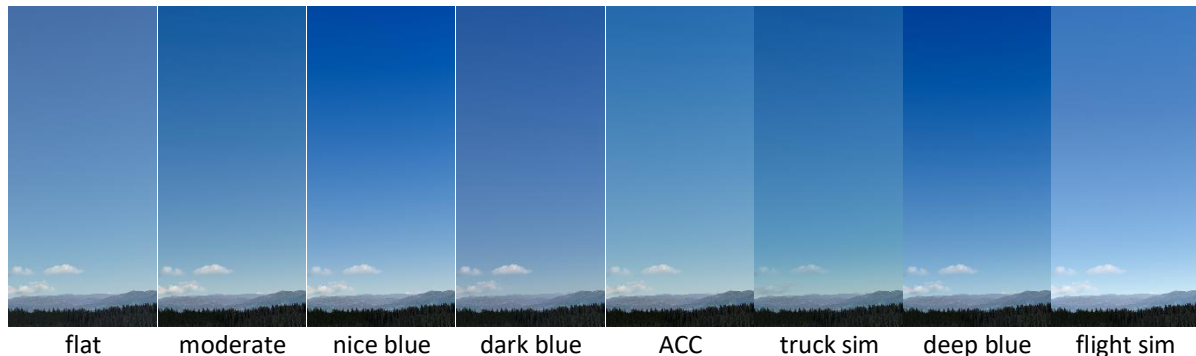
Controls the overall brightness of bounced lights.



Sky

```
sky__blue_preset = 1
sky__blue_strength = 1.00
```

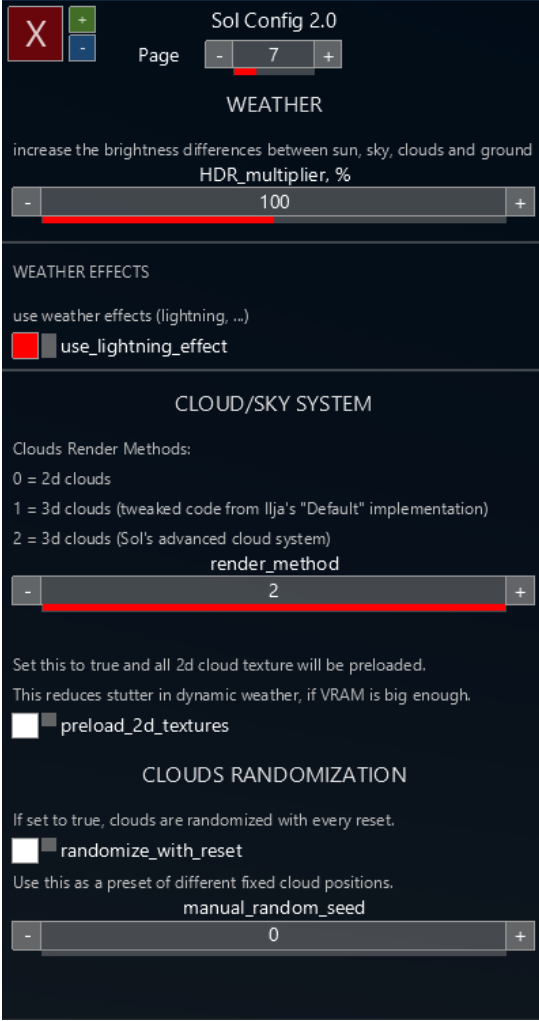
Choose your sky color and gradient. The appearance and feel of a sky, depends much on your own expectations and the settings of your monitor. If you cannot see any differences while changing it, maybe the selected PPfilter has a fixed sky__blue_preset value. Select the "___Sol" PPfilter, to freely change all parameters. Adjust the richness of "blue" to your liking with sky__blue_strength.



```
sky__smog = 0.75
```

Sol has its own simulation of smog. Every track has/can have a different setting for smog at morning, noon and evening. Use the sky__smog multiplier, to globally control this effect.

```
day__horizon_glow = 1.00    The colorfulness of the horizon while dusk and dawn.
night__horizon_glow = 1.00  The amount of the horizon's light shimmer in nighttimes.
```



Weather

`weather__HDR_multiplier = 1.00`

If a custom AE method is used in PPFilters/Custom Configs, you can gain the effect here.

`weather__use_lightning_effect = true` Use lightning effects

Cloud/Sky System

`clouds__render_method = 0` "2d Clouds" called render method:

Pictures of real clouds are used, to create a dome.

`clouds__render_method = 1` This is a customized variant of Ilja Usupov's basic implementation of 3d clouds.

`clouds__render_method = 2` Sol's advanced 3d cloud system:

There are multiple layers of cloud types. Dynamic and static clouds are used, to draw a realistic sky.

`clouds__preload_2d_textures = false`

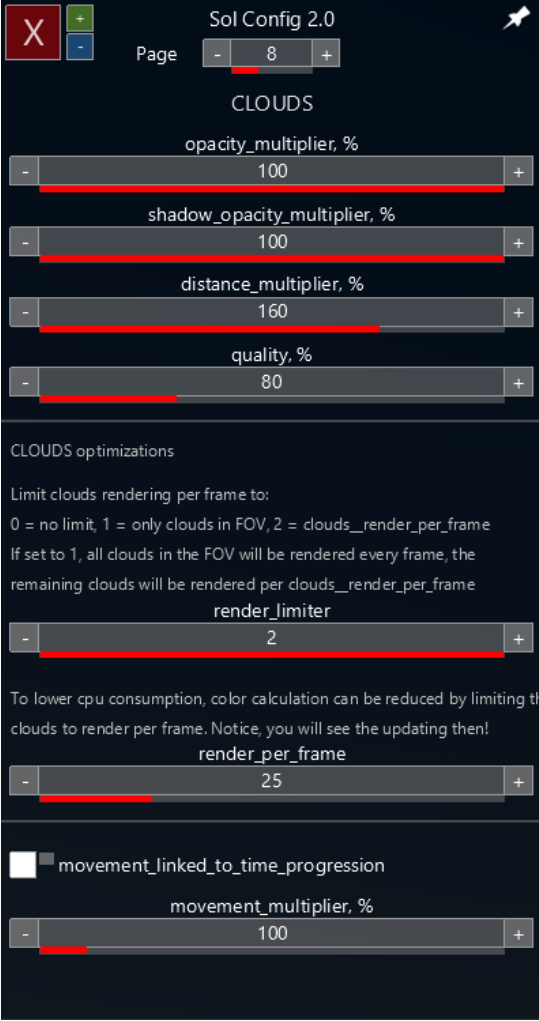
If 2d clouds are mainly used, set this to true, to prebuffer the cloud's textures in VRAM. This prevents stuttering in weather transitions. Then textures must not be loaded while runtime.

Clouds Randomizations

Clouds are positioned randomly. You can control this random process.

`clouds__randomize_with_reset = false` If this is set to false, the random seed will be the same for every reset. Clouds randomization is then stable.

`clouds__manual_random_seed = 0` Choose an individual fixed random seed.



Clouds

`clouds__opacity_multiplier = 1.00`

The global opacity of clouds (all render methods)

`clouds__shadow_opacity_multiplier = 1.00`

The global cloud shadow opacity (all render methods)

`clouds__distance_multiplier = 1.45`

2d Clouds will dim sunlight completely.

A multiplier for the maximum distance, until clouds are rendered. (only for method 2)

`clouds__quality = 0.60`

Clouds are built from multiple textures. The quality mainly controls how many textures are used.

Clouds optimizations

`clouds__render_limiter = 0`

All clouds are calculated with every frame.

`clouds__render_limiter = 1`

Only visible clouds are calculated every frame, the rest is calculated by the "render per frame" limiter.

`clouds__render_limiter = 2`

Only a certain number of clouds are calculated every frame.

`clouds__render_per_frame = 10`

The maximum number of clouds calculated in a frame (limiter 1 and 2)

`clouds__movement_linked_to_time_progression = false`

If this is true, clouds move faster with higher time progression (only with method 2).

`clouds__movement_multiplier = 2.00`

Set an overall speed multiplier for clouds (only with method 2).

Sol Config 2.0

Page

STELLAR

size of moon and sun

size, %

litten atmosphere by the sun

sky_bloom, %

litten fog by sun

fog_bloom, %

modify sun reflecting on objects with specular

☒ modify_speculars

If set to false, the moonlight will not cause shadows.
 This will save gpu consumption.

☒ casts_shadows

Sun Dazzle Effect

ppfilter_modify_godrays (page 1) must be activated !

dazzle ratio

dazzle_mix, %

maximum effect strength

dazzle_strength, %

the amount of dazzle with sun above 65°

dazzle_zenith_multi, %

Stellar

sun__size = 1.00 The Size of moon and sun.

Amount of sunlit atmosphere sun_sky_bloom = 0.63		Amount of sunlit fog sun_fog_bloom = 1.00	
			
0.00		1.00	
			
0.50		1.50	

sun_modify_speculars = true

Sol will modify the sun's reflections on the environment.

moon_casts_shadows = true

Set this to false to prevent moon is casting shadows. This will save GPU consumption at night.

Sun Dazzle Effect

The dazzle effect uses the YEBIS godrays. It has its maximum with a sun angle of 10°.

sun_dazzle_mix = 0.00

The overall mix of godrays effect.

sun_dazzle_strength = 0.50

The length of godrays, resulted in a certain dazzle look.

sun_dazzle_zenith_multi = 0.00

The maximum amount of dazzle with sun angles higher than 20°.

Sol Config 2.0

Page - 10 +

AMBIENT

sun_color_balance, %

- 100 +

☒ use_directional_ambient_light

☒ use_overcast_sky_ambient_light

AO_visibility, %

- 100 +

NIGHT

seamless blend from night without additional effects to maximum Sols's night effects.

effects_multiplier, %

- 50 +

adjust the ambient brightness from dusk till dawn

brightness_adjust, %

- 35 +

the brightness of the moonlight

moonlight_multiplier, %

- 100 +

the brightness of the stars

starlight_multiplier, %

- 100 +

Ambient

`ambient__sun_color_balance = 1.00`

This will adjust the saturation of sun and ambient light for daytimes.



0.00



0.50



1.00

`ambient__use_directional_ambient_light`



false



true

`ambient__use_overcast_sky_ambient_light`



false



true

`ambient__AO_visibility = 1.00`

The visibility of Ambient Occlusion



0.00



1.00

Sol Config 2.0

Page - 10 +

AMBIENT

sun_color_balance, %

- 100 +

☒ use_directional_ambient_light

☒ use_overcast_sky_ambient_light

AO_visibility, %

- 100 +

NIGHT

seamless blend from night without additional effects to maximum Sols's night effects.

effects_multiplier, %

- 50 +

adjust the ambient brightness from dusk till dawn

brightness_adjust, %

- 35 +

the brightness of the moonlight

moonlight_multiplier, %

- 100 +

the brightness of the stars

starlight_multiplier, %

- 100 +

Night

`night_effects_multiplier = 0.50`

This gains various settings, to have a more intense night scenery, like the shining around the moon, its light on the ground the visibility of stars and the YEBIS glare effect.



0.00



0.50



1.00

`night_brightness_adjust = 0.50`

This raises the ambient brightness to have a better visibility. This is an artificial way to also compensate wrong monitor settings.



0.00



1.00



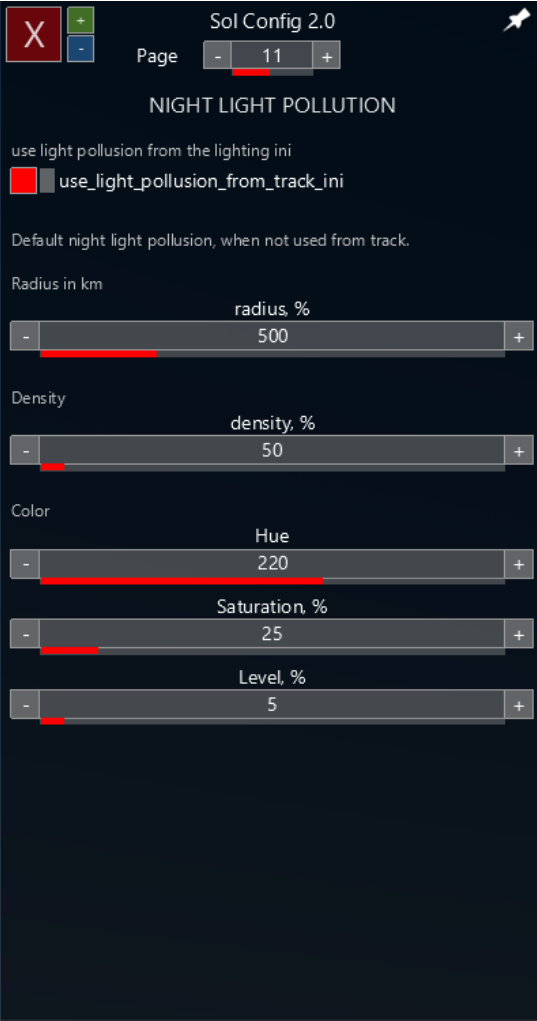
2.00

`night_moonlight_multiplier = 1.00`

Global moonlight multiplier.

`night_starlight_multiplier = 1.00`

Global brightness of the stars.



Night Light Pollution

```
nlp__use_light_pollution_from_track_ini = true
```

Night light pollution will be taken from the track's light ini, if its configured there. If set to false, or light pollution is not configured in the track's light ini, the default pollution is used!

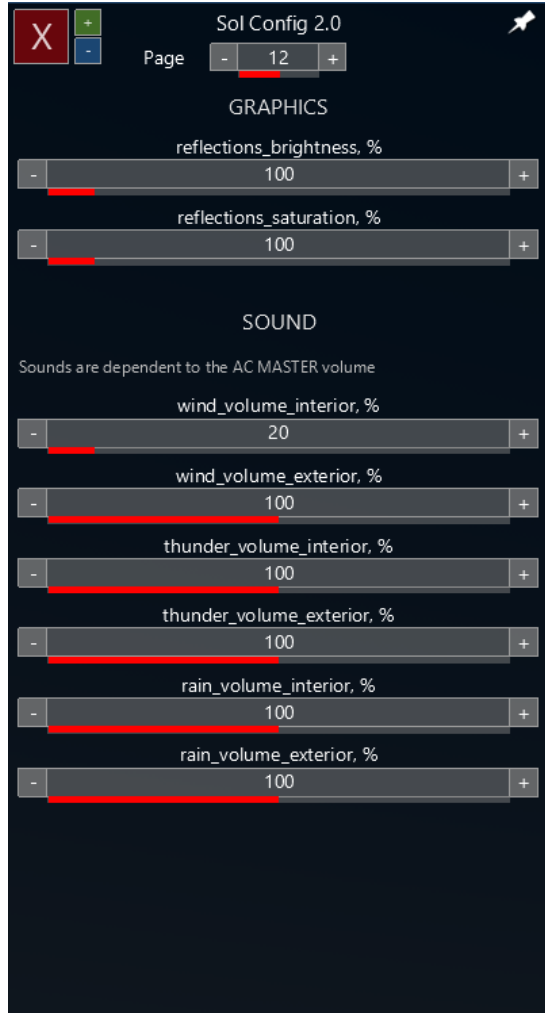
Do light pollution in track inis like this:

```
[LIGHT_POLLUTION]
RELATIVE_POSITION = 0.76, 0, 0.78 ;position in km relative to the center of the track
DENSITY = 0.2 ;density of the pollution
RADIUS_KM = 0.7 ;expansion radius in km
COLOR = 1.0, 0.55, 0.16 ;the color of the pollution
ACTIVE = 1
```

Night time pollution is a weatherFX feature, so it is not only in Sol, but the weatherFX implementation must process it.

Default night light pollution:

<code>nlp__radius = 5</code>	Radius in km
<code>nlp__density = 0.50</code>	Density of the pollution
<code>nlp__color.Hue = 220</code>	Hue (0 = red, 60 = yellow, 120 = green, 180 = cyan, 240 = blue, 300 = magenta)
<code>nlp__color.Saturation = 0.25</code>	Saturation
<code>nlp__color.Level = 0.10</code>	Brightness



Graphics

```
gfx_reflections_brightness = 1.00  
gfx_reflections_saturation = 1.00
```

This allows you, to have access to the look of CSP's reflections.

Sound

```
sound_wind_volume_interior = 0.20  
sound_wind_volume_exterior = 1.00  
sound_thunder_volume_interior = 1.00  
sound_thunder_volume_exterior = 1.00
```

```
rain_thunder_volume_interior = 1.00  
rain_thunder_volume_exterior = 1.00
```

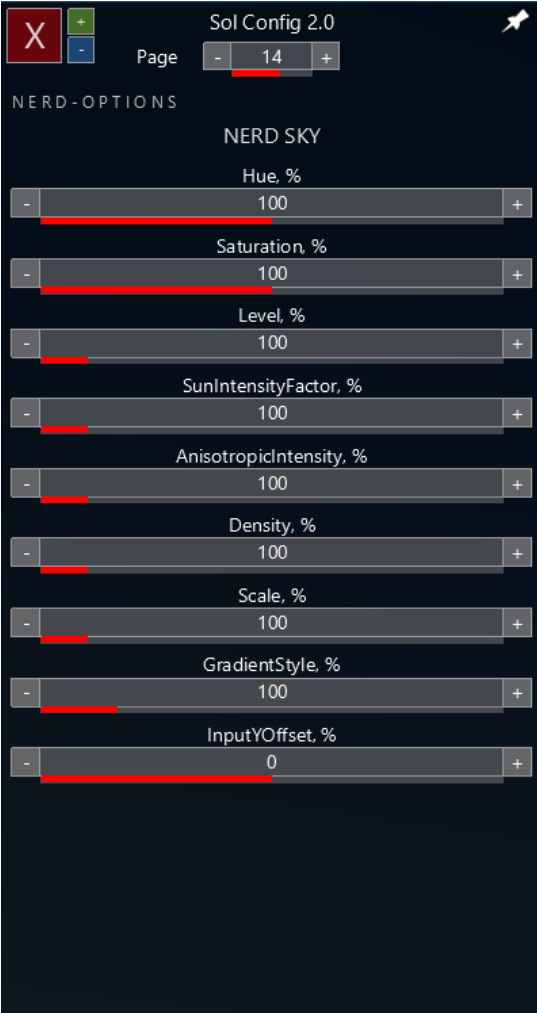
Adjust the volume of Sol's sound effects.

DEBUG OPTIONS

- ☐ runtime
sun, moon...
- ☒ solar_system
temperature, wind, ambient light...
- ☐ weather
dynamic weather plan
- ☒ weather_change
weather effects
- ☐ weather_effects
id, altitude
- ☐ track
direction, altitude
- ☐ camera
headlights
- ☐ AI
shadows
- ☐ graphics
custom config
- ☒ custom_config
Auto exposure
- ☐ AE
external light pollution from track's lighting
- ☐ light_pollution

Debug Options

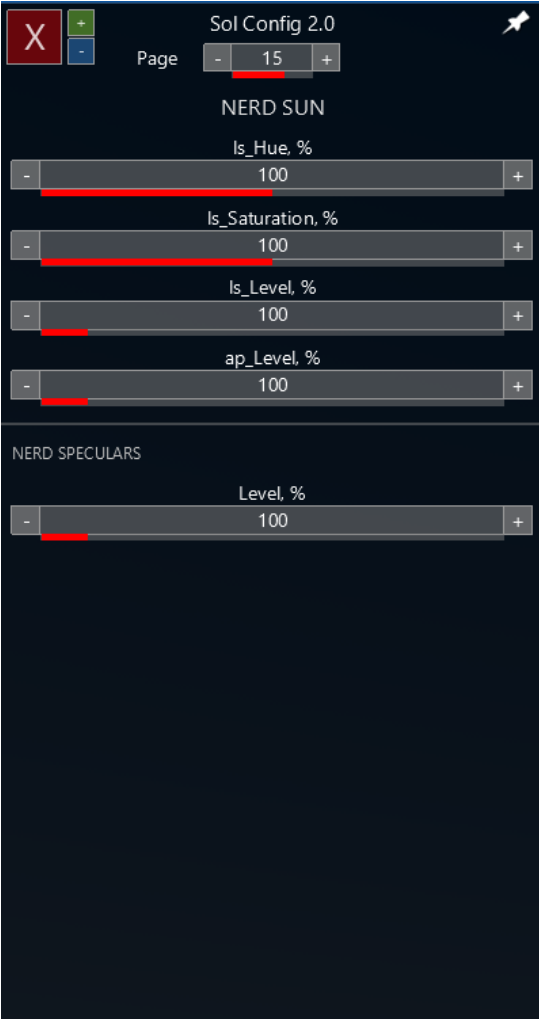
Activate debug information of certain parts of Sol.



Nerd Options

Sky

```
nerd__sky_adjust.Hue = 1.00  
nerd__sky_adjust.Saturation = 1.00  
nerd__sky_adjust.Level = 1.00  
nerd__sky_adjust.SunIntensityFactor = 1.00  
nerd__sky_adjust.AnisotropicIntensity = 1.00  
nerd__sky_adjust.Density = 1.00  
nerd__sky_adjust.Scale = 1.00  
nerd__sky_adjust.GradientStyle = 1.00  
nerd__sky_adjust.InputYOffset = 0.00
```

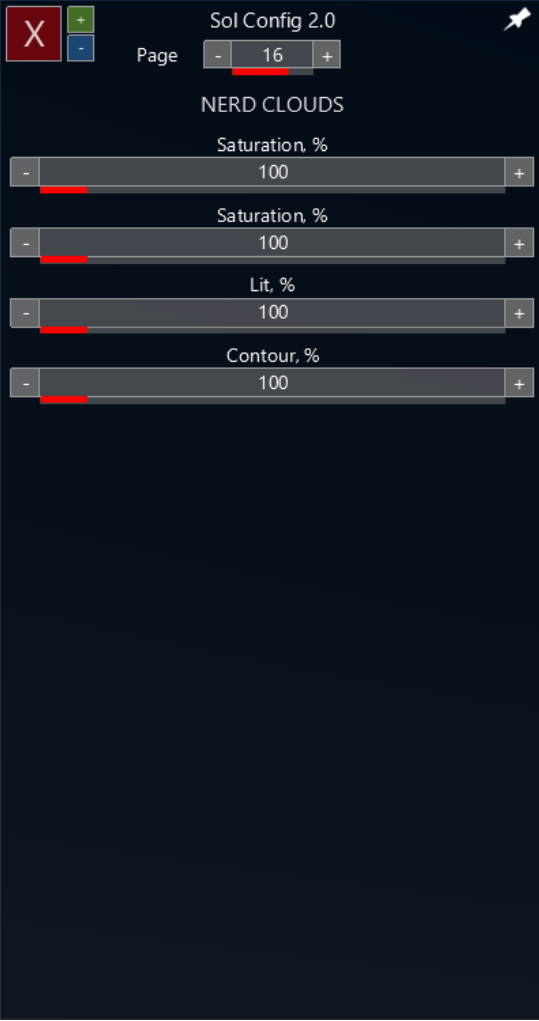


Light Source

```
nerd__sun_adjust.ls_Hue = 1.00  
nerd__sun_adjust.ls_Saturation = 1.00  
nerd__sun_adjust.ls_Level = 1.00  
nerd__sun_adjust.ap_Level = 1.00
```

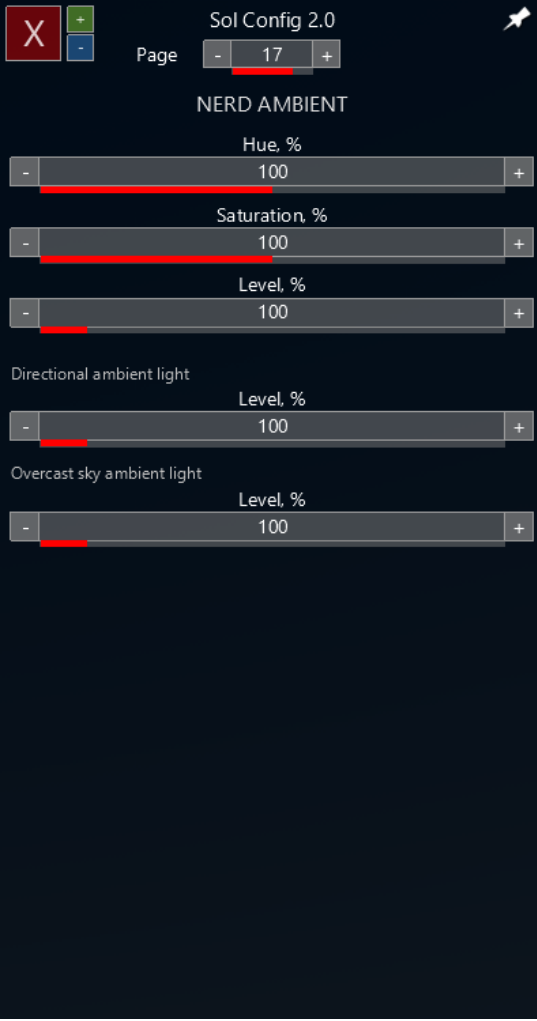
Speculars

```
nerd__speculars_adjust.Level = 1.00
```



Clouds

```
nerd__clouds_adjust.Saturation = 1.00  
nerd__clouds_adjust.Saturation_limit = 0.90  
nerd__clouds_adjust.Lit = 1.00  
nerd__clouds_adjust.Contour = 1.00
```



Ambient

```
nerd__ambient_adjust.Hue = 1.00  
nerd__ambient_adjust.Saturation = 1.00  
nerd__ambient_adjust.Level = 1.00
```

Directional Ambient Light

```
nerd__directional_ambient_light.Level = 1.00
```

Overcast Sky Ambient Light

```
nerd__overcast_sky_ambient_light.Level = 1.00
```



Custom Distant Fog

```
nerd_fog_custom_distant_fog.distance = 30000  
nerd_fog_custom_distant_fog.blend = 0.85  
nerd_fog_custom_distant_fog.density = 1.75  
nerd_fog_custom_distant_fog.exponent = 0.75  
nerd_fog_custom_distant_fog.backlit = 0.05  
nerd_fog_custom_distant_fog.sky = 0.00  
nerd_fog_custom_distant_fog.night = 0.00  
  
nerd_fog_custom_distant_fog.Hue = 220  
nerd_fog_custom_distant_fog.Saturation = 0.50  
nerd_fog_custom_distant_fog.Level = 2.50
```

X

+

-

Sol Config 2.0

Page - 19 +

NERD MOON

low_Hue

- 32 +

low_Saturation, %

- 160 +

low_Level, %

- 360 +

high_Hue

- 210 +

high_Saturation, %

- 30 +

high_Level, %

- 200 +

mie_Exponent, %

- 1500 +

mie_Multi, %

- 150 +

ambient_ratio, %

- 50 +

NERD STARS

Saturation, %

- 100 +

Exponent, %

- 100 +

Moon

```
nerd_moon_adjust.low_Hue = 32
nerd_moon_adjust.low_Saturation = 1.60
nerd_moon_adjust.low_Level = 3.60

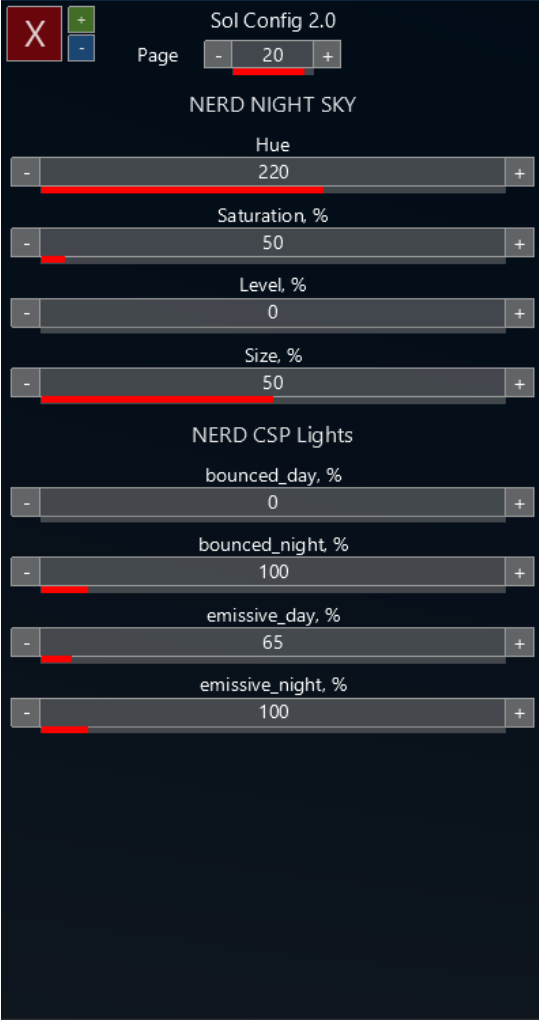
nerd_moon_adjust.high_Hue = 210
nerd_moon_adjust.high_Saturation = 0.30
nerd_moon_adjust.high_Level = 2.00

nerd_moon_adjust.mie_Exponent = 15.00
nerd_moon_adjust.mie_Multi = 1.50

nerd_moon_adjust.ambient_ratio = 0.50
```

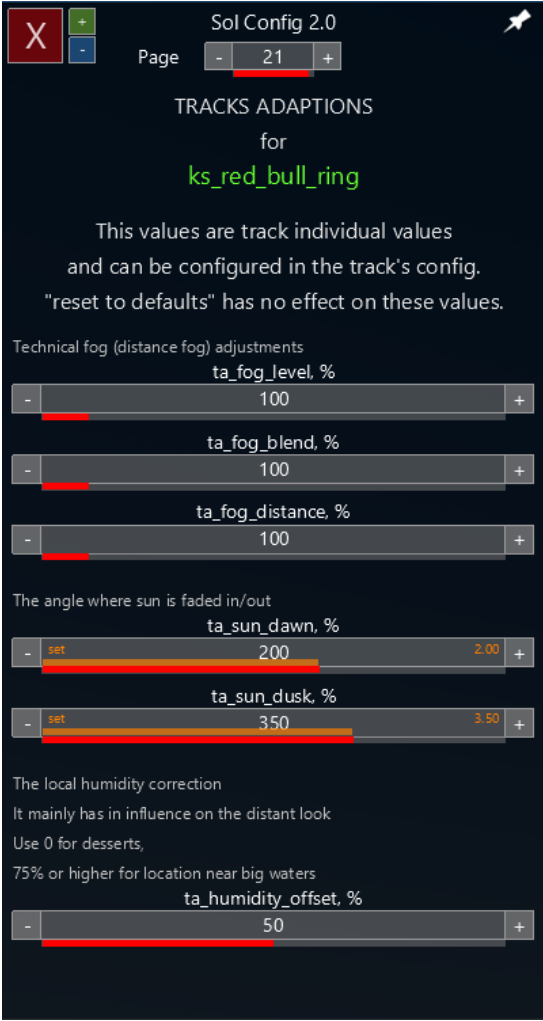
Stars

```
nerd_stars_adjust.Saturation = 1.00
nerd_stars_adjust.Exponent = 1.00
```



CSP Lights

```
nerd__csp_lights_adjust.bounced_day = 0.00  
nerd__csp_lights_adjust.bounced_night = 1.00  
nerd__csp_lights_adjust.emissive_day = 0.65  
nerd__csp_lights_adjust.emissive_night = 1.00
```



Track Adaptions

All parameters you edit here are related to the track, not to Sol's config parameters.

If Sol track parameters are defined in a track config, the parameters are labeled as an orange "set". Otherwise Sol track parameters will load from its own track adaptions file.

`ta_fog_level = 1.0`
`ta_fog_blend = 1.0`
`ta_fog_distance = 1.0`

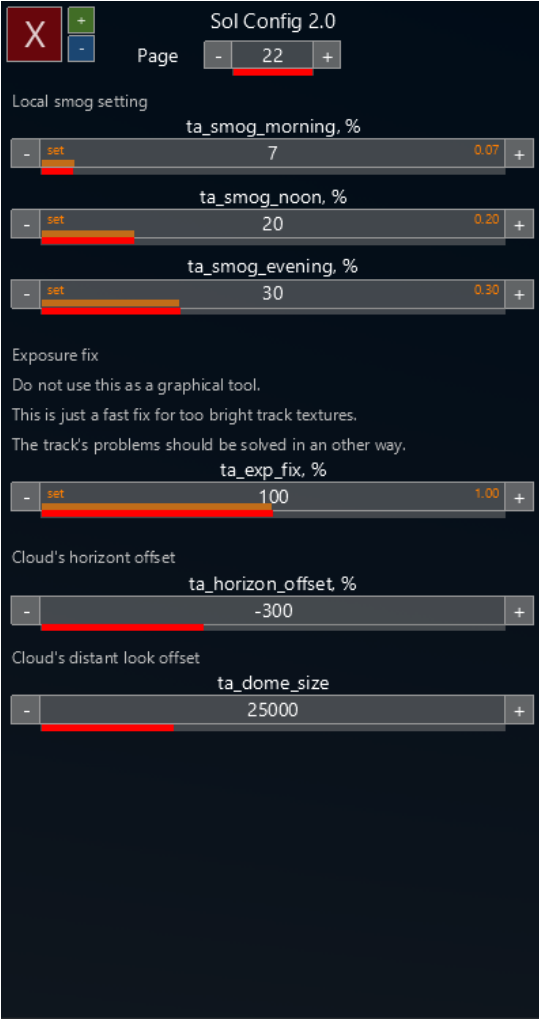
With Sol 2.0, those values are multipliers for the distant fog. So only this fog part can be adapted to a track. All other parts like humidity, mist and smog are not influenced.

`ta_sun_dawn = 1.0`
`ta_sun_dusk = 1.0`

These are angles where the sun is faded in/out. Sunlight cover like from mountains can be adapted to this.

`ta_humidity_offset = 0.5`

Set the tracks minimum humidity, to achieve a realistic look of the track, esp. with tracks near the sea. For deserts this should be 0.



```
ta_smog_morning = 0.25  
ta_smog_noon = 0.35  
ta_smog_evening = 0.5
```

Set different average smog values for morning, noon and evening.

ta_exp_fix

Multiple tweaks are used, to change the basic parameters like sun and ambient light. This function tries to fix overbright textures, too high ksAmbient and ksDiffuse values of some tracks. Instead of editing many things, often a fix with lower lights is possible. This should be used as a last resort.



1.00



0.78



1.00



0.65

ta_horizon_offset = 0.0

For some tracks it could be helpful to adapt the height of the horizon, because of a missing distant map or big mountains. Mainly the distant clouds are adapted.

ta_dome_size = 35000

This mainly adapts the distant fog to the track. Not every track has geometrically correct distant textures. Often a vertical wall is used, to fake a distant area.

1

2

3

4

5

6

7

8

9

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