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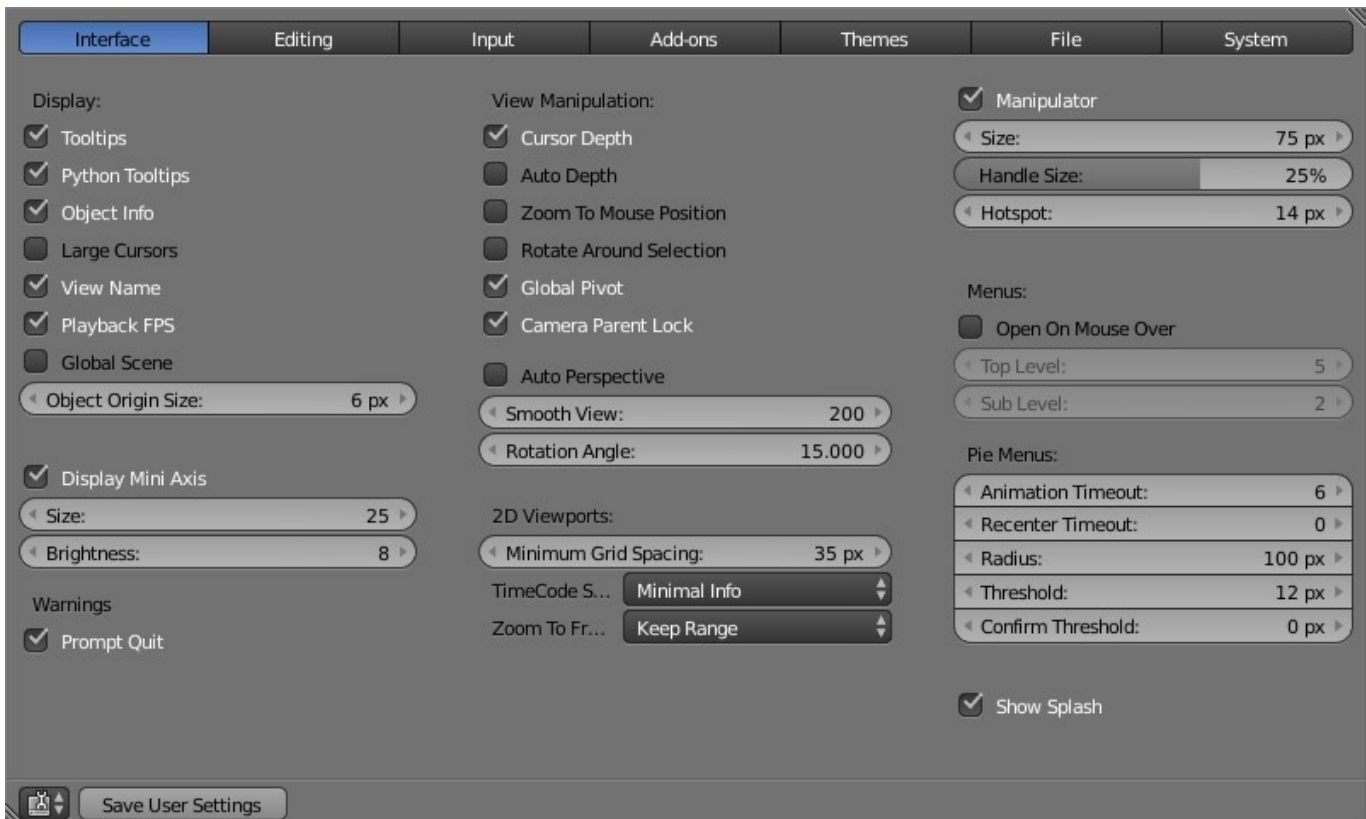
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User Preferences

This chapter explains how to change Blender’s default configuration with the *User Preferences* editor. The Blender *User Preferences* editor contains settings to control how Blender behaves.

Open User Preferences

To open the *User Preferences* editor go to File ▸ User Preferences.



Configure

Now that you have opened the User Preferences editor, you can configure Blender to your liking. At the top of the editor, the available options are grouped into seven tabs:

Interface

Change how UI elements are displayed and how they react.

Editing

Control how several tools will interact with your input.

Input

Customize how Blender reacts to the mouse and keyboard as well as define your own keymap.

Add-ons

Manage Blender's *Add-ons*, allowing you to access features not built-in as well as install new features.

Themes

Customize interface appearance and colors.

File

Configure auto-save preferences and set default file paths for blend-files, rendered images, and more.

System

Set resolution, scripting console preferences, sound, graphics cards, and internationalization.

Save the new preferences

Once you have set your preferences, you will need to manually save them, otherwise the new configuration will be lost after a restart. Blender saves its preferences to *userpref.blend* in your user folder (see next section, "Load Factory Settings", for details).

In the *User Preferences* editor, click on the *Save User Settings* button in the bottom left. This will save all of the new preferences.

Load Factory Settings

Go to File ▸ Load Factory Settings then save the preferences via the *User Preferences* editor.

Hint

It can be valuable to make a backup of your preferences in the event that you lose your configuration.

See the directory layout section to see where your preferences are stored.

Startup File

Reference

Mode: All modes

Menu: File ▸ Save Startup File

When you start Blender or start a new project with the menu entry File ▸ New, a new scene is created from the default scene included with Blender.

This default scene can instead be your own customized setup.

To change the default scene, make all of the desired changes to the current scene or current file and File ▸ Save Startup File.

Interface

Interface configuration lets you change how UI elements are displayed and how they react.



Display

Tooltips

When enabled, a tooltip will appear when your mouse pointer is over a control. This tip explains the function of what is under the pointer, gives the associated hotkey (if any) and the Python function that refers to it.

Python Tooltips

Displays a property's Python information below the tooltip.

Object Info

Display the active Object name and frame number at the bottom left of the 3D View.

Large Cursors

Use large mouse cursors when available.

View Name

Display the name and type of the current view in the top left corner of the 3D View. For example: *User Persp* or *Top Ortho*.

Playback FPS

Show the frames per second screen refresh rate while an animation is played back. It appears in the viewport corner, displaying red if the frame rate set cannot be reached.

Global Scene

Forces the current scene to be displayed in all screens (a project can consist of more than one scene).

Object Origin Size

Diameter of 3D Object centers in the view port (value in pixels from 4 to 10).

Display Mini Axis

Show the mini axis at the bottom left of the viewport.

Size

Size of the mini axis.

Brightness

Adjust brightness of the mini axis.

Warnings

Prompt Quit

When exiting Blender, a pop-up will ask you weather or not you really want to quit (currently only available on MS-Windows).

View Manipulation

Cursor Depth

Use the depth under the mouse when placing the cursor.

Auto Depth

Use the depth under the mouse to improve view pan, rotate, zoom functionality. Useful in combination with *Zoom To Mouse Position*.

Zoom to Mouse Position

When enabled, the mouse pointer position becomes the focus point of zooming instead of the 2D window center. Helpful to avoid panning if you are frequently zooming in and out.

Rotate Around Selection

The selected object becomes the rotation center of the viewport. When there is no selection the last selection will be used.

Hint

This may seem ideal behavior, however, it can become problematic with larger objects such as a terrain-mesh, where the center is not necessarily your point of interest.

Global Pivot

Lock the same rotation/scaling pivot in all 3D Views.

Camera Parent Lock

When the camera is locked to the view and in fly mode, transform the parent rather than the camera.

Auto Perspective

Automatically to perspective Top/Side/Front view after using User Orthographic. When disabled, Top/Side/Front views will retain Orthographic or Perspective view (whichever was active at the time of switching to that view).

Smooth View

Length of time the animation takes when changing the view with the numpad (Top/Side/Front/Camera...). Reduce to zero to remove the animation.

Rotation Angle

Rotation step size in degrees, when Numpad4, Numpad6, Numpad8, or Numpad2 are used to rotate the 3D View.

2D Viewports

Minimum Grid Spacing

The minimum number of pixels between grid lines in a 2D (i.e. top orthographic) viewport.

TimeCode Style

Format of Time Codes displayed when not displaying timing in terms of frames. The format uses '+' as

separator for sub-second frame numbers, with left and right truncation of the timecode as necessary.

Zoom To Frame Type

How zooming to frame focuses around current frame.

Keep Range: Todo.

Seconds: Todo.

Keyframes: Todo.

Manipulator

Turns manipulators on and off.

Size

Diameter of the manipulator.

Handle Size

Size of manipulator handles, as a percentage of the manipulator radius (*size/ 2*).

Hotspot

Hotspot size (in pixels) for clicking the manipulator handles.

Menus

Open on Mouse Over

Select this to have the menu open by placing the mouse pointer over the entry instead of clicking on it.

Menu Open Delay

Time for the menu to open.

Top Level

Time delay in 1/10 second before a menu opens (*Open on Mouse Over* needs to be enabled).

Sub Level

Same as above for sub menus (for example: File ▶ Open Recent).

Pie Menu

Animation Timeout

Length of animation when opening Pie Menu.

Recenter Timeout

The window system tries to keep the pie menu within the window borders. Pie menus will use the initial mouse position as center for this amount of time, measured in 1/100ths of a second. This allows for fast dragged selections.

Radius

Size of the Pie Menu.

Threshold

Distance from center before a selection can be made.

Confirm Threshold

Distance threshold after which selection is made (zero disables).

Splash

Show Splash

Display the Splash Screen when starting Blender.

Editing

These preferences control how several tools will interact with your input.



Link Materials To



Example for a Mesh.

To understand this option properly, you need to understand how Blender works with Objects. Almost everything in Blender is organized in a hierarchy of data-blocks. A data-block can be thought of as containers for certain pieces of information. For example, the Object data-block contains information about the Object's location while the Object Data `ObData` data-block contains information about the mesh.

A material may be linked in two different ways:



A material linked to ObData (left) and Object (right).

ObData

Any created material will be created as part of the ObData data-block.

Object

Any created material will be created as part of the Object data-block.

New objects

Enter Edit Mode

If selected, Edit Mode is automatically activated when you create a new object.

Align To

World

New objects align with world coordinates.

View

New object align with view coordinates.

Undo

Global Undo

This enables Blender to save actions done when you are **not** in *Edit Mode*. For example, duplicating Objects, changing panel settings or switching between modes.

Warning

While disabling this option does save memory, it stops the redo panel from functioning, also preventing tool options from being changed in some cases.

For typical usage, its best to keep this enabled.

Step

Number of Undo steps available.

Memory Limit

Maximum memory usage in Mb (0 is unlimited).

Grease Pencil

Grease Pencil permits you to draw in the 3D View with a pencil-like tool.

Manhattan Distance

The minimum number of pixels the mouse has to move horizontally or vertically before the movement is recorded.

Euclidian Distance

The minimum distance that mouse has to travel before movement is recorded.

Eraser Radius

The size of the eraser used with the grease pencil.

Smooth Stroke

Smooths the pencil stroke after it is finished.

Playback

Allow Negative Frame

Time Cursor can be set to negative frames with mouse or keyboard. When using *Use Preview Range*, this also allows playback.

Keyframing

In many situations, animation is controlled by keyframes. The state of a value (e.g. location) is recorded in a keyframe and the animation between two keyframes is interpolated by Blender.

Visual Keying

When an object is using constraints, the objects property value doesnt actually change. *Visual Keying* will add keyframes to the object property, with a value based on the visual transformation from the constraint.

Only Insert Needed

This will only insert keyframes if the value of the property is different.

Auto Keyframing

Enables *Auto Keyframe* by default for new scenes.

Show Auto Keying Warning

Displays a warning at the top right of the *3D View*, when moving objects, if *Auto Keyframe* is on.

Only Insert Available

This will only add keyframes to channel F-Curves that already exist.

New F-Curve Defaults

Interpolation

This controls how the state between two keyframes is computed. Default interpolation for new keyframes is Bézier which provides smooth acceleration and de-acceleration whereas Linear or Constant is more abrupt.

XYZ to RGB

Color for X, Y or Z animation curves (location, scale or rotation) are the same as the color for the X, Y and Z axis.

Transform

Release confirm

Dragging LMB on an object will move it. To confirm this (and other) transforms, a LMB is necessary by default. When this option is activated, the release of LMB acts as confirmation of the transform.

Sculpt Overlay Color

This color button allows the user to define a color to be used in the inner part of the brushes circle when in sculpt mode, and it is placed as an overlay to the brush, representing the focal point of the brush influence. The overlay color is visible only when the overlay visibility is selected (clicking at the *eye* to set its visibility), and the transparency of the overlay is controlled by the alpha slider located at the brush pop-up, located at the top of the tool shelf, when in sculpt mode.

Duplicate Data

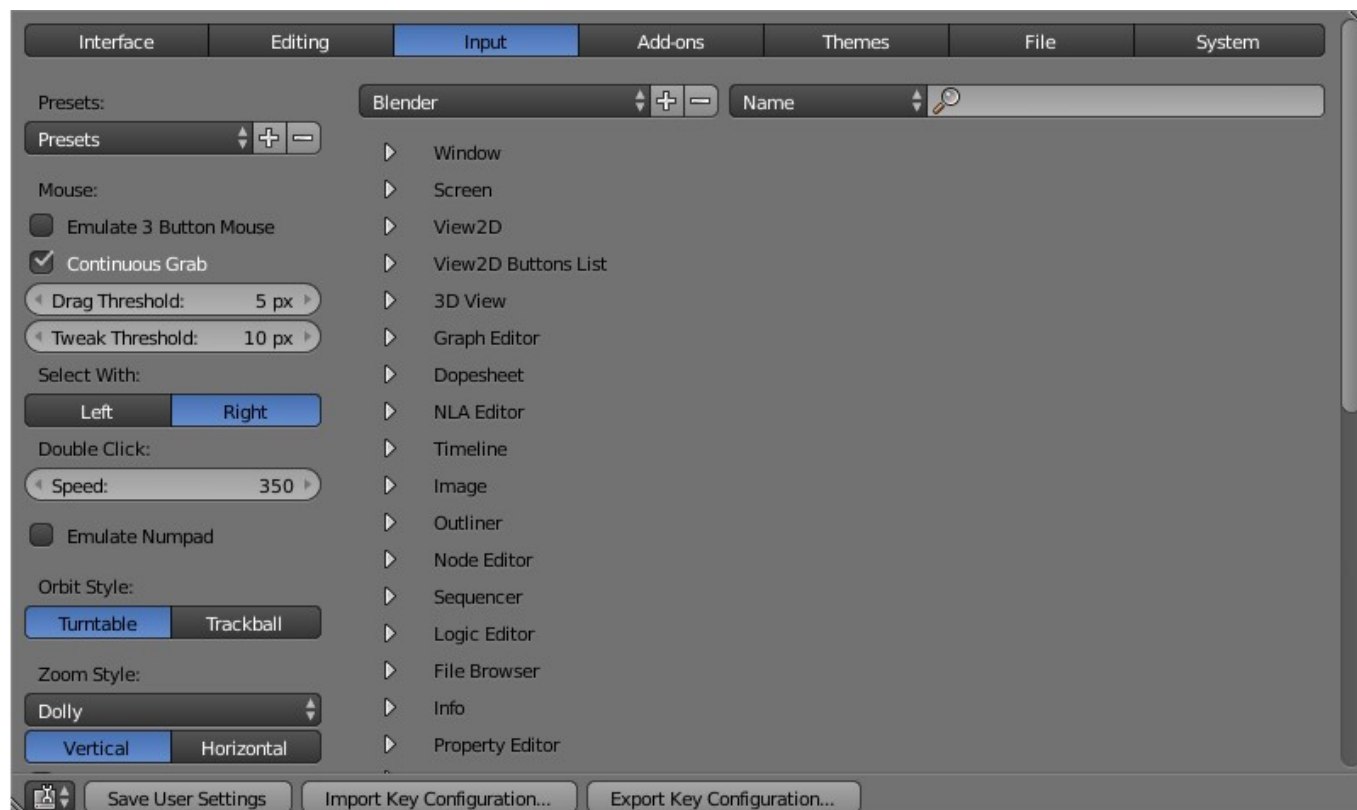
The 'Duplicate Data' check-boxes define what data is copied with a duplicated Object and what data remains linked. Any boxes that are checked will have their data copied along with the duplication of the Object. Any boxes that are not checked will instead have their data linked from the source Object that was duplicated.

For example, if you have Mesh checked, then a full copy of the mesh data is created with the new Object, and each mesh will behave independently of the duplicate. If you leave the mesh box unchecked then when you change the mesh of one object, the change will be mirrored in the duplicate Object.

The same rules apply to each of the check-boxes in the ‘Duplicate Data’ list.

Input

In the Input preferences, you can customize how Blender reacts to the mouse and keyboard as well as define your own keymap.



Presets

Blender lets you define multiple *Preset* input configurations. Instead of deleting the default keymap to create yours, you can just add new *Presets* for both the mouse and keyboard. Mouse options can be found on the left-hand side of the editor and keyboard options to the right in the above picture.

Adding and deleting presets



Before changing anything in the default configuration, click on the “plus” symbol shown in the picture to add a new *Preset*. Blender will ask you to name your new preset after which you can select the *Preset* from the list to edit it. If you want to delete your *Preset*, select it from the list and then click the “minus” symbol.

Selecting presets

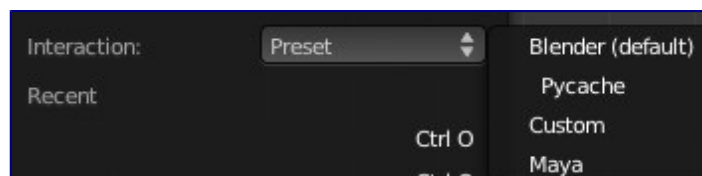
You can change the preset you are using by doing one of the following:

- Selecting the configuration from the *Interaction* menu of the splash screen at startup or by selecting Help ▸ Splash Screen.
- Selecting the configuration from the *User Preferences* Input tab.

Hint

Note that either of the above options will only change the preset for the current file. If you select File ▸ New or File ▸ Open, the default preset will be re-loaded.

Setting presets to default



Once you have configured your mouse and keyboard *Presets*, you can make this the default configuration by:

- Opening the *User Preferences Input* editor and select your presets from the preset list or,
- Selecting your preset configuration from the splash screen.
- Saving your configuration using the *Save As Default* option from a *User Preferences* editor

Export/Import key configuration

In some cases, you may need to save your configuration in an external file (e.g. if you need to install a new system or share your keymap configuration with the community). Simply LMB *Export Key Configuration* on the *Input* tab header and a file browser will open so that you can choose where to store the configuration. The *Import Key Configuration* button installs a keymap configuration that is on your computer but not in Blender.

The exported keymap will only contain keymaps and categories that have been modified by the user. In addition, add-ons may register keymaps to their respective functions, however, these keymaps are not exported unless changed by the user. This exported file may be thought of as a “*keymap delta*” instead of a full keymap export.

Mouse

Emulate 3 Button Mouse

Blender can be configured to work with pointing devices which do not have a middle-mouse button (such as a two-button mouse, Apple single-button mouse, or laptop touch-pad). The functionality of the three mouse buttons will then be emulated with key/mouse button combinations as shown in the table below.

Shortcuts for supported mouse hardware¶

3-button Mouse	2-button Mouse	Apple Mouse
LMB	LMB	LMB (mouse button)
MMB	Alt - LMB	Alt - LMB (Option/Alt key +

3-button Mouse	2-button Mouse	Apple Mouse
		mouse button)
RMB	RMB	Cmd - LMB (Command/Apple key + mouse button)

Mouse/Keyboard combinations referenced in this manual can be expressed with the combinations shown in the table. For example:

- MMB drag becomes Alt - LMB drag.
- Shift - Alt - RMB becomes Shift - Alt - Cmd - LMB on a single-button mouse.

Continuous Grab

This feature is used to prevent the problem where an action such as grabbing or panning a view, is limited by your screen bounds.

This is done by warping the mouse within the view.

Bemerkung

Cursor warping is only supported by *relative* input devices (mouse, trackball, trackpad).

Graphics tablets, however, typically use *absolute* positioning, this feature is disabled when a tablet is being used

This is detected for each action, so the presence of a tablet will not disable Continuous Grab for mouse cursor input.

Drag Threshold

The number of pixels that a User Interface element has to be moved before it is recognized by Blender.

Select with

You can choose which button is used for selection (the other one is used to place the 3D cursor).

Double Click

The time for a double click (in ms).

Hint

The Mouse emulate option is only available if *Select With* is set to *Right*.

Numpad Emulation

The Numpad keys are used quite often in Blender and are not the same keys as the regular number keys. If you have a keyboard without a Numpad (e.g. on a laptop), you can tell Blender to treat the standard number keys as Numpad keys. Just check *Emulate Numpad*.

View Manipulation

Orbit Style

Select how Blender works when you rotate the 3D View by default when holding MMB.

Turntable

Rotates the view keeping the horizon horizontal.

This behaves like a potter's wheel or record player where you have two axes of rotation available, and the world seems to have a better definition of what is "Up" and "Down" in it.

The drawback to using the *Turntable* style is that you lose some flexibility when working with your objects. However, you gain the sense of "Up" and "Down" which can help if you are feeling disoriented.

Orbit

Is less restrictive, allowing any orientation.

Zoom Style

Choose your preferred style of zooming in and out with Ctrl-MMB

Scale

Scale zooming depends on where you first click in the view. To zoom out, hold Ctrl-MMB while dragging from the edge of the screen towards the center. To zoom in, hold Ctrl-MMB while dragging from the center of the screen towards the edge.

Continue

The *Continue* zooming option allows you to control the speed (and not the value) of zooming by moving away from the initial click point with Ctrl-MMB. Moving up from the initial click-point or to the right will zoom out, moving down or to the left will zoom in. The further away you move, the faster the zoom movement will be. The directions can be altered by the *Vertical* and *Horizontal* radio buttons and the *Invert Zoom Direction* option.

Dolly

Dolly zooming works similarly to *Continue* zooming except that zoom speed is constant.

Vertical

Moving up zooms out and moving down zooms in.

Horizontal

Moving left zooms in and moving right zooms out.

Invert Zoom Direction

Inverts the Zoom direction for *Dolly* and *Continue* zooming.

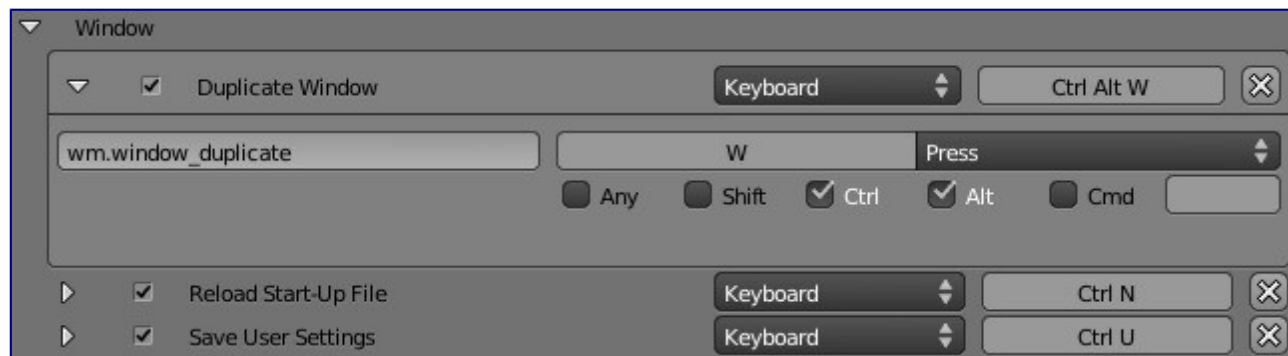
Invert Wheel Zoom Direction

Inverts the direction of the mouse wheel zoom.

NDOF device

Set the sensitivity of a 3D mouse.

Keymap Editor



The Keymap editor lets you change the default Hotkeys. You can change keymaps for each of Blender's editors.

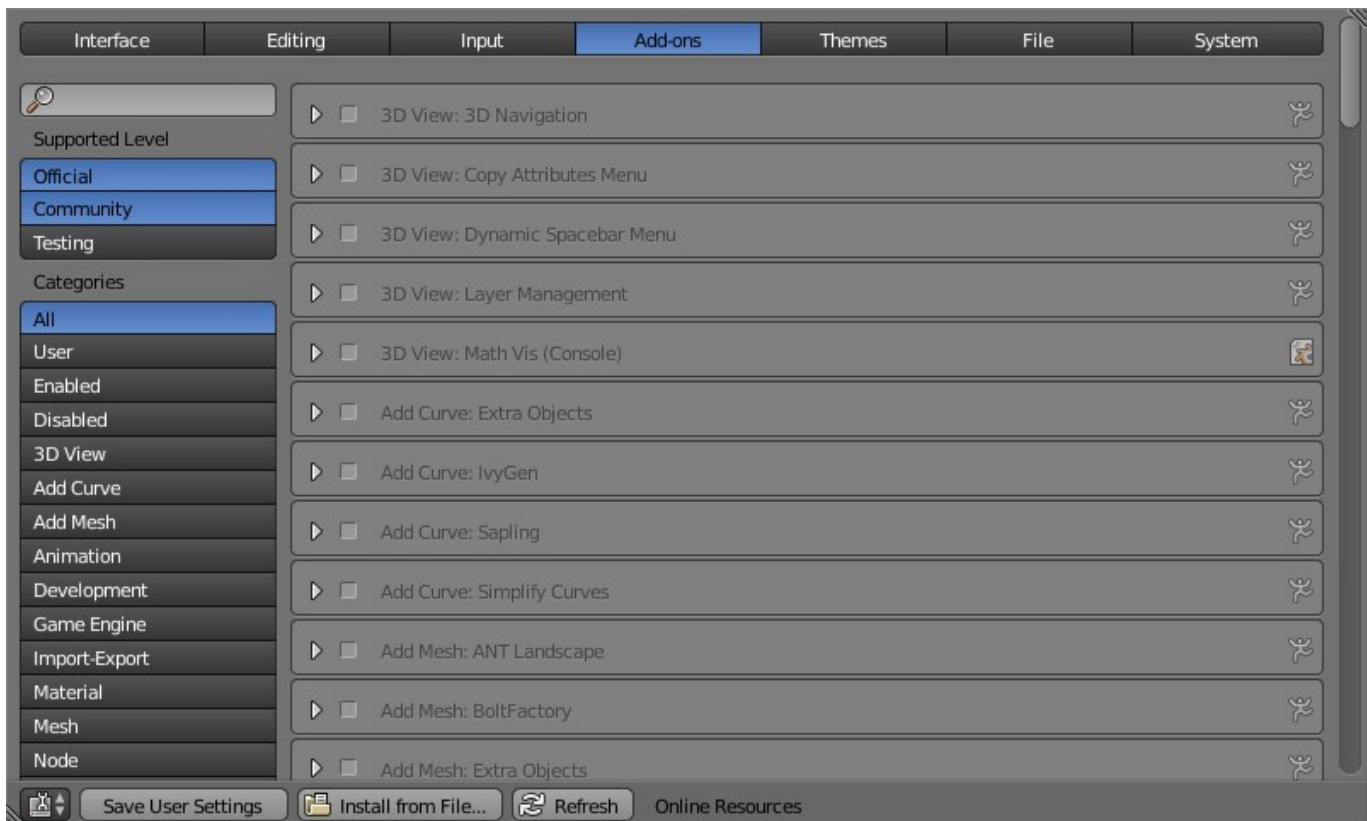
- Select the keymap you want to change and click on the white arrows to open up the keymap tree.
- Select which Input will control the function
 - Keyboard: Only hotkey or combo hotkey E, Shift -E.
 - Mouse: Left/middle/right click. Can be combined with Alt, Shift, Ctrl, Cmd.
 - Tweak: Click and drag. Can also be combined with the four previous keys.
 - Text input: Use this function by entering a text
 - Timer: Used to control actions based on a time period. e.g. By default, Animation Step uses Timer 0, Smooth view uses Timer 1.
- Change hotkeys as you want. Just click on the shortcut input and enter the new shortcut.

If you want to restore the default settings for a keymap, just click on the *Restore* button at the top right of this keymap.

Add-ons

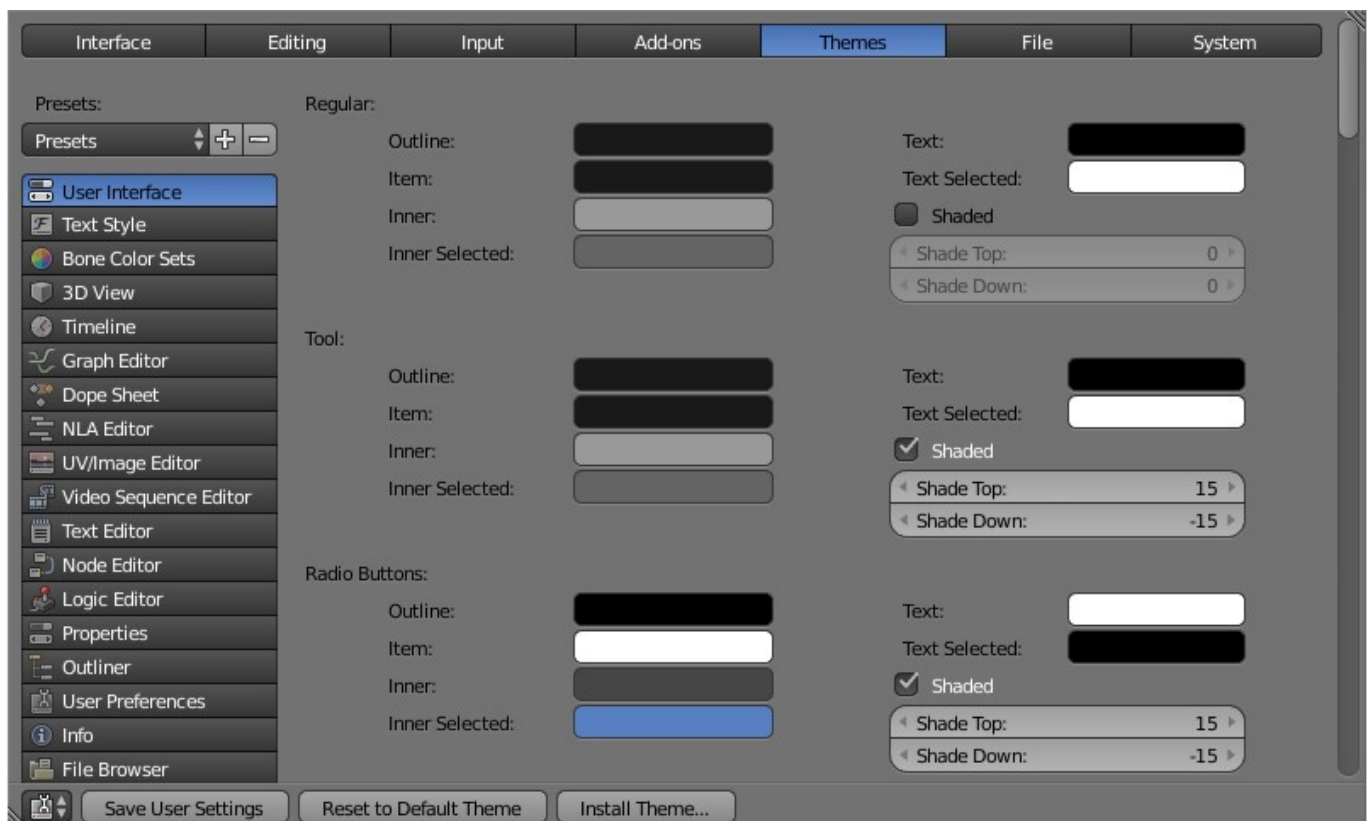
The Add-ons tab lets you manage secondary options which are not enabled in Blender by default. New features may be added with *Install Add-ons*. There will be a growing number of such Add-ons, generated by the Blender-community so look out for that one feature you were missing (or maybe simply create it yourself).

See the Add-ons Page for more on using Add-ons.



Themes

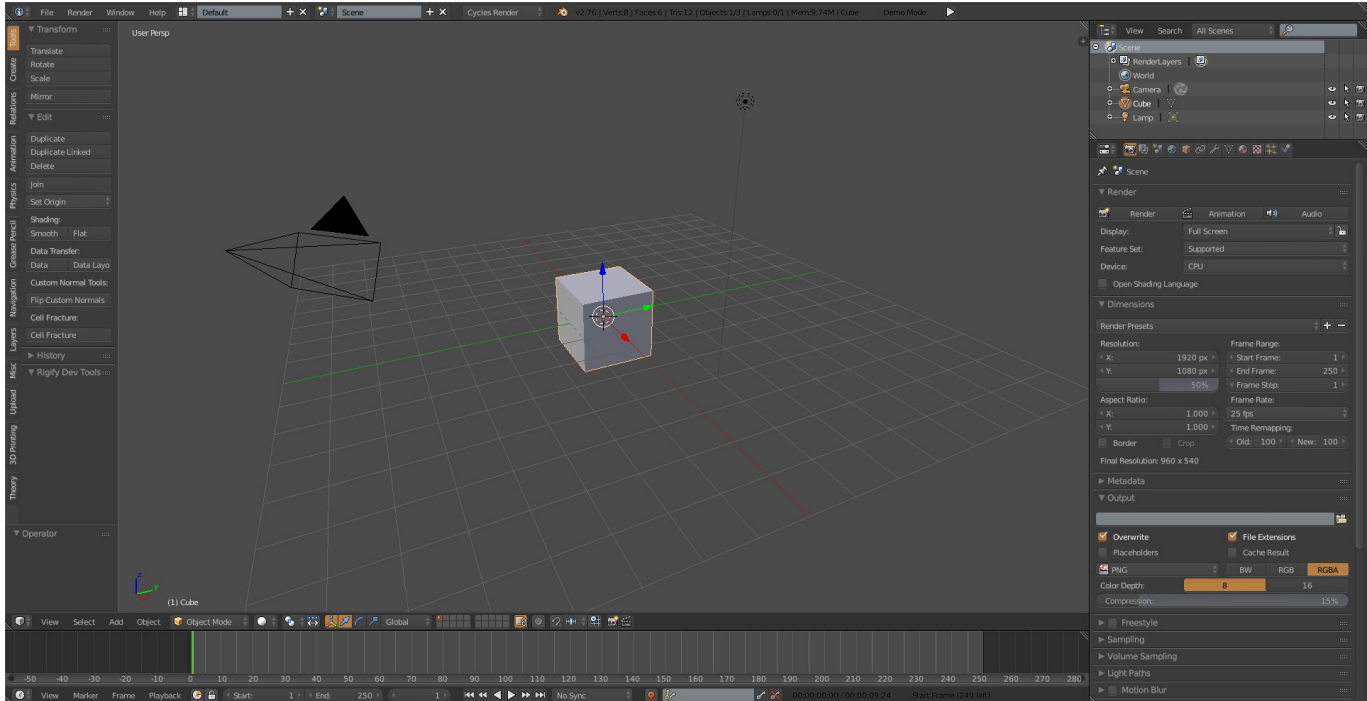
The *Themes* tab allows you to customize interface appearance and colors.



The colors for each editor can be set separately by simply select the editor you wish to change in the multi-

choice list at the left, and adjust colors as required. Notice that changes appear in real-time on your screen. In addition, details such as the dot size in the *3D View* or the *Graph Editor* can also be changed.

Themes use Blender's preset system. To save a theme, click the + button next to the preset selection drop-down and enter a name. This will save the theme to an XML file in the `./scripts/presets/interface_theme/` subdirectory of one of the configuration directories.

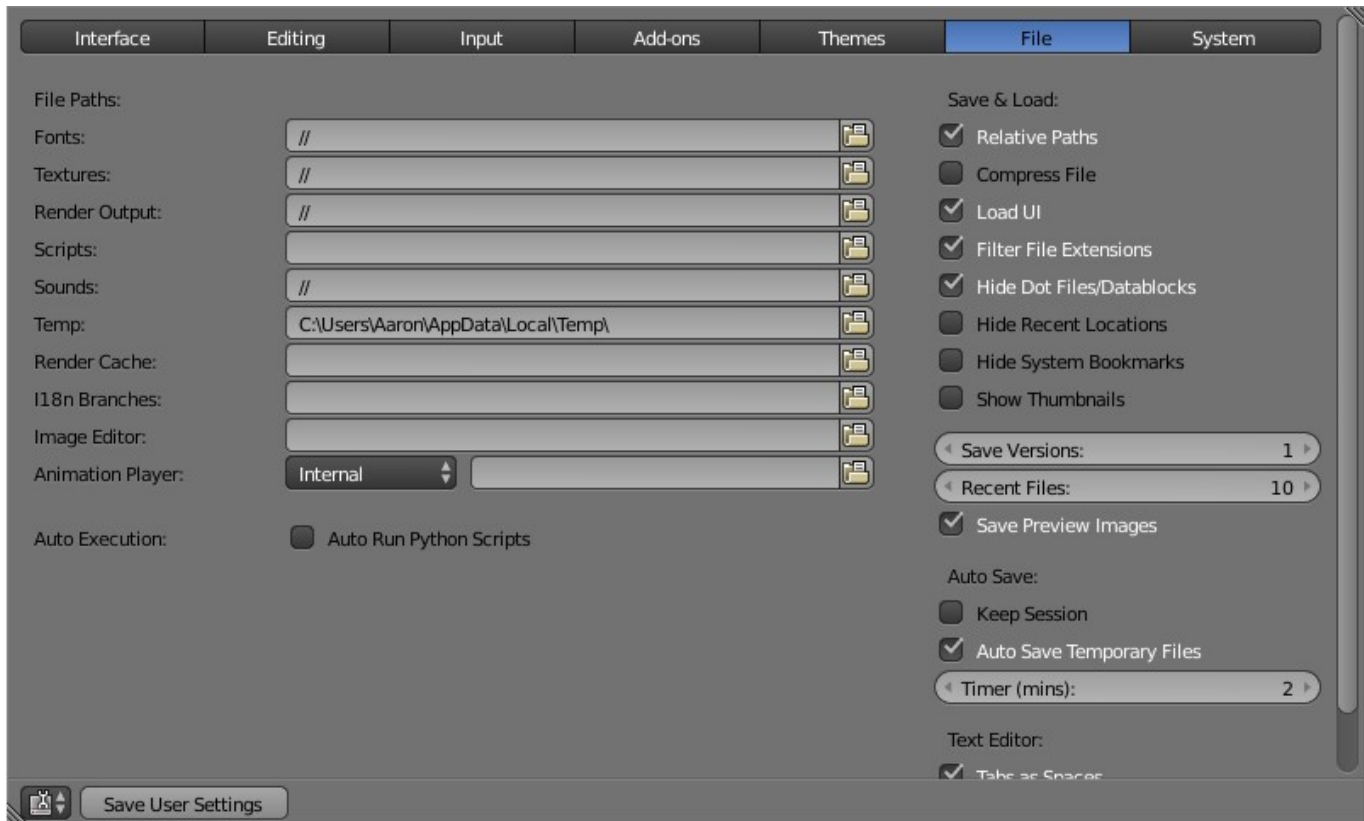


Blender comes bundled with a small selection of themes.

This is an example of the theme *Elsyiun*.

File Preferences

The *File Preferences* tab allows you to configure auto-save preferences and set default file paths for blend-files, rendered images, and more.



File Paths

Locations for various external files can be set for the following options:

Fonts

Default location when searching for font files.

Textures

Default location when searching for image textures.

Render Output

Where rendered images/videos are saved.

Scripts

An additional location to search for Python scripts. See Scripts Path below.

Sounds

Default location when searching for sound files.

Temp

The location where temporary files are stored.

Render Cache

The location where cached render images are stored.

I18n Branches

The path to the /branches directory of your local svn-translation copy, to allow translating from the UI.

Image Editor

The path to an external program to use for image editing.

Animation Player

The path to an external program to use for playback of rendered animations.

Hint

If these folders do not exist, they will *not* be created automatically.

Scripts Path

By default Blender looks in several directories (OS dependant) for scripts. By setting a user script path in the preferences an additional directory is looked in. This can be used to store certain scripts/templates/presets independently of the currently used Blender Version.

Inside the specified folder specific folders have to be created to tell Blender what to look for where. This folder structure has to mirror the structure of the scripts folder found in the installation directory of Blender:

- scripts
- add-ons
- modules
- presets
- camera
- cloth
- interface_theme
- operator
- render
- ...
- startup
- templates Not all of the folders have to be present.

Auto Execution

Python scripts (including driver expressions) are not executed by default for security reasons.

Auto Run Python Scripts

You may choose to ignore these security issues and allow scripts to be executed automatically.

Excluded Paths

Blend files in these folders will *not* automatically run Python scripts. This can be used to define where blend-files from untrusted sources are kept.

Save & Load

Relative Paths

By default, external files use a relative path.

Compress File

Compress blend-file when saving.

The option to Compress files will compact your files whenever Blender is saving them. Dense meshes, large packed textures or lots of elements in your scene will result in a large blend being created.

This option may slow down Blender when you quit, or under normal operation when Blender is saving your backup files. Using this option traces processor time for file-size.

Load UI

Default setting is to load the Window layout (the Screens) of the saved file. This can be changed individually when loading a file from the *Open blend-file* panel of the File Browser.



File extension filter.

Filter File Extensions

By activating this, the file dialog in the File Browser will only show appropriate files (i.e. blend-files when loading a complete *Blender* setting). The selection of file types may be changed in the file dialog.

Hide Dot File/Data-blocks

Hide file which start with `.` on file browsers (in Linux and Apple systems, `.` files are hidden).

Hide Recent Locations

Hides the *Recent* panel of the File Browser which displays recently accessed folders.

Show Thumbnails

Displays a thumbnail of images and movies when using the File Browser.

Auto Save

Save Versions

Number of versions created for the same file (for backup).

This option tells Blender to keep the indicated number of saved versions of your file in your current working directory when you manually save a file. These files will have the extension: `.blend1`, `.blend2`, etc., with the number increasing to the number of versions you specify. Older files will be named with a higher number. e.g. With the default setting of 2, you will have three versions of your file: `*.blend` (your last save), `*.blend1` (your second last save) and `*.blend2` (your third last save).

Recent Files

Number of files displayed in File ▸ Open Recent.

Save Preview Images

Previews of images and materials in the File Browser are created on demand. To save these previews into your blend-file, enable this option (at the cost of increasing the size of your blend-file).

Auto Save Temporary File

Enable Auto Save (create a temporary file).

Checking this box tells Blender to *automatically* save a backup copy of your work-in-progress to the Temp directory (refer to the *File* tab in the *User Preferences* for its location).

The Auto Saved files are named using a random number and have a blend extension.

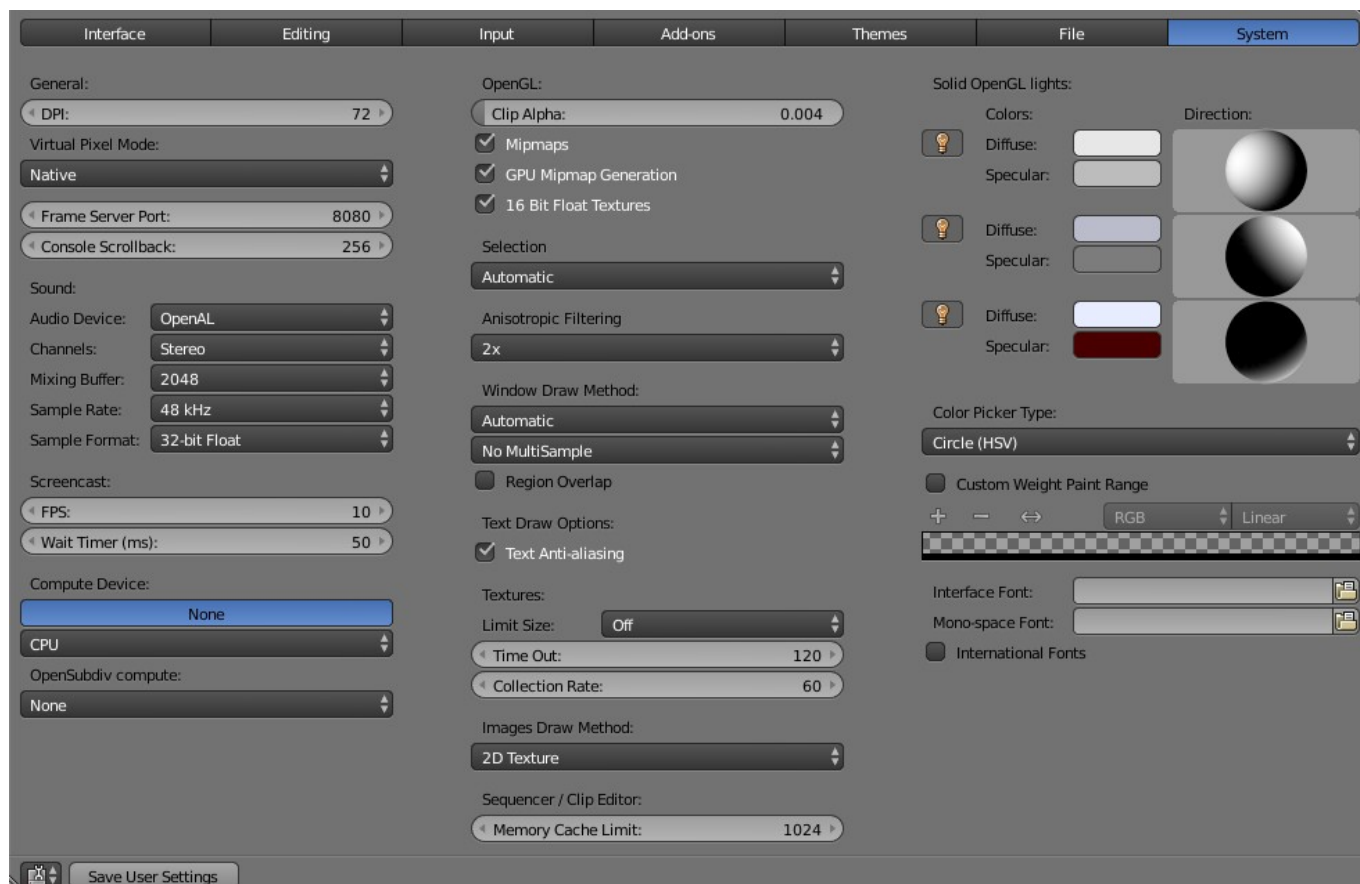
Timer

Time to wait between automatic saves.

This specifies the number of minutes between each Auto Save. The default value of the Blender installation is 5 (5 minutes). The minimum is 1, and the Maximum is 60 (Save at every one hour).

System Preferences

The *System* tab allows you to set resolution, scripting console preferences, sound, graphics cards, and internationalization.



General

DPI

Value of the screen resolution which controls the size of Blender's interface fonts and internal icons shown. Useful for taking screen shots for book printing and use of high resolution monitors. During typical usage, you may prefer to use zoom which is an available in many parts of Blender interface.

Virtual Pixel Mode

Allows you to select global scaling. While the DPI only scales the interface, this will scale line width, vertex-size. This is intended for hi-dpi monitors.

Native

The normal pixel size.

Double

Double of the native pixel size.

Hint

This is auto-detected on OSX.

Frame Server Port

TCP/IP port used in conjunction with the IP Address of the machine for frameserver rendering. Used when working with distributed rendering. Avoid changing this port value unless it is conflicting with already existing service ports used by your Operating System and/or softwares. Always consult your operating system documentation and services or consult your system administrator before changing this value.

Console Scrollback

The number of lines, buffered in memory of the console window. Useful for debugging purposes and command line rendering.

Sound

Audio Device

Set the audio output device or no audio support:

None

No Audio support (no audio output, audio strips can be loaded normally)

SDL

Uses Simple Direct Media Layer API from libsdl.org to render sounds directly to the sound device output. Very useful for sequencer strips editing.

OpenAL

Provides buffered sound rendering with 3D/spatial support. Used for 3D source support by *Speaker Objects* and the *Game Engine*.

Sound options

Specific to *SDL* or *OpenAL* enabled

Channels

Set the audio channel count. Available options are: *Stereo*, *4 Channels*, *5.1 Surround*, *7.1 Surround*

Mixing Buffer

Set the number of samples used by the audio mixing buffer. Available options are: *512*, *1024*, *2048*, *4096*, *8192*, *16384*, and *32768*

Sample Rate

Set the audio sample rate. Available options are: *44.1 Khz*, *48 Khs*, *96 Khz* and *192Khz*

Sample Format

Set the audio sample format. Available options are: *32 bit float*, *8 bit Unsigned*, *16 Bits Signed*, *24 Bits Signed*, *32 Bits Signed*, *32 Bits Float*, and *64 Bits Float*.

Screencast

These settings are used to control the frame-rate for recording a Screencast.

FPS

Frame-rate for screencast playback.

Wait Timer

Time in milliseconds between each frame recorded for screencast.

Compute Device

The Options here will set the compute device used by the Cycles render engine.

None

When set to *None* or the only option is *None*: your CPU will be used as a computing device for Cycles Render Engine

CUDA

If the system has a compatible Nvidia CUDA enabled graphics card you will be able to use it to render with the Cycles render engine.

OpenCL

If the system has a compatible OpenCL device, it will show up has an option for rendering cycles.

Note

that this currently has limited support, see: Cycles Features page for more information.

OpenSubdiv Compute

The Options here will set the compute device used by OpenSubdiv for the Subdivision Surface Modifier.

None

Disables any OpenSubdiv compute devices, makes sure legacy subsurf method is used. Use this option when OpenSubdiv causes any bugs or regressions.

CPU

Single threaded CPU implementation. It is mainly useful in cases when GPU compute is possible and threaded CPU option causes artifacts (it is unlikely to happen, but still possible).

OpenMP

Multi-threaded CPU implementation. Use it for maximum performance in cases when GPU compute is not available.

GLSL Transform Feedback

Uses GPU to perform calculations, has minimal requirements to video card and driver.

GLSL Compute

Uses GPU to perform calculations, supposed to be more efficient than *Transform Feedback* but also has higher requirements to video card and driver.

OpenGL

Clip Alpha

Clip alpha below this threshold in the 3D View. Note that the default is set to a low value to prevent issues on some GPU's.

Mipmaps

Scale textures for 3D View using Mipmap filtering. This increases display quality, but uses more memory.

GPU MipMap Generation

Generate MipMaps on the GPU. Offloads the CPU Mimpap generation to the GPU.

16 Bit Float Textures

Enables the use of 16 Bit per component Texture Images (Floating point Images).

Selection

Selection method to use for selecting.

Automatic

Automatically choses the best setting depending on your OS, GPU, and drivers.

OpenGL Select

Legacy OpenGL selection method for legacy hardware.

OpenGL Occlusion Queries

More optimized OpenGL selection method. Use this method if you are using an OpenSubdiv Compute compute device.

Anisotropic Filtering

Sets the level of anisotropic filtering. This improves the quality of how textures are drawn at the cost of performance. Available Options are: *Off* (No Filtering), *2x*, *4x*, *8x*, and *16x*.

Window Draw Method

Window Draw Method

Specifies the Window Draw Method used to display Blender Window(s).

Automatic

Automatically set based on graphics card and driver.

Triple Buffer

Use a third buffer for minimal redraws at the cost of more memory. If you have a capable GPU, this is the best and faster method of redraw.

Overlap

Redraw all overlapping regions. Minimal memory usage, but more redraws. Recommended for some graphics cards and drivers combinations.

Overlap Flip

Redraw all overlapping regions. Minimal memory usage, but more redraws (for graphics drivers that do flipping). Recommended for some graphic cards and drivers combinations.

Full

Do a full redraw each time. Only use for reference, or when all else fails. Useful for certain cards with bad to no OpenGL acceleration at all.

Multi-Sampling

This enables FSAA for smoother drawing, at the expense of some performance.

Note

This is known to cause selection issues on some configurations

Region Overlap

This checkbox will enable Blender to draw regions overlapping the 3D View. It means that the *Object Tools* and *Transform Properties* regions, which are opened by using the shortcuts T and N will be drawn overlapping the 3D View editor.

If you have a capable graphics card and drivers with *Triple Buffer* support, clicking the checkbox will enable the overlapping regions to be drawn using the *Triple Buffer* method, which will also enable them to be drawn using Alpha, showing the 3D View contents through the *Object Tools* and *Transform Properties* regions.

Text Draw Options

Enable interface text anti-aliasing. When disabled, texts are drawn using text straight render (Filling only absolute Pixels).

Textures

Limit Size

Limit the maximum resolution for pictures used in textured display to save memory. The limit options are specified in a square of pixels, (e.g.: the option 256 means a texture of 256×256 pixels) This is useful for game engineers, whereas the texture limit matches paging blocks of the textures in the target graphic card memory. Available Options are: *Off* (No limit), *128*, *256*, *512*, *1024*, *2048*, *4096*, and *8192*.

Time Out

Time since last access of a GL texture in seconds, after which it is freed. Set to 0 to keep textures allocated. Minimum: *0*, Maximum: *3600*.

Collection Rate

Number of seconds between each run of the GL texture garbage collector. Minimum: *0*, Maximum: *3600*.

Image Draw Method

Method to draw images as the following options are supported:

2D Texture

Uses CPU for display transform and draws images as a 2D texture.

GLSL

Fastest method using GLSL for display transform and draws images as a 2D texture.

Draw Pixels

Uses CPU for display transform and draws images as a 2D texture.

Sequencer/Clip Editor

Memory Cache Limit

Upper limit of the sequencer's memory cache (megabytes). For optimum clip editor and sequencer performance, high values are recommended.

Solid OpenGL lights

Solid OpenGL Lights are used to light the 3D View, mostly during *Solid view*. Lighting is constant and position “world” based. There are three virtual light sources, also called OpenGL auxiliary lamps, used to illuminate 3D View scenes, which will not display in renders.

The Lamp Icons allows the user to enable or disable OpenGL Lamps. At least one of the three auxiliary OpenGL Lamps must remain enabled for the 3D View. The lamps are equal, their difference is their positioning and colors. You can control the direction of the lamps, as well as their diffuse and specular colors. Available Options are:

Direction

Clicking with LMB in the sphere and dragging the mouse cursor let us the user change the direction of the lamp by rotating the sphere. The direction of the lamp will be the same as shown at the sphere surface.

Diffuse

This is the constant color of the lamp. Clicking on the color widget, opens the color picker pop-up and allows the user to change colors using the color picker.

Specular

This is the highlight color of the lamp Clicking on the color widget, opens the color picker pop-up and

allows the user to change colors using the color picker.

Color Picker Type

Choose which type of color space you prefer. It will show when clicking LMB on any color field.

See the different color picker types at the [Extended Controls](#) page.

Custom Weight Paint Range

Mesh skin weighting is used to control how much a bone deforms the mesh of a character. To visualize and paint these weights, Blender uses a color ramp (from blue to green, and from yellow to red). Enabling the checkbox will enable an alternate map using a ramp starting with an empty range. Now you can create your custom map using the common color ramp options. For detailed information about how to use color ramps, see: [to the Extended Controls](#) page.

Internationalization

Blender supports a wide range of languages, enabling this check box will enable Blender to support International Fonts. International fonts can be loaded for the User Interface and used instead of Blender default bundled font.

This will also enable options for translating the User Interface through a list of languages and Tips for Blender tools which appear whenever the user hovers a mouse over Blender tools.

Blender supports I18N for internationalization. For more Information on how to load International fonts, see: [Editing Texts](#) page.