BROWSER

**Browser**

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|  | The **(File) Browser** provides quick access to sample collections, presets and projects from within FL Studio. * **Load / Open item** - Most items can be dragged from the Browser onto a compatible location in FL Studio (FL desktop, Plugin, Channel, Mixer, Edison, etc). Alternatively, right-click an item to 'send' it to a particular location. See the section '**Using Browser content**' below for more details.
* **Docking** - The Browser can be docked to either the left or right side of the main window, by dragging it to either side of the screen.
* **Can't see the Browser?** Turn it on using the Shortcut panel or press ( F8).
* **Add directories** - use the File Settings '**Browser extra search folders**' list to add your own directories to the list.
* **Important project folder** - The Current project folder will show all data associated with the currently loaded project. Useful for finding unwanted automation or initialized controls.
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**Controls**

1. **Browser Menu** - Options menu including search functions. The options here are discussed in more detail in the 'Browser Menu' section below.
2. **Collapse Structure** - Collapses all expanded folders in the Browser window.
3. **Reread Structure** - Rereads the contents of all folders in the Browser. Click this button to see any new files and folders that were created after FL Studio was started.
4. **Browser Snapshot** - Remembers Browser state for quick recall. **To save a Browser state** click on the down-arrow (4), select a slot to hold the configuration, open the Browser to state you want.
	* **Snap 1 to 4** - Slots dynamically remember the last Browser state open while they were selected.
	* **Auto** - Automatically opens the Browser based on the function/plugin/focus in FL Studio. Focusing the **plugin** opens its presets, focusing the **mixer** opens mixer presets, focusing the **Playlist/Piano roll/Event Editor** & switching patterns opens the project patterns, **undoing/redoing** opens the project history and **linking a knob** to a controller opens the project remote control folder.
	* **Rename** - Renames the Snap 1 to 4 state slots.
	* **Frozen** - Freezes the currently selected slot and protects it from change. The slot will display a tick mark when frozen.
5. **Close** - Closes the Browser, as does ( F8).
6. **Divider** - Left click to drag the divider to change the width of the Browser. The divider can snap to a **second position**, move the divider to the desired location then **Right-click** to swap between the new and original location. **Pop-out file-name view** - File names obscured by the right edge of the Browser can be read by placing the mouse cursor over the item.
7. **Scroll bar** - Click & drag or click to focus and scroll mouse-wheel. **Quick Zoom** - Hold Shift + Scroll -wheel.

**Using Browser content**

* **Loading** - There are a number of ways to load content from the browser:
	+ **Drag and drop** - Most items may be dragged from the Browser (left-click, hold & drag) to the desired target in FL Studio and they will be loaded automatically. For example;
		- **Instrument presets** from folders or Instruments from the Plugin Picker can be dragged to Channels **OR** better, Mixer tracks to automatically set a routing to that track.
		- **Effects** to Mixer tracks or FX slots.
		- **Samples** to the Playlist to create Audio Clips or to Instruments that support samples (see note below).
		- **Projects** onto the FL Studio desktop to open them.
	+ **Send to selected Channel** - Two good options are:
		- **Right-click menu** - Right-click the item in the Browser and select 'Send to selected channel' to load samples or instruments in the selected Channel.
		- **Middle mouse button** (often the mouse scroll-wheel is clickable) - Loads compatible content on the selected Channel.
	+ **Step through items in a folder** - The ( F6 / F5) keys will step forward and backward through the items in the folder and send them to the selected channel. This is particularly useful for trying out various samples in the Channel Sampler, more so if you have content sorted into folders of a particular type, e.g. Kicks, Snares etc. Swap samples while the Project is playing.
* **Preview** - Many items (.mp3, .ogg, .wav files) can be previewed in the Browser by left-clicking on them. The **Mixer audio-preview track** is set in the F10 > Audio Settings > Mixer preview track field (see note below).

**NOTE:** Wav files may contain tempo and tempo-sync meta-data. This will be read by FL Studio if the General settings > 'Read sample tempo information' option is selected. If this information is used the preview will be time-stretched to match the tempo of the project and the sample may be similarly stretched when loaded into the Playlist. This can cause **unexpected behavior if the tempo data saved in the sample is wrong**. You can load any samples into Edison and open the File properties dialog to change the value of any incorrectly tagged samples.

**Browser Menu**

The Browser menu contains the following options -

* **Search** - Searches for files and folders using non-case sensitive searching. **To cancel a search**, press Esc.
	+ **Find** (Alt+F) - Type in a search string after selecting this option. The exact phrase will be searched.
	+ **Smart find** (Ctrl+F) - Allows the use of advanced search functions. **Wildcards:** 'sytr\*' will find 'sytrus', 'syt?us' will find 'sytrus' or 'sytlus'. **TIPS:** Use extensions ('searchword.flp' to search for flp's, etc), include the project Browser by adding the string 'project' to your search as the project directory is not searched by default.
	+ **Find previous** (F2) - Jumps to the previous item of the same search type.
	+ **Find next** (F3) - Jumps to the next item of the same search type.
* **View**
	+ **Size** - Changes the size of the font and spacing according to Compact, Normal, Large and Huge options.
	+ **Show folder icons** - Displays an icon for each folder in the Browser tree.
	+ **Show only one folder content** - Only one directory will be open at a time.
	+ **Show file extensions** - Shows file extensions such as .wav, .mp3, etc.
	+ **Show unknown file types** - Displays files not natively supported by FL Studio.
	+ **Sort by** - Name, Type, Date or Group.
		- **Sort by Group** - This option sorts folders or files according to the order specified by XYZ.nfo files in the ..\Program Files\Image-Line\FL Studio\Data\Patches\ directory, where XYZ = any folder or file name. Inside the .nfo file put the command SortGroup=1 to N. 1 will appear at the top while N is the last file to be sorted toward the top of the Browser. Unsorted files will appear below these as usual.
	+ **Structure**
		- **Collapse structure** (Ctrl+Up) - Collapses all expanded folders in the Browser window.
		- **Reread structure** (Ctrl+R) - Rereads the contents of all folders in the Browser. Click this button to see any new files and folders that were created after FL Studio was started.
		- **Configure extra folders** - Opens the 'Extra search directories' dialog from the Options menu (F10). Use this to specify directories outside the FL Studio Installation path that hold your plugins, samples, projects, etc.
		- **Current snapshot** - Repeats Snap options (shown at 4 above).

**Browser Folders**

* **Preview samples** - If you left click on .wav, .mp3 or .ogg files they will be played. After clicking in a folder you can use the up/down arrow keys on your keyboard to step through the sounds in that directory.
* **Locate a known file** - Dropping a file onto the Browser will open the folder where that file is located. This can be useful when you have a sample channel loaded and would like to try the others from the same folder.
* **Left-click** a folder to **expand/collapse** it.
* **Right-click** and select **Windows shell menu** to open the **standard Windows file menu** (right-click) options.
* **Hover the mouse over** the name of a folder for a short description in the hint-bar. The folders seen by default in the Browser window include:
	+ **Channel presets** - Contains a collection of instrument/effects presets, scores, etc.
	+ **Projects** - Contains a collection of sample projects (.flp files).

**Adding your own directories**

To make your own directories visible in the Browser, use the File Settings

'**Browser extra search folders**' list to add (up to 10 of) your own directories. These directories appear in the Browser in green font.

**NOTE:** The 'extra search folders' and their sub-directories are searched for samples & sounds when loading projects, so it's generally not advised to set the root of any drive as a search folder since this can make load-times for projects very long (while the whole drive is searched).

**Current project (dynamic folder)**

The Browser contains a special folder named **Current project**. The contents of this folder change dynamically to match the currently loaded project, when expanded it shows: A list of patterns that contain automation events for any automated controls in the project. For more information, see the Project Browser page.

You can also add custom folders to be seen in the Browser from the File Settings window.

**Plugin Picker**

The Plugin Picker database contains a collection of plugin presets ready to be dragged and dropped on the FL Studio interface. This list is also accessible from the Plugin Picker ( Ctrl+F8) pop-up window. The Plugin Picker displays the plugins in the database as an array (generators left, effects right, as shown below). To use the Plugin Picker, click, hold & drag the icon of the plugin you want to use. The picker interface will close leaving you holding the plugin ready to drop on the desired location inside FL Studio. **Alternatively** double-clicking a plugin will load it into a new channel or double-clicking an effect will load it into the currently selected mixer track.

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|  | **Adding plugins to the Plugin database:** 1. **Open the Plugin database** ( Shift+F8) at the location where you want to save the plugin. **NOTE:** Plugins may be saved to more than one location in the database, just repeat the method with a new location open.
2. **Open the plugin** to be added to the database, using the usual methods.
3. **Save the plugin to the database** by selecting the Plugin menu option **'Add to plugin database'**.
4. **Click OK** to the popup and a thumbnail screenshot will be saved to the database.

**NOTE:** Advanced users can manually re-arrange the plugin database, located in the FL Studio installation directory at "..\Data\Patches\Plugin database". If you have extensively customized the list you may want to make an external backup copy of this directory as a precaution against loss of data during future FL Studio installations. |

**Browser Icons**

Each file in the Browser has a special icon located next to its name, indicating file type:

**FL Studio project files**

* FL Studio project file (\*.flp) - Right-click and select 'Open' (or click the mouse-wheel) to load the project in FL Studio. A loop file is the native project format of FL Studio. Each file contains the data that belongs to your project, including patches and settings for all instruments, FX and channels, but does NOT include sample data or DrumSynth/SimSynth presets. If you open a loop file that doesn't have the required samples or presets, FL Studio performs a search of the folder from which the file was loaded, followed by the sample folder and all custom folders added to the Browser (see Directories). If you want to skip this search process, press and hold ESC when you see the loading icon in the Hint bar.
* Zipped loop file (\*.zip) - Left-click & drag onto the FL Studio desk-top or hint-bar to load the project. A zipped loop file is a save format that includes all the data of the .flp file, plus all associated samples and SoundFont files. It is a standard .zip file containing an .flp. When opening a .zip file, FL Studio uncompresses it and searches/opens the .flp file. Any samples included in the .flp are loaded automatically. A zipped file also allows you to archive an important project and share it with collaborators, even if the project uses non-FL Studio samples.

**Samples and Patches**

Left-click the icon to preview sample and some presets (excluding SoundFonts). Right-click to send to the currently selected channel or new Sampler, Granulizer or Fruity Slicer channel.

* Direct Wave sampler preset (\*.dwp)

INSTRUMENTS / GENERATORS

**DirectWave Sampler**

**PLAYER ONLY:** DirectWave installs as a '**player**' version, free for all users. DirectWave (player) channels will be saved along with the projects as normal. The DirectWave (player) limitations are: Only dwp/dwb (DW's own formats) can be loaded, VST sampling is disabled, external samples can not be added to patches nor can new patches be created. If you would like to unlock the extra functions including: Editing patches, adding samples, recording, sampling VST instruments, loading 3rd party formats then DirectWave **full version** needs to be purchased separately.

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**DirectWave** is a powerful and versatile sampler featuring a fully programmable synthesis section and features such as inbuilt FX, velocity-layering, looping, automatic sampling of VSTi plugins and the ability to 'sample' (record sound) when loaded into a mixer track on an effect slot.

* **Upper window**
	+ Zone Page
	+ Library Page
* **Lower window**
	+ Zone Tab
	+ Program Tab
	+ Sample Tab
* Options

**Overview**

Samples are loaded into the zone window, this allows samples to be spread across the keyboard and layered according velocity. Each sample can be programmed using the **Sample** (sample start/end points, looping, etc.), **Zone** (pitch, filtering, ADSR, synthesis, etc.) and **Program** (FX, portamento, etc.). For more detail see the sections above.

**Download Samples**

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Use the '**Select Preset**' menu (to the right of the DirectWave logo) to access the Download Manager to download soundbanks directly from the [Samplefusion Website](http://www.samplefusion.com/). For more details on this feature follow this link to the Download Manager section.

**Loading Programs and Samples**

* **To load programs** - Use the **Load** folder icon to the right of the main DirectWave logo. **OR** Use the **Library** browser on the Zone Window Program Tab. **NOTE:** The default directory for browsing programs is set by the **Content Library** setting in the Options window. **Alternatively** drag .dwp program files from the Browser to DirectWave.
* **To load samples** - Either drag compatible files from the **FL Studio Browser** to the Zone Window or double click on a sample in the **DW Browser**, if the DW Browser is not visible it can be opened using the 'Show/Hide Browser' control noted in the image above.

**Note on importing SoundFonts:** If the SoundFont has more than one program bank a dialog will appear enabling you to load one or more program banks into DirectWave. Use Windows file selections - Left-click, Shift+Left-click and Ctrl+Left-click to select one, groups or selected banks respectively. After loading, SoundFont banks will be available as standard DirectWave banks. **Limitations:** Only basic SoundFont parameters such as key/velocity range, loop points, etc. are imported, filter cutoff, chorus, reverb, are not. This may result in SoundFont presets that vary ignored parameters to sound the same.

**Sample format support**

DirectWave currently supports the following formats:

* **Samples**
	+ WAV (all types)
	+ ACM decoder support (ogg).
* **Programs**

To open the importer right-click on the Program tab in the Library window.

* + AKAI AKP (S5/6K,Z4,Z8)
	+ Battery (Version 1, 2 & 3 banks)
	+ DWP (DirectWave Program, native format)
	+ EXS24
	+ Giga
	+ Kontakt / Kontakt 2
	+ Kurzweil (off DOS disk)
	+ MPC (off DOS disk, not 1000/2500/500 series)
	+ Reason NN-XT (any association with a Refill can't be loaded)
	+ Recycle
	+ SoundFont2
	+ SFZ

**WARNING:** DirectWave will not import the above formats if they have been encrypted/protected. Encryption is sometimes used to prevent non-native import of program files so caution should be used if you are planning to purchase any of these formats for use in DirectWave.

**Plugin Credits:** Argu & Reflex

* DrumSynth preset (\*.ds)

SAMPLE FILE FORMATS

# DrumSynth Preset (\*.ds)

The Sampler can use presets from DrumSynth directly - a wave file is generated automatically from any DrumSynth preset loaded into FL Studio. When you load a .ds file rather than a wave file, you gain additional options in the Miscellaneous Channel Settings page.

* FastTracker extended instrument (\*.xi)

SAMPLE FILE FORMATS

# FastTracker's Extended Instrument (\*.xi)

The .xi fomat is an extended instrument file format of FastTracker. The Sampler can ‘extract’ a wave sample from an .xi file directly, but note that some .xi files contain more than one wave sample. Since the Sampler supports only one wave per channel, only one of the available waves is imported. Also, envelope and LFO settings are not imported.

* Mpeg Layer 3 (\*.mp3)

SAVE/EXPORT FILE FORMATS

**Export Project Dialog (\*.wav; \*.mp3, \*.ogg, \*.mid)**

Export options include:

* **Audio** - .wav, .mp3, .ogg rendered formats that save the complete audio mix of your project (see the note below on including sounds from external hardware).
* **MIDI** - that will save the Step Sequencer / Piano roll note data to standard MIDI files.

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**Recording External Hardware**

**NOTE: To include sounds from external hardware such as a synthesizer, drum-machine or sampler** in the final render -

1. Make MIDI connections to the device from your computer AND audio connections from the device to your soundcard inputs.
2. Record the sound as it is played by FL Studio (using a MIDI Out plugin to drive the hardware).
3. Place the recorded audio as an Audio Clip in the Playlist.
4. Render the project to audio as shown here.

**Settings**

**Info**

Shows information about the current project.

* **Mode** - Displays whether FL Studio will render the whole Song or currently selected Pattern.
* **Total Time** - Shows total time length of the song to be exported.
* **Disk Space** - Shows the disk space required to hold exported audio file/s. If more than one save format is selected in the **Output panel** the combined total is reported.
* **Bar#** - Reports the current bar being rendered and the total number of bars in the project (current/total).

**Looping Mode**

Looping mode only applies to audio formats (.wav, .mp3 and .ogg) and determines how any decaying sound after the last bar of your project/loop is rendered. For example, the tail of a reverb of a sound may be important for the impression of smooth continuity when looping, or to prevent the decaying reverb in a 'straight' render being chopped off. If, after rendering the last bar from the song there is still sound decaying, this option sets how FL Studio should proceed. Leave remainder is the default. **NOTE:** If you are making loop files use .wav format, .mp3 in particular leaves a small silence at the start of the sound that will interfere with looping.

* **Leave remainder** - Expands the song length to capture any decaying sounds. If 'Leave remainder' still chops of any trailing audio, the Playlist **Repeat marker** can be used to define the rendering end-point. While Repeat marker positions are usually ignored, if they are placed after the last Pattern, Audio or Automation Clip in the Playlist, the project will be rendered up to the position of the Repeat marker.
* **Wrap remainder** - Wraps any decaying sound at the end of the song onto the beginning (useful when rendering loops with effects).
* **Cut remainder** - Cuts the render at the end of the last bar.

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**Quality**

* **Sample Interpolation** - Select the waveform interpolation method used for Sampler/Audio-Clip channels. [Interpolation](http://en.wikipedia.org/wiki/Interpolation#Example) is a curve fitting process that computes intermediate sample amplitude data between the known sample points (filling in the gaps). This is only required when samples are transposed from their original pitch and the program calls for a sample value out of sync with the source data-points. Without interpolation quantizing (amplitude) errors can create unwanted high-frequency harmonic artifacts ([aliasing](http://en.wikipedia.org/wiki/Aliasing#Sample_frequency) & [quantizing](http://en.wikipedia.org/wiki/Quantizing_noise) errors). FL Studio provides several methods of increasing computational complexity and therefore accuracy -
	+ **Linear** interpolation is the fastest method. It provides basic linear averaging between samples, however it can result in aliasing (high frequency noises) if samples are transposed far from their original pitch.
	+ **6-point Hermite** has been optimized to be a quick curve interpolation method with superior quality to linear interpolation. It is ideal for exporting 'working drafts' of your audio files.
	+ **64, 128, 256, 512-point Sinc** methods provide increasing quality interpolation, but they are also very slow. **We recommended** that you use at least 64-point Sinc on your final render, or better still, the maximum Sinc value that you are prepared to wait to finish rendering.

**NOTE:** There is an independent 'live' output interpolation set on the F10 > Audio Settings, Mixer section. If different Mixer and Render interpolation options are set, this can cause the live and rendered audio to sound different, specifically in the high frequency regions. Live aliasing tends to create a 'false' high frequency brightness. Settings the live interpolation method to **64-point sinc** will minimize this problem, should it arise.

* **Dithering** - Applies 32 to 16-bit dithering to 16-bit .wav and .mp3 files. Dither should only be applied once to your final 16 bit render. If you plan to master or post-process your track then don't apply dithering. Dither breaks up the predictability, and so signal-like quality, of quantizing noise (rounding errors in signal amplitude that occur when transposing bit-depths, 32 to 16 for example) making it sound more like background hiss and less like an audio signal that will draw your attention (i.e. less noticeable). Quantizing noise is generally only audible in the quietest parts of a recording, where the music is approaching the limits of the bit-depth. If you are hearing noise artifacts and your track is approaching 0 dB, then it is some other type of noise, probably aliasing (see the interpolation settings) or compression artifacts (mp3/ogg bit-depth).
* **Alias-free TS404** - When enabled, prevents TS404 from "aliasing", but also slows down the rendering process.
* **HQ for all plugins** - Sets high quality mode for any plugins (effects and instruments) used in the song.
* **Disable Max Poly** - Ignores the **max poly** setting in Miscellaneous Channel Settings but does NOT ignore **Mono** option if selected.

**Output format/s**

Select the output format/s for the project render. To save in more than one format simply select multiple options on this panel.

**Wave (Audio)**

Wave is a [lossless](http://en.wikipedia.org/wiki/Lossless_data_compression) audio format and preferred for handling audio in a production environment (use it to save all your samples, sounds and archive material). The drop-down menu contains bit-depth options for the exported wave file -

* + **16-Bit int** wave is the highest-quality audio file compatible with a wide range of playback devices. **CD audio format:** If you want to create audio files compatible with CD format **use 44.1 kHz, 16-bit .wav files**. Check that the Mixer sample rate is set to 44.1 kHz in the Audio Settings window. Also note that FL Studio does not burn to CD format, it creates audio files ready for burning. Use any 3rd party CD burning program to create the audio CD.
	+ **24-Bit int** wave is a common bit-depth used by DAW hardware & some older software DAWs. Use this bit-depth only if 32-Bit float is not supported by the 3rd party software/hardware.
	+ **32-Bit float** wave is the native format of FL Studio mix engine. Render to 32-Bit floating point format when you intend to continue mixing or editing the file in another application (wave editor or DAW) that supports 32-Bit floating point format. 32-Bit float provides more precision for mathematical operations on the audio and so will ensure the highest quality is preserved in your audio files during post production activities.

**MP3/OGG (Audio)**

[mp3 (Mpeg Layer 3)](http://en.wikipedia.org/wiki/Mp3) and [ogg (Ogg Vorbis)](http://www.xiph.org/vorbis/) are both '[lossy](http://en.wikipedia.org/wiki/Lossy_data_compression%22%20%5Ct%20%22_blank)' formats that compact the audio to save space. This means that at lower bit-rate settings you may hear unwanted artifacts often described as 'underwater sounds' or 'bubbling'. The slider sets bit-rate of the mp3/ogg audio file, as bit-rate increases the audio quality improves, but at the expense of file size.

**What bit-rate should I use?**

* + **64 kb/s** (or less) is a good bit-rate for internet demo tracks where you'd like people to hear your music without obtaining a quality copy. Compression artifacts will be noticeable.
	+ **128 kb/s** is excellent for web streaming and e-mailing music files, although some artifacts will be audible it is about the point where acceptable 'listening' quality for most people starts.
	+ **160 kb/s** is the rate where it becomes difficult for many listeners to distinguish CD from mp3 and so makes a good setting for most distribution and listening purposes.
	+ **224 kb/s** (or greater) and mp3/ogg becomes practically indistinguishable from CD under normal listening conditions and so these rates can be handy when collaborating over the Internet and you need to share audio files that may be impractical in .wav format (1400 kb/s).

**NOTES:** The maximum bit-rate for mp3 is 320 kbps and 450 kbps for ogg. This means if you set the slider to 450 kbps, mp3 files will still render at 320 kbps while ogg files will render at 450 kbps. The relationship between kbps setting and the audibility of artifacts will depend on the material being rendered and the listening environment. You should always check your rendered files with a good pair of headphones prior to release. Where possible use at least 16-bit .wav format when sharing raw audio in a production environment.

**MIDI (Data)**

MIDI is a standard note & automation data format and will save the contents of the Step Sequencer and Piano roll. As note data is saved along with FL Studio project, only export to MIDI if you intend to import the note data into a 3rd party application. There is a macro Prepare for MIDI export on the main Tools menu that replaces all channels with auto-configured MIDI-out channels that is useful for rendering projects to MIDI in an organized manner.

**NOTE:** MIDI is not an audio format. If your media player can play MIDI files it is using the synthesizer/sampler built into your soundcard to create audio from the MIDI data.

**Options**

* **Split Mixer Tracks** - When selected, each Mixer track in the project is exported as a separate **.wav** file. **NOTE:** this option does not export to **mp3/ogg** formats.
* **Save ACIDized** - Saves additional information in the wave file that is read when using the rendered loop in Sony Acid™.
* **Save Slice Markers** - If enabled, each note will create a slice marker in the exported file. This means that FL Studio exports sliced drum loops which are automatically ready for slice re-ordering and high quality time stretching.
* **Delay compensation** - Applies only to .wav files. **ON:** Strips any PDC delay from the rendered .wav. Use this when start/end-timing is critical in the rendered .wav (when making loops for example). **OFF:** An amount of silence equal to the Master channel PDC will be added to the start of the .wav and the same again removed from the end.

**Rendering Buttons**

* **Background Rendering** - Minimizes and renders in background mode, allowing you to work on other Windows applications.
* **Start** - Starts Rendering. The name will change to **Abort** once rendering is underway.
* SimSynth preset (\*.syn)

SAMPLE FILE FORMATS

# SimSynth Preset (\*.syn)

The Sampler can use presets directly from SimSynth 1 and 2 - a wave file is generated automatically when a SimSynth preset is loaded into FL Studio. SimSynth is a software synthesizer written by David Billen. You can get SimSynth from our download pages at [www.flstudio.com](http://flstudio.image-line.com) (SimSynth 1 is now freeware!). When you load an .syn file rather than a wave file, you gain some additional options in Miscellaneous Channel Settings page.

* SoundFont (\*.sf2).

INSTRUMENTS / GENERATORS

**Fruity Soundfont Player**

**DEMO ONLY:** Fruity Soundfont Player comes as a demo version in FL Studio and needs to be purchased separately so you can save projects containing Fruity Soundfont Player channels.

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| **Fruity SoundFont Player** is an advanced sampler which can load SoundFont2 instruments, drumkits, or collections. This plugin uses the LiveSynth SF2 rendering engine. SoundFonts are an excellent way of replicating acoustic instruments such as string or brass sections. |

**Parameters**

* **Load SoundFont** - This button is located in the top left corner of the interface. Click it and select a SoundFont2 instruments/drumkits bank file to load (\*.sf2).
* **Edit SoundFont** - This button is located in the top right corner of the interface. Click it to open the current SoundFont bank in a SoundFont editor to edit to instrument definitions. The first time you run this feature, the SoundFont player will ask you to browse and select a SoundFont Editor to be used for this button.
* **Patch LCD** - Here you can set the patch (instrument) number in the SoundFont collection to be played by the generator.
* **Bank LCD** - Here you can set the bank number in the SoundFont collection to be used by the generator.
* **Name** - Shows the name of the selected instrument. Click this area to see a full list with instruments/drumkits available in the currently loaded SoundFont collection.

**Reverb Section**

This section gives you the ability to use a set of Fruity/VST/DX effects on a send track as a reverb effect for the SoundFont player instead of generator's internal reverb effect (which is generally with lower quality).

* **Send To LCD** - Select here the send track number to use for reverb send effect.
* **Send Amount wheel** - Use this wheel to add more or less reverb to the instruments (it multiplies the reverb amount for each instrument, so instruments with no reverb will remain with no reverb).
* **Use Built-in** - If you turn on this option, the SoundFont player will use its built-in reverb effect instead of using FL Studio's send track.

**Chorus Section**

This section gives you the ability to use a set of Fruity/VST/DX effects on a send track as a chorus effect for the SoundFont player instead of generator's internal chorus effect (which is generally with lower quality).

* **Send To LCD** - Select here the send track number to use for chorus send effect.
* **Send Amount wheel** - Use this wheel to add more or less chorus to the instruments (it multiplies the chorus amount for each instrument, so instruments with no chorus will remain with no chorus).
* **Use Built-in** - If you turn on this option, the SoundFont player will use its built-in chorus effect instead of using FL Studio's send track.

**Envelope2 Section**

You can use this section to override the volume envelope settings used in the SoundFont instrument. The four sliders represent the Attack (A), Decay (D), Sustain /s, Release (R) levels of the SoundFont envelope. Keep these sliders set to minimum to disable overriding of the predefined values.

**LFO2 Section**

You can use this section to override the pitch LFO settings used in the SoundFont instrument. The three wheels represent the Predelay (DEL), Amplitude (AMT), Speed (SPD) levels of the SoundFont LFO. Keep these wheels turned maximum to left to disable overriding of the predefined values.

**Misc Section**

* **CUT** - You can use this wheel to override the cutoff level used in the SoundFont instrument. Keep the wheel turned maximum to left to disable overriding of the predefined cutoff levels.
* **Modulation (MOD)** - Turn this wheel to right to add modulation to the instrument.
* **HQ Rendering** - Turn this switch on to get higher quality rendering.

**Plugin Credits:** Didier Dambrin (interface, conversion), LiveUpdate (LiveSynth SF2 engine)

* Speech preset (\*.speech)

SAMPLE FILE FORMATS

**Speech Preset (\*.SPEECH)**

The Speech synthesizer processes text to create computerized or Vocoder-like vocals to your projects. The \*.SPEECH presets are supported by all native FL Studio plugins that use custom samples for synthesizing, i.e. Sampler, Granulizer, Fruity Slicer and Fruity Scratcher.

**How to open**

The speech synth is not a stand-alone instrument so **does not appear in the add-plugin list**, it is a pop-up dialog that processes text to audio then dumps the result as a sliced Audio Clip. To add speech samples to your project start by dragging any speech preset from the Browser **speech** directory to an empty channel (or plugin that accepts a .wav file). The settings dialog will open, modify the text to your liking and then click OK to apply the preset to the channel. If you start with an empty channel the audio will be saved into an instance of the Fruity Slicer.

**Speech Settings Dialog**

**1. Text Panel**

* **Speech Text box** - Enter here the text to be synthesized by the engine.
* **Listen button** - Click to preview the sample based on the current settings.

**2. Voice Panel**

* **Personality combo box** - Click this box to select voice personality. The personality changes the timbre of the voice used. The rest of the voice settings are also set to the defaults for the personality selected.
* **Style combo box** - Selects intonation style for the voice. **Monotone/Sing** uses constant pitch for all words. **Natural** resembles a natural talk intonation. **Random** select random pitch for each word.
* **Mode** - Select the amount of noise mixed in the voice generated. **Normal** uses natural levels for the noise mixed in the voice. **Breathy** uses more noise to create 'breathy' voices. **Whispered** uses only noise for the voice synthesis, thus creating "whispered" voice effect.
* **Rate LCD** - Sets the speed of the voice.
* **Pitch Semitone combo box** - Select the pitch semitone of the voice.
* **Pitch Octave LCD** - Select the pitch octave of the voice.

**3. OK button** - Applies the speech preset to the generator/effect selected. If you have changed some of the settings in this dialog, you will be prompted to save the preset with a new name.

**Speech Text Formatting**

**1. Pitch shifting of separate words**

You can supply a pitch offset for a word. Just place the offset amount (in semitones) after the word as a number, enclosed in parentheses: **"Semitone up(1), 2 semitones down(-2)"**. If in this sample the base pitch is, for example, F#2, the word "up" will have pitch G2 (one semitone higher), the word "down" will have pitch E2 (two semitones lower).

**2. Separating words**

To get more naturally sounding sentences, you may try replacing intervals " " with underscore "\_". So the sentence: **"This is example sentence"**, turns to: **"This\_is\_example\_sentence".**

Note that underscored sentences are recognized as a single word by Fruity Slicer channels and are not sliced properly (see below).

**Fruity Slicer Support**

When you open a speech preset in a Fruity Slicer channel, the sentence is automatically sliced so each word resides in a separate slice. Because of this feature, a BeatSlicer grid (\*.zgr) file is automatically generated by the Fruity Slicer channel, that contains the sentence.

* Wave sample (\*.wav). **ALSO** Audio Interchange File Format (.aiff, including Apple Loops).

SAVE/EXPORT FILE FORMATS

**Export Project Dialog (\*.wav; \*.mp3, \*.ogg, \*.mid)**

Export options include:

* **Audio** - .wav, .mp3, .ogg rendered formats that save the complete audio mix of your project (see the note below on including sounds from external hardware).
* **MIDI** - that will save the Step Sequencer / Piano roll note data to standard MIDI files.

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**Recording External Hardware**

**NOTE: To include sounds from external hardware such as a synthesizer, drum-machine or sampler** in the final render -

1. Make MIDI connections to the device from your computer AND audio connections from the device to your soundcard inputs.
2. Record the sound as it is played by FL Studio (using a MIDI Out plugin to drive the hardware).
3. Place the recorded audio as an Audio Clip in the Playlist.
4. Render the project to audio as shown here.

**Settings**

**Info**

Shows information about the current project.

* **Mode** - Displays whether FL Studio will render the whole Song or currently selected Pattern.
* **Total Time** - Shows total time length of the song to be exported.
* **Disk Space** - Shows the disk space required to hold exported audio file/s. If more than one save format is selected in the **Output panel** the combined total is reported.
* **Bar#** - Reports the current bar being rendered and the total number of bars in the project (current/total).

**Looping Mode**

Looping mode only applies to audio formats (.wav, .mp3 and .ogg) and determines how any decaying sound after the last bar of your project/loop is rendered. For example, the tail of a reverb of a sound may be important for the impression of smooth continuity when looping, or to prevent the decaying reverb in a 'straight' render being chopped off. If, after rendering the last bar from the song there is still sound decaying, this option sets how FL Studio should proceed. Leave remainder is the default. **NOTE:** If you are making loop files use .wav format, .mp3 in particular leaves a small silence at the start of the sound that will interfere with looping.

* **Leave remainder** - Expands the song length to capture any decaying sounds. If 'Leave remainder' still chops of any trailing audio, the Playlist **Repeat marker** can be used to define the rendering end-point. While Repeat marker positions are usually ignored, if they are placed after the last Pattern, Audio or Automation Clip in the Playlist, the project will be rendered up to the position of the Repeat marker.
* **Wrap remainder** - Wraps any decaying sound at the end of the song onto the beginning (useful when rendering loops with effects).
* **Cut remainder** - Cuts the render at the end of the last bar.

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**Quality**

* **Sample Interpolation** - Select the waveform interpolation method used for Sampler/Audio-Clip channels. [Interpolation](http://en.wikipedia.org/wiki/Interpolation#Example) is a curve fitting process that computes intermediate sample amplitude data between the known sample points (filling in the gaps). This is only required when samples are transposed from their original pitch and the program calls for a sample value out of sync with the source data-points. Without interpolation quantizing (amplitude) errors can create unwanted high-frequency harmonic artifacts ([aliasing](http://en.wikipedia.org/wiki/Aliasing#Sample_frequency) & [quantizing](http://en.wikipedia.org/wiki/Quantizing_noise) errors). FL Studio provides several methods of increasing computational complexity and therefore accuracy -
	+ **Linear** interpolation is the fastest method. It provides basic linear averaging between samples, however it can result in aliasing (high frequency noises) if samples are transposed far from their original pitch.
	+ **6-point Hermite** has been optimized to be a quick curve interpolation method with superior quality to linear interpolation. It is ideal for exporting 'working drafts' of your audio files.
	+ **64, 128, 256, 512-point Sinc** methods provide increasing quality interpolation, but they are also very slow. **We recommended** that you use at least 64-point Sinc on your final render, or better still, the maximum Sinc value that you are prepared to wait to finish rendering.

**NOTE:** There is an independent 'live' output interpolation set on the F10 > Audio Settings, Mixer section. If different Mixer and Render interpolation options are set, this can cause the live and rendered audio to sound different, specifically in the high frequency regions. Live aliasing tends to create a 'false' high frequency brightness. Settings the live interpolation method to **64-point sinc** will minimize this problem, should it arise.

* **Dithering** - Applies 32 to 16-bit dithering to 16-bit .wav and .mp3 files. Dither should only be applied once to your final 16 bit render. If you plan to master or post-process your track then don't apply dithering. Dither breaks up the predictability, and so signal-like quality, of quantizing noise (rounding errors in signal amplitude that occur when transposing bit-depths, 32 to 16 for example) making it sound more like background hiss and less like an audio signal that will draw your attention (i.e. less noticeable). Quantizing noise is generally only audible in the quietest parts of a recording, where the music is approaching the limits of the bit-depth. If you are hearing noise artifacts and your track is approaching 0 dB, then it is some other type of noise, probably aliasing (see the interpolation settings) or compression artifacts (mp3/ogg bit-depth).
* **Alias-free TS404** - When enabled, prevents TS404 from "aliasing", but also slows down the rendering process.
* **HQ for all plugins** - Sets high quality mode for any plugins (effects and instruments) used in the song.
* **Disable Max Poly** - Ignores the **max poly** setting in Miscellaneous Channel Settings but does NOT ignore **Mono** option if selected.

**Output format/s**

Select the output format/s for the project render. To save in more than one format simply select multiple options on this panel.

**Wave (Audio)**

Wave is a [lossless](http://en.wikipedia.org/wiki/Lossless_data_compression) audio format and preferred for handling audio in a production environment (use it to save all your samples, sounds and archive material). The drop-down menu contains bit-depth options for the exported wave file -

* + **16-Bit int** wave is the highest-quality audio file compatible with a wide range of playback devices. **CD audio format:** If you want to create audio files compatible with CD format **use 44.1 kHz, 16-bit .wav files**. Check that the Mixer sample rate is set to 44.1 kHz in the Audio Settings window. Also note that FL Studio does not burn to CD format, it creates audio files ready for burning. Use any 3rd party CD burning program to create the audio CD.
	+ **24-Bit int** wave is a common bit-depth used by DAW hardware & some older software DAWs. Use this bit-depth only if 32-Bit float is not supported by the 3rd party software/hardware.
	+ **32-Bit float** wave is the native format of FL Studio mix engine. Render to 32-Bit floating point format when you intend to continue mixing or editing the file in another application (wave editor or DAW) that supports 32-Bit floating point format. 32-Bit float provides more precision for mathematical operations on the audio and so will ensure the highest quality is preserved in your audio files during post production activities.

**MP3/OGG (Audio)**

[mp3 (Mpeg Layer 3)](http://en.wikipedia.org/wiki/Mp3) and [ogg (Ogg Vorbis)](http://www.xiph.org/vorbis/) are both '[lossy](http://en.wikipedia.org/wiki/Lossy_data_compression%22%20%5Ct%20%22_blank)' formats that compact the audio to save space. This means that at lower bit-rate settings you may hear unwanted artifacts often described as 'underwater sounds' or 'bubbling'. The slider sets bit-rate of the mp3/ogg audio file, as bit-rate increases the audio quality improves, but at the expense of file size.

**What bit-rate should I use?**

* + **64 kb/s** (or less) is a good bit-rate for internet demo tracks where you'd like people to hear your music without obtaining a quality copy. Compression artifacts will be noticeable.
	+ **128 kb/s** is excellent for web streaming and e-mailing music files, although some artifacts will be audible it is about the point where acceptable 'listening' quality for most people starts.
	+ **160 kb/s** is the rate where it becomes difficult for many listeners to distinguish CD from mp3 and so makes a good setting for most distribution and listening purposes.
	+ **224 kb/s** (or greater) and mp3/ogg becomes practically indistinguishable from CD under normal listening conditions and so these rates can be handy when collaborating over the Internet and you need to share audio files that may be impractical in .wav format (1400 kb/s).

**NOTES:** The maximum bit-rate for mp3 is 320 kbps and 450 kbps for ogg. This means if you set the slider to 450 kbps, mp3 files will still render at 320 kbps while ogg files will render at 450 kbps. The relationship between kbps setting and the audibility of artifacts will depend on the material being rendered and the listening environment. You should always check your rendered files with a good pair of headphones prior to release. Where possible use at least 16-bit .wav format when sharing raw audio in a production environment.

**MIDI (Data)**

MIDI is a standard note & automation data format and will save the contents of the Step Sequencer and Piano roll. As note data is saved along with FL Studio project, only export to MIDI if you intend to import the note data into a 3rd party application. There is a macro Prepare for MIDI export on the main Tools menu that replaces all channels with auto-configured MIDI-out channels that is useful for rendering projects to MIDI in an organized manner.

**NOTE:** MIDI is not an audio format. If your media player can play MIDI files it is using the synthesizer/sampler built into your soundcard to create audio from the MIDI data.

**Options**

* **Split Mixer Tracks** - When selected, each Mixer track in the project is exported as a separate **.wav** file. **NOTE:** this option does not export to **mp3/ogg** formats.
* **Save ACIDized** - Saves additional information in the wave file that is read when using the rendered loop in Sony Acid™.
* **Save Slice Markers** - If enabled, each note will create a slice marker in the exported file. This means that FL Studio exports sliced drum loops which are automatically ready for slice re-ordering and high quality time stretching.
* **Delay compensation** - Applies only to .wav files. **ON:** Strips any PDC delay from the rendered .wav. Use this when start/end-timing is critical in the rendered .wav (when making loops for example). **OFF:** An amount of silence equal to the Master channel PDC will be added to the start of the .wav and the same again removed from the end.

**Rendering Buttons**

* **Background Rendering** - Minimizes and renders in background mode, allowing you to work on other Windows applications.
* **Start** - Starts Rendering. The name will change to **Abort** once rendering is underway.

**Other**

Left-click to preview (applies to Sampler presets only). Right-click to send to the current or new channel (applies to channel presets only):

* Generator/Effect preset (\*.fst)

Right-click to apply the score to the current channel:

* FL Studio Score file (\*.fsc) or MIDI file (\*.mid)

Right-click to apply the humanize preset to the current channel:

* Humanize preset (\*.fpr)

Right-click to apply the score to the current channel:

* Piano roll score.

**Most Browser items can be applied with a drag and drop action**. For example to apply a channel preset to a channel, just drag and drop the preset on the appropriate channel settings button (see Step Sequencer) or drop it directly on the Channel Settings window. You can drop the channel preset or sample below the last channel to create new one.