XILS 505

User Manual

www.xils-lab.com

Table of contents

1 Introduction

Thank you for choosing the **XILS 505**!

The **XILS 505** is a virtual instrument based on the architecture of one of the one of the coolest vintage instruments out there.

Strings, Synthesizer, Bass and voice machine, the **XILS 505** can bring you back some years ago when sound was so important for the great artists who began the electronic music.

But the **XILS 505** is giving much more than a string machine, much more than Human Voices chords. Thanks to its huge modulation possibilities and despite some but musical limitation brought by the Top Octave Divider oscillator (see below), it is a full-featured synthesizer while keeping the character of the original machine.

We at **XILS-lab** do our best to create authentic recreations of the great synthesizers we emulate and then take it even further. What can be done with today's computers allows us to take these emulations beyond what was feasible when these products were first created. Our goal is to be true to the original in sound and modulation routings and then add features that were just not before possible.

If you not yet developed your skills as a sound designer, we have included a lot of presets from famous sound designers and artists. So you can fuel your synthesizer or robot voices dreams as soon as you load the **XILS 505** into your DAW.

Please enjoy this very powerful sound creation tool. We love what we do and we want you to get the most enjoyment you possibly can from our labors. We want to hear from you.

So "like" us on Facebook http://www.facebook.com/XILSLabs and join in the conversation

2 Features

The **XILS 505** offers:

- One finely tweaked and emulated Top Octave Divider oscillator, providing up to 49 voices of polyphony.
- One strings section.
- One synth section with human voices.
- One Bass section.
- A virtual keyboard, which can be saved in your presets.
- An Advance Stereo Space effect.
- A simple but nice sounding reverb.
- Analog-like resonant phaser.
- Up to 6 free assignable modulation dots, with up to 14 sources and 24 destinations
- A special Glide function.
- Access to a lot of parameters which were not accessible in the hardware version
- All parameters are MIDI controllable

The **XILS 505** is available in the following formats:

- **Mac OSX 10.8 and later**: VST, Audio Unit, AAX
- **Windows 7, 9 and 10**: VST, AAX

Minimum system requirements: 1 Gigabyte of RAM and a 2 GHz processor.

The **XILS 505** is a plug-in and is not available as a standalone application

Notice: The screen resolution must be set at least to 1024 pixels width.

3 Installation

XILS-Lab offers you the choice of using eLicense or iLok. This first section describes the process for authorization for eLicenser.

3.1   eLicenser drivers

The XILS 505 uses the USB-eLicenser dongle (also called Steinberg key). You must have this dongle connected to a USB port on your computer to make the XILS 505 work.

Important : Please take care of your dongle: you need it to run the XILS 505 and it carries your license!

Please Note: Even if you have already installed the eLicenser drivers for a previous product, please install the latest version of the eLicenser License Control.

To download the latest eLicenser Control Center (eLC), please go to:

http://www.elicenser.net/en/latest_downloads.html

You need a XILS 505 Activation Code to load your license onto the dongle:

First, plug your dongle into a USB port of your computer. Then launch the License Control Center. Launch the **Enter authorization code**. Enter your **Activation Code** in the reserved field, and press Next.

Wait for the license to be downloaded and then check to see if the license is correctly loaded on the dongle in the main section of the License Control Center.

3.2   iLok drivers

With the iLok version of the **XILS 505**, you need to plug an iLok USB key into your computer or authorize your computer.
After downloading and installing the latest iLok License Manager, create an free account or log in.
Select "license->Redeem activation code" and submit the code you receive for creating your license.
Drag and drop this license to the destination you wish to use, either tp your computer if you want to work without any hardware device or to a plugged iLok device.

To download the latest PACE drivers, please go to:
https://www.ilok.com/#!license-manager

3.3   Windows (Windows 7,8, 10)

To install the XILS 505 on Windows, launch the XILS 505 installer file Please download the latest version from the XILS-lab website (download->selected product->full installers)

Once you have accepted the license agreement, you will be asked to select the installation directory. A destination directory is provided as a default. Presets and various files, like this manual, used by the **XILS 505** will be stored in this directory. Please note that this location is different from the VST install directory, which you will need to specify in the next step of the installer.

Once the installation directory is specified, you will be asked to select the VST plug-in directory, with a suggested default location. Keep this default directory if you do not use the VST version.

Important notice : be sure to use a folder write enable and owned by the user (do not use "c:/program files" for instance). Otherwise you will have to run your music application with "administrator rights". The default folder is c:/Users/Public/Documents/XILS-lab/XILS 505

The AAX plug-in and its table control management ProTools are directly copied into the following directory: C:\Program Files\Common Files\Avid\Audio\Plug-Ins

3.4   Mac (OSX 10.8 and later)

To install the **XILS 505** on a computer equipped with Mac OSX 10.8 or later, download the latest version of either the iLok or eLicenser versions from the XILS-lab website to make sure you have the latest version of the software (download->selected product->full installers).

Then launch the install program, XILS 505. pkg, and follow the instructions.
Warning: the install program will ask you for your system password.

If OSX doesn't allow the installer to be launched, open System Preferences -> Security&Privacy, then click on "open anyway"

Just after selecting the drive where the XILS 505 will be installed, you can choose which components to be copied by clicking on "customize" and selecting or unselecting them.

The various files of the XILS 505 will be copied into the following directories:

Library/Application Support/XILS-lab/XILS 505
Library/Application Support/Digidesign/Plug-Ins
Library/Application Support/Avid/Audio/Plug-Ins
Library/Audio/Plug-Ins/Components
Library/Audio/Plug-Ins/VST
Library/Application Support/Documentation/XILS-lab/XILS 505

And for the user preset and various option :

..users/username/Library/Preferences/XILS-lab/XILS 505

4 Using the XILS 505

4.1   Introduction

The XILS 505 can be used as a simple effect, as an instrument or as a Midi controlled plug-in.
Depending on your DAW, you may have to choose the correct plug-in (XILS 505 for the effect or Midi controlled plug-in, or XILS 505 Inst. For an instrument)

4.2   Using the XILS 505 tools bar

Note: The toolbar at the top of the interface allows you to load or save presets, make a comparison between settings A and B, or modify the options. These functions are described in detail later in this manual.

Click on the **PRESET arrow** to show the available presets in the current sorted group. Please note that selecting a new preset without saving your current settings will erase any changes you have made to those settings.

Click on the **sort arrow** button to display the current sorted group and to choose the preset within it.

You can sort presets by: **Author, Feeling, Type, Style, Bank or Projects**.

Please note that the **XILS 505** will display presets by instruments categories (Type) by default.

Click on the sorting label over the sorted group name, to sort your preset according to your preferences.

Please note that the XILS 505's powerful Preset management is fully detailed in chapter 5 of this manual.

4.3   Adjusting the instruments parameters

On the **XILS 505**, the sound parameters are controlled using faders, knobs or switches

To adjust with the mouse, the parameters of the **XILS 505** which are controlled by faders, click on the slider of the fader and drag it up to increase the value, of drag it down to decrease it.
To adjust with the mouse, the parameters of the **XILS 505** which are controlled by knobs, click inside it and move the move up or right to increase the value, down or left to decrease it.

If you right-click on a parameter, or if you hold shift while clicking, you can adjust the parameter with fine precision (the ? button of the toolbar displays a panel summarizing these shortcuts).

Keyboard shortcuts

In addition we have provided some soft keys combination to perform several very useful tasks:

Windows:

- CTRL+left click: reset parameter to its default value.
- CTRL+right click or CTRL+Shift+left click: initialize the default value of the parameter.

- Win+Alt+CTRL + click: Midi Control assignation in learning mode (just move your hardware Midi CC for assigning it)

OSX:

- Apple+left click: reset parameter to its default value.
- Apple+Shift+left click: initialise the default value of the parameter
- Apple+Alt+CTRL + click: Midi Control assignation in learning mode (just move your hardware Midi CC for assigning it)

Note: Other GUI elements and controls, like the LED Switches, or the drop down menus, will be described in the following sections of this manual, when you'll need to use them.

The switches are simpler: just left click to change their state. A right click will change the state only while the button is pressed, and return to the previous state when it is released.

When a parameter is chosen via a drop down menu, just click on the button or label and select the item.

5 Preset Management

5.1   Main Toolbar

In the toolbar you can find two buttons, displaying the category name (Bank, Author, Type, Style, Feeling or Project), which open the sort management menus.

The two first text fields show the current sorting group and the third shows the current preset.

Clicking on the arrow on the left of the category or preset names opens the corresponding menus.

Note: When a parameter is modified, the name of the preset is followed by a *****, indicating that the current settings of the XILS 505 no longer matches the stored preset.

When you want to save a modified preset, click on the **Save or Save As** button.

In order to prevent you from erasing them, the Factory presets cannot be modified. When you edit a Factory preset, the **Save** button will be grayed, and you will have to use the Save As function to save it in another bank.

If you edit any other preset than a Factory one, the **Save** and **Save A**s function will both be available.

The main difference is that the **Save** function will save the preset under its current name, and with its current tags, overwriting the previous incarnation of the preset, while the Save as function opens a dialog box where you can modify the name of the preset, the bank in which it will be stored, and all its tags

The settings of the XILS 505 are then saved in the currently displayed preset, and the ***** disappears. Click on the **Save As** button to save this preset with another name and/or to other sorting groups.

5.2 Preset menu

Click the **Preset arrow** button to open the preset menu. Here you can choose and load another preset from the current sort groups into the XILS 505.
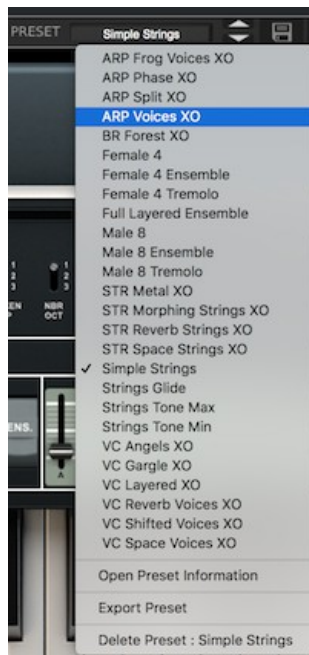
In this menu, other actions are also available:

Delete Preset: use this to delete the current preset (a popup confirmation window appears). This option is only available if the current preset is not a factory one.

Export Preset: Use this function to export the current preset in an external file (.xirs format). This file can be imported later as a new bank. It always makes sense to back up your presets on external media.

Open preset Browser: opens the preset Manager window in the Browser mode.

5.3 Sort menus

The sorting menus are unique and a powerful tool. Allowing you to perform sophisticated tasks, such as displaying the preset list organized in a variety of different ways:

- All the Basses of your Sound Library
- All the Basses tagged with a given musical genre
- All the Pads made by a given Sound Designers
- All instruments for a musical genre like Electronica, or Funk
- All instruments that were recently imported in a bank (like additional sound-sets from Xils-Lab or 3rd party vendors)

There are indeed a lot of possibilities, and we're confident that you'll find the best way to customize it to your personal needs.

In order to perform such selections, all you have to do is to select an item in the first sort menu. This represents the first and main criteria for the search engine.

- **AUTHOR** (Your name, or a Sound Designer name for factory presets**)**,
- **Type** (Category of the instrument like Keys, Leads, Basses, etc)
- **Style** (Musical Genre),
- **Feeling** (Cold, warm, soft) and finally
- **Project** (My Song, My_Live_Project).
- **ALL** (this item is not used for sorting the preset)

These primary results can then also be filtered according to second criteria. Which can be chosen from a similar list in the secondary sort menu.

Sometimes a picture is better than a lot of text, so you'll find below an example where you can find out how to select all the basses designed by a given Sound Designer.

Please note that, once you are familiar with this system, you can also perform some operations in a single click, by using the Sub Groups to choose a preset:

In the picture below the primary sort menu is used to browse the different banks. Then in a factory bank, the author Xils-Lab is selected, and finally the Preset "ARP Voices XO". In this example the preset is selected in a single click operation, and the presets available in the preset list will be all the Xils-Lab presets available in the entire Factory Sound Library.

Click on the **row** of the sorting button to open the menu used to manage this sorting group (or sub group). Here you can directly select and load any preset from any group or subgroup.

5.3.1   Sorting Menu: Additional Functions

In this menu, other actions are also available:

Delete: deletes all of the presets of the current group that are not factory ones. IMPORTANT: Use this function with care: If the bank does not contain any factory presets, ALL PRESETS IN THIS BANK WILL BE PERMANENTLY DELETED.

Rename: modifies the current group name. Selecting this choice will open a window where the new name will be entered.
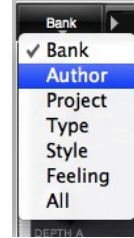
Use Factory: enables or disables the display of factory presets.

Sort By: This function sorts the presets according to bank, author, project, or shows all presets (**Bank Name**, **Author Name**, **Project Name**, **All Presets**). The preset menu will show presets of the same category (same author, same project or same bank).

Export Bank: This function exports a bank in the XILS 505's proprietary cross platform format, (Mac and PC). The selected bank (i.e. the bank which contains the currently active preset) will be exported to a user specified location on your hard drive.

Import Bank: This Function allows you to browse your hard drives to select a file and imports a XILS 505 bank.

These two choices are not available from the second **sort** menu.

This menu provides also the possibility to change the size of the interface. This feature is the same that the one provided in the **Option** menu.

5.4 Advanced Preset Manager
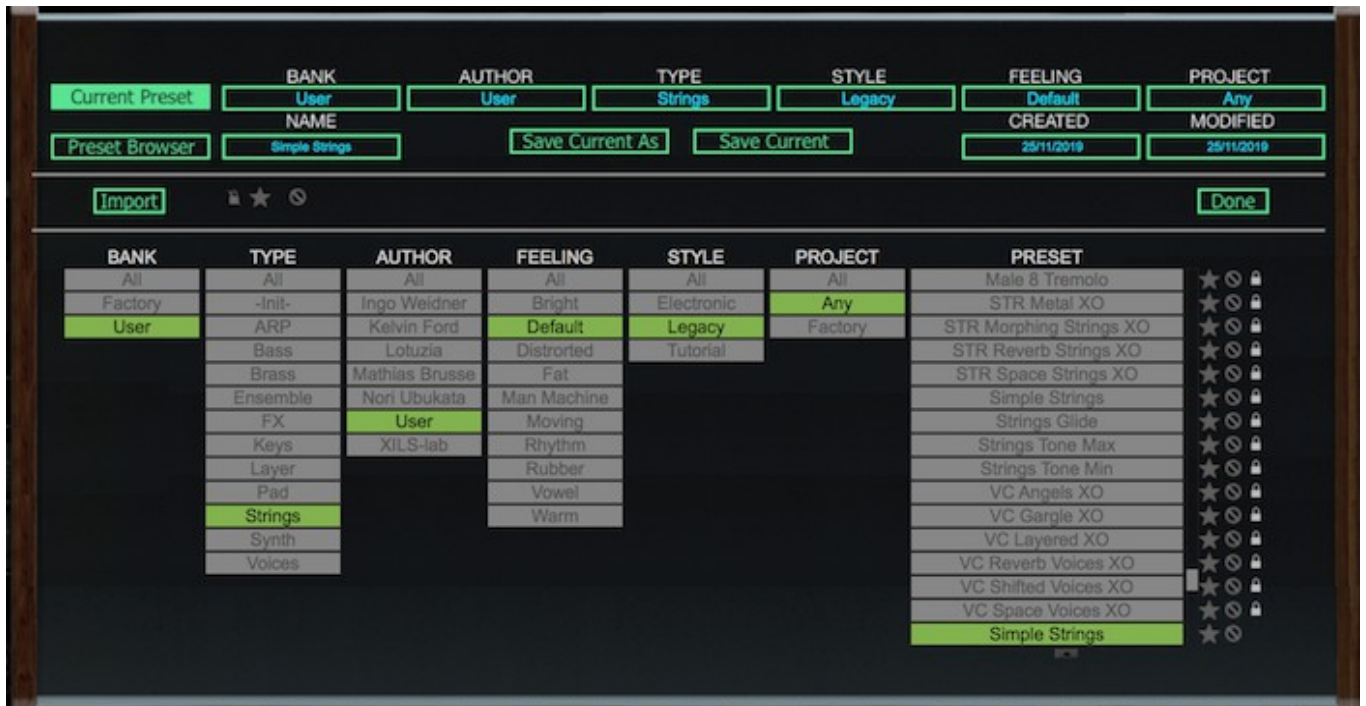
The preset manager provides two mode : **Current Preset Mode** and **Browser (or Tag) Mode**.
Current Preset Mode : This mode allows you to change any of the criteria of the current preset and save them as well as the current settings.

Click on a criteria and choose a new one in the menu. If you need a new criteria choose "New criteria" and submit the new name in the edit box. Click on the preset name for changing it.
When done, click on SAVE CURRENT (for replacing your preset) or SAVE AS CURRENT (for duplicating it)

Notice : When creating a new preset, this is the mode you need to go for saving your settings.

Preset Browser Mode : This mode allows you to easily sort your preset among multiple criteria for a fast selection.

Double click or hit Enter on a preset to launch it. Be careful, This will erase all the settings you could have done with the current preset.

Use the Arrow (up and down) for browsing the presets

Click on a criteria for displaying only the corresponding presets.
A grayed out criteria means that, according to the current selected criteria, there is no preset which this not available criteria.

The current preset and its associated criteria are **enlighten in green**.

There are two independent preset managers, one for the global preset (GLOBAL) and the other of the sequencer preset (SEQ).

Clicking on the Browser icon would open the Global Preset manager in Browser mode.
Clicking on the "Save As" icon would open the Global Preset manager in Current Preset mode.
Selecting "Save As" in the Sequencer preset menu would open the Sequencer Preset manager in Current Preset mode.

On each criteria, right-clicking would open a contextual menu. You can then rename, delete, export a criteria. In this two later cases, all the preset which are not in the "Factory" bank, corresponding to that criteria will be deleted or exported.

Favorite: you can add each preset in your "Favorite" or "Hidden" selection. In that case, when clicking on the "Favorite" icon, only the preset in your favorite selection will be displayed. When clicking on the "Hidden" icon, all the preset in your "Hidden" selection will be removed from the list.

Factory: The preset in the factory bank can't be changed or removed (shown by a lock at the right of the preset). When clicking on the "Lock" icon, all the factory preset will be removed from the list.

Import: By clicking on the IMPORT button, you can import bank of preset created for the XILS 505 (.xirs files).

Click on DONE for Closing the preset manager panel.

5.5   A/B comparison

You can store two different settings at the same time and instantly switch from one to the other to compare their settings. These two settings are stored in the **A** and **B** memories.

When you launch the XILS 505, the default-activated memory is A. When you load or modify a preset, this memory –A- is also modified in real time according to your edits. You can switch to B memory by clicking on the B button.

To copy the current active memory content to the other memory slot, just press the button labeled -> or <-, according to the current active memory.

With this A/B comparison system, you can easily have two settings and compare them in a convenient way.

Note: Please note that by default, the B memory slot, until you copy settings into it or until loading a other preset within the other memory slot, contains the same init patch loaded in the A memory when you first launch the XILS 505.

5.6   Using the XILS 505

The **XILS 505** instrument is a wonderful string machine as well as an amazing synthesizer section which includes a Human Voice chords generation. It also features a bass section.
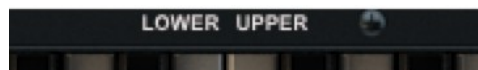
5.6.1   The Strings

Once the XILS 505 is launched, an init preset "Simple Strings" is selected, you can immediately play with.

The Strings level can be adapted thanks to the "**synth/strings**" fader in the "**balance**" section or to the "**Master level**" knob.

The keyboard is split in upper and lower part and using the two green rocker switches, you can enable the strings for the lower or the upper part.


This "Simple Strings" preset is using only the string generation; hence if the "lower" green rocket switch is off, then no sound will be generated when a note of the lower part is played.
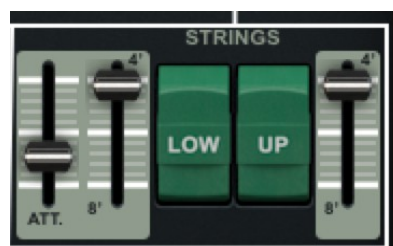
On the left of these two rocket switches, you will find two faders "**Attack**" and "**8'/4'**" which respectively set the Attack time of the strings and the balance between two octaves.
In the hardware model, the Strings attack is not polyphonic: The first note played is triggering the attack envelope, but the other notes are output with the same current level. Playing chords is not affected by this behaviour but playing arpeggio with sustain notes could be less than musical.

That's why the XILS 505 added a new feature hardware would find difficult to do: Just above the String Attack fader, when the "**Arp/Mixer**" panel is displayed (orange rocket switch, see below), you will find a white rocket switch labelled "**poly**".
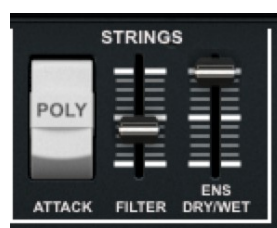
When ON, this switch enable the real polyphonic attack virtual circuitry, allowing real polyphonic attack behaviour.

*Note: The monophonic mode is working better (no clicks) when the Release **Legacy** mode is engaged (see below)*

At the right of this rocket switch, you will find two faders, "**Filter**" and "**Ens Dry/Wet**". These faders allow the user to have access to two internal parameters the original model kept secret.

With "**Filter**" you can change the Strings filters shape while with "**Ens. Dry/Wet**", you can set the level of the Ensemble effect (see below) which is always full wet on the hardware.

At the left of the Strings parameter group, you will find a "**Release**" fader. This fader set the release time which is fully polyphonic (up to the maximum 49 available voices of the XILS 505) but as the Original hardware model, directly applies on the Top Octave Divider oscillators, then shared with all the synthesis generation of the XILS 505 (meaning shared with the Strings, Synthesizer and Bass section)
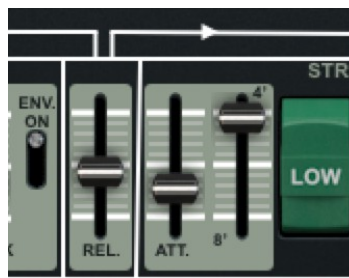
Above the "**release**" fader, you will find two other parameters available for the user. As the release, these parameters are applied on the Top Octave Divider oscillator, hence global for the Strings, Synthesizer or Bass section.

The rocker switch "**Legacy**", when on, allows the original hardware behaviour for the release: Each time the keyboard is empty; a new note will stop the current released sound.

When on, the release of each note are kept running whatever the keyboard state.

The fader "**Wave FRM**" allows modulating the oscillator waveform for the Strings, the Synthesizer and the Bass section

5.6.2   The Synthesizer section

The **XILS 505** provides a full synthesizer section including a 24db self-oscillating ladder filter which can me modulated by an ADSR envelope and or a LFO through two independent amount set by the **ENV** and **LFO** faders.

The cutoff frequency is set by the **FREQ** fader and its resonance by the **RES** fader.

The envelope is trigged by the first note or, in case the **SECOND TOUCH** switch is engaged, by every new note. The four faders, **A**, **D**, **S** and **R**, would set respectively the attack, decay, sustain and release of the envelope.

Thanks to the 6 rocket switches, the filter can be fed by the Bass (16' or 8'), the 8' or 4' divide down oscillators, applied to the lower or to the upper part of the keyboard.

The **BASS 16'** and **8'** are modulated by the BASS attack/release simple envelope of the Bass section (see below)

Finally, the **ENS** switch allows the ensemble to be applied to this synthesizer section.

Two new features have been added :
HUM. ON: When this switch is engaged, the 8' and 4' oscillators are replaced by the VP-330 human voices.
ENV. ON: When this switch is engaged, the ADSR envelope is applied to the synthesizer level.

The Synthesizer section can be balanced by the "**SY/ST**" fader in the BALANCE area.

5.6.3   The Human Voice in the Synthesizer section

Instead of using the raw output of the oscillator, by engaging the switch "**HUM. ON**", the synthesizer section is inserting a bank of human voices filters. In that case, the rocket switch label are changed to MALE 8, MALE 4 and FEM. 4

Once the XILS 505 is launched, select the following preset:
Bank: Factory, Author: XILS-lab, Preset: Male 8

You can immediately enjoy the well know chords of male Human voices.

This "Simple Voice8" preset is using only the Human Voice generation, hence if the "**lower**" with rocket switch "**Male8**" is Off, then no sound will be generated when a note of the lower part is played.

Switch ON the "**Male4**" rocker switch for the "**Lower**" part of the keyboard, a new voice, one octave above is generated.

Switch ON the "**Female4**" rocket switch for the "**Upper**" part of the keyboard, a new voice, with female texture, one octave above is generated.

The fader "**Attack**" similar as the one you found in the string section, allows you to increase of decrease the attack time when a note is played. And similar to the strings, When the rocket switch "**Poly**", found in the "**Arp Mixer**" panel (see below), just above the "Attack" fader, is ON, then the attack circuitry is polyphonic, otherwise, it is paraphonic, meaning that only the first note played on the keyboard will trig it. The other played note will be generated at the current level reach by the first note.

*Note: The monophonic mode is working better (no clicks) when the Release **Legacy** mode is engaged (see above)*

At this time, the various voices can be ON or OFF, but we opened the mix parameters to the user. Above these rocket switches, in the "**ARP Mixer**" panel, you will find two mixer faders, "**MALE 8**" and "**ML/FM 4**"
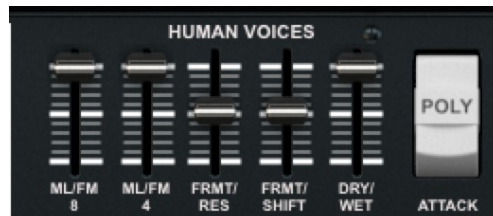
These two faders are setting respectively the level of the "**Male 8**" voices ("**Upper**" and "**Lower**") and the level of the "**Male 4**" ("**Lower**") and "**Female 4**" ("**Upper**") voices.

Note: When the fader is set to zero, then no sound is generated for the corresponding voice, whatever the position of the rocker switch. This is obvious but can be sure of wondering when switching ON one of the Human voice switches and getting no sound because of this level parameter.

Near these two faders, you will find three other faders, available for the user and opening an internal function, kept under the roof on the original hardware.

The "**Dry/Wet**" fader increases or decreases the effect of the ensemble in a similar way the Strings's one. Of course, this effect is noticeable only when the grey rocket switch "**Ensemble**" is ON.
The "**Frmt Res**" fader allows the user to increase of decrease the resonance (emphasis) of the Human voices formant filter, making the vowel more or less distinctive.
The "**Frmt Shift**" fader allows the user to shift the formant frequency, changing the way the vowel sounds.

The Human voices, before being sent to the ensemble effect, are processed by a vibrato effect.
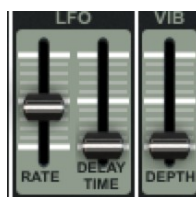
The "**Rate**" fader sets the frequency of this vibrato, the "**Depth**" fader, the amount and the "**Delay Time**", the delay time between the first note play to the keyboard and the beginning of the effect.

5.6.4   The BASS section

The level of the XILS 505's BASS section is set by the **BASS** fader within the BALANCE part.
You can select three types **Contra Bass**, **Tuba** and **Cello** by engaging the corresponding switches.
Engaging the **ENS** switch would connect this section to the Ensemble effect.

This section is modulated by a simple **A/R** envelope, triggered when a new note is played. This section is monophonic, meaning that only the lower note of the keyboard is played.

5.6.5   The XILS 505 Bass Advance settings panel

We already presented a part of the "Arp Mixer" advance settings panel, which is opened by default, but three other panels are available, opening thanks to the orange rocket switches below
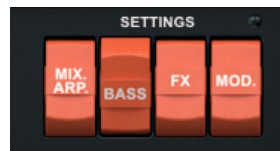
For opening the **Bass** dedicated panel, just click on the "**BASS**" orange rocket switch.


In this panel, you can set the parameters of the three filters used for the three basses: The cutoff frequency for the **Contra Bass**, the Cutoff frequency and resonance for the **Tuba** and the cutoff frequency for the **Cello**. You will also find the ensemble **dry/wet** fader.

You can also control the level of the different parts **Contra Bass**, **Tuba** or **Cello**.

When engaged, the **SPLIT** switch is limiting the Basses to the lower part of the keyboard, as the original model does. This allows you to play a bass line while playing a lead or chords with other sounds.

A simple schematic of the audio path is also displayed for helping you to understand this synthesizer.

5.7   The Effects Advanced settings panel
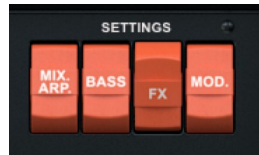
By clicking on the orange "**Effects**" rocker switch, you are opening the effects advanced settings panel where you will find the must have phase for any strings machine, a Stereo space, based on our well known True Stereo Dynamic Engine, as well as a simple but warn and nice sounding reverb.
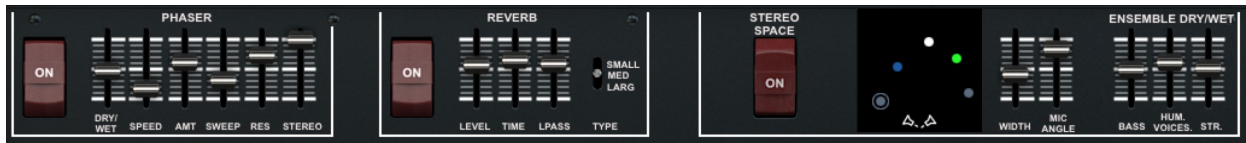
To enable the Phaser, the Stereo Space effect or the Reverb, you first much switch ON their corresponding red rocker switch.

5.7.1   How the XILS 505 are routed

When the Stereo Space is disable, the Phaser is processing the output of the end mix of the XILS 505, where every dry signals and Ensemble wet signal are mixed up together. The output of the phaser can then eventually be processed by the Reverb.

On the contrary, for an easier user management, when the stereo space is enabled, the phaser is only processing the Ensemble output.

In the same way, when the Stereo space is enable, the reverb inputs are taken from the internal reflexions of the Space algorithms, otherwise the reverb is processing output of the XILS 505, after the build-in original Ensemble and the Phaser if enable.

5.7.2   The Phaser

The phaser is a finely emulation of an analog phaser, providing all its internal parameters to allow a wide range of sounds.
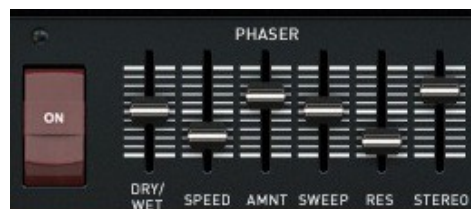
The "**dry/wet**" fader is increasing or decreasing the effect while the "**Speed**" fader increase or decrease the speed of the modulation. To increase or decrease the mount of the modulation (the width of the frequency sweep) just adjust the "**AMNT**" parameter. The "**Sweep**" parameter allows the frequency around which the modulation occurs to be set. And the "**Stereo**" set the differences between the left and the right channel. Lastly, the "**Res**" parameter set the level of the internal feedback, allowing increasing or decreasing the level of the harmonics swept by the phaser.

5.7.3   The Stereo Space
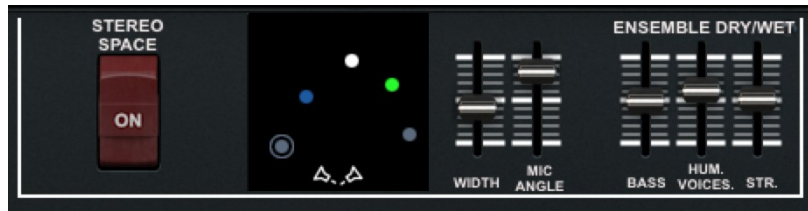
Once the Stereo Space is enabled up to six dots are displayed:
- Green: Dry Strings (the strings before to be send to the Ensemble effect)
- White: Dry Synthesizer (the Synthesizer before to be send to the Ensemble effect)
- Blue: Dry Bass (the Bass before to be send to the Ensemble effect)
- Grey1: Left Ensemble output (eventually processed by the phaser)
- Grey2: Right Ensemble output (eventually processed by the phaser)

A dot is displayed only when the corresponding generator is enabled or has a not null level (for instance, if the "**BASS**" fader is set to zero, the corresponding dot won't be displayed).

Each dot can be moved in the 2-D, left or right but also far or close, related to the microphone position. These latter can also be moved and their angle changed with the "**Mic Angle**" fader.
The "**Width**" allows to sense of space to be changed, from a tiny to huge.

Three faders are also providing to adjust the level of the dry/wet of the Ensemble input. These faders are the same than you can find on the "**Arp Mixer**" panel but double them here allows you to tweak them without having to change the displayed panel.

5.7.4   The Reverb

The reverb has three algorithms ("**Large**", "**Medium**" and "**Small**"), which can be chose thanks to the three-position selector "**Type**". The reverb time can be adjusted with the "Time" fader; the level of the reverb with the "Level" fader and lastly, the "**Lpass**" adjusts a high frequencies release.

5.8   The Modulation Advanced settings panel
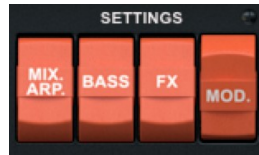
By clicking on the orange "**Mod**" rocker switch, you are opening the Modulation advanced settings panel where you will find, dedicated to the modulations, an envelope, an LFO and up to 6 modulation nodes.

The LFO rate is adjust with the "**Rate**" fader. Clicking on the led close to the label enable the MIDI synchronization. Switch ON one or several white rocker switch enable the corresponding waveform.

The envelope has the standard settings, a "**delay**" (Midi synced when the led is clicked) to adjust the time between the trig and the effect, an "**attack**" fader to adjust how fast the effect fade in, a "**decay**" fader, a sustain fader to adjust the level of the envelope during the time the note is held, and lastly a "**release**" fader to adjust how fast the envelope return to zero.

For each of the 6 modulation nodes, you can chose the source by clicking in the source display, the destination, by clicking in the destination display and the amount of the modulation by turning the knob.

The modulation sources and destinations are grouped in Monophonic and Polyphonic behaviour. A monophonic source can modulate both monophonic and polyphonic destination. A Polyphonic source can only modulate a Polyphonic destination. A Monophonic destination can be only modulated by a Monophonic source.

So depending on the cases, some choices are enable or not
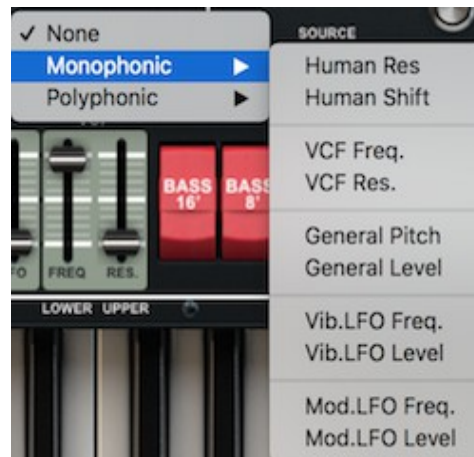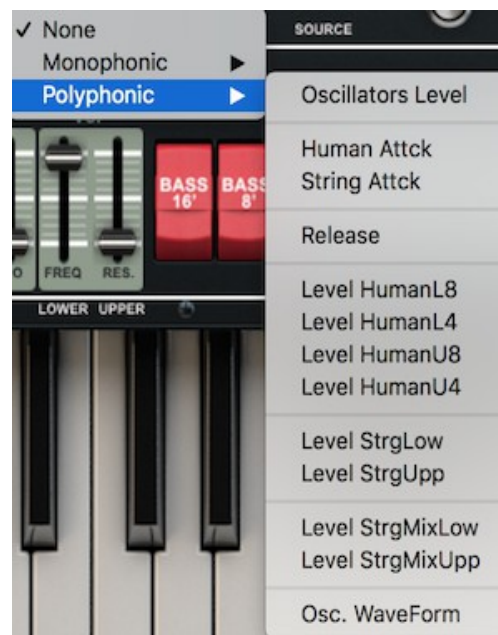
Monophonic sources:

Polyphonic sources:

Monophonic destinations:

Polyphonic destinations:

These modulations possibilities offer a wide range of new sounds the original hardware model can't achieve. From tiny changes for giving more vibe to huge effects, the **XILS 505** sounds possibilities are far away from those you can find in a simple string machine or vocoder.

5.9   Keyboard arpeggiator

The **XILS 505** provides a simple but powerful arpeggio. To have access to its settings, click on the orange "Arp Mixer" rocket switch.

When ON, this module reads the note hold on the keyboard and instead of playing them at the same time, it will play each note after the other.
There are three modes available: **Up**, the notes are played from the lower to the higher. **Down**, the note are played from the higher to the lower and **Up/Down** for which they are played backward and forward.

If none of these there modes are selected, then the notes are played in a random order. The cycle can also play through other octaves before restarting when the **Oct** switch is selected. Selecting the Polyphonic mode allows chord to be played according to a specific sequence, modified easily by the user.

ON: enable or disable the arpeggiator
POLY: enable the polyphonic mode
UP: play notes ascending mode
DOWN: play notes descending mode
SWING: set a swing value to the arpeggio. Turn right to get no swing, turn left to get maximum swing. A 66% value gives you typical jazz swing.
GATE: set the time a note (or a chord) is held by the arpeggiator, from zero to the clock period.
RATE: set the clock frequency of the arpeggio
MIDI Sync LED: close to the RATE, a switchable LED synchronizes the clock rate to the application host tempo.

The three positions "**Nbr Oct**" selection allows setting the number of octaves involved in the cycle and the "Broken Arp" three-position selection allows enabling the broken arpeggio mode.
This mode, instead of playing the note of the chords in a simple cycle, CEGB for instance if a CEGB chord is held, will play either CEGEGBGBC or CEGBEGB depending on the choice.

Clicking in the first text display allows you to change the Arpeggio mode. When a new note is played, "**Free**" updates the arpeggiator immediately, but you can choose also "**After Each Note**" or "**After Each Cycle**".

Clicking in the second text display allows you to enter a chord sequence used in the polyphonic mode ("**Poly**" rocker switch). The chord sequences transposition played in polyphonic mode can be edited there. Each number, from 0 to 12 stands for the base of the chord, and must be separated by a space, comma or semi-colon. Up to 32 numbers can be entered.

5.10   Pitch and Glide function

The **XILS 505**, as his ancestor, provides a special glide function.

The "Pitch Shift" slider modulates when the three positions selector is set to "**Manual**" the pitch of the Top Octave Divider oscillator. This has the same behaviour as a standard pitch bend. The "**Pitch Set**" knob adjusts the amount of the pitch modulation.

The three positions "**Range**" selector allows choosing the octave, while the "Tune" knob adjusts finely the tune of our XILS 505

When the three positions selector is set to "**Glide**", then it is modulated by the glide function.
The amount of this later modulation is still adjusted by the "**Pitch Set**" knob while the time of the glide, the time the pitch will take to reach its final value, is adjusted by the "**Time**" knob, from "**Short**" to "**Long**".

The glide function is a Monophonic feature. This means that it is trigged by the first note played on the keyboard and note by the note played after, and this until no not are played.

The "**Modulation**" slider is a simple modulation wheel (directly connected to the MIDI mod. Wheel) to be used through the modulation possibilities of the **XILS 505**.

6 Option menu

This menu allows to choosing the global settings. These settings are defined for all the instances of the XILS 505. Each time an option is changed, the related option file is saved.

6.1   Main

In the toolbar, the **Options** button opens a menu for selecting various options for the XILS 505.
This menu shows the following options settings:

XILS 505 About: displays information about the XILS 505 (version, build date and credits).

Open MIDI settings panel: Opens a popup where you can assign MIDI controllers for each of the XILS 505's parameters. Click on the parameter label to select the parameter you want assign, then enter the MIDI controller number (from 0 to 127), or switch on the learning switch and send a MIDI command with the correct MIDI controller number. The XILS 505 will memorize it. This setting popup can also be opened by CTRL+ALT+Apple+Left-click (Mac) or CTRL+Win+ALT+Left-click (Win) on the desired XILS 505 parameter.

6.2   Display

Display low frequency as BPM: Allows displaying the low frequency (LFO, oscillator 2 in low mode, clock rate in BPM instead of Hz)

GUI follows presets: When checked, this option allows the GUI to follow the presets. That means that the special display modules are refreshed following the preset settings. Otherwise it keeps the same view.

Output level follows presets: When checked, this option allows the output level to follow the presets. That means that the output level is programmed with the value saved in the preset. Otherwise it keeps its value.

Popup On: shows a popup window while modifying the value of a knob.

Popup Over On: shows a popup window when the mouse is over a switch.

Popup Name On: the name of the current modified parameter is displayed.

GUI update: low: slow refresh rate for the GUI. Useful when it is necessary to save CPU power.

GUI update: middle: standard refresh rate for GUI.

GUI update: fast: fast refresh rate for GUI. Useful when it is necessary to precisely follow the sequencer's led for instance.

1000p width: select the 1000p width GUI (relaunch needed)
1200p width: select the 1200p width GUI (relaunch needed)
1400p width: select the 1400p width GUI (relaunch needed)

6.3   Misc

Init settings from current settings: initializes the default values of the XILS 505 from the current settings. All the new presets will be created from these settings, when the **init settings** choice is selected. These parameters will also be used when setting a control to its default value. (Win: CTRL+click, OSX: ALT+Apple+Click).

Wheel Incr: 0.01: parameter increment of 0.01 when using of the mouse wheel.

Wheel Incr: 0.05: parameter increment of 0.05 when using of the mouse wheel.

Wheel Incr: 0.1: parameter increment of 0.1 when using of the mouse wheel.

Sustain Pedal Closed (Opened): set how your Sustain pedal is working

7.1   CPU-Load

As the design of the **XILS 505** (T.O.D, filters, effects) has been done to be as close to the original as possible, it can be quite heavy on the CPU.

This is especially true, if you use the **XILS 505** on older computers or along with other high-quality plugins.

Here are some tips to make the most of it - in other words: "have your cake and eat it too" ;-)

- <u>Using the "disable device" feature through VST-automation.</u>
  Due to the T.O.D. design, XILS 505 requires some CPU-resources; even if produces no sound at a certain point in time.
  So it might be worth to turn off the device when not needed in a track. You should do so not by only muting the track it 'sits in', but by disabling XILS 505 itself apart from when it is actually needed.
  This can be done using VST-automation, but the way it works is dependent on how your DAW provides the feature.
  Be sure not to temporarily disable XILS 505 before any sustaining notes have ended to play.

- <u>Using XILS 505's keyboard split feature for different sounds instead of two instances</u>
  Very much like its hardware predecessor, XILS 505 can have totally different sounds available at the upper or lower keyboard-zone.
  So instead of having 2 instances for different sounds in some use cases it may be possible to use this split-feature instead.
  To have 2 (or even more) tracks of MIDI-data going to these layers typically can be managed by using your DAWs rerouting possibilities.
  Again how this works is different for every DAW, so please refer to it's manual.

7.2   Performance-Tips

- <u>Using alternate base-pitch</u>
  If you want to use XILS 505 in a "7th up" mode you can for instance set the pitch-bend range to 7 semitones and shift the pitch-bender all way up (with the "NORMAL" led off), or use the TUNE knob.

  If your sound now is to high in general for what you are planning to do, you can use the octave up/down switch to lower the general pitch by 12 semitones as well.
  The pitch bender would be available already on the original hardware, whereas the octave up/down is a new feature of XILS 505.

- <u>Making a "supersaw"-patch</u>
  In order to get an even broader sound, you may want to use 2 instances of the XILS 505 and detune one slightly by setting the pitch amount just a bit up or down and shifting the pitch-bender to any desired value (with the "NORMAL" led off).
  If you use only the Strings for this you get a kind of sound that sometimes is referred to as "supersaw", you may have to decrease the Ensemble-effect, so that the sound does not get too "washed-out". The possibility to set one of the XILS 505's an octave up or down as well may also come in quite handy here.

8 Credits

Thanks to the artists and musician who really helped us during the XILS V+ and XILS 505 development:
Mathias Brüssel, Ingo Weidner, Nori Ubukata, Kelvin Ford, Stephen Wey, Laurent Bourgeon

The presets were done by:
Lotuzia, Ingo Weidner, Nori Ubukata, Kelvin Ford, Mathias Brüssel, Xavier Oudin, Nori Ubukata

Graphism and 3-D rendering
Yannick Bonnefoy

The graphical user interface was created by:
Xavier Oudin

This manual was written by
Xavier Oudin (Tips and tricks by Mathias Brüssel)

And proofread and corrected by:
Michael Logue

The plug-in design, algorithm and Digital Signal Processing was done by:
Xavier Oudin

Modules licenses:
The Top Octave Divider Oscillator, the vocoder filters, the Human Voices Filters, the Strings Filters, the Analog-like Pitch tracker, the emulation of the Ensemble based on the Dual Bucket Brigade Delay component, are licensed by Xavier Oudin to XILS-lab for exclusive use in the XILS 505 virtual synthesizer.