

Convology XT



User Manual



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Last revision: v1.34, August 5, 2025

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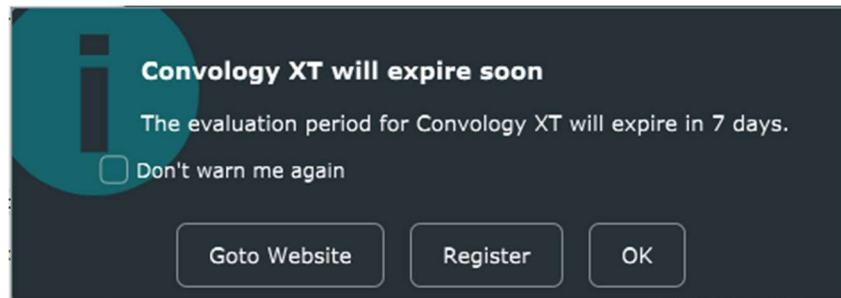
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1. Quick Start

1.1 Installation and Registration

On Mac OS-X, Convology XT supports AU, VST2, VST3, and AAX plug-in formats. On Windows, Convology XT supports VST2, VST3, and AAX formats. On Mac, the installer is a ".dmg" file which reveals a ".pkg" file when opened, and on Win the installer is a ".exe" file. After running the installer, open your DAW, then open an instance of Convology XT on any track or instrument insert.

When the plug-in is first opened in your DAW, it will ask to be registered. While the plugin is totally free, it still needs to be registered.



Clicking Register will bring up the registration dialog:

A dark-themed dialog box titled "Register" with a red close button in the top right. The text inside says: "To register, enter your name, email address, and serial number, and click OK. If you need a serial, enter your name and email address and click 'Get Serial', and a serial will be emailed to you." Below this are three input fields labeled "Name:", "Email:", and "Serial #:". At the bottom are three buttons: "Cancel", "Get Serial", and "OK".

Enter your serial number, name, and email address and click OK to register. Serials look like IR-CVXT-XXXXX-XXXXX, where X is a hex digit. If you do not already have a serial number, you can request one here by filling in your name and email address and clicking "Get Serial." A serial will be emailed to you. Then copy/paste the serial from your email and click OK.

You may also register Convology XT using any Convology XT Library serial number, these look like IR-PROD-XXXXX-XXXXX, where PROD is a three to five letter code identifying the library.

1.2 Overview

The Convology XT plug-in is a full featured convolution reverb which comes with 70+ impulse responses. The plug-in is offered for free in the hope that users will purchase some of the affordable add-on libraries from the vast selection of Convology XT libraries. The Convology XT libraries are divided into three families.

Convology XT Vintage Complete was years in the making and is an incredible collection of 126 pieces of vintage studio outboard gear. Vintage Complete contains samples from almost every digital effects and reverb processor from the 80s and 90s, plus 17 different physical plate reverbs, 36 spring reverbs, tape & echo delays, rare vintage German DSPs, vintage guitar amps and miscellaneous gear, all preserved in 96/24 resolution. There are ten individual libraries containing almost 3000 IRs.

The **Convology XT Real Spaces** libraries are acoustical impulse responses recorded in a variety of spaces including cathedrals, concert halls, stadiums, studios, rooms, outdoors, underground caverns, and much more. There are six individual Real Spaces libraries containing over 540 impulse responses. All responses are recorded at 96 kHz, 24-bit resolution, and various microphone techniques and placements are provided.

The **Convology XT True Stereo** libraries are 4-channel "True Stereo" impulse responses of a variety of professional reverb DSPs, plus spring and plate reverbs. There are four individual libraries containing over 700 IRs. All responses are recorded at 96 kHz, 24-bit resolution.

All the libraries offer 30-day demo times simply by installing.

2.0 User Interface



Label	Description
1	Menu bar: Bypass, Preset name and step controls, Settings, Save, Save As, Delete, and status display.
2	Display area: Time response, Frequency response, or Image.
3	Plug-in controls.
4	Left pane of preset browser shows a tree view of libraries and other categories.
5	Right pane of preset browser shows currently selected list of presets.

2.1 Preset Browser

The Convology XT plug-in allows you to rapidly select impulse responses while you are listening to your tracks. The impulse responses are immediately loaded into the convolution engine, replacing the previous IR without audible clicks.

The preset browser is where you'll spend most of your time navigating the libraries of presets. The left-hand pane shows a tree view of all the installed libraries, plus other special categories. These include the following:

Category	Description
File Browser	Opens file browser to load user supplied IR files.
User Directories	Lists favorite IR directories saved in File Browser
Online Content	Click image to open web browser to online store.
Automation Table	Used for automating IRs, described later.
User Presets	Shows all user created presets.
All Presets	Shows all factory and user presets.
Factory Library	Shows all Factory Library presets. Open the disclosure (triangle) control to see included categories.

Additional installed libraries will appear in alphabetically-sorted order after the "All Presets" category.

There are various ways to browse the library. First, if you click "All Presets," then (assuming you've installed all libraries) all 3,200+ presets will show up on the right side of the browser.

If you click on a specific library, just the presets for that library will appear in the righthand list.

You can also click on the disclosure (triangle) control next to the library name to open all the categories within the library. These might correspond to a logical grouping of presets or a particular unit that was sampled. Clicking on the category will show only presets under that category. For example, the image below shows selecting the "German 140" category in the Plates library.




After selecting a category, click on any preset in the righthand list to switch to that preset. You can also use the up-down keyboard arrow keys to step through presets, while staying within the currently selected category. If you click the left or right arrow buttons in the menu bar, these step through all presets in all categories.




2.2 Menu Bar and status display

The menu bar shows the currently selected preset in large orange text. Below this to the left is the name of the actual impulse response file. To the right is information about the IR: the file sampling rate and the current sampling rate of the plug-in, the total time of the IR file, the number of channels in the IR file and the number of channels of convolution being processed, the gain applied by normalization if normalization is selected, and the True Stereo indicator (lights green when a True Stereo response is loaded). Clicking on TS gives a popup control that lets you disable True Stereo processing on a preset basis if for some reason you don't want to use the CPU.



The menu bar also contains important buttons:

Button	Description
	Enables/bypasses the plug-in.

	Select previous preset.
	Select next preset.
	Open Settings menu to access About, Register, Preferences, and other options.
SAVE	Save the current preset, overwriting existing. This is enabled only if the current preset is a user preset.
SAVE AS	Save the current preset as a new user preset.
DELETE	Delete the current preset, enabled only if the current preset is a user preset.

2.3 Time

The Time display shows the time response of the impulse response and provides envelope controls to modify the contour of the response.



The envelope is a simple Attack/Hold/Release envelope with the following controls:

- **Start.** Crops the start of the response, useful to skip over early echoes.
- **Attack.** Controls the attack time of the response.
- **Hold.** Determines the time after attack for the release segment to start.
- **Release.** Controls the release time of the response.

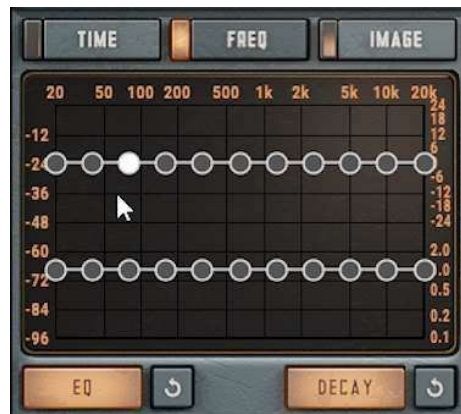
The default settings of the envelope do not modify the impulse response.

Tip: One creative use of the envelope controls would be to load a WAV file containing synthetic noise and then shape its time response using the

envelope controls. Further tweaking can be done with the frequency control described below.

2.4 Freq

The Freq display shows a dynamic spectrum of the wet reverb output and provides controls to affect the equalization of the response and the frequency dependent decay time of the response.



Clicking the EQ button enables EQ editing and a set of 11 control handles appear at the top of the graph. The handles let you draw an EQ curve, with a large range of -24 dB to +24 dB. Clicking the reset (circular arrow) button resets the EQ to no modification, i.e., 0 dB at all frequencies.

Clicking the Decay button enables decay editing and a set of 11 control handles appear at the bottom of the graph. The handles let you draw an EQ curve which affects the decay time on a frequency basis. At each frequency the decay time can be scaled up by a factor of 2 or scaled down by a factor of 10. Clicking the reset (circular arrow) button resets the Decay curve to no modification, i.e., scaling by 1 all frequencies.

2.5 Image

The Image section shows an image of the current piece of gear.



2.6 IR Settings

The IR settings controls provide some controls over the IR response.



Normalize will automatically apply gain so that the wet reverb sounds equally loud as the dry sound. If Normalize is off, you can dial in the gain yourself using the IR Gain control. The IR Gain control has no effect if Normalize is enabled.

The Reverse control time-reverses the IR.

The Mono Input control, when enabled, mixes the stereo input to dual mono (i.e. pans everything to center) prior to reverb processing. This avoids the problem of hard panned inputs producing reverb in only one channel with stereo IRs.

2.7 Modulation

Convology XT comes with a stereo modulator that can either stay very relaxed to emulate early DSP reverb, or can be applied to a guitar, electric piano or any other sound source for a gorgeous sounding stereo chorus.



The 90 degree option modulates the stereo channels in quadrature (sin/cos) phase. The Depth sets the amount of modulation, and the Rate sets the rate of modulation.

2.8 Scale and Predelay

The Decay control allows you to scale the decay time of the response by applying an exponential envelope to the IR. The Stretch control lets you stretch or dilate the IR. Because the stretch control works by resampling the IR, it also affects the perceived pitch of the response.



Predelay is a standard reverb control that simply delays the wet response.

2.9 Master

The Master section contains the output meters and controls to affect the output. The Mix parameter sets the wet/dry mix, 100% means all wet, 0% means all dry. The Output control sets the output gain of the plug-in. The Width parameter lets you control the stereo imaging. At the minimum setting, Mono, the stereo output signal is mixed to mono. At the default midpoint setting, Stereo, the normal stereo signal is output. Increasing the Width control beyond stereo applies a shuffler circuit to increase the apparent width. Warning: the maximum width of 200% will drive the stereo outputs completely out of phase – use settings over 100% carefully.



The Master Lock control is enabled by clicking the lock icon. When master lock is enabled, the settings of all master parameters are locked and will not change when changing presets. When inserting Convology XT on a master effects bus, you will probably want to set the wet/dry Mix to 100% and also enable the lock control. This prevents the Mix control from returning to its default setting when changing presets.

3. Exploring Further

3.1 User Presets

You can save your tweaks to any of Convology XT's library content by making your adjustments and then clicking Save As. This will open a dialog to name the preset. Give your preset a name, click OK, and it's now stored in User Presets.



Should you want to make further changes to the same preset, create the changes and then click Save and that will update your preset. If you decide you no longer need a specific user preset, simply find it in User Presets and then click the Delete button. A dialog box will ask you to confirm that you want to delete the file, press OK to confirm.

To rename a user preset, double-click the preset in the right-hand pane and the naming window will appear.

3.2 Preset Export and Import

The Preset Export and Import options are found in the Settings menu. They allow you to migrate your user presets from one machine to another. Preset Export lets you select a file and then writes the presets to the file. Preset Import lets you select a file and then reads the presets. If naming conflicts are detected, you have the option to keep your existing presets or replace them.

3.3 File Browser

Convology XT can load any WAV or AIF file as an impulse response. Clicking on the File Browser category in the left-hand pane causes a file browser to appear in the right-hand pane.



Clicking on any WAV or AIF file will load the file as the current IR and you will see the filename appear in the status display. Note that this is changing the IR file associated with the current preset, hence the preset name does not change. You must save the preset as a user preset if you want to assign a new name.

At the top of the file browser is a popup menu showing the currently selected folder. Clicking on the menu lets you navigate to your home directory and also lets you navigate to different hard drives on your system. The up arrow button moves up a directory. Double clicking on a folder moves into that folder.

Right/SHIFT-clicking the folder popup will open a popup menu allowing you to add the current directory to a set of favorite User Directories. See the description of User Directories in the following section.

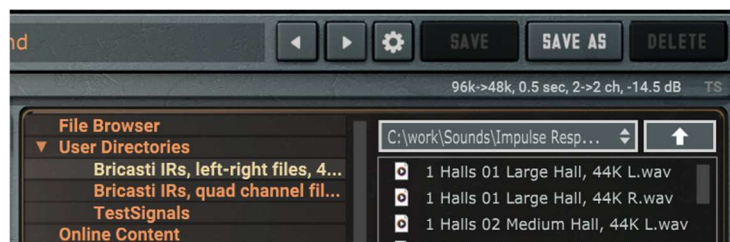
When loading an impulse response from a WAV file, Convology XT will look in the same directory for a PNG or JPG file with same name and will use that for the image. More specifically, an image name which matches the start of the IR name will be used, so for example "Room.png" would be used as the image for "Room.wav" but would also be used for "Room Front.wav" and "Room Rear.wav". You can also put images in a subdirectory named "images".

3.4 User Directories

Convology XT users are free to download publicly available IRs and select them for use via the File Browser. You may have multiple directories of IRs, and it's most convenient to select them quickly without having to navigate to the different directories using the File Browser. The User Directories feature provides a way to store your favorite directories under the User Directories category shown in the left-hand pane of the preset browser. Initially the User Directories are empty and the category is not shown. To add a directory, select the File Browser and navigate to the directory you want to add. Then right/SHIFT-click on the directory field at the top of the file Browser. This shows a popup menu where you can add the current directory:



You can repeat this procedure to add different directories to the User Directories category. The directories are kept in sorted order. After setting up your directories, simply click on a directory to open the File Browser to the directory.



To remove a directory, SHIFT/right-click on the File Browser directory and select the "Remove directory" option.

User Directories are stored as properties of the plug-in along with other preference settings, hence the same user directories will be available in all instances of Convology XT.

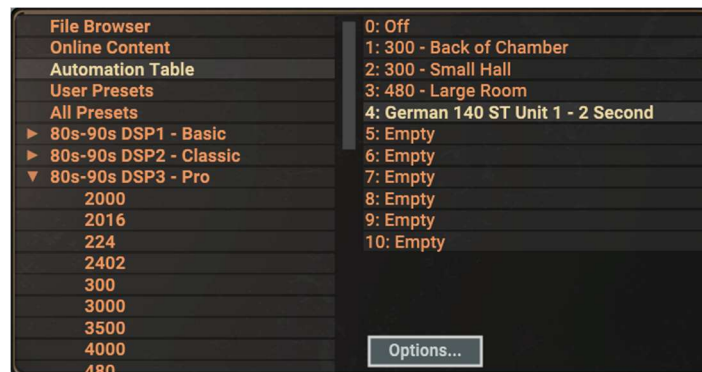
3.5 Automation Table

The current impulse response (IR) file is stored as a string consisting of the pathname to the selected file. This string is saved in both factory and user presets, and also saved in DAW session data, so that the previously selected file is restored when opening your DAW session. However, the IR file is not a

numerical parameter, so it cannot be automated like all other Convology XT parameters.

The Automation Table provides a way to automate the impulse response file, along with all other parameters. It works by setting up a table of presets and then using the numerical "Preset Index" parameter to select one of the presets in the table. You can automate the Preset Index and as this value changes the corresponding preset in the table is selected. The automation table is stored along with the session data, so each instance of Convology XT has its own table. The table has 10 entries and by default it is empty.

To add presets to the table, first select "Automation Table" in the left-hand browser pane. You can then click on any entry in the table to select it, doing so also generates a parameter change to the Preset Index parameter which can be recorded via automation. Once an entry is selected the next preset change made by the user will be recorded in the selected table slot. The 0th entry (Off) is special and can't be changed. If the DAW sets Preset Index to 0 via automation, it selects the 0th entry but does not cause a preset change. Table slots 1-10 are automatable using Preset Index values of 1-10, assuming the slot contains a preset.



There are a few different ways to set up the table:

- 1) You can first select a table entry by clicking on it, and then browse to a preset using the preset browser, i.e., click on a category and then select a preset. If you navigate back to the table you will see the slot now contains the preset.
- 2) You can right/SHIFT-click on a table entry. This will show a popup menu of all factory and user presets. Select a preset to set the preset in the table slot. Note some of the menus can be very large!
- 3) You can enable the Auto-fill option in the OPTIONS menu. When this is enabled, any preset change made via the user-interface is recorded in the next empty table slot, until the table is full.

To automate preset changes, you must enable the "Preset Index" parameter for automation in your DAW. When the transport is running and automation

is being recorded, just click on entries in the Automation Table to generate Preset Index changes.

Perhaps the easiest way to handle automation is to use the Auto-fill option. When Auto-fill is first enabled, the currently selected preset is added to the table and the Preset Index parameter is set to this entry. This establishes the starting preset. You can now select the "Preset Index" parameter to be recorded for automation (details depend on your DAW), and start playback. As your session plays, select new presets as desired. This automatically fills the table and generates Preset Index changes. When you later rewind and play, the preset changes should be reproduced as you first made them. At this point you may want to disable Auto-fill to prevent future preset changes from filling the table.

If you want to automate user supplied IR files, you must first create user presets that use the IRs. Open the file browser, navigate to your IR and select it, and then click SAVE AS to name your user preset file. Even when automating factory presets, it may be helpful to first create a set of user presets for all the automation changes you want so they are easily accessible in the User Presets category.

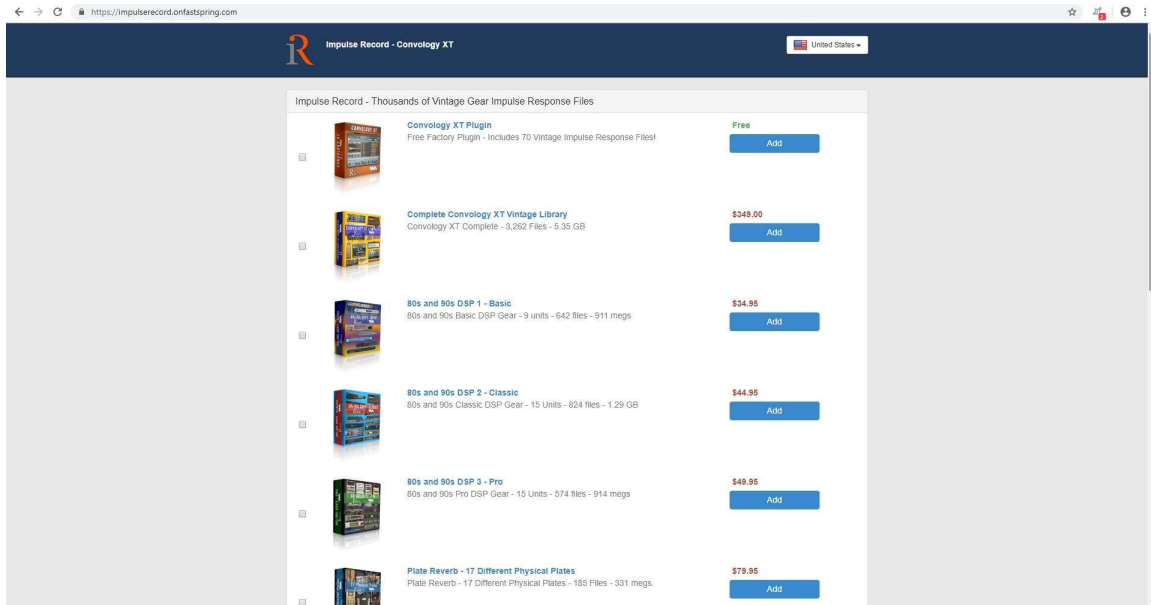
The OPTIONS menu has the following items:

- **Clear table.** This action clears the entire automation table to Empty slots.
- **Auto-fill table.** This will show a checkmark if enabled, select the item to toggle. Auto-fill is described above. It lets you fill entries in the table and create Preset Index changes in one step simply by selected presets as the DAW transport runs.
- **Automate IR file only.** This will show a checkmark if enabled, select the item to toggle. When enabled, only the IR file parameter is updated during automation table preset changes. Otherwise, all parameters are updated when a preset change occurs.

When automating, you may notice your DAW recording the "Dummy" parameter. This parameter has no effect and does not need to be recorded. Convology XT sets this parameter to a random value between 0 and 1 every time the IR file parameter is changed. This is done to inform the host DAW that the session state has changed so the DAW will record the plug-in's state.

3.6 Purchasing Additional Library Content

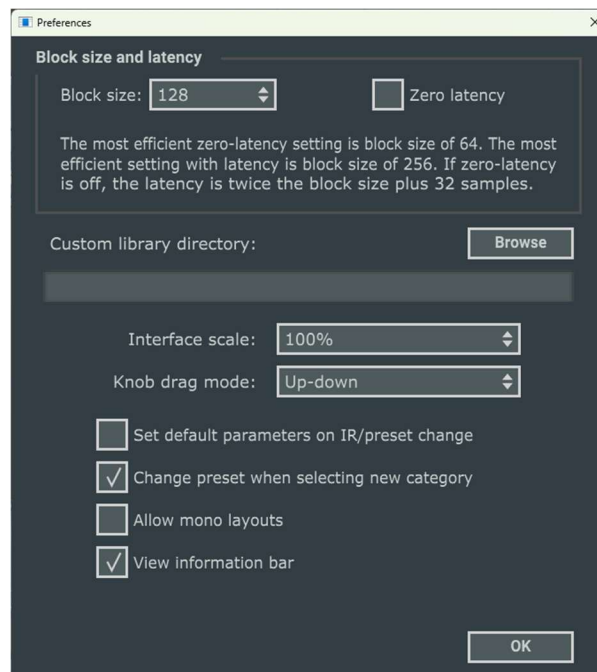
To purchase additional library content, click on the Online Content category and then click the image on the right. This will open a web browser to the Impulse Response store page. Here you can see all the available libraries and the current prices.



The online store is powered by FastSpring, a highly regarded and secure provider of e-commerce services.

3.7 Preferences

The Preferences control is accessed through the Settings->Preferences menu. The Settings menu is the gear icon to the left of the Save button.



The top section sets the internal block size and latency of the convolution engine. The default setting is a compromise between fast performance (low

CPU usage) and low latency. Clicking the “Zero latency” button enables zero latency mode, which means the plug-in does not delay the output at all. Zero latency consumes more CPU.

The custom library directory option allows the user to specify an additional directory to scan for libraries. Convology XT already supports installing libraries to external drives, but the installation path is standardized: “\ProgramData\Impulse Record\Convology XT Libraries” on Windows and “/Library/Application Support/Impulse Record/Convology XT Libraries/” on MacOS. If you want to use a directory of your choosing you can move the library folders from the install directory to your custom directory and specify this custom directory in the preferences (you then need to close and re-open the plug). Most users will not need to use this option.

Interface scale lets you increase/decrease the size of the user interface. This can also be done by clicking and dragging on the resize control found in the lower right corner of the interface. After resizing, clicking anywhere in the title bar will toggle between the last two interface sizes selected.

The knob drag mode lets you tailor how knobs react to mouse drags. The default is to move the knob as you drag the mouse up and down. Some users may prefer left-right or circular motions.

The “Set default parameters on IR/preset change” preference controls whether parameters are reset to their default values when you select a new factory preset. By default this parameter is off, meaning controls are sticky and will persist through preset changes. For example, you can set an EQ shape, say to roll off the low frequencies, and this EQ will persist through factory preset changes. Enabling this parameter means that all controls will reset to their default values when selecting a new factory preset.

Note that user presets always set all parameters, regardless of how this preference is set. The exception is the Master Lock control, which locks the master section during factory or user preset changes.

The “Change preset when selecting new category” preference causes the preset to change when you select a new category in the left-hand tree view. Disabling this lets you browse to new categories without changing the current preset.

“Allow mono layouts” allows the plug-in to be created in mono->mono configuration. This option is enabled by default, however Convology XT advertises to the host that it prefers a stereo->stereo configuration. Disable this if your DAW is creating Convology XT as a mono plug-in and you really want stereo. You’ll have to delete and recreate the insert for the change to take effect.

“View information bar” toggles whether the information tips are shown at the bottom of the user-interface.

3.8 True Stereo

The Convology Vintage Complete and Real Spaces libraries are **stereo** impulse responses, consisting of L->L and R->R responses. This means that a sound panned hard left will produce reverb in the left channel only, which sounds unnatural. One can work around this by panning the reverb input to mono using the “Mono Input” function. Similarly, if Convology XT is inserted on an effect bus, one can pan the send bus to mono (or near mono) prior to reverb processing.

In practice, stereo effects units and acoustical recordings produce output in both channels even when the input is panned to one side. To capture this, it is necessary to sample not only the L->L and R->R responses, but also the cross-channel responses L->R and R->L. The resulting “True Stereo” response is a 4-channel response file which reproduces both the direct and cross-channel responses. Convology XT supports 4-channel True Stereo responses, with channel layout L->L, L->R, R->L, and R->R. When a true stereo response is loaded, Convology XT runs four separate convolution processors. Hence, processing true stereo responses takes roughly twice the processing power of stereo responses. Convology XT will light the “TS” indicator button in the status bar. If for some reason you don’t want true stereo convolution, you can click the TS button and a popup will appear allowing you to disable true stereo processing for the current preset.

The Convology XT True Stereo Library is composed solely of 4-channel true stereo responses.

4. Copyright Notices



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