

## Important Product Improvements in Nuendo 4

Improvement	Description
<b>Improvement for Output Configuration of VSTi's</b>	Virtual Instruments with multiple outputs no longer create return channels for each available output. Instead, the user can change the output configuration on the fly so that managing multiple-output VSTi's has become a lot more flexible.
<b>Improved Channel Strip</b>	Just like the Track Inspector, the Channel Strip window for audio and MIDI tracks can now be custom configured as well. Sections can be switched on or off, and their left-to-right order can be changed as well. Configurations can be saved as view presets allowing for greater flexibility in working with the Channel Strip view.
<b>Improved Waveform Resolution</b>	The waveform zoom slider has been re-scaled to provide a much enhanced graphical waveform view. While former versions of Nuendo only granted a usable graphical representation of levels down to approximately -55 dB, Nuendo 4 allows to easily view the waveform of events with levels as low as -75 dB or less.
<b>Improved Audio Warp Real-time Transpose</b>	A new real-time audio pitch-shifting and time-stretching algorithm has been added to provide formant preservation. Solo tracks like vocals or single instruments can now be transposed in real-time without the unwanted artefacts of formant shifting.
<b>Track Control Context Functions Improvements</b>	All functions of the Track Controls Context menu are applied to all selected tracks instead of having separate entries at the bottom of the menu (e.g. remove track / remove selected tracks).
<b>Improvements on the Track Inspector</b>	With more and more items added to the Track Inspector, visibility has suffered especially on smaller monitors but as part of the UI redesign, the track inspector can now be custom configured for each track type. Any Inspector section can be switched on or off, plus the order of sections can be changed. Furthermore, configurations can be stored as view presets and quickly recalled. With the new configuration features, Nuendo users can customize the Track Inspector to their taste and improve overall usability of this important Nuendo feature.
<b>Improved Audio &amp; MIDI Hardware Setup</b>	Audio and MIDI Hardware Setup control panels have been consolidated and simplified. Management of missing or replaced hardware has been improved as well. This not only improves the entire hardware setup and management process, it also speeds up the entire workflow, especially when projects are exchanged between users working on different hardware setups. The parameters of the Audio and MIDI Hardware Setup panels are now consolidated and better organized plus the port handling has been simplified.
<b>Track Sheet Printing Improvements</b>	The Track Sheet Printing functionality in Nuendo has been improved by integration of automated word-wraps to display even longer event naming and a switch to enable or disable the "Merge Events" function which joins Events in the Track Sheet display depending on the length of the gap between them.
<b>Time Displays Windows Improvements</b>	The Time Display windows which display Timecode, Feet & Frames, Samples and Bars and Beats now display the selected format in the top of their window to allow quick identification of content especially when multiple Time Display windows should be in use.
<b>Improved Remote Controller Support</b>	Aside from the massive updates to the EuCon adapter and the WK-Audio ID Controller the support for many additional remote controllers has been improved in Nuendo 4. The list of controllers which have been improved include the Mackie Control and Mackie HUI, Steinberg's Houston, SAC-2K, Yamaha 01X and DM 2000. Depending on the individual hardware feature sets of the different controllers, new functionalities include support for Instrument Tracks, Track Quick Controls, Studio Sends as well as support for relevant parts of the Nuendo 4 automation system.
<b>Improved XML scripts for EuCon mapping of VST plug-in parameters</b>	Nuendo 4 also introduces an improved way for controlling the order of plug-in parameters as they appear on the Euphonix hardware remote controller. Nuendo 4 supports custom mapping (XML programming know how required) using powerful XML scripts even better than before. These new scripts allow customizing order, display-naming, knob-behaviour, linking, duplicating, or grouping of parameters – and more! Probably the most powerful implementation of its kind, this new XML mapping allows the deepest Euphonix hardware controller integration ever in any version of Nuendo. The XML scripts can be created (XML programming know how required) per plug-in by plug-in developer, HW-controller developers or even by the user himself using simple XML editing tools.
<b>ADM (ASIO Direct Monitoring) Improvements</b>	Handling of the ASIO Direct Monitoring (ADM) technology has been improved. The calculations of the signal levels which Nuendo 4 reports to the ASIO device for ADM monitoring signals have been updated now taking into account the complete Nuendo Mixer signal flow. This way the reported information used by the external audio device to control the level of the ADM Signal is more accurate by calculating the level settings throughout the signal flow from the input channel to the audio channel through groups and fx returns to output objects.