

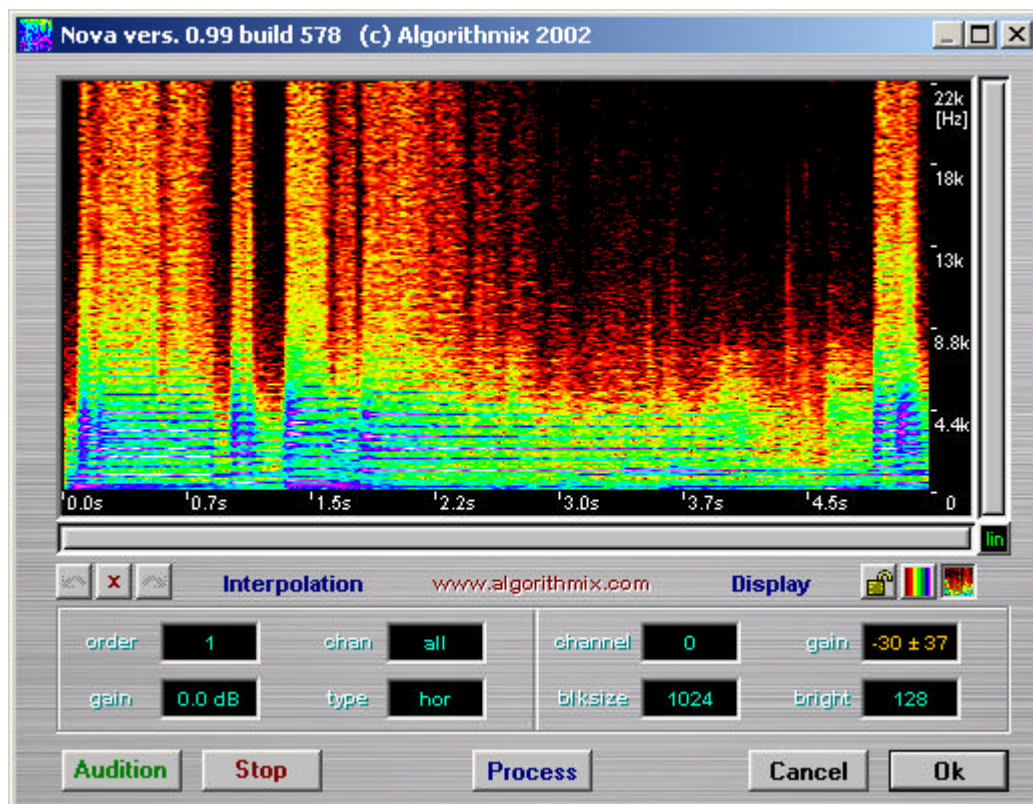
“Quick Start“ manual for Nova™


1. Overview

The Nova™ PlugIn for the Pyramix rendering interface allows easy modification of audio data in the frequency domain. These modifications include interpolation of selected areas over the time- and/or frequency line as well as gain modifications. In addition, the interpolation may be restricted to certain gain ranges within the selected area, which is very useful if only a certain part of the data needs to be treated (e.g. one specific harmonic etc.) which cannot otherwise be selected. The window is fully resizable for optimal compatibility with all screen resolutions.

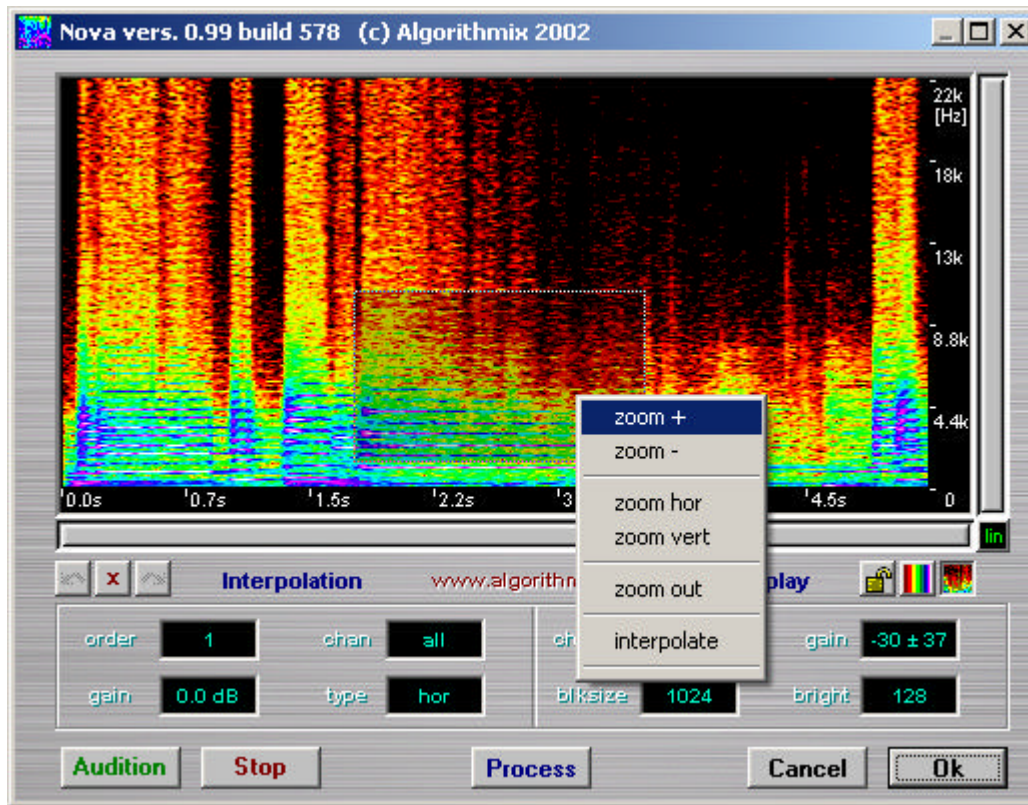
2. Getting started tutorial

After loading the PlugIn from the Pyramix rendering dialog, the Nova™ window will pop up and show the spectrogram of the first channel (0).



To optimize the display color range to the material, left click on “gain” in the right “Display” area and move the mouse while holding down the left button. The mouse y-axis (up and down) controls the middle position of the gain while the x-axis (left and right) controls the range. Double-click left resets the gain parameter to the default value -35 ± 35 dB. The  button toggles between two color mapping schemes – one “physical”, with red being lowest energy over yellow, green, blue to white being highest and one norm scheme, with blue representing the lowest energy and red to white the highest.

Zooming can be performed by selecting an area in the spectrogram (by holding the left mouse button) and subsequently right-clicking to access a popup menu.



The area itself can be moved or resized as indicated by the mouse cursor and the shading of the area can be controlled by the “bright” parameter in the right “Display” area from darkening (as shown above) to brightening. Double-click left on “bright” resets it to the neutral position. Another way of selecting the visible display area is to move the scrollbars beside the spectrogram display. By left clicking and moving the edges of the scrollbar, the area is zoomed in or out – if in addition the SHIFT-key is hold down, zooming is performed symmetrically.

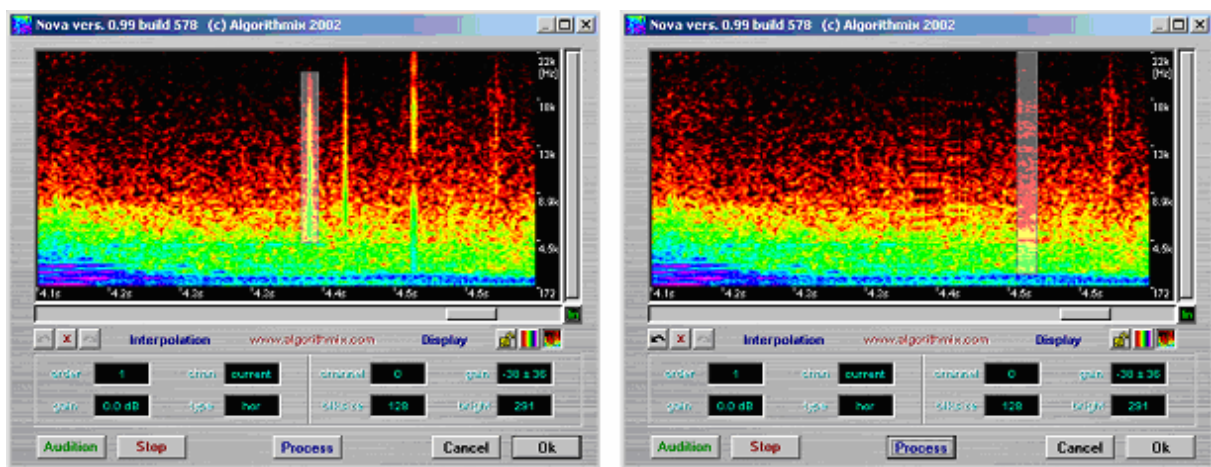
The audio channel displayed can be toggled with a click in the “channel” parameter. Block size for display and interpolation is accessible by left-clicking, holding and moving the mouse up and down in “blksize” (selectable values are 64, 128, 256, 512, 1024, 2048). In general, interpolation of a short disturbance in time (like a click) requires a small block size, while a frequency selective interpolation (like tone/harmonic removal) requires a larger block size.




All or part of the audio can be played at any time by positioning the white play cursor (click at the lower end of the spectrogram display where the mouse cursor changes to “playcursor”) and clicking the “Audition” button. A click on “Stop” will stop the audio playback.

To remove a disturbance, select an area around it and set up the desired interpolation parameter. These are:

- order: 1, 2, 4, 8, 16 or 32 – the higher the number, the greater the accuracy but slower
- gain: used for interpolation type “gain” only and controls the gain (+20 to -60 dB)
- chan: channel to perform the interpolation on (current or all)
- type: hor, vert, left, right, top, bottom, 2-dim, gain


To remove a click as in the example below, you will usually use the “hor” interpolation to replace the area of the click with an interpolation of material surrounding the click in time. The interpolation types “left” or “right” can be used, if one side of the click cannot be used for interpolation (e.g. it leads directly in to strong percussive beats), but the interpolation results will be less accurate in this case.

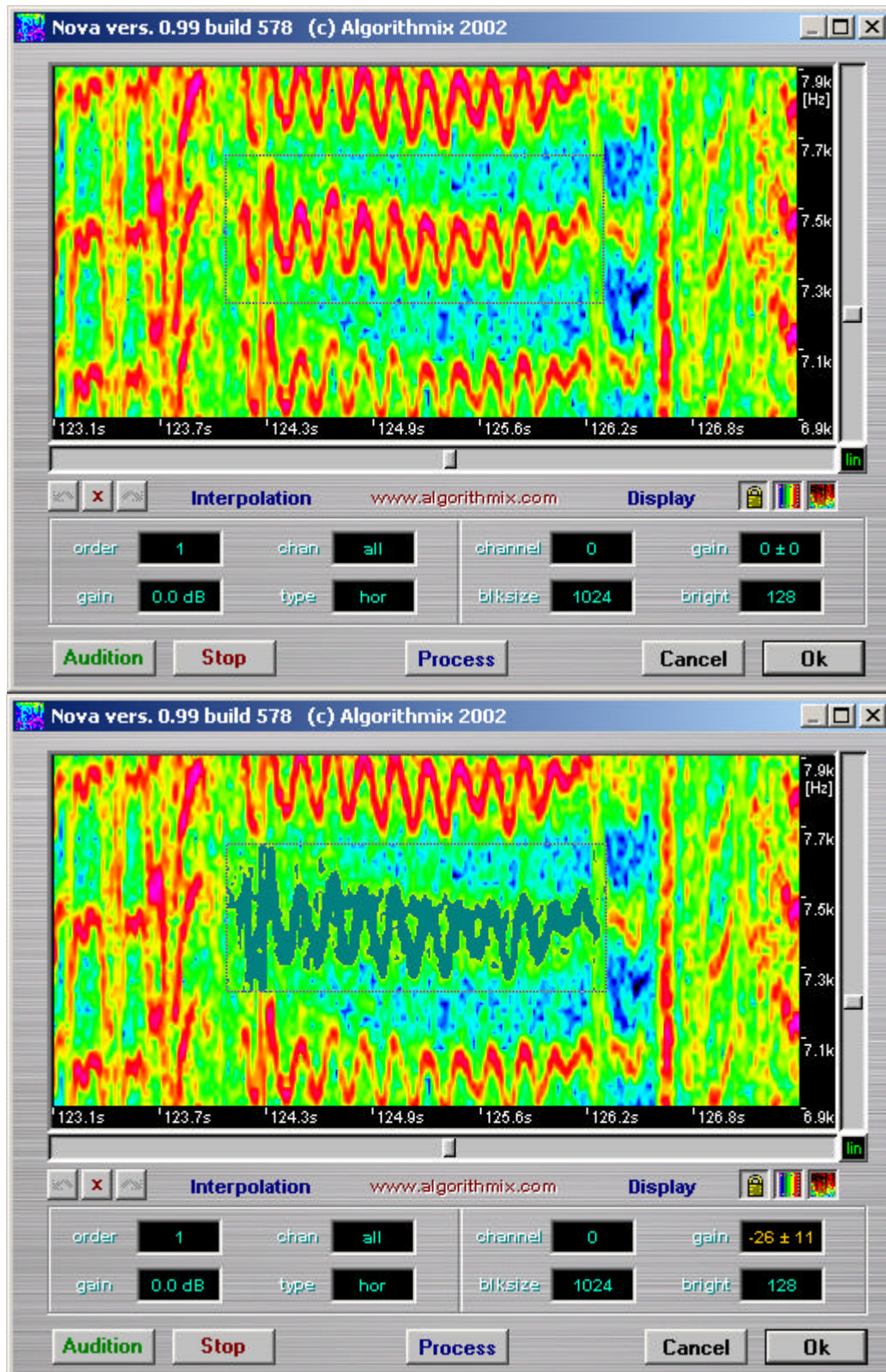


To perform the actual interpolation, hit the “Process” button or select “interpolate” from the drop-down menu. After the interpolation, you can listen to the result immediately from within the PlugIn by placing the Playcursor and hitting “Audition”. If you are not satisfied with the result, you may undo the interpolation with the  button or by hitting ctrl-z. The number of undo steps available is only limited by the available memory – to clear the undo buffer hit the  button. Once an undo step is performed, it can also be re-done by hitting the  button or with ctrl-y on the keyboard. However, after a new interpolation is executed, all subsequent pending re-do steps are no longer accessible.

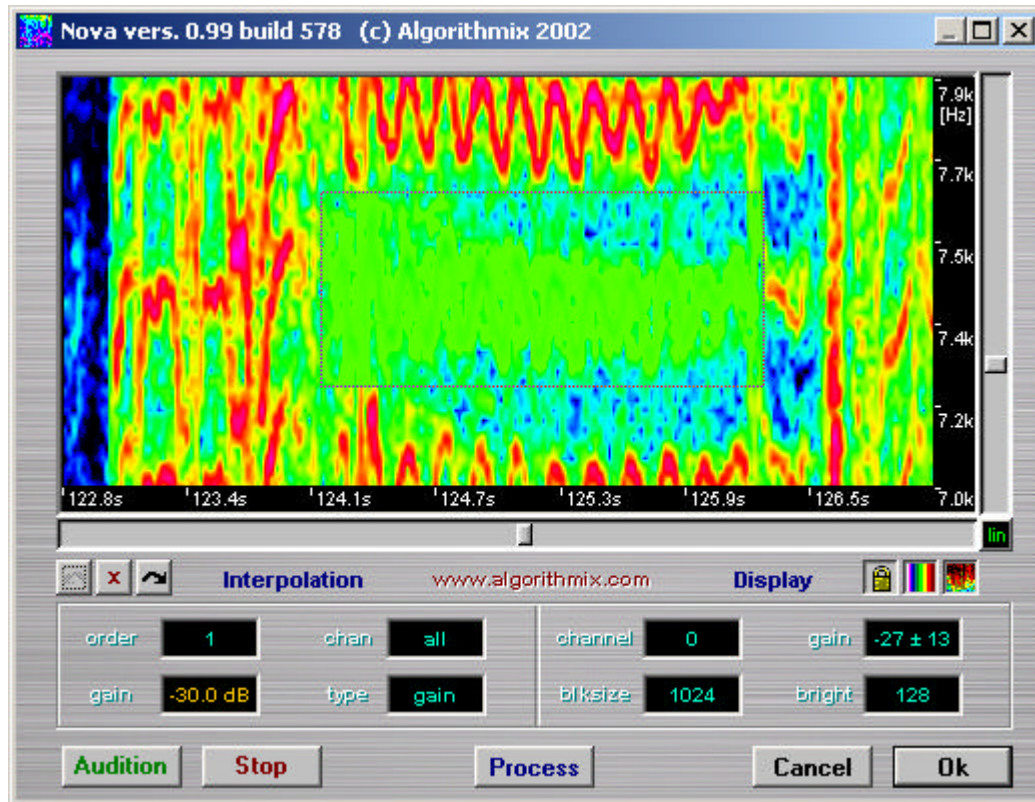
If you are finished with the Nova™ PlugIn, you can hit the “Ok” button to accept the changes and write them back to the Pyramix track or you may exit the PlugIn and discard all changes by hitting “Cancel”.

3. Gain selective interpolation

To perform a gain selective interpolation select an area around the part to be treated and hit the “lock”  button . The “gain” parameter in display will now show the selection gain rather than the overall display mapping gain and start with a 0 +/- 0 dB setting, which means “no selection”.



Click on the “gain” parameter in “Display” and change its value by moving the mouse until the desired gain range is selected. In this mode, the gain-selected areas are displayed as dark blue-green, a color not usually found in the spectrogram. Once the selection is made, interpolations can be performed as usual – to reduce, e.g., the amplitude of the selection, select the interpolation type “gain” and move the interpolation parameter “gain” to the desired level of reduction.

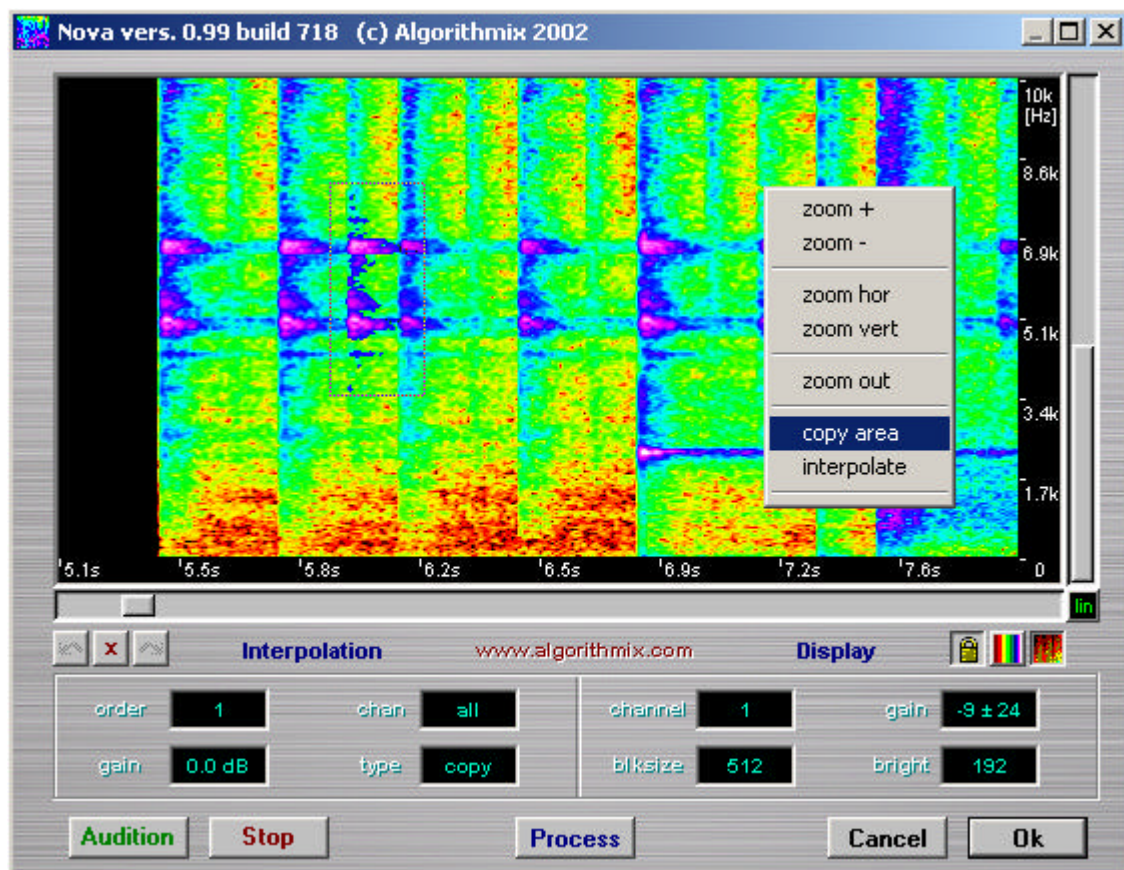


Once the “gain” interpolation parameter is moved away from its zero position, the selected area is no longer shown as dark blue-green, instead the color of the selection will change, in real-time, to represent the resulting amplitude after gain interpolation. Once the setting is made, hit “Process” (or “interpolate” from the pop-up menu) to perform the actual interpolation. Apart from the gain interpolation shown here, all other types of interpolations can be performed gain selectively.

4. Copy and Paste

While interpolation is the preferred method to remove isolated artefacts from complex material, there are situations, however, where this method suffers from adequate material around the artefact that could be used for the interpolation. In these cases (e.g., if the artefact itself is surrounded by strong transients) the “copy and paste” method, that copies an area from one time / frequency area to another, can lead to far superior results. With copy / paste you can simply “get” another area that looks like it could fit into the space you want to interpolate and paste it in.

To perform the area copy, select a source area and hit ctrl-c (or select “copy area” from the pop-up menu). The selected area can now be moved around with the mouse to the desired destination. As long as the copy mode is active, the parameter interpolation “type” will show “copy”. To actually “paste” the selection into the destination material, hit the “process” button, select “interpolate” from the pop-up menu or hit ctrl-v on the keyboard. To leave the “copy mode”, simply click somewhere outside the selected area – the parameter interpolation “type” will switch back to its original value.



Copy and paste can also be used gain selective (see above) – this is useful to copy localized audio “features” (like drum-beats, bells, harmonics etc.) in time and / or frequency, since it will only copy the selected gain-range without interfering with the surrounding destination material.

Please note, that this method is technically an extremely complicated task and is not suitable to copy large pieces of audio from one place to another – this is much better done in the time-domain. Copy and paste rather tries to keep the ambience of the destination material as close to the original as possible, which ensures minimum artefacts in the result.

5. System requirements

The system requirements are highly dependent on the amount of data to be treated and the window size used. Minimum configuration for a standard 600x400 window and a 20 seconds track is:

PentiumII – 350MHz, 64 MB RAM, 1024x768 true color graphic (24 or 32 bit), Pyramix 4.16 or above running on Win 2000.

The recommended system for larger resolutions and selections is:

PentiumIV or AMD Athlon XP with at least 1.5 GHz, 512 MB RAM, 1280 x1024 true color graphic (32 bit is usually fastest), Pyramix 4.1.11 or above running on Win 2000 or XP.

Algorithmix GmbH
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