

# Neo MasterTool



Multi-Band, Multi-Process Mastering System

Developed by



# **Operational Manual**

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### **Installing Neo MasterTool**

Neo MasterTool is provided as an Install package. After downloading, simply double click the file to install Neo MasterTool onto your computer.

### **Purchasing NeoMasterTool**

There are two ways to purchase Neo MasterTool

1. In the demo version a panel will be displayed when you first load the plugin where there is a 'Buy Now' button. You can choose your preferred currency (Euro, US Dollars or UK Pounds) then click the 'Buy Now' button and it will take you to the online PayPal page to purchase the Full version.
2. Go to our website, <http://www.supremepiano.com/product/mastering.html>  
Click the 'buy now' button for your preferred currency to go to the PayPal page.

### **Important! Limitations in the Demo Version:**

1. A 0.5 second audio dropout occurs every 30 seconds
2. The following features are inactive in the Demo: Limiter

## **Registering Neo MasterTool**

Neo MasterTool must be registered before it will operate. You can complete the registration by following these steps:

If you are not registered, a panel will appear each time you load Neo MasterTool. If you need to open the panel, simply click the 'SET' tab at the left side of the main panel.



**Machine ID:** NW04o-wCsph-w0ABu-E9MhC

Click and copy the text for Machine I.D. paste it into an email and send it to our customer services at: [support@soundemon.com](mailto:support@soundemon.com)

**Machine ID:** NW04o-wCsph-w0ABu-E9MhC  
**KeyCode:** so4jd8Hbsl3K8Xcn4

You will receive a Keycode from our customer services; copy and paste this Keycode where it says "Enter Keycode Here", as shown above.

**Machine ID:** NW04o-wCsph-w0ABu-E9MhC  
**KeyCode:** Keycode Activated

If the Keycode is valid, it will display "Keycode Activated" as indicated.

If the text still shows "Enter Keycode Here", that means there was a problem entering the Keycode. Copy the Keycode from the email again and be careful to copy the whole Keycode. If after several attempts it still fails to activate, contact customer service for a new keycode (include your Machine I.D. code)

# EQ Section



Neo MasterTool provides a very flexible 5 band fully parametric EQ.

Frequency range: 20Hz to 20KHz. Gain: +/-15dB

The Width setting allows you to focus each EQ on an extremely narrow band all the way to full spectrum control.

**EQ ON/OFF:** This is the 'Master' EQ On/Off button. Switch this between On/Off to compare the effect of EQ with the original signal.

## **Setting the active EQ bands:**

Each of the 5 EQ bands has a colour coded ON/OFF button below the EQ window. This feature is great for checking how each band affects the overall sound. When you switch a band on, that band will also become active in the EQ window and can be edited by moving the same coloured box.

## **Setting the EQ curve:**

Left click and drag the boxes Left/Right to alter Frequency and Up/Down to alter Gain or Right click and drag Left/Right to alter Width and Up/Down to alter Gain.

Frequency, Gain and Width values are displayed in the window and on the information panel during editing.

# Multi-Band Compression

## Setting the Compressor Band Split Points



You can alter the compressor bands' split points from the EQ section by clicking the "BANDS" button at the right of the EQ window. On the band split window, left click and drag each band to alter the split points; the frequency is displayed in the window and information panel. Click the 'EQ' button to return to the EQ window.

## Compressor Section



Click one of the large 'Low', 'Mid' or 'High' buttons at the right of the compressor window to select which band to display and edit.

Click the colour coded buttons below the compressor window to activate each band. On active bands, that band's metered level is displayed as a colour bar within the compressor window.

The 4 dials at the left side of the compressor window control Threshold, Ratio, Knee, and Gain from top to bottom respectively. The Threshold, Ratio and Knee can be edited directly from the compressor window or the dials.

**Compressor Threshold:** This is the level above which compression applies, ranging from 0dB to -40dB.

**Compression Ratio:** Sets the amount of compression applied above the Threshold, from 0.1 to 20. Values above 1.0 will reduce the dynamics and is commonly known as compression. Values below 1.0 will boost the dynamics and is known as upward expansion or inverse compression.

**Compression Knee:** This sets the response of the compressor above the threshold. This is a multi-function knob which combines Hard knee, Soft knee and Optical compression together. A value of 0.0 produces a linear response known as 'Hard Knee'. Values up to 50 provide a 'Soft Knee' response where 50 is the maximum 'Soft Knee'. Values above 50 provide an 'Optical Knee' response. You can dial in the ideal response to suit your requirements which will be shown on the display.

**Gain:** This sets the 'Make Up Gain', ranging from -24dB to +24dB. The Red response curve in the compressor window indicates the output response after applying gain.

**LookAhead\*:** LookAhead adds latency(delay) to the output signal and is very useful for controlling transient signals when using Attack time. The Attack time sets the time taken for the compressor to reach the appropriate Ratio. Attack settings above 0.0(ms) will allow transient signals to pass, adjusting the LookAhead time can control these transients. Setting the LookAhead time to the same time as the Attack time will prevent transients from exceeding the Ratio response curve and prevent clipping.

**Attack\*:** Attack Time(ms), ranging from 0ms to 500ms.

**Hold\*:** Hold Time (ms), ranging from 0ms to 500ms.

**Release\*:** Release Time (ms), ranging from 0ms to 2000ms.

**Compressor Metering Mode\*:** Sets which type of level metering system is used for compression: Peak or RMS

**Sensitivity\***: In [PEAK] mode a new custom designed innovative feature allows you to set the compressor metering sensitivity response while still retaining sample accurate transient detection, providing a more stable compressor metering signal than other systems and eliminates audible level modulation artefacts.

Frequencies below this setting are liable to (waveform) distortion; this can be useful for adding distortion effects to Bass and Kick Drum sounds etc.

In [RMS] mode this sets the RMS sensitivity (time). RMS removes transients from the Compressor metering signal to allow transients to pass while controlling the average Programme Level.

[RMS] mode is normally used with a low/slow sensitivity setting to smooth out transient signals from the metered output.

Sensitivity sets the response time of [RMS] to changes in the Programme level. High/fast sensitivity settings in [RMS] mode will cause level modulation and is provided for compression waveform distortion FX.

**\*Note: Lookahead, Attack, Hold, Release, Compressor Metering Mode, and Sensitivity controls are all located on the 'Settings' panel.**

# Enhancer Section



The enhancer section features two custom designed circuits for Low and High frequencies. Each circuit contains independent Dynamics and musically tuned,quad mode Psychoacoustic Harmonic Generator sections: the top settings control the Psychoacoustic Harmonics and the bottom settings control the Dynamics. The High enhancer can be set to operate in High Pass or Band Pass mode.

## **Q: What is the difference between Dynamics and Psychoacoustics?**

**A:** Dynamics alters the existing signal level within the frequency range, whereas Psychoacoustics generates new harmonics directly related to the audio signal. Psychoacoustics adds more detail with less signal level change compared to Dynamics. The Psychoacoustic Harmonic Generator in Neo MasterTool is a specially designed circuit that generates musically related harmonics within a tightly controlled range. When applied to Bass frequencies it adds more body and depth which is ideal for in-ear headphones. When applied to High frequencies it adds more clarity, focus and air allowing each element to breathe.

## **Bass Enhancer Controls (top to bottom)**

**Psycho Bass Active:** This button activates the Bass Psychoacoustic circuit (Off/On)

**Psycho Bass Mode (led):** Normal or Dynamic(lit).

In Normal mode the Psychoacoustic harmonics adapt to the signal and are applied at a constant level.

In Dynamic mode the Psychoacoustics'level also adapts relative to the signal's level.

**Psycho Bass Type:** Soft or Hard. This setting affects the type of Psychoacoustic harmonicsgenerated.

**Psycho Bass Level:** This dial sets the amount of Bass Psychoacoustics applied to the main audio.

**Bass Enhancer Frequency:** Sets the Low band range: 40-400Hz.

**Bass Dynamics Level:** Sets the amount of Bass Dynamics applied to the main audio.

**Bass Dynamics Mode(led stack):** Click to set the Dynamics response mode: Punch(blue), Normal(green), Dense(red)

**Bass Dynamics Active:** This button activates the Bass Dynamics circuit. (Off/On)

## High Enhancer Controls (top to bottom)

**Psycho High Active:** This button activates the High Psychoacoustic circuit (Off/On)

**Psycho High Mode (led):** Normal or Dynamic (lit).

In Normal mode the Psychoacoustic harmonics adapt to the signal and are applied at a constant level.

In Dynamic mode the Psychoacoustics' level also adapts relative to the signal's level.

**Psycho High Type:** Soft or Hard. This setting affects the type of Psychoacoustic harmonics generated.

**Psycho High Level:** This dial sets the amount of Bass Psychoacoustics applied to the main audio.

**High Enhancer Frequency:** Sets the Low band range: 40-400Hz.

**High Enhancer Type:** Select High Pass [H] or Band Pass [B] mode.

**High Dynamics Level:** Sets the amount of High Dynamics applied to the main audio.

**High Dynamics Mode(led stack):** Click to set the Dynamics response mode: Low(blue), Normal(green), Hard(red)

**High Dynamics Active:** This button activates the High Dynamics circuit. (Off/On)

## Spatial Enhancer Section



Neo MasterTool utilises a unique custom designed quad mode, multi-band circuit to alter the stereo image, enhancing the spatial awareness of the listener.

**Spatial Multi-Band Mode:** Selects which bands are processed. You can select All, Mid+High, or High. The colours correspond with the compressor bands. (Blue=Low, Green=Mid, Red=High)

**Spatial Image:** The centre position on the dial is zero (no effect). Turning the dial Right will boost the inline stereo spatial image. Turning the dial Left will increase the spatial crossover effect.

**Spatial Image Mode:** The button's image displays the active mode. Click to select Speaker or Headphone mode.

**Spatial HeadPhone Shift\*:** Set the shift in (ms) for the Spatial Headphone mode.

\*Note: This control is located on the Settings panel.

# Limiter Section



The BrickwallLimiter is the final process in the signal chain after the Parallel and Master Gain functions.

Standard limiters can produce clicks on heavy transients especially with bass signals but this Limiter has been carefully tuned to catch all transients across the audio spectrum without introducing any audible clicks or noise.

**Limiter:** This button activates the Limiter and flashes when active.

**Limiter Release Time:** Adjusts the limiter Release Time (ms) from 0 to 4000ms (4 seconds)

**Parallel:** Sets the amount of Parallel Compression or New York Compression. A value of 0% outputs only the processed sound. A value of 100% outputs only the Dry\* sound. A value of 50% outputs an equal mix of Processed and Dry\* sound.

\*Note: the Dry signal here is post 5 Band EQ.

**Master Gain:** The overall Gain applied in dB (+/-24dB) before the Limiter.

**Active/Bypass:** This is the 'Master' Active/Bypass button. You can use this to perform A/B sound comparisons with the original and processed sound. The button will flash in Bypass mode and show 'Active' when Neo MasterTool is active.

# Settings Panel



Click the 'SET' tab to open the Settings panel. From this panel you can enter your Activation Keycode, locate your Machine ID, and visit the Sound Magic website by clicking on the red Chinese logo. This panel will appear automatically until you enter a valid Activation Keycode.

**Stereo Mode:** Sets the processing mode for the 5 Band EQ, Multi-Band Compressor and Spatial enhancer sections:

**Stereo:** Processes the stereo input signal. This is the standard mode.

**M/S:** Only processes the Central part of the M/S (Mono/Side) signal.

This processing method is often useful for mastering.

**Peak Meter Display Scale:** Sets the scale used for the Peak Output meter on the main panel. You can select from 'Standard' (STD), 'K12', 'K14' and 'K20' industry standards; each meter type suits a particular field, e.g. K12 is used in broadcasting studios.

**\*The other controls on this panel are explained in their relevant sections**

## **Application**

### **Use in a mastering project**

The main purpose of Neo MasterTool is to have a multi-band, multi process mastering effect. To use Neo MasterTool in a mastering project is quite simple, just load it on the track you want to mastering and choose the correct setting

### **Use Neo MasterTool as a 5 Bands EQ on a track**

Sometimes, you may need to use Neo MasterTool as a 5 Bands EQ in a project, to do this, you need to

1. Load Neo MasterTool as an insert effect on the track
2. Turn on the EQ
3. Turn off Multi Band Compression
4. Make sure that Enhancers and Limiter are all in turn off state.

Then adjust the knobs into your prefer position

### **Use Neo MasterTool as a Multi-Band Compressor**

Neo MasterTool can be used as a Multi-Band Compressor in a project, to do this

1. Load Neo MasterTool as an insert effect on the track
2. Turn on Multi-Bands Compression
3. Make sure that EQ, Enhancers and Limiter are in off position

Then adjust the knobs into your prefer position

### **Use Neo MasterTool as a Harmonic Enhancer to add colour to your tracks!**

The Dynamic and Psychoacoustics enhancers in Neo MasterTool is a really powerful feature which could change the timbre/harmonic of a sound. When you feel your track is lack of highs or bass, use the Dynamic and Psychoacoustics enhancers in Neo MasterTool is the ideal way to solve it.

To do this

1. Load Neo MasterTool as an insert effect on the track
2. Turn off EQ, Compression, Spatial Enhancer and Limiter

Then Turn on the enhancers and adjust the knobs into your prefer position

### **Use Neo MasterTool as a Spatial Enhancer to make your track sound wider and bigger!**

The Spatial Enhancer in Neo MasterTool gives you the ability to alter stereo image and enhance the spatial feeling. To do this

1. Load Neo MasterTool as an insert effect on the track
2. Turn off EQ, Compression, Dynamic and Psychoacoustics Enhancers and Limiter
3. If you are using speaker as your monitor, choose Speaker Mode; If you are using a headphone as your monitor, please select Headphone Mode.

Then turn on Spatial Enhancer and adjust the knobs into your prefer position

### **Use Neo MasterTool as a Limiter**

Neo MasterTool can be used as a Limiter in a project, to do this

1. Load Neo MasterTool as an insert effect on the track
2. Turn off Compression, Dynamic and Psychoacoustics Enhancers and Spatial Enhancer  
Then turn on limiter and adjust it into your prefer position

### **Better use Neo MasterTool's Metering**

Neo MasterTool features a multi scale peak meters which have different loudness reference for you to use in different situation. You need to select the correct mode in setting sub-panel. Neo MasterTool has "standard", "K12", "K14" and "K20" for you to choose. To get knowledge about K-System, please visit this page

<http://www.digido.com/how-to-make-better-recordings-part-2.html>

### **Use Neo MasterTool in M/S mode**

Usually in Mastering, we did a lot of jobs under M/S mode to precisely process a sound. The EQ and Multi-Band Compression Unit in Neo MasterTool can work under M/S if you set the Stereo Mode in Setting sub-panel as M/S

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