



Electric 88 Piano

USER GUIDE



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CHAPTER 1: INTRODUCTION

Welcome

Thank you for choosing Waves! In order to get the most out of your new Waves plugin, please take a moment to read this user guide.

To install software and manage your licenses, you need to have a free Waves account. Sign up at www.waves.com. With a Waves account you can keep track of your products, renew your Waves Update Plan, participate in bonus programs, and keep up to date with other important information.

We suggest that you become familiar with the Waves Support pages: www.waves.com/support. There are technical articles about installation, troubleshooting, specifications, and more. Plus, you'll find company contact information and Waves Support news.

Acknowledgement

The Electric 88 Piano samples library was recorded and produced by Yoad Nevo at Nevo Sound Studios in London, UK.

Visit www.yoadnevo.com.



1.1 Product Overview

The unmistakable sound of the electric piano has shaped our musical landscape since the 70s. This sound changed the way we think about the piano, and it opened up many new musical possibilities. Now the sound, feel, and personality of this unique piano is available from Waves.

Waves painstakingly sampled a well-used, road-worn Mark 1 88-key electric piano to capture the nuance and detail of the original sound. The result is the Electric 88 Piano plugin and standalone application. Every element of the instrument's sound—down to its beautiful imperfections—is captured to recreate the magic realism of the original. We've gone a few steps further by integrating our high-quality studio effects and by adding unique features for tone shaping. And there's a mix section that enables you to use these tools to put your own personal stamp on this era-defining sound.

For anybody looking to grace their tracks with an electric piano full of character and soul with its own personality, look no further. The Electric 88 Piano from Waves has arrived.

1.2 Concepts and Terminology

The type of electric piano that became a pop, rock, and jazz favorite in the '70s was invented by Harold Rhodes in the 1940s. The technology behind the instrument consists of a hammer, similar to the ones in acoustic pianos. A hammer strikes a small metal rod, called a tine, that's connected to a larger tone bar, which is, in essence, a tone generator. Once struck, this tone generator vibrates, emitting a certain pitch. This vibration is turned into an electronic signal using a pickup that sits opposite the tine. The overall structure is somewhat similar to a tuning fork.

The richness of the instrument stems in part from the relationship between the tines and the tone bar. The response of the tines dominates when the tines are struck by the hammer, during the attack period of the note. This sound is bell-like. The tone bar dominates the sustain of the note. Its sounds are very sinusoidal, with varying degrees of harmonic distortion. You can control the balance between the tines and the tone bar to influence the effect: turn up the tines to create a more bell-like start and a more punchy attack, or turn them down to resemble a more mellow and worn instrument.

Electric 88 Piano is powered by WSE, the Waves Sampler Engine, a state-of-the-art multi-sample engine designed to deliver solid, high-quality performance.

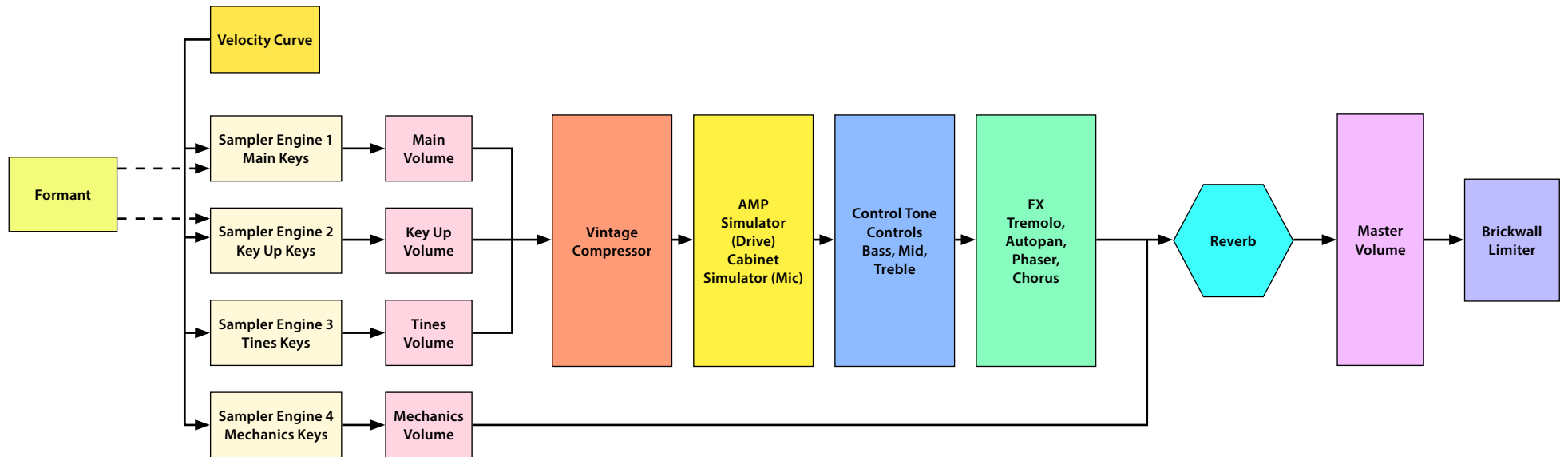
1.3 Components

The Electric 88 Piano has one component: Electric 88 Piano Stereo

Electric 88 Piano is a virtual instrument plugin and will appear under the related selection menus for virtual instruments under all supported DAW host applications.

Waves Electric 88 Piano also works as a standalone application, using ASIO (Windows) or Core Audio (Mac) drivers to play through your audio device of choice. Electric 88 Piano receives MIDI data to trigger notes and control changes.

1.4 Functional block/flow diagram



CHAPTER 2: QUICK START GUIDE

Insert Electric 88 Piano on an instrument track in your DAW or launch the standalone application. Start to play and you will quickly understand how to get the sound you want. There are two modules with which to control the behavior and sound of the instrument.

- 1 Use the top module to create and control effects such as tremolo, phasing, stereo imaging, chorus, and reverb.
- 2 Use the bottom module to control the characteristics of the keyboard and the amplification.



Navigating the presets

Electric 88 presets and sample libraries are managed with the WaveSystem Toolbar at the top of the window. This is discussed on [page 21](#). To learn more, click the icon at the upper-right corner of the window and open the WaveSystem Guide.

Use the Next/Previous preset arrow controls on the toolbar to scroll through presets.

CHAPTER 3: INTERFACE AND CONTROLS

3.1 Interface



The ELECTRIC 88 Piano interface is arranged into two sections.

Bottom: The Piano module includes tone controls, a vintage style compressor, and an amplified cabinet that was sampled with both a condenser mic and a dynamic mic.

Top: The Multi-Effect processor provides modulation effects and reverb.

3.2 Controls

3.2.1 Keyboard Control



At the very bottom there's a virtual keyboard designed to preview the sound of a note when a keyboard controller is not available. Use a mouse or similar input device. This control cannot be automated, but it will follow any MIDI input device.

3.2.2 Piano Module



Keys Section

Vel Curve

This control changes the curve of the velocity response from logarithmic to exponential.

When the control is set to 50%, the curve is linear.

Range: -50% to +50%

Initial Value: 0

Reset Value: 0

Continuous control

Formant

The formant control changes the sound character but not the pitch. Each step equals a half-tone.

This means that when set to -12, the piano sound character will be lower by one octave, but the pitch will not change. Range: -12 to +12

Initial Value: 0

Reset Value: 0

Discrete control, 25 steps.

Mix Section

Main

The Main control is the sampled sound of the electric piano, without the mechanics and the release keys sounds.

It controls the Main samples level in the overall mix.

Range: 0–100 %

Initial Value: 100%

Reset Value: 100%

Continuous control

Tines

Tines is the sampled sound of the key tines. It controls the Tines samples level in the overall mix.

Range: 0–100 %

Initial Value: 35%

Reset Value: 0

Continuous control

Key Up

Key Up is the sound of the keys while releasing. It controls the Key Up samples level in the overall mix.

Range: 0 – 100%

Initial Value: 25%

Reset Value: 0

Continuous control

Mechanics

The Mechanics control is the sampled sound of the electric piano mechanics without the Main and the Key Up sounds. It controls the Mechanics (thump) samples level in the overall mix.

Range: 0 – 100%

Initial Value: 25%

Reset Value: 0

Continuous control

Comp

The Comp control influences the mix of the internal compressor. Turning the knob clockwise increases the level.

Range: 0 – 100%

Initial Value: 50%

Reset Value: 0

Continuous control

Amp Section**Amp On/Off**

The Amp button turns the Amp section on or off.

Range: Off, On

Initial Value: On

No Reset Value: Alt+click does not affect the current mode of this switch.

Drive

Controls the level of the amplifier overdrive.

Range: 0–100

Initial Value: 0

Reset Value: 0

Continuous control

Mic

There are two microphone options in front of the amplifier : Condenser and Dynamic.

Initial Value: Condenser

Reset Value: Condenser

Tone Section**Bass**

The Bass control is a low shelf filter at 203 Hz, which can be decreased or increased by +/-18 dB.

Range: -50 to +50

Initial Value: 0

Reset Value: 0

Continuous control

Mid

The Mid control is a bell filter at 900 Hz, which can be increased or decreased by +/-18 dB.

Range: -50 to +50

Initial Value: 0

Reset Value: 0

Continuous control

Treble

The Treble control is a high-shelf filter at 1.875 kHz, which can be increased or decreased by +/-18 dB.

Range: -50 to +50

Initial Value: 0

Reset Value: 0

Continuous control

Output Section**Volume**

Controls the output gain level after plugin processing.

Range: 0–10

Initial Value: 8

Reset Value: 8

Continuous control

Limit

Turns the output brickwall limiter On or Off.

3.2.3 Effects Module



FX In/Out

The FX In/Out switch toggles all effect module sections on and off. When the FX module is again turned on, each section will return to its previous state.

Tremolo Section

Tremolo On/Off

The Tremolo button turns the Tremolo section on or off.

Range: Off, On

Initial Value: On

No reset value: Alt+click does not affect the current mode of this switch.

Tremolo Rate

Tremolo Rate provides control over Sync rates (such as $\frac{1}{4}$) or Free rates (in Hz), using the same knob.

The middle position, 12 o'clock, is the slowest Free value. Turning the knob clockwise from this position increases the rate from 0.25 Hz to 28 Hz.

When the knob setting is less than 12 o'clock, values are defined with respect to the host. Turning the knob counterclockwise increases the Tremolo rate through music note duration values related to the host's BPM: 1/32T, 1/32, 1/32D, 1/16T, 1/16, 1/16D, 1/8T, 1/8, 1/8D, 1/4T, 1/4, 1/4D, 1/2, 1/2D, 1, 2/1.

2/1 equals one cycle in 2 bars.

Scaling: Custom.

Range: Sync 1/32T-2/1; Free 0.25–28 Hz

Initial Value: 1/16D sync rate

Reset Value: 1/16D sync rate

Continuous control

Tremolo Depth

The Depth control increases or decreases the amplitude level.

Range: 0–100

Initial Value: 60

Reset Value: 0

Continuous control

AutoPan Section

AutoPan On/Off

The AutoPan button turns the Autopan section on or off.

Range: Off, On

Initial Value: On

No reset value: Alt+click does not affect the current mode of this switch.

Autopan Rate

Autopan Rate provides control over Sync rates that relate to the host (such as ¼), or Free rates (in Hz) that can be set

independently of the host BPM, using the same knob.

The middle position, 12 o'clock, is the slowest Free value. Turning the knob clockwise from this position increases the rate from 0.25 Hz to 28 Hz.

When the knob setting is less than 12 o'clock, values are defined with respect to the host. Turning the knob counterclockwise increases the Autopan rate through music note duration values related to the host's BPM: 1/32T, 1/32, 1/32D, 1/16T, 1/16, 1/16D, 1/8T, 1/8, 1/8D, 1/4T, 1/4, 1/4D, 1/2, 1/2D, 1, 2/1.

2/1 equals one cycle in 2 bars.

Scaling: Custom.

Range: Sync 1/32T-2/1 ; Free 0.25–28 Hz

Initial Value: 1/2 sync rate

Reset Value: 1/2 sync rate

Continuous control

Pan Depth

Controls how far the panning extends from the center.

Range: 0–100

Initial Value: 33

Reset Value: 0

Continuous control

Phaser Section

Phaser On/Off

The Phaser button turns the Phaser section on or off.

Range: Off, On

Initial Value: On

No Reset Value: Alt+click does not affect the current mode of this switch.

Phaser Mix

Controls the level of the Phaser effect.

Range: 0–100%

Initial Value: 25%

Reset Value: 0

Continuous control

Phaser Rate

Phaser Rate provides control over Sync rates that relate to the host (such as $\frac{1}{4}$), or Free rates (in Hz) that can be set independently of the host BPM, using the same knob. The middle position, 12 o'clock, is the slowest Free value.

Turning the knob clockwise from this position increases the rate from 0.01 Hz to 22 Hz.

When the knob setting is less than 12 o'clock, values are defined with respect to the host. Turning the knob counterclockwise increases the Phaser Rate through music note duration values related to the host's BPM:

$\frac{1}{32}T$, $\frac{1}{32}$, $\frac{1}{32}D$, $\frac{1}{16}T$, $\frac{1}{16}$, $\frac{1}{16}D$, $\frac{1}{8}T$, $\frac{1}{8}$, $\frac{1}{8}D$, $\frac{1}{4}T$, $\frac{1}{4}$, $\frac{1}{4}D$, $\frac{1}{2}$, $\frac{1}{2}D$, 1, $\frac{2}{1}$.

$\frac{2}{1}$ equals one cycle in 2 bars.

Scaling: Custom.

Range: Sync $\frac{1}{32}T$ - $\frac{2}{1}$ / Free 0.01–22Hz

Initial Value: 0.03 Hz free rate

Reset Value: 0.07 Hz free rate

Continuous control.

Phaser Depth

The Depth control controls the Phaser feedback.

Range: 0–100

Initial Value: 53.5

Reset Value: 0

Continuous control

Chorus Section**Chorus On/Off**

The Chorus button turns the Chorus section on or off.

Range: Off, On

No reset value: Alt+click does not affect the current mode of this switch

Depth

The Depth control influences the dry/wet mix of the signal into the chorus and determines how much the module oscillator will influence the delay. The chorus engine contains four delays and four oscillators.

Range: 0–100

Initial Value: 25

Reset Value: 0

Continuous control

Reverb Section

Reverb Mix

Controls the balance between the dry and wet signal, and also controls the amount of reverb added.

Range: 0% (dry) to 100% (wet)

Default: 30%

Reset Value: 0% (dry)

Continuous control

Reverb Predelay

Controls the amount of the delay between the dry and wet signals.

Range: 20 ms–400 ms (milliseconds)

Initial Value: 55 ms

Reset Value: 55 ms

Continuous control

Reverb Time

Control the reverb time, up to 6 seconds.

Range: 0.4 sec–6 sec

Default: 2 sec

Reset Value: 2 sec

Continuous control

Reverb Damp

Increases the level of high frequencies during the decay.

Default: 0.8

Reset Value: 0.8

Continuous control

Meters**Meter Scale**

Peak meter: -30 dB to 0 dB, showing a VU meter scale calibrated for 18 dB of headroom (0 dBVU = -18 dBFS).

Split Meters

Separate left and right meter indicators.

Black: Left

Green: Right

3.2.4 WaveSystem Toolbar

Electric 88 presets are managed with the WaveSystem Toolbar at the top of the window. The toolbar is also used to compare settings, undo and redo steps, load samples folders, and resize the plugin. To learn more, click the icon at the upper-right corner of the window and open the WaveSystem Guide.

Samples Library



Sample-based instruments load the default sample library when the plugin is instantiated or the application is launched. Click on the Samples button to navigate to another sample library folder. This library will become the default until you load another library. The folder must contain valid Waves sampled instrument files, otherwise the OK button will be grayed out. You can download Waves sample libraries from the Waves download page

<http://www.waves.com/downloads/sample-libraries>

Tune

Allows global fine tuning of the instrument.

Range: -100 – 100 cents

Initial Value: 0

Reset Value: 0

Continuous control

Vel

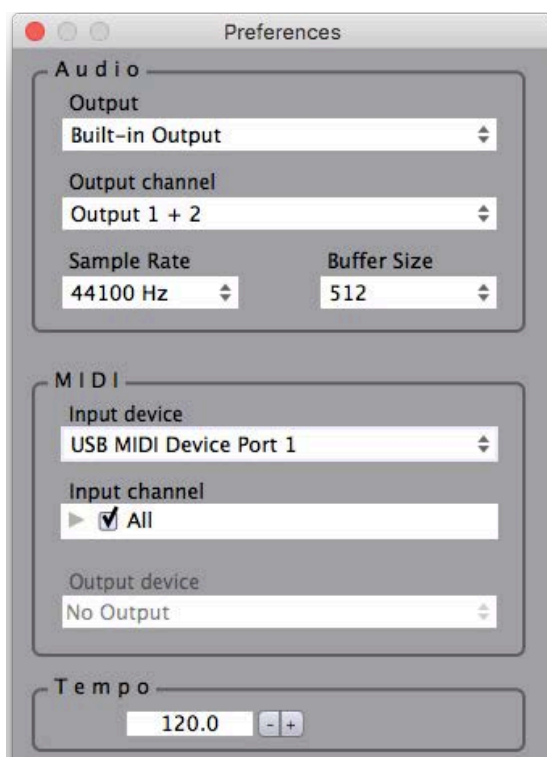
When the Velocity button is checked, the Velocity setting changes to the value specified by the preset that is being loaded. When the box is unchecked, the velocity setting is not affected by the preset.

CHAPTER 4: ELECTRIC 88 PIANO STANDALONE APPLICATION

The Electric 88 Piano application can be used as a standalone instrument. It requires an ASIO driver for Windows or a Core Audio driver for Mac OS X. Opening ELECTRIC 88.exe (Win) or ELECTRIC 88.app (MAC) loads the ELECTRIC 88 Piano instrument and configuration preferences dialogs.

THE PREFERENCES DIALOG

The preferences dialog allows configuration of Audio, MIDI, and Tempo.



Audio provides control over the following parameters:

- **Device** displays the audio devices available on the system.
- **Output Channels** allows selection of audio outputs from the selected device.
- **Sample Rate** displays and sets the sample rate.*
- **Buffer Size** displays and sets the buffer size, which influences latency.*

*In Windows, sample rate and buffer size cannot be changed from this panel. To modify these settings: close the application, adjust sample rate and buffer size with your driver's control panel, and relaunch.

MIDI provides control over the following parameters:

- **MIDI Input device** displays a list of available MIDI input devices on the current system. Select the MIDI device for receiving MIDI data.
- **Input Channel:** The Electric 88 Piano standalone is ready to receive MIDI in OMNI mode from all channels. The MIDI channel control allows the selected MIDI device to receive MIDI input only from certain channels, as selected in the check boxes.

Output Device: Not used

Tempo: Sets the tempo for all relevant plugins. By default, tempo-based Waves plugins are in a "tempo listen" state. Their tempo rates will fix to this value.