WAVES

Electric Grand 80 Piano

USER GUIDE

WAVES

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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 Grand 80 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

An electric grand piano is a keyboard instrument that uses hammers to strike strings, which then vibrate as in an acoustic piano. This vibration is then converted to an electrical signal by pickups, just like in an electric guitar. The combination of acoustic piano mechanics and electric guitar-style pickups creates a unique sound that is immediately recognizable.

The electric grand piano was conceived in the late 1920s, when the German piano manufacturer, Bechstein, teamed up with the electronics giant, Siemens, to make an acoustic-sounding piano that was smaller and more portable. In the late 1930s, RCA introduced the first commercially-available electric grand piano, the Storytone. Many variations followed, but most used tuning forks or metal reeds rather than strings. The true electric grand was revived in the 1970s by the Yamaha Corporation, with the CP70 Electric Grand Piano, followed by the CP80. The signature sound of the electric grand piano is identified with many great artists, including Hall and Oats, Toto, Rainbow, Roxy Music, U2, Billy Joel, and many more.

Waves Electric Grand 80 Piano is based on a library sampled from a CP80. It produces a full array of velocity and alternative samples for each key. Waves also developed a method to recreate the ethereal sound produced by sympathetic resonance introduced by idle strings when the sustain pedal is pressed and the string dampers lift to release the string. The played strings are accompanied by the light resonance of the undamped strings through acoustic excitation and resonance correlated to the sympathetic strings. This adds nuance and realism.

There are controls for velocity curve and formant. Beyond this, Waves added studio-grade effects: a compressor, EQ, a quality digital reverb, chorus, phaser, autopanner, and tremolo. These are adjustable and can be turned on or off with a single click.

1.2 Concepts and Terminology

The term “grand piano” refers to a piano whose strings are horizontal, that is, parallel to the floor. Its essential parts consist of:

An action, which transfers energy from the keys to the hammers that strike strings. The action includes pedals that dampen or sustain string vibrations.

A frame and soundboard

A case that forms an acoustic chamber

A bridge for the strings

And about 200 strings

The mechanics and form of an electric grand piano are quite similar to those of an acoustic grand piano, except that the acoustic chamber is replaced by electronic pickups.

Waves Electric Grand 80 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

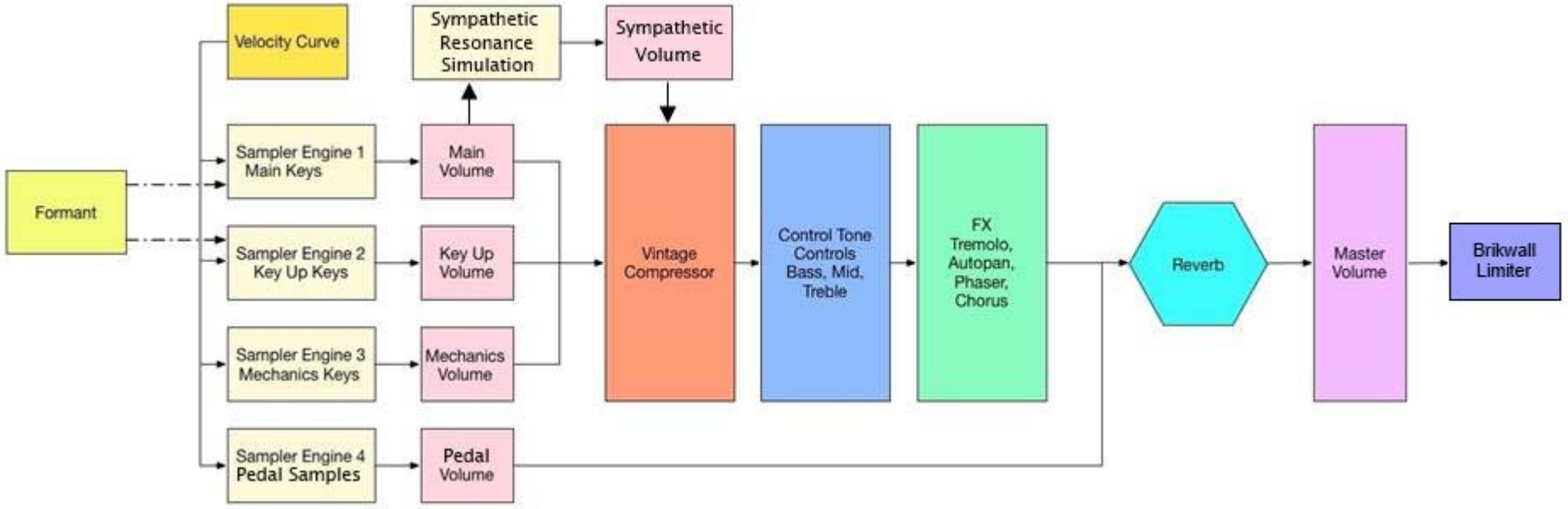
The Waves Electric Grand 80 Piano has one component:

- Electric Grand 80 Piano Stereo

Electric Grand 80 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 Grand 80 Piano also has a standalone application. It uses ASIO (Windows) or Core Audio (Mac) drivers to play through your audio device of choice. Electric Grand 80 Piano receives MIDI data to trigger notes and control changes.

1.4 Functional Block/Flow Diagram



CHAPTER 2 QUICK START GUIDE

Insert the Electric Grand 80 Piano plugin on an instrument track in your DAW, or launch the standalone application. 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.

Start to play and you will quickly understand how to get the sound you want.

Navigating the presets

Electric Grand 80 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.

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

CHAPTER 3 INTERFACE AND CONTROLS

3.1 Interface

The Electric Grand 80 Piano interface is arranged in two sections.

Bottom The **Piano** module includes tone controls, a vintage-style compressor.

Top The **Multi Effects Processor** provides modulation effects and reverb.

3.2 Controls

3.2.1 Keyboard Control

At the bottom is a virtual keyboard that enables you to preview the sound of a note when a keyboard controller is not available. Use a mouse or similar input device to play a note. 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 0, the curve is linear.
Range: -50% to +50%
Initial Value: 0
Reset Value: 0
Continuous control

Vel (in the WaveSystem Toolbar)

If VEL is checked, the Velocity Curve value changes when a new preset is loaded. If VEL is not checked, the Velocity Curve value is not changed when a new preset is loaded.

Formant

The Formant control changes the sound character but not the pitch. Each step equals a half-tone. That means that when set to -12, the piano sound character will be lower by 1 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 E.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

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 E.Piano mechanics without the Main and the Key Up sounds. It controls the Mechanics (thump) samples level in the overall mix.
Range: 0–100% Continuous control
Initial Value: 25%
Reset Value: 0

Pedal

Pedal is the sampled sound of the mechanical sustain pedal press and depress. It controls the Pedal samples level in the overall mix.
Range: 0–100 %
Initial Value: 35%
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

Sustain Resonance

Sustain Resonance is a simulation of the sympathetic resonances of un-played strings that are undamped when the sustain pedal is pressed. The Sustain Resonance control adjusts the level of sympathetic resonance simulation in the overall mix.
Note: Sustain Resonance is heard only while the sustain pedal is pressed. Next to the control is an activity LED that lights when resonance has been activated by the sustain pedal.
Range: 0–100 %
Initial Value: 35%
Reset Value: 0
Continuous control

Tone Section

Bass

The Bass control is a low-shelf filter at 203Hz, which can be decreased or increased by +/-18dB.
Range: -50 to +50
Initial Value: 0
Reset Value: 0
Continuous control

Mid

The Mid control is a bell filter at 900Hz, which can be decreased or increased by +/-18dB.
Range: -50 to +50
Initial Value: 0
Reset Value: 0
Continuous control

Treble

The Treble control is a high-shelf filter at 1.875KHz, which can be decreased or increased by +/-18dB.
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: 7
Reset Value: 7
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 effects 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
Switch On/Off

Tremolo Rate

Tremolo Rate provides control over Sync rates (such as ¼) 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 0.25Hz to 28Hz.
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 0.25Hz-28Hz
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
Switch On/Off

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 independent 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 0.25Hz–28Hz.

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 0.25Hz-28Hz

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

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 ¼), or **Free** rates (in Hz) that can be set independent 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 0.01Hz-22Hz.
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: 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 0.01Hz-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

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–180 ms (milliseconds)
Initial Value: 55 ms
Reset Value: 55 ms
Continuous control

Reverb Time
Controls the reverb time, up to 6 seconds.
Range: 0.4sec–6 sec
Default: 2 sec
Reset Value: 2 sec
Continuous control

Reverb Damp
Increases the level of the high frequencies during the decay as a factor of the reverb time.
Range 0.1 – 2.0
Default: 0.8
Reset Value: 0.8
Continuous control

Meters

Meter Scale
Peak meter: -30 dB–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

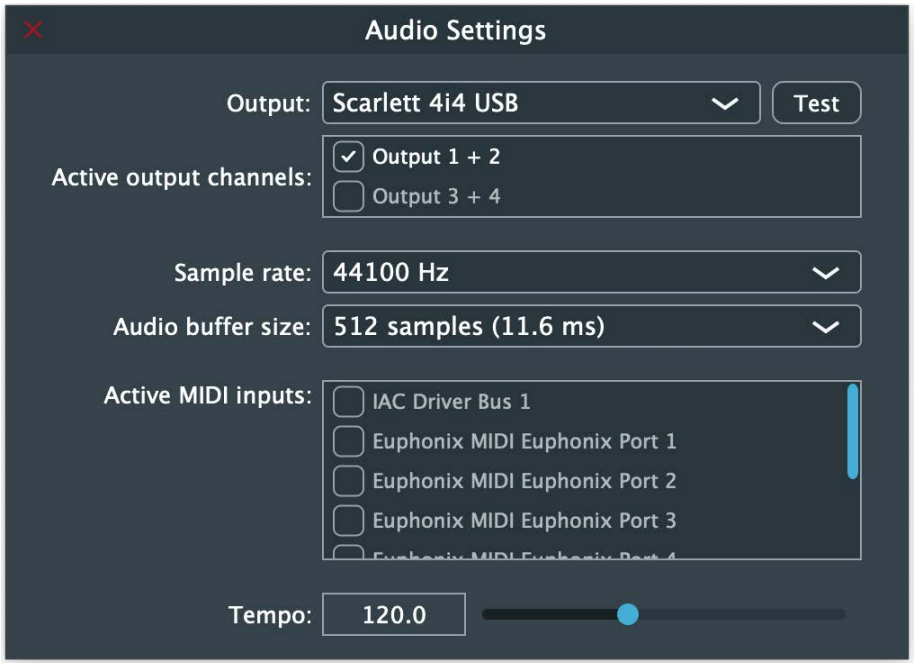
Tune (in the WaveSystem Toolbar)
This control changes the tuning reference for the entire piano.
Range: -100 to +100
Initial Value: 0
Reset Value: 0
Continuous control

CHAPTER 4 Electric Grand 80 Standalone Application

The Electric Grand 80 application can be used as a standalone instrument. It requires ASIO drivers for Windows or Core Audio for macOS. Electric Grand 80.exe (Win) or Electric Grand 80.app (Mac) loads the Clavinet instrument and configuration preferences dialogs. Set up the standalone application from its File menu:

- All Notes Off — Sends an All-Notes-Off MIDI command to the Electric Grand 80 synthesizer. This is useful in cases of “stuck” sustaining notes.
- Preferences — Displays the Preferences dialog for the Audio, MIDI, and User Choices configurations.

PREFERENCES



Output displays the audio devices available on the system.
Test plays a sound if the outputs are configured correctly.

Active Output Channels allows selection of audio outputs from the selected device.

Sample Rate displays and sets the sample rate.*

Audio 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 (link shown below), and then relaunch.

(Windows Only)

Active MIDI Inputs displays a list of available MIDI input devices on the current system. Select the MIDI device for receiving MIDI data.

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.