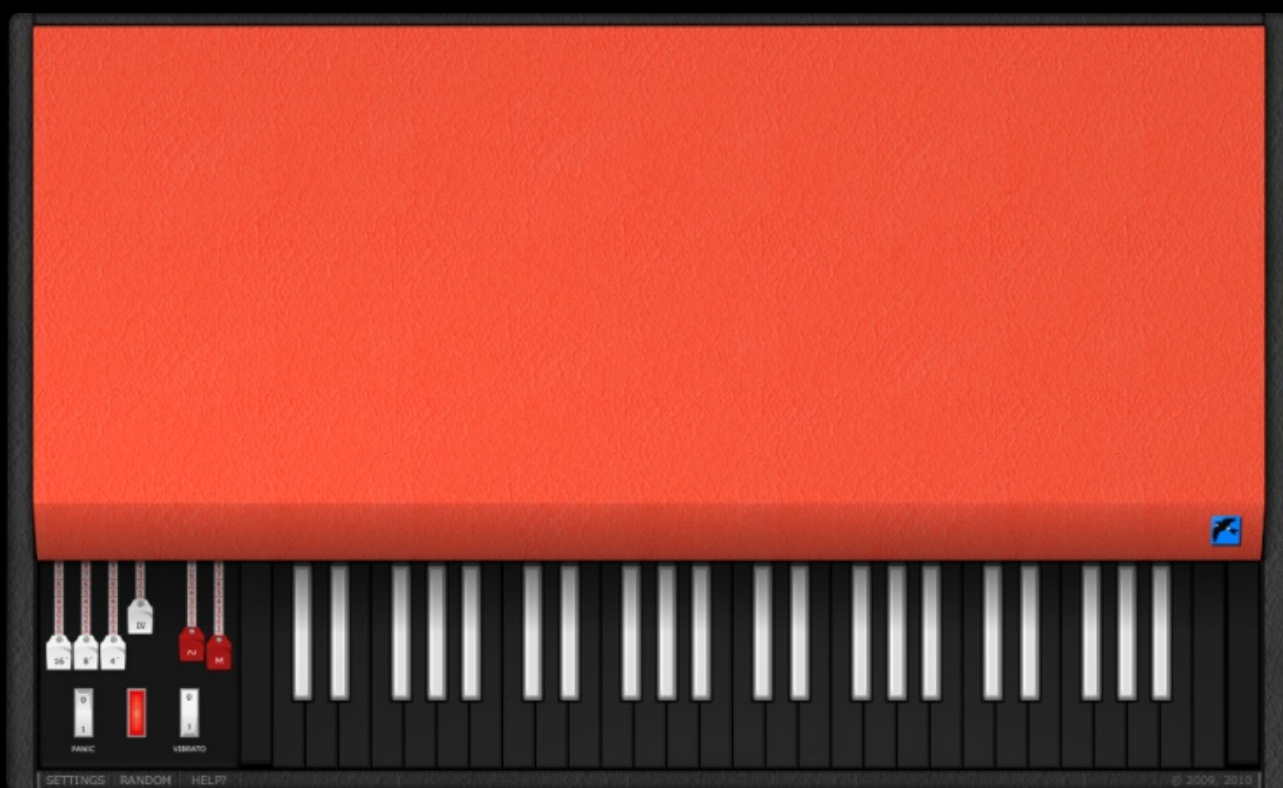# COMBO MODEL V

OWNER'S MANUAL

VERSION 1.0.3

1. INTRODUCTION

Combo Model V is a virtual combo organ, modelled after the mother of all combo organs: the Vox® Continental.

Vox® is a registered trademark of Korg Europe Limited. Note that Korg does not endorse Combo Model V, nor is Korg in any way associated or affiliated with Martinic.

1.1. Features

- 4-octave C-to-C keyboard
- Harmonic range 7 polyphonic octaves
- 4 footage drawbars
- 2 voice drawbars
- Vibrato unit with adjustable speed and depth
- Swell (volume) pedal
- Adjustable tuning per note
- Fully modelled (no samples inside)
- Model includes oscillators, dividers, crosstalk, filters, key contacts and key click
- Velocity-sensitive key contact attack and release
- Fully automatable
- 32 original Connie presets included

1.2. System Requirements

Combo Model V is available as a VST* 2.4 (Windows, Mac OS X) or an Audio Units (Mac OS X) instrument, which means it needs to run inside VST or AU hosting software. Combo Model V has been tested in the following hosting software:

- Ableton Live 8
- ACID Pro 7
- AudioMulch 2.0
- Cantabile
- Cubase 5
- Digital Performer 7
- energyXT 2.5
- FL Studio 9
- GarageBand 5
- KORE 2

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* *VST is a trademark of Steinberg Media Technologies GmbH.*

- Logic 9
- Metro 6
- MiniHost
- Mixcraft 5
- MU.LAB 3
- Pro Tools 8 *(via FXpansion's VST to RTAS Adapter)*
- REAPER 3
- Renoise 2.5
- SONAR 8
- VSTHost/SAVIHost

If your hosting software is not on the list, then don't worry. There is a big chance it will work anyway, because (in theory) Combo Model V should work in *any* VSTi/AUi-capable host.

Combo Model V runs on Windows XP (SP1 or newer), Windows Vista, Windows 7, Mac OS X 10.4, Mac OS X 10.5 or Mac OS X 10.6. On Mac OS X Combo Model V is a *universal binary*, which means it runs on both PowerPC and Intel-based Macs. Combo Model V does not have any other special requirements regarding your computer; if your VST hosting software runs on it, then Combo Model V will too. Although not required, a MIDI keyboard will come in handy.

Also not a requirement *per se*, but you will probably want to add an amplifier/cab simulator to your effects chain, right after Combo Model V. Any guitar amp simulator that gives you a more or less clean sound should do.

2. BASIC CONTROLS

After loading Combo Model V (ComboV) in your hosting software you will see the main view, with the drawbars down on the left, and the 4-octave keyboard next to it. From the main view you can adjust the drawbar settings, turn vibrato on or off, or play the keyboard, all using the mouse. You can also open the settings window to tweak settings that are "under the lid".

2.1. Footage Drawbars

The 4 drawbars with the white tips are the footage (or pitch) drawbars. Combo Model V uses additive synthesis, and using the footage drawbars you adjust the harmonics mix. You can think of it as an equalizer, where the **16'** drawbar controls the low frequencies, **8'** and **4'** the middle frequencies, and the **IV** (or mixture) drawbar the high frequencies.

You can adjust a drawbar setting using the mouse by dragging the drawbar tip up or down, or you can left-click on the tiny numbers that are printed on the drawbar, or you can use the scroll wheel. You can also right-click (or ⌘-click on Mac OS X) on a drawbar to enter a value

using the computer keyboard. To reset a drawbar to its default value, double-click on it (using the left mouse button).

2.2. Voice Drawbars

The 2 drawbars with the red tips are the voice (or tone) drawbars. The drawbar labelled **~** controls the foundation voice, which produces a flute-like sound. The **M** drawbar controls the reed voice, which has a much brighter sound to it.

2.3. Random Registrations

Below the drawbars, all the way down, you will find 3 small buttons. The button in the middle is labelled **Random**, and when you left-click on it, all 6 drawbars will be set to random values. Combo Model V can produce no less than 380,845 different sounds, so this button should keep you off the streets for quite a while.

2.4. Vibrato

Below the drawbars you will find 2 white rocker switches (with a red pilot light in between them). The rocker switch on the right is labelled **Vibrato**, and by left-clicking on it you toggle the vibrato effect on or off.

2.5. Help

Of the 3 small buttons below the drawbars the one on the right is labelled **Help?**. You can open this Owner's Manual from within the Combo Model V by left-clicking on this button.

2.6. About

In the main view on the right, about two-thirds down, you will find the Martinic logo (). When you left-click on it the about box is displayed, which will tell you the exact version of Combo Model V that you are running.

3. TUNING AND SETTINGS

The left button of the 3 small buttons below the drawbars is labelled **Settings**, and when you left-click it the settings window is displayed on top of the main view.

In the left of the settings window you will find enlarged versions of the drawbars and rocker switches. These enlarged controls offer exactly the same functionality as their smaller counterparts (see chapter *2. Basic Controls*). The only difference is that here you can actually *read* the numbers printed on the drawbars.

The settings window on top of the main view

To close the settings window again, left-click on the small button labelled **Close** in the upper right corner of the window. However, you don't *have* to close the settings window; by leaving it open you will have access to the settings at all times. If you save your project containing Combo Model V with the settings window open, the next time you load the project the settings window will still be open.

3.1. Tuning

In the settings window you can adjust the tuning independently for each of the 12 notes in an octave. The tuning for the same note in different octaves is always the same, so when you detune the C# by -2.1 cents, all C# notes in all octaves will be detuned -2.1 cents.

You can adjust tuning values using the mouse by dragging the slider handle left or right, or you can left-click anywhere on the slider to move the handle directly to that position, or you can use the scroll wheel. For higher precision, hold down the Ctrl key while moving the slider. You can also right-click (or ⌘-click on Mac OS X) on a slider to enter a value using the computer keyboard. To reset a slider to its default value, double-click on it (using the left mouse button).

By default Combo Model V is equally tuned to A = 440 Hz.

3.2. Quality Control

For optimal quality Combo Model V's internals need to be recalculated when you change the tuning. Because recalculating the internals uses a lot of CPU resources, may want to disable quality control in some situations (e.g. when you are automating the tuning using a LFO).

You can toggle quality control on or off by left-clicking on the miniature toggle switch labelled **QC Bypass**. You will find this toggle switch a little to the right above the tuning sliders.

If your VST hosting software has an option to inform plug-ins of offline rendering, then enable this option. This will ensure optimal quality during offline rendering.

3.3. Vibrato Speed and Depth

You can adjust the vibrato speed and depth, just like you can on a real-world Connie. However, in the real world you would have to open her up first, so you wouldn't be able to easily adjust the speed and depth while playing. Combo Model V has no such limitations, so you can adjust these settings all you like; you can even automate them.

3.4. Volume

The volume adjust and swell control together determine the output level of Combo Model V. By default the swell control is linked to your MIDI expression pedal (CC #11, see chapter *4.2. Default MIDI Map*), so it can be used to add dynamics to your performance. The volume adjust can be used to change the overall volume.

3.5. Key Contacts

A real-world Connie has 4 contacts for each key. When you depress a key these contacts will not sound all at once, but they will rather sound one after another, especially when you depress the key very slowly. To mimic this behaviour Combo Model V uses the velocity from your MIDI keyboard to control how fast the individual key contacts will sound.

You may want to adjust the attack and release settings to match the velocity curve of your MIDI keyboard.

3.6. MIDI Channel

By default Combo Model V receives MIDI data on all 16 channels, but you can also select one particular channel.

3.7. MIDI Learn

By default Combo Model V's most-used controls are mapped to a standard set of MIDI Control Change (CC) numbers (see chapter *4.2. Default MIDI Map*). However, the sliders of your MIDI keyboard may well send out other CCs.

Here is how you can learn Combo Model V to respond to the sliders, knobs and buttons of your MIDI keyboard:

1. Set the slider, knob or button on your MIDI keyboard to zero or "off".
2. Left-click on the small button labelled **MIDI Learn** in the bottom left corner of the settings window. The status LED on the button will now light up, indicating that Combo Model V is in learning mode.
3. Left-click on a Combo Model V control, e.g. the 16' drawbar. Note that MIDI learn is available only for the drawbars, and for the vibrato and volume controls.

MIDI learning the 16' drawbar

4. Move the slider, knob or button on your MIDI keyboard to the "on" position. When the status LED on the MIDI learn button is no longer lit up you are ready.

You will have to repeat these steps for each control you want Combo Model V to learn.

Note that for the drawbars Combo Model V not only learns the CC number, but also the direction in which the slider or knob moves. This comes in handy if your MIDI keyboard has mixer-style sliders, which usually operate "upside down" when compared to drawbar-style sliders.

When you save your project containing Combo Model V, the learned MIDI map will be saved along with the other settings. However, if you load a new instance of Combo Model V, the default MIDI map will be loaded again.

4. MIDI IMPLEMENTATION

Combo Model V can receive MIDI data on all 16 channels, or on one specific channel (see chapter *3.6. MIDI Channel*).

Combo Model V will respond to Note On/Off messages within the C3..C7 range. It supports both Note On and Off velocity. However, velocity is not used to vary the volume of the played notes, as is the case with most (software) synthesizers. Instead it is used to mimic the key contacts of a real-world Connie (see chapter *3.5. Key Contacts*).

Combo Model V supports Control Change (CC) values in both 7-bits (standard) and 14-bits (MSB/LSB) resolution, depending on the control the CC is mapped to.

Combo Model V supports Program Change messages for selecting one of the 32 presets (see chapter *5. Presets*).

4.1. Panic

Below the drawbars you will find 2 white rocker switches (with a red pilot light in between them). The rocker switch on the left is labelled **Panic**, and when you left-click on it all notes will immediately stop playing.

When Combo Model V receives an All Notes Off message, it will also immediately mute all notes.

4.2. Default MIDI Map

CC	Control	
1	Vibrato on/off switch	
7	Volume adjust	[MSB]
11	Swell pedal	[MSB]
12	16' footage drawbar	
13	8' footage drawbar	
14	4' footage drawbar	
15	IV footage mixture drawbar	
16	Flute voice (~) drawbar	
17	Reed voice (M) drawbar	
39	Volume adjust	[LSB]
43	Swell pedal	[LSB]
73	Vibrato speed	
74	Vibrato depth	

Note that Combo Model V is basically B4/EVB3 compatible, so if your MIDI keyboard has a setting for B4 or EVB3, that setting should also work for Combo Model V. If your MIDI keyboard has no such setting, then don't worry; you can learn your MIDI keyboard and Combo Model V to get along with each other (see chapter *3.7. MIDI Learn*).

5. PRESETS

Combo Model V comes with 32 default presets, based on the list of suggested tone combinations from the original Connie manual. You can overwrite the presets with your own. When you save your project, all 32 presets will be saved along with the other settings.

Presets for your favourite Connie songs are *not* included, so you will have to figure out these all by yourself. But that shouldn't be too hard; after all, there are only a mere 380,845 combinations.

Combo Model V

Version 1.0.3

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