COMBO MODEL F

OWNER'S MANUAL

VERSION 1.0.0

1. INTRODUCTION

Combo Model F is a virtual combo organ, modelled after a well-known combo organ from the 1960s: the Farfisa Mini Compact.

Note that Farfisa does not endorse Combo Model F, nor is Farfisa in any way associated or affiliated with Martinic.

1.1. Features

■ 4-octave C-to-C keyboard

■ Harmonic range 6 polyphonic octaves

■ 4 footage tabs: 16′, 8′, 4′, 2⅔′

■ 3 treble voice tabs: Dolce, Principale, Strings

■ Multi-Tone Booster voice with All Booster tab

■ Knee lever control

■ Bass voice (grey keys)

■ Vibrato unit with adjustable speed and depth

■ Volume pedal

■ Adjustable tuning per note

■ Fully modelled (no samples inside)

■ Model includes oscillators, dividers, crosstalk, noise, filters, key contacts and key click

■ Velocity-sensitive key contact attack and release

■ Fully automatable

1.2. System Requirements

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

■ Ableton Live 8

■ ACID Pro 7

■ AU Lab

■ AudioMulch 2.0

■ Cantabile

■ Cubase 5

■ Digital Performer 7

■ DSP-Quattro 3

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

- energyXT 2.5
- FL Studio 10
- GarageBand '11
- KORE 2
- Logic 9
- Metro 6
- MiniHost
- Mixcraft 5
- MU.LAB 3
- Orion 7.6
- Pro Tools 8 *(via FXpansion's VST to RTAS Adapter)*
- REAPER 4
- Renoise 2.5
- SONAR 8
- Tracktion 3
- V-Machine
- 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 F should work in *any* VSTi/AUi-capable host.

Combo Model F runs on Windows XP (SP1 or newer), Windows Vista, Windows 7, or Mac OS X 10.4 (Tiger), 10.5 (Leopard), 10.6 (Snow Leopard), or 10.7 (Lion). Combo Model F does not have any other special requirements regarding your computer; if your VST hosting software runs on it, then Combo Model F 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 F. Any guitar amp simulator that gives you a more or less clean sound should do.

2. BASIC CONTROLS

After loading Combo Model F (ComboF) in your hosting software you will see the main view, with the various rocker switches or *tabs*, and the 4-octave keyboard below it. From the main view you can switch the tabs on or off, adjust the bass volume, or play the keyboard, all using the mouse. You can also open the settings window to tweak settings that are "under the lid".

To switch a tab on or off, simply left-click on it. To adjust the bass volume, drag the knob, or use the scroll wheel. You can also right-click (or ⌘-click on Mac OS X) on the bass volume

knob to enter a value using the computer keyboard. To reset the bass volume to its default value, double-click on the knob.

For an in-depth description of the function of the various tabs, please refer to chapter *3. Tuning and Settings*.

2.1. Help

All the way down in the bottom left corner you will find 2 small buttons. The button on the right is labelled **Help?**. You can open this Owner's Manual from within the Combo Model F by left-clicking on this button.

2.2. About

In the main view on the left, just above the keyboard, 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 F that you are running.

3. TUNING AND SETTINGS

The left button of the 2 small buttons in the bottom left corner is labelled **Settings**, and when you left-click it the settings window is displayed on top of the main view. You can also double-click anywhere on the upper part of beige top to open the settings window.

In the left of the settings window you will find enlarged versions of the various tabs and the bass volume knob. These enlarged controls offer exactly the same functionality as their smaller counterparts. The only difference is that here you can actually *read* the labels. Note that the settings window also features a couple of tabs that are not present in 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 F with the settings window open, the next time you load the project the settings window will still be open.

3.1. Bass Voice

The black tab labelled **Extend Bass** and the grey tab labelled **Grey Keys** together control the bass voice. With both tabs off, there is no bass voice, and the grey bottom octave plays the same voice as the other octaves. With the grey keys selector on, the grey bottom octave plays the bass voice.

The settings window on top of the main view

With the extended bass on, but the grey keys selector off, there is an extra octave below the original 4 octaves that plays the bass voice. If you then also switch on the grey keys selector, the bass voice continues into the grey octave.

The bass volume knob lets you adjust the volume of the bass voice.

3.2. Vibrato

The 3 blue tabs control the vibrato effect. The tab labelled **Vibrato** switches the vibrato effect on or off, the tab labelled **Light/Heavy** controls the depth, and the tab labelled **Slow/Fast** controls the speed.

There is also a vibrato speed slider (in the top of the settings window, on the right), which lets you adjust the difference between slow and fast.

3.3. Multi-Tone Booster

The 2 yellow tabs control the Multi-Tone Booster voice. With the tab labelled **M.T. Boost** off, the white voice tabs can be used to select a voice. With the Multi-Tone Booster on, the white tabs are bypassed, and you get the Multi-Tone Booster voice.

With the Multi-Tone Booster on, and the other yellow tab labelled **All Boost** off, you can use the knee lever slider (on the right in the settings window, the 2nd slider from the top) to control how much the Multi-Tone Booster voice is "boosted". By default the knee lever slider is

linked to your MIDI pitch wheel (see chapter *4.2. Default MIDI Map*). With both the Multi-Tone Booster and the All Booster on, the knee lever is bypassed, and you get maximum "boost".

3.4. Footage Tabs

The 4 green tabs are the footage tabs. Combo Model F uses additive synthesis, and using the footage tabs you adjust the harmonics mix. You can think of it as an equalizer, where the **16** tab controls the low frequencies, **8** and **4** the middle frequencies, and the **2⅔** tab the high frequencies.

Note that at least one of the footage tabs should be on, or else you will get no sound.

3.5. Voice Tabs

The 3 white tabs are the voice tabs. You can select one voice at the time, or you can combine them in any combination.

Note that at least one of the voice tabs should be on, or else you will get no sound. Note also that the voice tabs are bypassed if the Multi-Tone Booster tab is on (see *3.3. Multi-Tone Booster*).

3.6. Tuning

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 F$^\#$ by -0.3 cents, all F$^\#$ notes in all octaves will be detuned -0.3 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.

You can change all 12 tuning sliders at once by holding down the Shift key while clicking on any one of the tuning sliders. You can semi-randomly detune the organ by holding down the Alt key while clicking on any one of the tuning sliders.

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

3.7. Tuning Lock

Above the tuning sliders you will find a toggle switch labelled **Lock**. If you lock the tuning, then it will persist when you select another preset, or when you load a preset or a preset bank. However, you can still change the tuning by hand, or using automation.

3.8. Quality Control

For optimal quality Combo Model F'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.

While ComboF's internals are being recalculated the quality control LED will momentarilly turn on, unless you bypass quality control, in which case the LED will stay on.

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.

3.9. Volume

The volume adjust and volume pedal sliders together determine the output level of Combo Model F. By default the volume pedal 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.

3.10. Auto Adjust

The Dolce and Principale voices are rather soft when compared to the Strings and the Multi-Tone Booster voices. If you enable the auto adjust toggle switch (right above the volume sliders), then the volume is automatically raised when using only the softer voices, so the overall volume stays the same.

3.11. Noise Gate

Combo Model F has an internal noise gate, that automatically kicks in when no keys are playing. You can turn off the noise gate using the noise gate toggle switch above the volume sliders.

3.12. Key Contacts

A real-world Compact has up to 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 F 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.
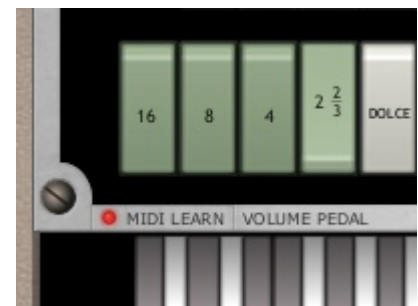
3.13. MIDI Channel

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

3.14. MIDI Learn

By default Combo Model F'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 buttons of your MIDI keyboard may well send out other CCs.

Here is how you can learn Combo Model F 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 F is in learning mode.
3. Left-click on a Combo Model F control, e.g. the volume pedal. Note that MIDI learn is available only for the tabs, and for the vibrato, knee lever and volume sliders.

MIDI learning the volume pedal

4. Move the slider, knob or button on your MIDI keyboard to the "on" position. Alternatively you can click on the tiny button a little to the right labelled **C** ("clear") to clear the mapping for the selected control.

When the MIDI learn status LED is no longer lit up you are ready. You will have to repeat these steps for each control you want Combo Model F to learn.

You can also learn Combo Model F to use to pitch wheel to temporarily "bend" one of ComboF's controls up or down. Controls that support the pitch wheel are the knee lever, volume adjust, volume pedal, vibrato speed, and vibrato on/off. When the pitch wheel is in its neutral (center) position, you can adjust the value of the linked control using the mouse. The adjusted value will then become the new center value for the pitch wheel. Note that you can link both a CC and the pitch wheel to the same control.

Next to the MIDI learn button you will find two small buttons labelled **Sus** ("sustain") and **PB** ("pitch bend"), which toggle sustain pedal (CC #10) and pitch bend support on/off. Note that if you link the pitch wheel to a control, you can no longer use the pitch wheel for pitch bend, and *vice versa*. The same goes for the sustain pedal and CC #10.

When you save your project containing Combo Model F, the learned MIDI map will be saved along with the other settings. However, if you load a new instance of Combo Model F, the default MIDI map will be loaded again. By clicking on the tiny button labelled **S** ("save") you can save your customized MIDI map as the new default. That way the next time you add Combo Model F to a project, it will automatically load with your customized MIDI map.

If you need to revert to the default MIDI map while you are in the middle of a project or session, then click on the tiny button labelled **L** ("load"), and your MIDI map will be loaded without affecting any other settings. If you hold down the Alt key while clicking on the load button, the original default MIDI map will be loaded.

If you somehow don't want Combo Model F to have any MIDI mappings at all, then make sure the MIDI learn button is *not* active (i.e. the status LED is off), and click on the tiny button labelled **C** ("clear").

4. MIDI IMPLEMENTATION

Combo Model F can receive MIDI data on all 16 channels, or on one specific channel (see chapter *3.13. MIDI Channel*).

Combo Model F will respond to Note On/Off messages within the C2..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 Mini Compact (see chapter *3.12. Key Contacts*).

Combo Model F 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 F optionally supports the sustain pedal (CC #64) to sustain notes, provided that CC #64 is not mapped to another control (see chapter *3.14. MIDI Learn*).

Combo Model F supports Pitch Wheel messages, which can be used to bend the pitch up to 2 semitones down (note that bending the pitch up is not supported). Alternatively the pitch wheel can be linked to one of ComboF's controls (see chapter *3.11. MIDI Learn*).

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

4.1. Panic

The left-most white tab is labelled **Panic**, and when you left-click on it all notes will immediately stop playing.

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

4.2. Default MIDI Map

CC	Control	
-	Bass volume	[MSB]
-	Bass volume	[LSB]
-	Extended bass on/off	
-	Grey keys selector	
-	Vibrato slow/fast	
-	Vibrato light/heavy	
1	Vibrato on/off	
16	All Booster on/off	
17	Multi-Tome Booster on/off	
12	16'	
13	8'	
14	4'	
15	2⅔'	
18	Dolce	
19	Principale	
20	Strings	
73	Vibrato speed	
-	Knee lever*	[MSB]
-	Knee lever*	[LSB]
-	Volume adjust	[MSB]
-	Volume adjust	[LSB]
11	Volume pedal	[MSB]
43	Volume pedal	[LSB]

Linked to pitch wheel

Is your MIDI keyboard sending out very different CCs altogether? Don't worry; you can learn your MIDI keyboard and Combo Model F to get along with each other (see chapter *3.14. MIDI Learn*).

5. PRESETS

The VST version of Combo Model F has room for 32 presets. When you save your project, all 32 presets will be saved along with the other settings.

Note that the AU version does not feature any presets (except for the default preset).

Combo Model F

Version 1.0.0

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