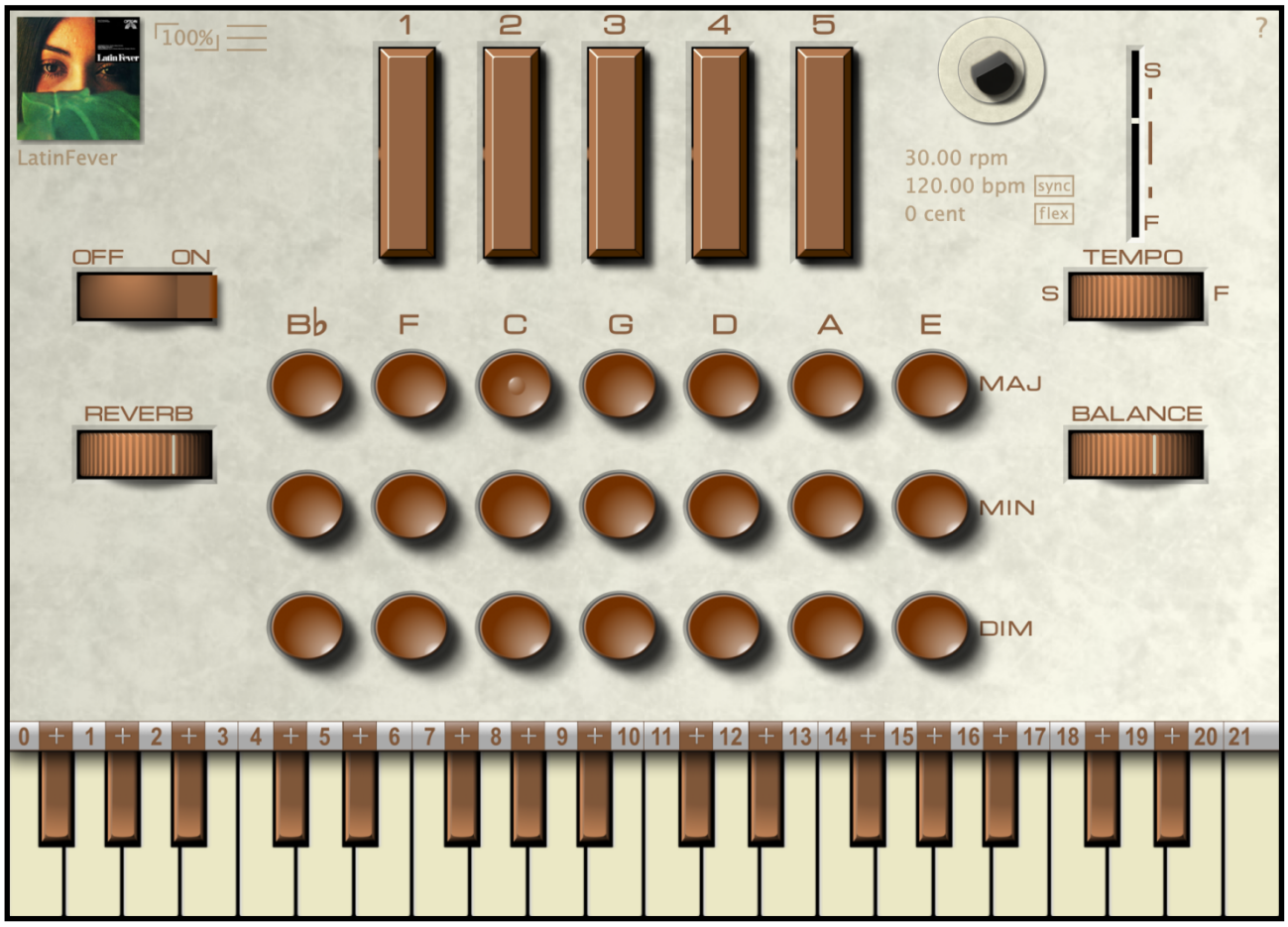

Optigan Plugin

User Guide

V1.0.0

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Preface

Thank you for using the Optigan Plugin, no matter if you bought it, got it as a gift, or received an NFR. We created this Plugin to deliver a realistic rendition of the Optigan and tried to offer a User Interface that is self explanatory. If we failed, please go on and read this guide.

Installation

macOS: double click OptiganPlugin.pkg and follow instructions

Windows: extract zip file, run OptiganPlugin.exe and follow instructions of installer

Activation

On first start, the plugin will prompt you to complete the online activation procedure. Please follow through the process and finish activation.

Optigan Controls

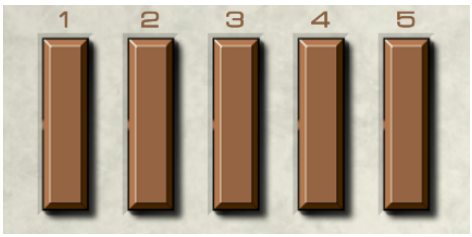
Some controls that are identical in the plugin and the hardware Optigan:

Motor Drive

This is used to power the motor for the disc drive. On the real Optigan it was a good idea to turn off the motor before exchanging discs. In the plugin this is not really be necessary, but sometimes it can add some character to play with this motor control. If the motor is switched off, the plugin keeps silent, so please be sure to have the **motor switched on for normal operation**.

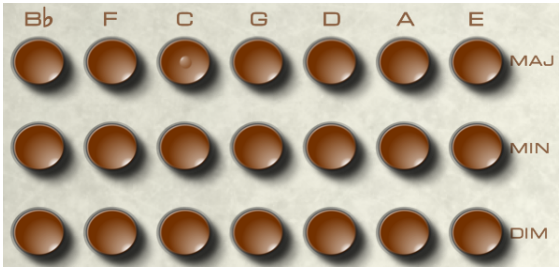
Special Effect Switches

These five switches are assigned to special effect tracks of the disc. These can be intros, endings, percussion or sound effects- the details can be found in the specific disc description. The switches are latched if operated at the top. If clicked near the bottom they operate normally.



Chord Buttons

These control playback of the chord tracks. The top row contains chord tracks in the major scale, the middle row is in minor scale. The lowest row is for diminished chords, but most of them are a bit useless. They share the same three tracks, meaning F dim and D dim are identical. Even worse, A major and E major also come from this pool of only three tracks, so be prepared to consider these useless too. This is an odd design choice of the Optigan which is recreated here.



Keyboard

The keyboard controls the 37 scale tone tracks, in most cases an organ sound. The numbers on top refer to the note numbering system used in the sheet music books created for the Optigan (available as a free pdf here: https://optigan.com/product/optigan-sheet-music-books).

Reverb Wheel

Adjust the gain of the internal spring reverb, which only affects the scale tones. In stereo mode, the reverb signal is played back in the left channel, as is the case with a real Optigan.

Tempo Wheel

This one controls the motor speed. It is indicated on the panel in rpm (rotations per minute) and bpm (beats per minute). Note that the relation of rpm and bpm depends on the meter of the currently selected disc, e.g. 4/4 or 3/4. Tempo can be set in multiple ways, by editing rpm, bpm or cents text field, or by activating sync to the DAW. See the Sync section for more details.

Balance Wheel

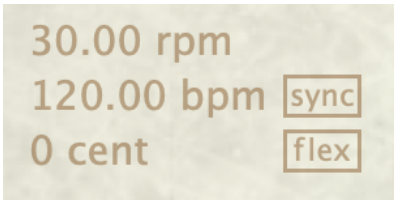
The volume balance between chords and special effects tracks (left) and scale tones (right). Set to center for a balanced gain.

Extra controls

For convenience and better DAW integration, some extra controls exist.

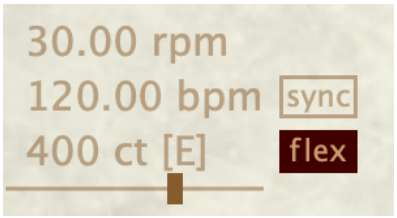
Speed and Pitch

Speed is shown as rpm, bpm and in cents, the deviation from concert pitch. All of these can be edited, but as there is just a single motor, an edit to one usually also affects the others. Unless…



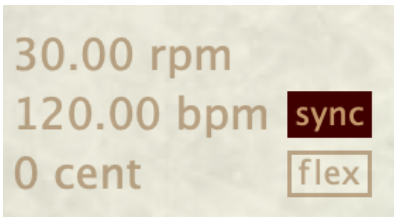
Flex

If flex is enabled, see picture, the fixed relation of bpm and pitch is broken, and pitch is adjusted with DSP pitch shifting, a feature obviously not available on a real Optigan. The pitch deviation is shown. For exact semitones the note that plays for key C is indicated. All text fields can be edited and result in a recalculation of the pitch shifted tracks.



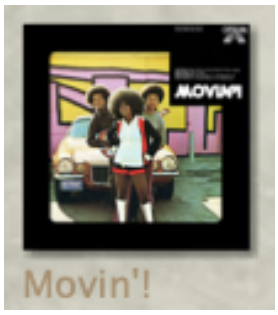
Sync

With sync, speed in bpm is synced to the DAW. If flex is disabled, pitch changes with bpm, otherwise it remains constant when DAW tempo changes. This can trigger another pitch-shifting of all 57 tracks.



Disc selection

The current disc is indicated on the top left corner of the plugin. Click to see the complete catalog of discs, check demos, and load a new disc if desired. On the original Optigan you could insert a disc upside down, by accident or intentionally. This is also possible in the plugin, all tracks play backwards in this case.



UI size

Choose the size of the plugin window from 50% to 200%

Settings

Click the burger button for the settings dialog.

Chord & FX Buttons

If Radio Mode is enabled, buttons act like those on an old radio, they remain pressed until pressed again or another button is pressed. If Radio Mode is off, buttons need to be kept depressed to keep the track playing, like on a real Optigan.

Stereo Width

Three options: Strict, Relaxed and Mono.

Strict is how the original Optigan was wired: FX, Chords, and Reverb on the left side, scale tones on the right.

Relaxed keeps some of the original assignment but panned less extreme.

Mono mixes all to mono, same content on both sides. This is useful if you don't intend to use the scale tones and want chords and effects in the center.

MIDI Mapping

MIDI G#0 … E2: all Scale Tones, Chord and FX buttons can be played on a standard 61 key keyboard:

key 32 (G#0) to 38 (D1)	Chord Buttons diminished
key 39 (D#1) to 45 (A1)	Chord Buttons minor
key 46 (A#1) to 52 (E2)	Chord Buttons major
key 53 (F2) to key 89 (F5)	Scale Tones
key 91 (G5) to key 95 (B5)	FX Bars 1..5

MIDI Panoptigon: MIDI assignment follows the Panoptigon standard. The Panoptigon is a modern player for Optigan discs, more here: https://optigan.com/product/panoptigon

key 38 (D1)	Chord Button B♭ major
key 39 (D#1)	Chord Buttons B♭ minor
key 40 (E1)	Chord Button F minor
key 41 (F1)	Chord Buttons F major
key 42 (F#1)	Chord Button C minor
key 43 (G1)	Chord Buttons C major
key 44 (G#1)	Chord Button G minor
key 45 (A1)	Chord Buttons G major
key 46 (A#1)	Chord Button D minor
key 47 (B1)	Chord Button D major
key 48 (C2)	Chord Button A minor
key 49 (C#2)	Chord Button E minor
key 50 (D2)	Chord Button A major
key 51 (D#2)	Chord Button E major
key 52 (E2)	Chord Button C diminished
key 53 (F2) to key 89 (F5)	Scale Tones
key 90 (F#5) to key 94 (A#5)	FX Bars 1..5

Note that there is no explicit assignment to most diminished chord buttons, this is because the Panoptigon assigns keys to disc tracks instead of buttons. All diminished buttons, A major, and E major share the same three tracks, so all tracks can be triggered using this mapping.

Chord Detection I: simple chord detection

Chord Detection II: advanced chord detection, this one detects also complex chords and tries to reproduce them by triggering multiple chord buttons, e.g. C major + E minor for a Cmaj7 chord.

Computer Keyboard

The Chord and FX Buttons can also be played by the computer keyboard. The FX Buttons are assigned to keys 1-5 in all settings, F1-F5 for latching.

BFCGDAE: Press C for C major, d for d minor etc. Upper case plays major, lower case minor. Diminished Chords are assigned to keys R,T,Y,U,I,O,P.

QWERTY: chord matrix is mirrored on computer keyboard:
Major Chords assigned to keys Q,W,E,R,T,Y,U
Minor Chords assigned to keys A,S,D,F,G,H,J
Diminished Chords on keys Z,X,C,V,B,N,M

QWERTZ: same concept but for German keyboard layout:
Major Chords assigned to keys Q,W,E,R,T,Z,U
Minor Chords assigned to keys A,S,D,F,G,H,J
Diminished Chords on keys Y,X,C,V,B,N,M

AZERTY: same for French keyboard layout:
Major Chords assigned to keys A,Z,E,R,T,Y,U
Minor Chords assigned to keys Q,S,D,F,G,H,J
Diminished Chords on keys W,X,C,V,B,N,?

Pitch Bend Up

Pitch Bend up in semitones

Pitch Bend Down

Pitch Bend down in semitones, extra option to stop motor

User Guide

Show this User Guide for the Optigan Plugin

Optigan Manual 1970

Show the Optigan Manual from 1970

Activation

Show Activation UI, useful for deactivation of the Plugin.

Credits

Audio content and Cover Art	Pea Hicks
Code and Graphics	Stefan Stenzel

Uses the Signalsmith Stretch library

EULA

The End User License Agreement can be found here:
https://www.dspbricks.com/optigan-eula.txt