Acrobatics
E G O
ELECTRONIC GROOVE OPERATOR

V1.0.4
User Manual

Index of Contents

GENERAL INFOS

□

REQUIREMENTS

EGO is a VST PlugIn in 2.3 format. Requires Windows XP or superior systems and any VST-compatible DAW host.

□

INSTALLATION

After payment, you will receive the last available version of the software in **eMail**. Unpack the downloaded **.ZIP** file, find the **.DLL** file in folder, **copy/paste** it (eventually with banks and infos folders) in your **VST plugins folder** in use to the **DAW**.

□

REGISTERING PROCESS

Load the plugin in a VST instrument slot from your DAW and activate the GUI view. You access registering clicking the **Acrobatics** stamp on the bottom of the GUI. EGO flips to the back where it shows a unique number for your PC, pointed **RED** in the picture. Click on the **automatic** eMail sender or **copy** in eMail the number, send it to **acrobatics@blank-media.it** to receive a valid **11 numbers serial code**. Typing or copying the serial in the dedicated white box pointed **GREEN** in the picture and entering it, the plugin activates audio output and shows the message "Registered. Lets groove!".

□

EXTRAS

The downloaded package includes some extra patches and configurations for external control suitable to variation in versions of the software.

□

USAGE NOTES

User interface of EGO is organized in three different modules: **Programmer**, **Sequencer** and **Modulator** rack units, according to their main functionalities. On the following pages you are introduced to detailed explanation of the software and guide to build your own patches. Refer also to the VSTi **default bank** and **extras** for various **examples** of the flexible architecture of the plugin and its intriguing possibilites.

VERSION HISTORY

V1.0.1 - Initial release.

V1.0.4 - Addresses a bug on synchronization (thanks to Carl Schmeller from NOIZEFIELD.COM). In certain conditions, the sample rate detection was lazy on changes in DAW, resulting in wrong calculation of steps length, and required reloading of the plugin.

PROGRAMMER RACK

☐
PATCH SELECTOR

This is the patch selection small screen located at the centre of PROGRAMMER rack. Left-clicking on the name will pop-up a window where user can select between the 48 patch slots available. Left-clicking on the upper number will pop-up a window where user can load/save pacthes in .EGO proprietary format.

In the installation folder, default presets and extras are conveniently stored and available both in single patches or banks, to restore modified presets using FXP, FXB or proprietary format. If user wants to start from scratch, load "--- empty ego ---" .EGO or .FXP file in a patch slot or "Empty Ego Bank" .FXB file using bank loading function in DAW.

●●
PATCH GLOBES

These globes are placed on the far left and far right of the PROGRAMMER rack.

The one on the far left is the **TRANSPOSE/GLIDE** globe. On left-clicks and drag, it works **vertically** to program global portamento between notes. Since EGO can play the sequence pitches **accordingly** to MIDI key note height, this control allows the overall patch to **slide as a whole** between notes **played and sequenced**. This unique feature must be heard to be fully understand as it is rarely (if never) featured on pre-patched synthesizers. Just read it that glides programmed per step on the SEQUENCER are **of a different kind** from this global portamento and they **combine** each other. A small **red** light lits up when a such global portamento is applied. On **CTRL-left clicks and drag** it works horizontally and user can apply either a global transposition of the MIDI key note height, affecting another time the sequence of pitches.
A small **green** light will lits up when a transposition is applied. CTRL-SHIFT clicking on the TRANSPOSE/GLIDE globe will reset at once both settings to default values.

The globe on the far right is the **PAN/VOLUME** globe. On left-clicks and drags, the overall volume of the patch is modified. On CTRL-left-clicks and drags, panning through the stereo field occurs. CTRL-SHIFT clicking on the globe will reset at once both settings to default values.
Note that this globe's audio processes are the very last stage occurring on the plugin, placed **after** the effects stage.

●●●●
TENSION GLOBES

These globes are placed in couples aside the patch selector and works only vertically by left-clicks and drags of the mouse. Fully **closed** apply **maximum** tension, fully **open** are

uneffective. A small **red** light lits up automatically when either control is applicable.

The two on the **left** acts on **pitch** (TRACKER label), the two on the **right** on filtering (FILTER label). They all can be part of synthesis process or be automated in host for additional swing

.

AM globe is a tensor for **sustain** and **decay** of steps in **amplitude of signal**. **FM** globe is a tensor for **sustain** and **decay** of steps in **frequency modulation** if programmed in SYNTHESIS page.

CT globe is a tensor for **sustain** and **decay** of steps in **cutoff of filtering**. **RS** globe is a tensor for **sustain** and **decay** of steps in **resonance of filtering**.

SEQUENCER RACK

The sequencer rack located in the middle position is the very core of arpeggio functions. EGO plays **simultaneously five** sequences assigned to **multiple** and **different** functions. Playing of steps is visually highlighted by the **laser model** which changes colour accordingly to the sequence shown and **moves** through steps in **syncronization** with MIDI keys played. EGO retriggers the sequences at each key pressed and receives legato from DAW computing each sliding of the pitch as other keytracked functions. These specific behaviors can be fine-tuned in **PROGRAM** and **TIMING** pop-up pages.

■■■■■
SEQUENCES

Mutliple arpeggio architecture divides sequencing onto 3 different **kinds**.
First kind is sequence **GO**, the gates and mutes sequence shown in picture. The mosue-responsive LCD display let user modify **heights** from 0% to 100% with left-clicks and drags, affecting **length of steps**. The **GO** sequence is **hardwired** to **sustain** or **decay** as selected in **SYNTHESIS** page (see relative section of this manual). Where the **hole** is un-

selected with **right-clicks** the note is muted (pause), but muting occurs dragging down the step to 0% of height too. Otherwise maximum height of 100% guaranties that legato can occur between steps, accordingly to smoothers selection. You can hear an example of legato in the default patch "Barritus".
Second kind is **PITCH** sequences **P1** and **P2**, best suitable for pitch tracking, where range varies from -12 to +12 semitones when assigned to tracking or FM, and **automatically converted** as percentage when assigned to other modulations like filtering, panning, etc. Left-clicks and drags modifiy these sequences in semitone scaling, allowing creation of melodies.
Third kind is **CONTROL** sequences **C3** and **C4**, specifically programmed for modulation. Left-clicks and drags modifiy these sequences in continuous values allowing fine-tune of modulation.

◀▲▼▶
BUTTONS

On the left side of the LCD display, **SYN**, **EFX** and **TIMING** buttons will pop-up the pages of respectively **SYNTHESIS**, **EFFECTS** and **TIMING** explained further in this manual. Centre buttons **GATE**, **P1**, **P2**, **C3**, **C4** select the sequence in **edit/view**. Only the sequence setted in view can be edited via mouse. CTRL-left-clicking those buttons opens a window where user can place example presetted sequences.
On the right side of the LCD display, user will find additional buttons to ease-up creation of sequences. The **COPY/PASTE** couple of buttons, the **CLEAR** and **CURSORS** buttons.

COPY button will create a buffer of the sequence in view. **PASTE** button will replicate that buffer on another sequence putted in view or even a sequence in another patch, allowing copying of pitches and modualtions through different patches.

CLEAR button (right-click secured to avoid unwanted deletes) resets the sequence in view to medium values.

CURSOR buttons shifts the sequence horizontally and vertically. **Horizontal** shifts allows **rotation** of values around the rhythmic reference, **vertical** shifts modify **equally** all values of the sequence. If no more increase or decrease is possible, the EGO computer will detect and signal to the user which step needs specific modification **marking** it in bright red colour. Note that, acting on all these buttons, invisible steps (those not played by the TIMING settings are modified as well.

MODULATOR RACK

VARIO GLOBES

Varios are low-frequency oscillators that works in **absolute time** regardless of the arpeggio engine. What distinguishes them from typical free-running LFOs is they can be **assigned** to modulate **specific** sequences, giving EGO the ability to enstablish **continuous variation** and general movement inside the patch.

The target sequence is selected on right-clicks rotating through **colours** where, as we already learned from SEQUENCER unit explanation, typical reference is **RED** for **GO** gates and mutes, **YELLOW** and **GREEN** for **P1** and **P2** scaled sequences and **MAGENTA** and **CYAN** for **C3** and **C4** sequences.

Varios GUI globes control works same way as Transpose/Glide and Pan/Volume globes. Left-clicks and drags assign **amount of modulation**: you will see the Vario globe opening the lid vertically. CTRL-left clicks and drags assign **speed of modulation** (0.1..10 KHertz for the V1 on the left, 0.1..5 KHertz for the V2 on the right): you will see the stare of the eye moving horizontally left or right.

Apart from frequency range, the two Varios differs also for the **waveform** generated: **V1** outputs a **sine** wave (harmonic) while **V2** outputs a **triangle** wave (linear).

When a Vario is activated, a small **red** lights will lit aside of it. Don't forget to assign Varios to modulate a sequence or parameter to hear a real change in sound, you can do that in **SYNTHESIS** and **EFFECTS** pop-up pages.

UX/UY GLOBE

The **User X/User Y** globe can be assigned to combined horizontal/vertical behaviour for use in **vector-shaping**, typical of modern controllers surfaces. User will find available source settings for this control in various sections of the SYNTHESIS and EFFECTS pages. A **PROGRAM** page selection **enable/disable** this control for CC external tweakings. Via plugin GUI, the globe reacts vertically to left-clicks and drags and horizontally to CTRL-left-clicks and drags for static synthesis or automation in DAW. CTRL-SHIFT-left-clicks resets the UX/UY globe, and a small **green** light signals its default position. When selecting this control as an active source, small **red** lights will lit aside of it.

CHORUS GLOBES

Chorus features three controls. **SP** sets **speed** of modulation, **DP** sets **depth** of modulation and **MX** sets **mixing** percentage between dry and wet signal.

Further regulations are available in the **EFFECTS** pop-up page, activated from the dedicated SEQUENCER rack button.

●●●
DELAY GLOBES

Delay features three controls. **RL** sets **roll-off** of frequencies in echoing, **FB** sets **feeback** amount and **MX** sets **mixing** percentage between dry and wet signal.

Further regulations are available in the **EFFECTS** pop-up page, activated from the dedicated SEQUENCER rack button.
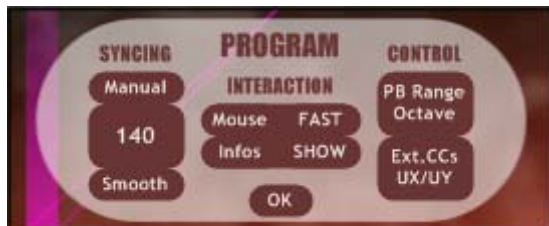
⊙

PROGRAM PAGE

Lets user manage general patch behaviour and external controls. It pops-up on the virtual LCD display in SEQUENCER rack left-clicking on **EGO** stamp on the top of the VST unit. Right-clicking on the same area pop-ups plugin **CREDITS**.

⊙⊙⊙
SYNCING

Let user decide syncing of the plugin, if locked to **host** DAW, **manually** chosen via BPM button or **tap** mode, where user clicks repeatedly click on the BPM area to catch desired tempo. Lower selection of **rigid/smooth** choses if variation of BPM occurs instantly or with a more progressive change.

⊙⊙
INTERACTION

Let user select mouse reaction in editing and activation of additional on-display information on **pitch played** (appears on the top-left, in absolute notes) and **effective pitch** (appears on the top-right, in KHertz values).

⊙⊙
CONTROL

Let user select PitchBend values for the MIDI bend wheel and activation of MIDI CC controls, **limited** to the **UX/UY** (CC#16 and CC#8) special control globe or **extended** to almost every EGO parameter (see included full table of CC#s controls).

SYNTHESIS PAGE

The page controls main generation of tones from EGO synthesizer and how they react to arpeggio engine. It pops-up on the virtual LCD display in SEQUENCER rack clicking on **SYN** button on the left of sequencer.

⊙⊙⊙⊙⊙⊙
TRACKER

Let user manage how EGO pitch responds to sequence and MIDI playing.

ENV control options are **SUS** or **DEC** modes, where **GO** sequence values (0-100% in height) are alternatively addressed to **sustain** or **decay** of the waveform, both programmed on the **TIMING page**.

WAVEFORM selection lets you select through EGO **collection** of **wavetables**. When a new wavetable is selected, the LCD will display a full-resolution image for a short period of time. The first four waves (**BASIC**, in white draw) are **SAW**, **SQR**, **TRI**, **SIN** math models, after these user have a wide selection of **46** more **complex** waveforms (**BACTERIA World** card included, in green draw) modelled by Acrobatics to cover most of the synthesist needs.

To the left of it user can choose **the way** that waveform is played through the engine. Bottom selection lets you selects **which** sequence (**GO**, **P1**, **P2**, **C3** or **C4**) controls **arpeggio** pitches. **P1** and **P2** sequences are more fitting to track pitch for their **semitone scaled** nature (-12..0..+12) but you can either choose a **C** sequence or the **GO** gates and mutes sequence itself, these based on **percentage** values (0..100%).

Upper selection decides **how** MIDI key input **interacts** with the arpeggio engine. Mode **K+S** (default) combines MIDI note values with sequence selected for pitch, **SEQ** mode plays the sequence values as absolute pitches regardless of MIDI note played, **FIX** mode plays a fixed pitch of **A57** instead of the MIDI note key pressed but executes the pitch sequence, and finally **KEY** mode reacts to MIDI notes entered and discards the pitch sequence. Note that in this last mode all sequences **actually works** for all their affections on synthesis apart from pitch.

Bottom selections activate an additional **FM algorhythm** for steps pitch, where user selects a **sequence** for **destination** of frequency modulation and a **preset** (**SX** with x for values of **semitones**, **OX** with x for values of **octaves**) as **carrier** amount acting per step.

⊙⊙⊙⊙
SMOOTHERS

Let user apply smoothing of values in flux of sequences all across the arpeggio engine, affecting **every** parameter linked to those sequences, one-another or even in articulated **feedback** paths. This is a **unique** feature of EGO original architecture. You can see the two slots available as flexible portamento modules or advanced time-filters, not

necessarly devoted to pitch but to **any** modulation in general terms, as doable on a real modular system. On the **left** you specify **source** and on the **right** you choose the **target**, creating modualtions nets through the sequences programmed. This can lead to **complex gliding effects** on pitch, i.e., or **inter-modualations** of pitch and filter, pan and gates, picth and enveloping ect.

⊙⊙⊙⊙
FILTER

The main filter module of EGO, working per step, is a fine modelled LowPass -24dB. It is fast responding and ideal for taming the high harmonic content of wavetables, and it also features peculiar self-resonance capabilities. Further filtering of **high**, **mid** and **low** frequencies is available in the second slot of "manglers" effects stage.

ENV control options are **SUS** or **DEC** modes, where **GO** sequence values (0-100% in height) are alternatively addressed to **sustain** or **decay** of the **main filter** frequency, both programmed on the **TIMING page**.
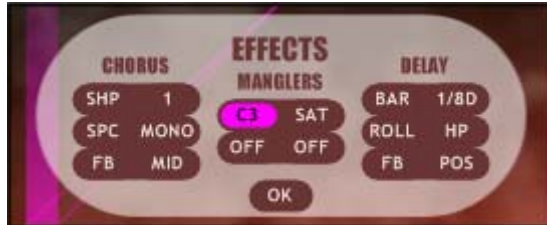Lower of it, EGO can target filter **cutoff** and **resonance** changes from all sequences as from an additional source, **RND**, a random sample & hold emulated circuitry), as it can do on panning values of the stereo image (additional sources here are **Vario LFOs**).

At the bottom of this section, **PAN** options allow moving the filtered material across the stereo field assigning **any sequence** as a source for modulation. Note this happens **before** the signal flows to the **EFFECTS** section. You can later **correct** displacement of sound going to the outputs using the **PAN/VOLUME** globe in the of **PROGRAMMER** rack.

EFFECTS PAGE

Effects page describes stereo audio processing of the sound before releasing the signal to EGO outputs. Sections are illustrated in processing order. It pops-up on the virtual LCD display in SEQUENCER rack clicking on **EFX** button on the left of sequencer.

⊙⊙⊙
CHORUS

This section features a compact but powerful chorusing unit, where user can select **SHAPE** (1,2,3,4), **SPACING** (mono or stereo networked), **FEEDBACK** (in amount presets).

⊙⊙⊙⊙
MANGLERS

This section specially interacts with the arpeggio engine.The upper slot let user distort or resample the whole signal with variable **sequenced**, **automated**, **VARIO LFOs**, **aftertouch**, **tracking**, **CCs** or **MIDI note key** driven values through different emulated circuitries: **DRV** is an overdrive distortion, **SAT** is a saturation algorhythm, **BIT** is a bit re-

ducer (2..32bit). The lower slot applies in the same ways additional **overall filtering** (**LP**, **BP**, **HP -12dB** steepness) or a pure **dB** attenuation.
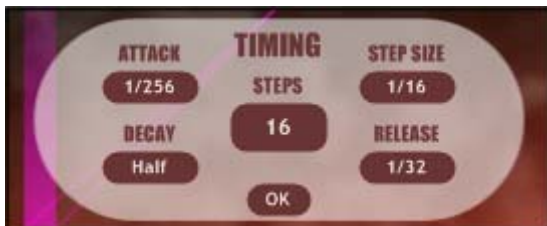
⊙⊙⊙⊙
DELAY

This section features a flexible echo unit at the very end of EGO audio processing, with **BAR** or **STEP** programmable delays (including triplets and dotted notes measures), **ROLL OFF** kind (**LP**, **HP** or **DUB** mixing both filterings) and **FEEDBACK** nature (positive or negative phase for the delayed signal).

◯

TIMING PAGE

Lets user manage enveloping and stepping of the arpeggio. It pops-up on the virtual LCD display in SEQUENCER rack clicking on **TIMING** button on the left of sequencer.

⊙⊙⊙⊙⊙

ATTACK, **DECAY**, **STEP SIZE** and **RELEASE** selections let user sculpt envelope form of single notes in sequence, in optmized synced units of values. **STEP SIZE** is also setta- ble in **triplets** or **dotted** notes values, creating complex rhtyhms over the time grid in use on the DAW. The central **STEPS** selection choses the quantity of steps (from a mini- mum of 2 to a maximum of 32), affecting all EGO se- quences.
Please note the **gating GO** sequence acts in **conjuction** with DECAY and STEP-SIZE, assigning to each stepped note a **percentage of length** from the **basis** selected here. Infact, when **both** TRACKER and FILTER modes are setted to SUS, the GATE sequence acts exclusively on step size and **DECAY** selection is greyed out as **uneffective** for the patch.

⊙

For surgical interventions and in-detailed view of times, **CTRL-clicking** on TIMING title switches the page to display exact **milliseconds** of envelope stages and length of the whole bar according to BPM.

⚛

Controls Table

Automation in host is always active in EGO for parameters marked in the "Host Audio" column here below. **External MIDI controls** reference numbers are show in the last column, and can be activated in the **PROGRAM** page, left-clicking on **EGO** stamp on the top of the VST unit. The button for activation has three positions: on the **first** the receiving is **disabled**, on the **second** EGO receive **exclusively** the **UserX/UserY** positions and on the **third all** parameters are received and modified in real-time.

Parameter	Section	VST Preset	Host Auto	CC#
Modulation Wheel (MW)	**EXTERNAL**	/	/	**1**
Aftertouch (AT)	-	/	/	**AFT**
Keytracking (KEY)	-	/	/	**NOTE**
Velocity (VEL)	-	/	/	**NOTE**
Transpose	**PROGRAMMER RACK**	●	●	**57**
Glide	-	●	●	**42**
Tensor Amp Knob	-	●	●	**43**
Tensor FM Knob	-	●	●	**50**
Tensor Cutoff Knob	-	●	●	**54**
Tensor Resonance Knob	-	●	●	**55**
Output Balance	-	●	●	**66**
Output Volume	-	●	●	**86**
GO Sequence (single values)	**SEQUENCER RACK**	●	/	N.A.
P1 Sequence (single values)	-	●	/	N.A.
P2 Sequence (single values)	-	●	/	N.A.

Parameter	Section	VST Preset	Host Auto	CC#
C3 Sequence (single values)	**SEQUENCER RACK**	●	/	N.A.
C4 Sequence (single values)	-	●	/	N.A.
TO Sequence (single values)	-	●	/	N.A.
Tempo Mode	**PROGRAM PAGE**	●	/	N.A.
Tempo Manual	-	●	●	N.A.
Tempo Tap	-	●	●	N.A.
Tempo Reaction	-	●	●	N.A.
Settings Add Infos	-	●	/	N.A.
Mouse Interaction	-	●	/	N.A.
PitchBend Range	-	●	●	N.A.
External Control	-	●	/	N.A.
Tracker Env Source	**SYNTHESIS PAGE**	●	●	60
Tracker Pitch Source	-	●	●	61
Tracker Sequence Source	-	●	●	58
Tracker Waveform	-	●	●	89
Tracker FM Source	-	●	●	59
Tracker FM Depth	-	●	●	56
Smoother 1 Source	-	●	●	N.A.
Smoother 1 Destination	-	●	●	N.A.
Smoother 2 Source	-	●	●	N.A.
Smoother 2 Destination	-	●	●	N.A.
Filter Env Source	-	●	●	62
Filter Cut Source	-	●	●	63
Filter Pan Source	-	●	●	84

Parameter	Section	VST Preset	Host Auto	CC#
Chorus Shaper Mode	EFFECTS PAGE	●	/	15
Chorus Spacing Mode	-	●	/	25
Chorus Feedback Amount	-	●	●	16
Mangler 1 Source	-	●	●	70
Mangler 1 Kind	-	●	●	71
Mangler 2 Source	-	●	●	72
Mangler 2 Kind	-	●	●	73
Delay Time Mode	-	●	●	19
Delay Time Signature	-	●	●	20
Delay Rolloff Kind	-	●	●	21
Delay Feedback Math	-	●	●	26
Steps Number	TIMING PAGE	●	●	90
Envelope Attack	-	●	●	51
Envelope Decay	-	●	●	53
Step Size	-	●	●	91
Envelope Release	-	●	●	52
Vario 1 Amplitude	MODULATOR RACK	●	●	2
Vario 1 Speed	-	●		14
Vario 1 Destination	-	●	●	10
Vario 2 Amplitude	-	●	●	13
Vario 2 Speed	-	●	●	22
Vario 2 Destination	-	●	●	11
User UX	-	●	●	7
User UY	-	●	●	17

Parameter	Section	VST Preset	Host Auto	CC#
Chorus Speed Knob	**MODULATOR RACK**	●	●	**3**
Chorus Depth Knob	**-**	●	●	**4**
Chorus Mix Knob	**-**	●	●	**5**
Delay Mix Knob	**-**	●	●	**8**
Delay Rolloff Knob	**-**	●	●	**9**
Delay Feedback Knob	**-**	●	●	**12**

This manual compiled by Andrea Capanna, April 2015

Acrobatics software, Rome, Italy

For informations, updates, reviews and general contacts:

http://www.blank-media.it

acrobatics@blank-media.it