



PRESETA way to Go2

BANK00 Introduction

EDIT

ECS

Delay HP

ORIG

HELP

72 Hz

MANAGER

GO2

Rob Paper

OSC/XY

SPREAD

SUB

Mix

MODE

SYM

SMOD

SPEED

OCT

WAVE A

X-MORPH

WAVE B

Y-MORPH

Go2

MODEFree

LOOP

POINTS128

SPACEOff

SYNCTO1/1

TIMEOff

LIVE

REC

PLAY

SPEED

Filter Freq

Filter Q

Volume

HP Filter Freq

Filter Q

EDIT

COMMAND

DRAW OSC

FILTER

CUTOFF

Q

TYPE24dB LP II

MOD WHEEL

ENV

VEL

KEY TRACK

FILTER ENV

A

D

R

HP FILTER

ON

KEYTRK

Q

FREQ

PLAY MODE

Arp

PLAY MODE

PORT

PORT MODE

DRIFT

EXP ENV

DIAL ENV

3

UNISON MODE

DETUNE

SPREAD

BEND DOWN

BEND UP

AMP

DISTORT

PAN

VEL>VOL

VOLUME

A

D

S

R

LFO

Sine

Poly

WAVEFORM

SPEED5.03 Hz

SYNC

ENV

ATTACK

DECAY

SUSTAIN

FADE

RELEASE

MOD

SLOT 1-4

SLOT 5-8

ARP

ON

16

STEPS

1x

SPEED

Up

MODE

1

OCTAVE

Normal

TIED MODE

LOCK ARP

STEP	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
TIE		X	X	X			X			X	X	X				
SLIDE						X		X								
TUNE	0				0	12		7	0				12		0	
VEL	127				127	127		127	127				127		99	
CHRD	Set				None	None		None	Min 7				Min		Set	
FREE	0				0	0		0	0				0		0	

SWING

SLIDE

VEL/KEY

HOST SYNC

LATCH

KEY ENTRY

COMMANDS

CHORUS

ON

BYPASS ALL

LEN

WIDTH

SPEED

LP

HP

MIX

FLANGER

PHASER

ON

PITCH

FEED

WIDTH

SPEED

PAN MOD

MIX

DELAY

REVERB

ON

SYNC

LEFT

RIGHT

FEED

LP

HP

MIX

Manual

Powered by RPCX

# WELCOME

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In the Rob Papen world of synthesis there was one type of synthesizer missing...

A synthesizer that presents all its controls and features in a single window.

The current Rob Papen collection holds synthesizers with many features and various synthesis types which at times can be daunting to master in all their depths.

That is why we went looking for something simple and direct.

We were inspired by synthesizers of the eighties, when we worked with flagship synthesizers like the Roland Jupiter-8, but also the simple and direct SH-101. Both became classic synthesizers in their own right.

We applied the less-is-more principle and came up with a synthesizer that is very accessible and at the same time can draw from Rob Papen's extensive synthesizer building experience. Certainly, Go2 is of the what-you-see-is-what you-get type but boasts some unique features.

It sounds as good as any Rob Papen synth.

So say hello to Go2 and enjoy Go2!

Rob Papen and Team

# NAVIGATING Go2

First, we'll give you a quick overview of Go2, so you can find your way around. You will find all the details that make up Go2 in the following chapters.



1	Presets and Globals	In this section, you select Presets and Banks and gain access to the Bank Manager, External MIDI Controller Setup and this manual. Click on the Go2 logo to open the Back Panel
2	Oscillator	The Oscillator area contains all the controls to adjust the parameters of the oscillator. It also contains the XY Pad
3	Filter, Play Mode and Amplifier	This section contains the controls to shape the raw sound of the oscillators through filtering and volume control
4	Modulation	The modulation section contains an LFO and an Envelope as modulation sources and an 8-slot Modulation Matrix
5	Arpeggiator	The Arpeggiator is fully programmable in 16 steps
6	Effects	Go2's effect section contains a Chorus, Phaser / Flanger and Delay / Reverb

# CONTROLS

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Go2 uses controller knobs, sliders, buttons and drop-down menus to adjust its parameters. You operate the controls with the mouse. Click-and-hold the control and move it to the desired value. While you move the control, its name and value are shown in Go2's read-out screen, which is located at the top of the plug-in panel.

If you hold the shift-key while moving the mouse, you can make minor adjustments with high accuracy. Consider this a fine-tuning method. To reset a control to its default value you can either double-click or ctrl-click the control.

There are three kinds of buttons:

<i>On / Off Buttons</i>	The value toggles between on and off with every mouse click. An example is the Draw Osc button.
<i>Radio Buttons</i>	Select one option out of several predefined settings by clicking on the desired value, as in the Filter Envelope invert buttons
<i>Trigger Buttons</i>	A Trigger Button starts an action, such as the sound preview.
<i>Menu Buttons</i>	Whilst the menus are technically not buttons, in practice they work like radio buttons. The first click opens the menu which lists all possible values. With a second click, you select the value. The ECS button is an example of this type of button.

Right clicking (or control-click on Mac) on a control opens the midi / control menu. This menu displays the parameter name, its current value and which midi control is linked (latched) to the parameter. It allows you to select from the following:

<i>Set to default</i>	Sets the control to its default value
<i>Set to Zero</i>	Sets the controller to zero (0)
<i>Set to minimum</i>	Sets the control to its minimum value
<i>Set to maximum</i>	Sets the control to its maximum value
<i>Set to mid</i>	Sets the control to its medium value
<i>Set to value</i>	Enter the value as a numerical value in a text box
<i>Set to random</i>	Sets the control to a random value
<i>Increase</i>	Increases the control by 1%
<i>Decrease</i>	Decreases the control by 1%.
<i>Set value</i>	Enter the value as a numerical value in a text box
<i>Latch to midi</i>	Latches the control to the next first midi control received.

## MIDI Control through Latching

<i>Latch to MIDI</i>	Latches the control to the next MIDI control message received.
<i>Unlatch MIDI</i>	Clears the Go2 parameter from any MIDI controls.
<i>Set MIDI CC</i>	Enter the MIDI Controller as a numerical value in a text box
<i>Clear MIDI</i>	Clears all MIDI latching.

As an example, to latch Volume to an external midi expression controller, right click on the Volume Knob and select Latch to Midi in the pop-up menu. Next, move the midi Expression controller. From now the Expression controller will move the Go2 Volume knob. You can still operate the Go2 Volume knob directly in Go2 though.

The latched MIDI controllers are global and will work for all Presets and active Go2 instruments in your host.

Note: In the Preset section you can save or load your whole MIDI (latch) controller setup to hard-disk. This function is called ECS (External Controller Setup). For an explanation of this function, please see the ECS chapter later in this manual.

## Modulation Settings

The third part of the MIDI / Control menu gives access to modulation routing. More details are provided in the Modulation Matrix chapter.

<i>Modulated by</i>	Displays the modulation source that controls this parameter.
<i>Modulate by XY Free X/Y</i>	Sets the XY Free Destination Menu to this parameter.
<i>Set Modulation To</i>	Creates an entry in the Modulation Matrix that has this parameter as its destination.
<i>Default Modulation Slot Amount</i>	Sets all the entries in the modulation matrix that have this parameter as their destination, to the default amount.
<i>Bypass / Un-Bypass Modulation Slot</i>	Bypasses or un-bypasses all modulation matrix entries using this parameter as a destination.
<i>Clear Modulation Slot</i>	Clears all entries in the modulation matrix that have this parameter as their destination.

## Drag and Drop Controls

You can drag and drop controls onto the modulation matrix or the XY Free destination menus. When you drop the control, the control is added to the modulation matrix or the XY Free menu.

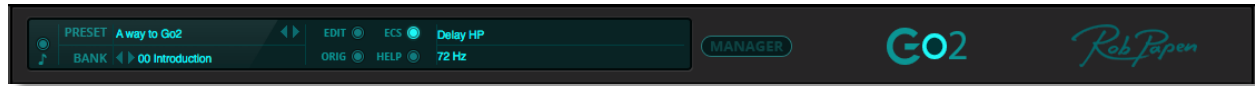
## Computer Keyboard

You can select Presets and Banks using the computer keyboard. Go2's back panel is where you enable and disable this function. To access the back panel, click on the Go2 logo.

Note: Rolling the mouse wheel up and down scrolls through the Presets

<i>Up Arrow key</i>	Previous Preset.
<i>Down Arrow key</i>	Next Preset.
<i>Right Arrow key</i>	Increase Preset number by 32 (useful in the Bank Manager)
<i>Left Arrow key</i>	Decrease Preset number by 32 (useful in the Bank Manager)
<i>Page Down key</i>	Next Go2 Bank
<i>Page Up key</i>	Previous Go2 Bank

# PRESETS and GLOBALS



Go2 uses a Preset menu to select and manage Presets. Please note that this is in addition to the Bank Manager section in Go2, which is aimed at managing Presets in the context of Folders.

To select a Preset, click on the Preset display to open the Preset Menu. The top five entries in the menu give you access to the Presets in the current Folder. They are grouped in sub-menus of 50 entries each. To step through the Presets one by one, use the < and > keys, these will take you to, respectively, the previous or next Preset in the current Folder.

Please note: The Presets are stored as individual files on your hard drive. The Banks are Folders on your hard drive and the Presets are the files within these Folders. You may store up to 256 Presets in a Folder but have an unlimited number of Folders.

## Quick Browser

The Quick Browser shows all the available Folders and their Presets. When you select a Preset, the Preset itself and its corresponding Folder will be loaded.

## Recently Browsed

Recently Browsed displays a list of all recently used Presets. Selecting an entry loads that Preset. The Clear Recent function removes all entries from this menu.

## Favorites

Favorites shows the list of Presets that were saved in the 001 Favorites Folder. Selecting an entry loads that Preset.

## Save Current Preset in Favorites

This will save the current Preset to the '001 Favorites' Bank Folder. The Favorites feature is used for collecting Presets that you use often. This Folder can hold up to a maximum of 256 Presets. If you have more Favorites than that, you'll need to create a new Folder, for instance one called '001 Favorites 02'.

Keep in mind that this new Folder will not be used with Save Current Presets in Favorites. This function is hard wired (connected) to the original Favorites Folder. You can use the Bank Manager to manage multiple Favorite Folders and copy Presets between them.

Please note: Go2 has a feature in the Bank Manager called Star. This allows you to highlight favorite Presets and work with them as if they resided within a single Folder. The Star function and Favorites Folder complement one another and allow you to work with your most cherished sounds.

## **Save Preset**

Save Preset writes any changes you have made to the current Preset to disk, overwriting the old version.

## **Save Preset As**

Save Preset As writes any changes you have made to the current Preset to disk with a new name. This Preset will be saved in the current Folder.

## **Save Preset in Folder**

Save Preset in Folder writes any changes you have made to the current Preset to disk in a Folder other than the current Folder. Go2 will prompt you to select the Folder you want to use.

## **Rename Preset**

Rename Preset asks you for a new Preset name. The Preset will be then saved with the new name. The older version of the Preset is deleted.

## **New Preset**

New Preset creates a new Preset with default settings.

## **Load Preset**

This function loads a Preset from **disk or** any other attached storage, including USB drives.

## **Revert to Original Preset / Revert to Edit Preset**

This is the same function that you find as a button in the top section of Go2. It allows you to toggle between, and compare an edited Preset and the original version of that Preset.

## **Clear Preset**

This function sets all parameters to their default values but doesn't change the Preset name.

## **Default Preset**

This function sets all parameters to their default values and changes the Preset name to Default.

## **Bank**

Go2 uses a Bank menu to select and manage Bank Folders. Please note that this is in addition to using Bank Manager section in Go2. To select a Bank Folder, click on the Bank display to open the Bank Menu. To step through the Banks one by one, use the Page Up and Page Down keys. These will take you respectively to the previous or next Bank Folder.

## **Create New Folder**

This creates a new Folder on your hard disk in the following location (by default)

- PC: Documents\Rob Papen\Go2\Bank Folder\
- Mac: Applications\Rob Papen\Go2\Bank Folder\



On a PC you can select any Folder to install the Banks to in the installer, though we recommend that you use the documents Folder.

### **Edit / Orig**

As soon as you start editing a Preset (i.e. change a Go2 control), the Edit button will light up. If you click on the Orig button it will return the Preset to its original settings (Please note that your edited sound is still available!). To return to the edited Preset, click on the Edit button and it will reflect all changes that you have made previously. This function allows you to compare the original Preset with the edited one, to hear the differences and impact of any parameter changes.

### **Direct Access Buttons**

Across the Presets and Globals section you find four buttons that give you direct access to various Go2 functions. These are:

<i>Manager</i>	Click to open the Bank Manager
<i>Note (C3)</i>	Click to play a C3 note to audition the current Preset
<i>ECS</i>	Click to open the ECS menu
<i>Help</i>	Click to open the Go2 manual

### **Go2 Logo**

A click on the Go2 logo takes you to the Back Panel. The Back Panel hosts several global settings and infrequently accessed controls.

## EXTERNAL CONTROLLER SETUP (ECS)

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Go2 responds to external Midi messages to change its sound parameters dynamically. The assignment of external Midi messages to Go2 controls is defined in the ECS. ECS is short for External Controller Setup. It contains all assignments of midi controllers to Go2 controls that are being targeted for real time manipulation. Remember, you set each individual midi controller assignment by using the right button (or control-click on a Mac) menu and selecting latch to midi. You may unlatch midi controls the same way or clear all midi control assignments. The ECS button allows you to load and save a complete external midi controller setup. Once set, it is shared by all Presets and all instances of Go2 that are loaded in your DAW.

<i>Load ECS</i>	Load ECS opens the Folder that holds ECS set-ups. The Go2 installer creates a Folder called ECS that holds all ECS files
<i>Save ECS</i>	Save ECS saves the midi set-up you created so you may use it in other songs. It is saved as an ECS file
<i>Reset all Midi</i>	This clears all midi settings for Go2. Handy if you want to start from scratch

# OSCILLATOR



The heart of Go2 is the morph oscillator. This oscillator uses two different waveforms and morphs the two. Go2 has several Morph Modes to accomplish this. Since the XY Pad plays a prominent role in morphing waveforms, we have placed it in the oscillator section.

At first glance it looks like Go2 has only one oscillator. But this is not the case. The moment you open the Spread Amount control, Go2 turns into a dual oscillator setup. The two oscillators' tuning spreads as you open the control. In the MOD (modulation section) of Go2 you can modulate the 2nd oscillator. The destinations are called Oscillator-Up Spread Semi-Tune and Oscillator-Up Spread Fine-tune. You can target the second oscillator's pitch in a modulation routing as soon as you have activated Spread.

## First and Seconds Waveforms (Wave-A and Wave-B)

The two Waveform menus let you select which waveforms are used for morphing. These are called Wave-A and Wave-B. Go2 offers 128 different waveforms ranging from classic analogue style Waveforms including Saw, Square, Noise to Additive and Spectral Waveforms.

The Morph Amount slider sets the initial morph position to blends the waveforms. How they morph depends on the Morph Mode (as described below).

## Oscillator Morph Mode

The Morph Mode menu determines how the oscillator combines the First and Second Wave. Please note that if you use white or pink noise, then the morph mode defaults to Mix. In this case the Morph Amount determines the mix level between the Noise Wave and the second Wave.

Mix	The First Wave is mixed with the Second Wave based on volume. At 0% Morph Amount, only the First Wave is used, at 100% Morph Amount, only the Second Wave is used and at 50% Morph Amount an average of <b>the</b> First & Second Wave is used.
Morph	The partials (harmonics) of the First Wave and the Second Wave are mixed per partial. At 0% Morph Amount only the First Wave Partials are used. At 100% Morph Amount, only the Second Wave partials are used, and at 50% an average of First & Second Wave partials are used.
Ring	The Second Wave is used to ring modulate the First Wave, with the Morph Amount changing the amount of Ring Modulation.
FM	The Second Wave is used to modulate the frequency (FM) of the First Wave, with the Morph Amount changing the amount of Frequency Modulation.
Inter	<p>The First Wave wavetable is mixed with the Second Wave wavetable. At 0% Morph Amount, only the First Wave wavetable is used, at 100% Morph Amount only the Second Wave wavetable is used. At intermediate Morph Amounts a wavetable is used which starts as the First Wave, and ends as the Second Wave wavetable.</p> <p>Depending on the Morph Amount, these merge at different points in the wavetable, lower values mean more of First Wave wavetable is used, higher values mean that more of Second Wave wavetable is used.</p>
Range	Go2's wavetables contain waveforms that transition from the First Wave to the Second Wave. If the First Wave is a Sine and the Second Wave is a Triangle, Go2 calculates the intermediate waveforms. Range Mode cannot use White Noise or Pink Noise waves,

## MAIN OSCILLATOR CONTROLS

### Oct

Oct sets the oscillator pitch in octaves and has a range from -2 to +2 octaves.

### Spread

Spread creates a stacked 2 oscillator sound, based on the main oscillator. Two oscillators are used: one at a slightly higher pitch and the other at slightly lower pitch than the original pitch. In practice it fattens up the sound. The spread control sets the pitch difference and higher settings will make the effect more pronounced.

At a Spread setting of 0, only one oscillator will play. This may be desired if you intend to imitate a real-life instrument. Imagine imitating a trumpet sound, you only need one oscillator.

## **Sub**

Sub controls the volume of the Sub-oscillator. The Sub-oscillator is tuned to be one octave below the main oscillator. The sub-oscillator knob lets you select two different waveforms. A counter clockwise position produces a Sine waveform. Turn it clockwise and it produces a Square waveform. The centre position turns the Sub-oscillator off.

## **Sym**

Sym controls the symmetry of the oscillator waveform. This is most commonly used with the Square waveform where it changes the pulse width. It is also applicable to other waveforms except for the White Noise and Pink Noise waveforms. Use the Sym control for subtle harmonic changes.

Note: on many waveforms, symmetry changes can be adding a little extra to the waveform. In some cases though, it may deteriorate the sound quality. To avoid these unintended consequences (with for instance the SAW wave), select a different waveform in Go2. Upon selection of the new waveform, the symmetry parameter will reset to zero.

## **SMOD (Symmetry Modulation) Amount**

Symmetry modulation sets the amount of modulation of the symmetry position. Behind the scenes, a Sine wave LFO is used to continuously move the symmetry position. Note: If you do not hear any changes you may need to raise the Smod amount and/ or the Speed parameter. If either is zero this means, the LFO is not active.

## **SMOD (Symmetry Modulation) Speed**

Smod Speed sets the frequency of the LFO that changes the symmetry position.

# XY CONTROLS



The XY Pad is combination of a live, interactive control and an automated programmable modulation source. Use the mouse to control the two Morph Amount and four Free parameters simultaneously, by moving the XY Dot around the XY Pad. It is possible to record these movements as paths and use the XY Pad as a programmable two-dimensional LFO.

Consider the XY controller to be a combination of six linked modulation paths. The position of the XY dot is the modulation source for six destinations positioned around the XY Pad.

## XY basics – Move / Record / Play

The XY Pad can be sent to drive up to 6 parameters simultaneously (XY Morph and four freely assignable). Three of those respond to the X-position (X Morph + X Free 1 and 2) and three respond to the Y-position (Y Morph + Y Free 1 and 2). The Mod Amount controls set the level of modulation for each destination. For the XY Pad to have any effect, the Mod Amount controls need to be set to a non-zero value.

Drag the dot across the XY Pad (use the mouse to click and drag) when the XY Pad is in Live mode to hear the effect of the Modulations that are active.

It is possible to record the moving dot on the XY Pad as a path. Switch the XY Pad status to Rec and drag the dot around. Go2 will capture the movement as a path in its memory. After recording, the path is ready for playback. Hit the Play button and play a note. You will see the XY indicator move across the screen following the previously recorded path.

The XY path is saved as part of the Preset and is ready to be used when you recall the Preset.

## XY CONTROLS

### Edit

The Edit button located near the XY Pad puts the XY path in Edit mode. While in Edit mode, you can move the path's points around and edit the XY Path manually.

### Speed

As well as being able to sync to a set musical time, you can scale the playback speed manually or via a modulation source. The Speed knob changes the playback speed from taking 1/16 of the original time, to 16 times the original time.

### Smooth

The smooth control softens any sharp corners in a path. Use this control if you want to avoid sudden changes (which may sound harsh) in modulation signals.

### Mode

The XY Pad operates in Poly, Free or Mono mode. The mode setting determines how the XY responds when you play one or simultaneous notes.

<i>Poly</i>	Each note you play starts its own XY path and each path starts from its initial position.
<i>Free</i>	The XY path is free running, so it is not reset when you play a key, and all the notes share the same XY path. In Free mode the XY Path loops automatically. If you are using a sequencer the XY Free is reset when you restart the sequencer.
<i>Mono</i>	All notes played share the same XY path, but the XY path is reset every time you play a new key.

## Loop

When loop is On, upon reaching the end of the path, the green dot will jump to the start and repeat the movement. In the < > mode, the XY path loops but travels back and forth along the path. When loop is Off it travels only one-way once.

## Sync To

By default, when the XY path is replayed, it plays back at the speed with which it was recorded. However, Sync enables you to play back the XY path within a set timeframe. This can be a beat or a full measure. The path timing will get scaled to the selected Sync To value.

## Points

Paths are stored as 128 points and their connecting edges. You can change the number of points stored, using the Points menu. The minimum path length is 4 points, suitable for very straightforward paths. If you return the resolution to 128 points (Off), the original points will be restored.

## Space Quantize

Space Quantize maps the points in the current path to a set of grid lines. The default setting is Off, but when you select a grid of 32, 16, 8 or 4 grid lines, Go2 will snap all the points to their nearest grid point. The Quantize setting is non-destructive. Disabling Space Quantize will return the points to their original position.

## Time Quantize

Time Quantize sets the update frequency of the XY position. Use this in conjunction with the Sync function to find the optimised balance between update frequency and number of points in the path.

## Draw Osc

The XY Pad shows the current XY position and the XY path. The XY Pad also displays the oscillator output waveform. The latter can be disabled by turning off Draw Osc.

## XY Menu

A right click in the XY display opens the XY Menu with the following options:

<i>Edit Position</i>	Enables editing of the path's points
<i>Edit Grouping Single</i>	Only the selected point is edited
<i>Edit Grouping Narrow</i>	The 3 points preceding and following the current position are selected for editing
<i>Edit Grouping Wide</i>	The 8 points preceding and following the current position are selected for editing
<i>Reset Position</i>	Resets the XY position
<i>Reset All</i>	Resets all the XY settings



<i>Reset Modulation</i>	Resets all the XY modulations controls
<i>Copy</i>	Copies the current XY settings
<i>Paste</i>	Pastes the last copied XY settings
<i>Set to circle, square, ...</i>	Sets the XY path to a circle, square and other preset shapes
<i>Reverse</i>	Reverses the XY path, so it will be traversed backwards
<i>Flip Horizontally</i>	Flips the XY path horizontally
<i>Flip Vertically</i>	Flips the XY path vertically
<i>Rotate</i>	Rotates the XY path by a set number of degrees
<i>Snap to Grid</i>	Snaps the XY path to a set number of grid points
<i>Smooth</i>	Smooths the XY Path
<i>Scale X &amp; Y</i>	Scales the XY path around the centre by a set amount
<i>Undo</i>	Undo the last command
<i>Latch X/Y</i>	Latches the X/Y position to the next received Midi CC control
<i>Set X/Y CC</i>	Opens an input box where you can set the Midi CC to link the X/Y position to
<i>Unlatch X/Y</i>	Unlatches the X/Y Midi latching
<i>Load</i>	Loads a previously saved XY Preset
<i>Save</i>	Saves the current XY settings in a Preset

# FILTER



The sound generated by the Oscillator is rich in harmonics and is passed on to the Filter section. Depending on the selected Filter Type and parameter settings, the filters change the harmonic content of the sound by removing selected frequencies. Go2 has two filters, Main and High Pass. They are connected in series. The Main Filter comes first, followed by the High Pass Filter.

## Filter Controls

### Freq

The Cutoff Frequency sets the frequency above or below which the filter begins to filter frequencies. For instance, if you set the Cutoff to 2000Hz and use a 12dB Lowpass filter, it reduces any frequencies above 2000Hz. Any

frequencies at 4000Hz will be reduced by 12dB. The Cutoff Frequency can be static at a single set frequency, but for more dynamic sounds, try modulating the Cutoff Frequency with the Filter Envelope, Keyboard tracking or Modulation Wheel.

### Q (Resonance)

Q is the resonance level of the filter. Resonance emphasizes frequencies around the Cutoff frequency and creates a peak in the frequency spectrum. As you increase the Resonance, the effect becomes more pronounced until the filter self-oscillates. In the Comb Filter the Resonance controls the amount of feedback.

## Filter Type

<i>Bypass</i>	The filter is bypassed and the sound passes through unaffected
<i>12dB LowPass</i>	Low frequencies pass through this filter; those above the Cutoff frequency are reduced by 12dB per octave.
<i>12dB BandPass</i>	This filter mode is a combination of 12dB LowPass and 12dB HighPass filters. Only those frequencies near the filter Cutoff frequency pass through (a band of frequencies), the resonance (Q), controls the width of this band so that low and high frequencies are removed.

<i>12dB Notch</i>	The frequencies in the region around the filter Cutoff frequency are reduced in volume (12dB), the resonance controls the width of this region.
<i>24dB LowPass I</i>	Low frequencies pass through this filter; those above the Cutoff frequency are reduced by 24dB per octave.
<i>24dB LowPass II</i>	This filter operates the same as the 24db LowPass Filter Type 1, but it has a different tonal character
<i>24dB BandPass</i>	This filter mode is a combination of a 24dB LowPass and 24dB HighPass filter. Only those frequencies near the filter Cutoff frequency pass through (a band of frequencies), the resonance (Q) controls the width of this band, so low and high frequencies are removed.
<i>24db Notch</i>	The frequencies near the filter Cutoff frequency are reduced in volume (24dB), the resonance controls the width of this region.
<i>Comb</i>	The Comb Filter is built around a very short delay, which emphasizes the comb filter frequency. The Cutoff frequency controls the length of this delay and resonance (Q) the feedback of the filter.

High Pass Filters are not part of the Main Filter, as there is a dedicated High Pass filter (see below).

## Cutoff Frequency Modulation

### Envelope (Env)

The Filter Envelope moves the filter Cutoff frequency, following the contour of the envelope. The Envelope is part of the Filter section. Keep in mind that if you use negative modulation, the control signal is inverted: as the envelope level rises the filter frequency is lowered. Note the Filter Envelope Invert button at the top of the filter section.

## **Velocity (Vel)**

Velocity modulation changes the Main Filter Frequency based on how hard you strike the key (its velocity). If Go2 is in Arp mode, any Arpeggiator velocity settings will change the Main Filter Frequency.

## **KeyTrk**

Key tracking applies Cutoff Frequency modulation based on note position. Typically, the Cutoff frequency increases, i.e. the filter opens, with notes played higher on the keyboard. When you use negative modulation values, the Main Filter Frequency decreases with increased pitch.

## **Modulation Wheel (ModW)**

This control lets the position of the modulation wheel determine the cutoff frequency of the filter. The strength of the Mod Wheel – Filter Frequency coupling is set by the level of this control.

## **FILTER ENVELOPE**

The Filter Envelope is hard-wired to control the Main Filter Frequency. The level is set by the Env Amount control in the Filter section. The Filter Envelope Invert button determines its polarity (whether it increases or decreases the Main Filter Frequency).

An Envelope is a time-based modulation source in a synthesizer. When you play a key, the envelope is triggered and moves from 0% to 100% and back to 0% when you release the key. The envelope is made up of five segments. The first part is known as the Attack. The Attack control represents the time it takes to reach 100%. The second part is known as the Decay

and controls the time it takes to reach the Sustain level. The Sustain level is the level maintained while the key is being held. Finally, when you release the key, the Release segment sets the time for the Envelope level to return to 0%.

An additional envelope feature of Go2 is Fade. Fade operates as a second Attack or Decay stage and starts as soon as the Decay reaches the Sustain level. Positive values take the envelope from the Sustain level up to 100%. Negative values take the envelope from the Sustain level down to 0%.

To hear the full effect of the Filter Envelope you should open the Env amount, which you can find in the Filter section.

## **Attack**

An Envelope rises from 0 to 100% and back to 0% when the key is released. Attack controls how quickly it rises to 100%. The further you open the Attack control, the longer it takes to reach 100%. An Attack time of 0 start the Envelope instantly at full level (100%).

## **Decay**

After the Attack stage, with the Envelope at 100%, the Decay stage begins. Decay reduces the Envelope level to the Sustain level over a set time. If you use a long Decay, it takes longer to reach the Sustain level. If the Sustain level is 100% the Decay stage plays no role as the Sustain level is reached immediately after the Attack stage.

## **Sustain**

Sustain is a level control. After the Attack and Decay stage, the Envelope reaches the Sustain level and remains at this level while you hold the key. Sustain level in the Filter Envelope represents the Cutoff Frequency while you hold the key(s).

## **Release**

When you release a key (note), the Release stage starts. The Envelope drops from its current level to 0%, in a time set by the Release control.

## **HighPass Filter**

The High Pass Filter(HP) works in series with the Main filter. It reduces frequencies below the High Pass Filter Frequency and is a dedicated 12dB Octave High Pass filter.

In addition to the Cutoff Frequency control (with key tracking which can be turned On / Off), the High Pass Filter has its own resonance control.

# AMPLIFIER



While the Oscillator section controls the pitch and the filter section the timbre, the amplifier section is responsible for the volume. It amplifies the signal and controls the Volume and Panning.

An important controller of the Volume is the Volume Envelope. This determines the volume contour of every voice. The Velocity Control controls the response of Go2 to the Velocity of the keyboard or Arpeggiator.

## Volume

The Volume sets the overall volume of the Preset. Use this control to adjust the relative volumes between Presets in a Bank.

## Distortion

The Amplifier incorporates a Distortion section. In practice, it increases the volume of the signal and adds distortion (additional overtones) to the signal. The Amount control sets the level of distortion.

The special feature of having the distortion at this stage is that it gives each voice of Go2 its own distortion. When you play multiple notes, each note has its own Distortion effect. This results in a different sound character compared to having all voices going through a single distortion unit.

## Pan

The Pan control places the sound in a stereo image. Fully counter clockwise is left and clockwise represents right in the stereo field.

## Velocity (Vel > Vol)

The Velocity control determines the volume response to changes in note velocity. It applies to notes played on a keyboard and those triggered by Go2's Arpeggiator.

## Volume Envelope

An envelope generates a time-based modulation signal. When triggered – typically by playing a note – it moves from 0% up to 100% and back to 0% when you release the key. The Volume Envelope determines the volume contour of a sound.

## Attack

The first part is known as the Attack stage. It represents the time it takes for the envelope to reach 100%. If you open the Attack knob, it takes longer to go from 0 to 100%. With Attack closed, the envelope starts at 100%.

## **Decay**

After the Attack stage, with the envelope at 100%, the Decay stage starts. The Decay stage brings the volume down to the sustain level. If the sustain is set to 5 %, the decay brings the volume down to 50% and stays there for as long as the key is held. If you use a long decay, it takes long to reach the sustain level. This is useful for evolving pad sounds. Short decay times are a god ingredient for percussive sounds. If the sustain level is 100% the impact of the decay stage is effectively eliminated.

## **Sustain**

The Sustain stage is characterised by a (Sustain) level setting. After the Attack and Decay stage, the envelope reaches the sustain stage and remains here for as long as you hold a key. The sustain level is the level of this sustain stage and as such is main control for the perceived volume of a sound.

## **Release**

The Envelope Release stage starts when you release a key. The envelope fades out from the sustain level to 0% in the time set by the Release control.

# PLAY MODE



Play Mode defines how Go2 responds to notes played, polyphonically or monophonic or by triggering the Arpeggiator.

## Play Mode

<i>Poly</i>	Multiple notes (up to 16) can be played at the same time.
<i>Mono</i>	Go2 is monophonic and uses 1 voice. Only a single note can be played at a time. Any new note will stop the previous note.
<i>Legato</i>	Legato mode is similar to mono mode and plays a single note at a time. If you play overlapping notes, the envelopes and LFOs will not retrigger for the new note. The pitch is the only thing that changes.
<i>Arpeggiator</i>	The Arpeggiator is active and is triggered by the first note played. Please see the Arpeggiator Chapter for details on all the Arpeggiator settings.

## Portamento Speed and Mode

Portamento creates a glide effect whereby the pitch change between notes is a gradual one. The Portamento Speed defines the time it takes to transition from one note's pitch to another.

Portamento operates in the following modes:

<i>None</i>	No portamento.
<i>Constant Rate</i>	The note pitch changes at a constant rate (speed) from one note to the next. Larger note intervals take a longer time.
<i>Constant Time</i>	The pitch transition between notes always take the same time, regardless of the note interval.
<i>Held Rate</i>	This mode works the same as constant rate, but only affects overlapping notes (legato style)
<i>Held Time</i>	This mode works the same as constant time, but only affects overlapping notes (legato style)

## Port Amount

This control sets the rate or time for the portamento effect.



## Unison

In Unison mode, Go2 plays up-to 4 unison voices, for each note played. This works at an oscillator / filter level, so you can still play up-to 16 voices in poly mode.

The Unison detune parameter changes the pitch slightly for all these voices. This gives you an extremely rich sounding stack of voices. The unison parameters are an excellent tool to create fat lead sounds.

Go2's Unison can be used to play chords, so you can play a single note and Go2 will play a chord. This opens up creative possibilities when used in the Arpeggiator, since you can set each step to play a different Unison mode / chord!

Each Unison voice can have Pitch, Volume, Pan, Morph and main Filter Frequency as a modulation destination, giving you great control over the Unison voices. You need to access this in the MOD (modulation) section of Go2.

The table below lists the unison options:

<i>Unison 2 - 4</i>	This combines multiple voices for each note played. If you use the Unison detune, all voices are detuned resulting in a fatter sound.
<i>2 Octave</i>	Plays 2 voices for each note played. One at normal pitch, the other one octave up. Unison detune has no effect in this Unison mode.
<i>3 Octave</i>	Plays 3 voices for each note played. One at normal pitch, a second one octave down and the third one, one octave up. Unison detune has no effect in this Unison mode.
<i>2 SP</i>	Plays the original note plus an additional note one octave below. Both will play in Unison 2 mode, so a total of 4 voices will play for each note that is played.
<i>Major to Diminished 7th</i>	Plays the selected chord instead of playing the voices in unison. The key you play becomes the chord's root note. For instance, Major will play the root note, then the 2nd voice 4 semitones up from the root note, and the 3rd voice 7 semitones up from the root note. Note: The Unison detune parameter has no effect in these Unison modes.

## **Detune Amount**

Unison Detune Amount controls the level of detuning between the stacked voices in Unison 2/3/4 play modes. It creates a natural chorus effect. Note: with Major up to Diminished 7th chord settings, detune is deactivated.

## **Stereo Spread**

Stereo spread places the unison voices in a stereo image, and in doing so widens the sound and creates a spatial effect. In modes with 2 unison voices they are panned left and right, in those with 3 unison voices they are panned left, panned right and centred.

## **Pitch Bend Up / Down**

The maximum range for the Pitch Bend wheel is defined through separate Up and Down amounts. The unit used is semi-tones.

## **Global Tuning**

Global Tuning sets the reference tuning for Go2. The default frequency is A4 440 Hz. The tuning range is one semi-tone up and down.

## **Drift**

The Drift switch simulates small variations that occur in analog electronic circuits. Turn it on to add some analogue character to the Go2 tone

## **Exp Env**

The Exp Env control sets the shape of the envelope decay and release stages. The two options are linear (Off) and exponential (On).

# ARPEGGIATOR



Go2 offers a classic style arpeggiator. An arpeggiator (Arp) plays through a chord as individual notes in sequence. For example, if you play a C-major chord, the arpeggiator will first play the C, then the E and finally the G. Depending on the arpeggiator mode, it will then cycle through these notes again and again, up and down until you release the notes. The arpeggiator has a built-in sequencer for making rhythmic patterns, and offers Tune, Tie, Velocity, Unison and Free modulation settings per step/note! With every note that it plays, the arpeggiator steps through its sequence. This lets you determine how the arpeggiator plays each individual note.

To activate the arpeggiator, click on the On button in the Arpeggiator screen (or set the play mode to Arp)..

## Arpeggiator Screen

The Arpeggiator has up to 16 steps. Per step you can make the following settings:

<i>Step Number</i>	Click on a step number to mute / un-mute it
<i>Tie</i>	Tie links the step to the previous step and as such extends the note length.
<i>Slide</i>	Slides the pitch from one step to the next. The slide rate is set by the Slide control
<i>Tune</i>	Each step has a range of -3 octaves to +3 octaves in semi-tones
<i>Vel</i>	Vel defines the velocity value of the note
<i>Unison</i>	A unique feature of Go2 is that you can set the Unison mode for each step individually, so allowing each step to play different chords. Set – will play the note with the current unison mode, Off – will play the note with Unison off i.e. it'll play a single note with no unison, and the other settings will play the selected Unison mode / chord. Please see the Unison mode section for more information.
<i>Free</i>	The Free property can be used in the modulation matrix as a modulation source.

What follows is a listing of arpeggiator controls that affect the arpeggiator and that apply to all steps.

### Steps

Steps sets the number of steps in the Arpeggiator pattern, from 1 to 16 steps.

### Speed

The Speed control sets the speed of the Arpeggiator relative to the Host's tempo, for example 2 x tempo or ¼ x tempo.

## Arp Mode

The arpeggiator mode controls the order in which the arpeggiator plays its notes

<i>Up</i>	The notes are played from low to high
<i>Down</i>	The notes are played from high to low
<i>Up/Down</i>	The notes are played from low to high followed by from high to low
<i>Down/Up</i>	The notes are played from high to low followed by from low to high
<i>Random</i>	The notes are played in random order
<i>Ordered</i>	The notes are played in the order in which they were triggered, i.e. first note played first and last note played last
<i>Rev. Ordered</i>	The notes are played in the reverse order in which they were triggered, i.e. last note played first and first note played last
<i>Ordered Up/Down</i>	The notes are played from first to last followed by last to first
<i>Ordered Down/Up</i>	The notes are played from last to first followed by first to last
<i>Chord</i>	The Arpeggiator plays all notes as chord in a rhythmic pattern. In Chord mode you cannot set the unison mode.
<i>Sequencer</i>	In this mode the arpeggiator acts as a sequencer and plays the programmed pitches relative to the played note and continues playing in sequence with every new note played.
<i>Sequencer Reset</i>	In this mode the arpeggiator acts as a sequencer and plays the programmed pitches relative to the played note. The Sequencer Resets to step 1 with every new note played.

## Octave

The octave setting gives you the option to play the arpeggiated notes in multiple octaves, relative to the original notes. For example, an octave setting of 2 means that the original notes will play first, followed by the same notes one octave higher.

## Tied Mode

Tied mode lets you select whether tied steps use their own programmed values for Tuning, Velocity etc or use the values of the step they are tied to. The options are:

<i>Normal</i>	Tied steps do not have individual slide, tune, velocity and free settings.
<i>Special</i>	Tied steps do have still individual slide, tune, velocity and free settings.
<i>Toggle 1</i>	The Arpeggiator alternates between Special Mode and Normal Mode (Special Mode on the first cycle).
<i>Toggle 2</i>	The Arpeggiator alternates between Normal Mode and Special Mode (Normal Mode on the first cycle).

## Lock Mode

Lock Mode locks the current arpeggiator sequence. It keeps it going even when you change Presets There are 3 modes:

<i>Off</i>	Lock is turned off
<i>On</i>	Lock is turned on. The arpeggiator sequence stays the same when you change Presets, but it can't be modified. It will not change the new Preset.
<i>Set</i>	The current (locked) arpeggiator sequence is saved with new Preset. Locking is turned off in the new Preset.

## Swing

Swing is a control that allows you to change the rhythmic feel of the arpeggiator. It does this by slightly moving every other note relative a fixed timing grid. Whether it suits your work depends very much of the piece of music you are working on, so you we encourage you to experiment with different values here.

## Slide

Slide works as an intra-sequence portamento. It sets the time it takes for the pitch to change from that of the selected step to the next.

## Vel / Key

The velocity of the steps in the arpeggiator sequence can be controlled by their programmed values, by the velocity of the key played that is used to trigger the arpeggiator or a combination of both. The Vel / Key control sets the balance between these.

## Host Sync

Host Sync synchronises the Arpeggiator speed to that of the DAW host. This is enabled by default.

## **Latch**

Latch frees your hands. When latch is turned on you don't need to keep holding notes for the arpeggiator to continue playing. Tip: you can use the sustain pedal to latch and unlatch the arpeggiator. Please see the MIDI section on how to set this up.

## **Key Entry**

This switch enables keyboard entry of the notes in the Arpeggiator Sequencer. A value of 0 is used as middle C.

## **Arpeggiator Command Menu**

The arpeggiator command menu allows you to edit, copy, paste, clear, save and load arpeggiator settings. A right click in the arpeggiator display or the command button activates this menu.

# LFO



Go2 contains a Free LFO that generates modulation signals to be used as a source in a modulation path.

## Waveform type

The available waveforms are Sine, Triangle, Saw Up, Saw Down, Square, S&H. The waveform determines the modulation pattern of the LFO. Sine and Triangle are often used because these move the LFO up and down in a smooth fashion. The other waveforms are more suitable for special effects. The Phase sets the starting point of the LFO waveform. It is measured in degrees, where 0 equals the start of the wave, 90 is a quarter in, 180 is the halfway point and 270 is 3 quarters through. In practice, this lets you choose

the start level of the oscillator. The actual level depends on the selected waveform.

## Speed

The Speed control sets the LFO frequency. If the Sync button is On, speed follows the host tempo.

## Sync

With the Sync Switch On, the LFO speed follows the host tempo. In Sync Mode, you can use the Speed parameter to select the desired beats / divisions setting.

## Mode

The Mode setting determines the running of the LFO in relation to key triggers. The LFO reset type has three different modes:

<i>Poly</i>	In poly mode, each note played has its own LFO.
<i>Free</i>	The LFO is free running and all the notes share the same LFO. The LFO is always running and does not reset when you press a key.
<i>Mono</i>	Similar to free mode. All notes share the same LFO. However, when you press a key in Mono mode, the LFO is reset to its initial phase (start position)



# FREE ENVELOPE

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Go2 has a free envelope that generates modulation signals to be used as a source in a modulation path. The Free Envelope will change the value of the destination parameter over time - for example to create a sweep in the oscillator's pitch. When you play a key, the envelope moves from 0% to 100% and back to 0% when you release the key.

The Free Envelope is made up of five segments. The first part is known as the Attack. This represents the time it takes to reach 100%. The second part is known as the Decay and represents the time it takes to reach the Sustain level. The Sustain level is the level maintained while the key is being held. Finally, when you release the key, the Release segment sets the time for the Envelope level to return to 0%.

An unusual feature of the Free Envelope is Fade. Fade operates as a second Attack or Decay stage and starts as soon as the Decay reaches the Sustain level. Positive values take the envelope from the Sustain level up to 100%. Negative values take the envelope from the Sustain level down to 0%.

## Attack

An Envelope rises from 0 to 100% and back to 0% when the key is released. Attack controls how quickly it rises to 100%. The further you open the Attack control, the longer it takes to reach 100%. An Attack time of 0 start the Envelope instantly at full level (100%).

## Decay

After the Attack stage, with the Envelope at 100%, the Decay stage begins. Decay reduces the Envelope level to the Sustain level over a set time. If you use a long Decay, it takes longer to reach the Sustain level. If the Sustain level is 100% the Decay stage plays no role as the Sustain level is reached immediately after the Attack stage.

## Sustain

Sustain is a level control. After the Attack and Decay stage, the Envelope reaches the Sustain level and remains at this level while you hold the key. Sustain level in the Filter Envelope represents the Cutoff Frequency while you hold the key(s).

## Sustain Fade

If the Fade is set to 0 (Off), the Sustain works as a classic Sustain. If you open the Fade amount clockwise it creates a second Attack stage. In this case when the Decay reaches the Sustain level, the envelope level starts to rise to 100% in the time set by the Fade control. If you turn the Fade control counter-clockwise it creates a second Decay. In this case, when the Decay reaches the Sustain level, the envelope level starts to fall to 0% in the time set by the Fade control.

## Release

When you release a key (note), the Release stage starts. The Envelope drops from its current level to 0%, in a time set by the Release control.

## **Sync**

When Sync is turned on the envelope segment lengths (in quarter-beats) are synced to the tempo of the host. When Sync is Off, the envelope segment lengths are set in milliseconds and the envelope times are independent of the host's tempo.

# MODULATION MATRIX



The modulation matrix allows you to dynamically change Go2 parameters, using both internal modules such as envelopes and LFOs, and external MIDI controllers such as pitch bend, aftertouch and other control messages defined in the MIDI-standard.

There are 8 different modulation matrix slots. The Bypass / Slot column enables you to turn individual modulation paths On and Off by clicking on the number. When it is bypassed a mod slot is show in grey.

The source column gives you access to all modulation sources.

The destination column lists which parameter is subject to the programmed modulations.

In the Amount column, you define the modulation strength for each modulation slot. It sets the level of impact that the modulation source has on its destination or target. It speaks for itself that depending on the selected source and the amount the effect ranges from subtle variations to outrageous manipulation. The amount control displays its value relative to its destination as a percentage. As an example, a modulation amount of 25% represents a quarter of the total parameter range, in a positive direction.

# BANK and PRESET MANAGEMENT



In the Manager Section, you find and organize your Presets and Banks. Clicking on the Manager button displays the Preset Manager page, clicking on it once more to return to the Main page.

There are four sections: Presets, Find, Search Category and Set Category. For each section, the Banks are visible on the right-hand side.

## PRESET MANAGER

Clicking on the Preset button shows the Preset screen. This lists the Presets in the current Folder (Bank). Presets in Go2 are single.fxp files stored in Folders (Banks), you can have up-to 256 Presets in a single Folder.

In the Preset screen, the current Preset is highlighted in green, and clicking on a Preset will load it. Shift + clicking allows you to select a range of Presets and Ctrl + clicking allows you to select non-consecutive Presets. Right Clicking on a Preset previews it.

## Star Presets

While in the Preset screen in the Bank Manager you can mark any Preset with a Star if you like the Preset. The Star appears after each Preset name and can be checked and unchecked by a mouse click. With so many Presets available in Go2, the Star system helps you to recall favourite Presets that you encountered in previous Go2 sessions.

To filter on Star-marked Presets, click on the Star symbol adjacent to the Preset button. Go2 will only display Star Presets.

Behind the scenes, Go2 builds a file that contains all the Star Presets. This can be found in your documents Folder (see below). Use this file to back-up your Star settings or to use your Preset selection on a 2nd computer system.

The file that holds the Star info is called Star.txt. It can be found here in the following locations:

- PC: Documents\Rob Papen\Go2\Bank Folder\Star.txt
- Mac: Applications\Rob Papen\Go2\Bank Folder\Star.txt

We recommend to backup this file regularly and copy it over to a 2nd system if you have Go2 installed there too.

## Preset Commands

<i>Select All</i>	Selects all Presets.
<i>Deselect All</i>	Deselects all Presets.
<i>Load</i>	Loads a Preset using a file dialog screen. Go2 will attempt to move to the current Folder for this Preset. If it can't then it will put it in the 98 Unsaved Preset Folder.
<i>Save</i>	Overwrites the current Preset with any changes you have made to it.
<i>Save As</i>	Saves the current Preset with a different name, the original Preset still exists.
<i>Copy</i>	Copies the current or selected Presets.
<i>Cut</i>	Copies the current or selected Presets, but when you paste them the original Preset(s) are deleted.
<i>Paste</i>	Pastes the last copied Presets. This is primary used for copying Presets from one Folder to another.
<i>New</i>	Creates a new Preset with default settings.
<i>Delete</i>	Deletes the current or selected Presets. When a Preset is deleted, the extension of its name is changed to.~fx from.fxp, so you can recover it manually.
<i>Rename</i>	Renames the current Preset. This means that the original version is deleted (its extension is changed from to.~fx), and the Preset is saved with the new name.

If in doing any of the above you create too many Presets for that Folder (I.e. over 256), then the Preset is moved to the 98 Overflow Preset Folder.

## Find

Clicking on the Find button shows the Find Preset screen. This allows you to search through all the Banks for Presets that are named in the search for text box.

To search for the text "Seq", for instance you enter "Seq" in the "Search For" box, and then press "Find", and all Presets that contain the string "Seq" will be listed. Presets are displayed in the format B[Bank no][Preset no]Name of Presets, and Presets in the current Bank are shown against a light green background. The current Preset is highlighted in green.

Clicking on a found Preset will load it. Unless you have saved the current Preset, any changes will be lost. Right Clicking on a found Preset will preview it. Clicking on Clear will clear the search.

## Search Category

Clicking on the Search Category button will display the category search screen. In Go2, Presets can have tags in the categories Type, Tempo/Feel and Timbre. Clicking on a tag in a category will toggle that tag. The Preset section will show all Presets with a matching tag.

As with Find, Presets are listed in the format B[Bank no][Preset no]Name of Presets. Presets in the current Bank are highlighted with a light green background. The current Preset is highlighted in green. Clicking on a found Preset will load it. Unless you have saved the current Preset, any changes will be lost. Right Clicking on a found Preset will preview it.

Clicking on Clear will clear the current search tags.



## Set Category

Clicking on the Set Category button displays the Set Category screen. Here you can set the tags for the Presets in the current Bank, clicking on a tag will toggle it on / off. You can select Presets and set their tags. These tags will be saved with this Preset when you click on Apply and Save.

You can select ranges of Presets with shift + left click (for continuous ranges) or ctrl + left click for non-continuous Presets. Select All will select all Presets in the current Folder, and Unselect will deselect all Presets in the current Folder. In these ranges all tags are visible. If all selected Presets share a tag, their background is highlighted in light green. If the Presets do not share the tag, the tag is highlighted in darker green.

Clicking on Clear will clear all tags for the selected Presets.

Clicking on Set to Current, will set the tags for all the selected Presets to the tags for the current Preset.

Clicking on Combine Selected will set the tags for the selected Presets to be the combination of the individual Presets tags. For example, if you have two Presets selected and one Preset has the tag “Bass”, and other the tag “Dark”, after pressing Combine Selected, both Presets will have both tags i.e. “Bass” & “Dark”.

## BANK MANAGER

The Banks are always visible on the right side of the Manager screen. In Go2, Banks are Folders on your hard drive in which Presets are stored. In the Bank Screen, the current Bank is highlighted in green. A click on a Bank loads it and moving the scroll bar on the right scrolls through available Banks.

### Bank Commands

<i>Copy</i>	Copies the current Folder; all the Presets in that Folder are copied to this new Folder.
<i>New</i>	Creates a new Folder.
<i>Delete</i>	Deletes the current Folder, by renaming it to ~[original name of Folder]. For example, deleting the Bass Folder will cause it to be renamed as ~Bass, so you can recover it later if you need to.
<i>Rename</i>	Renames the current Folder, deleting the original Folder (by renaming it with a ~ as explained above).
<i>Refresh</i>	Rebuilds Go2's Folder and Preset structure. You may to do this if you have altered Go2 Presets or Folders outside of Go2.



## FX SECTION



Go2 has three effect units, a Chorus, a Flanger / Phaser and a Delay / Reverb. You can turn each of these effects On and Off individually, and select between the Flanger or Phaser, and the Delay or Reverb.

The FX units are connected in series, so the sound passes through the Chorus first, then the Flanger / Phaser and finally the Delay / Reverb.

The Bypass button, bypasses all the effects.

The Mix dial sets the balance between the original signal and the processed signal. In the fully counter-clockwise position you'll hear the dry signal only. In the fully clockwise position only the effect signal can be heard.

### Chorus

The chorus effect combines the original signal with one or more copies of the input. All copies are slightly delayed. The effect simulates multiple players playing the same music. In practice, it creates a richer sound. An LFO is used to modulate the delay time(s)

<i>Length</i>	Length sets the delay time used to create the Chorus effect
<i>Width</i>	Width sets the maximum modulation amount of the delay time (length)
<i>Speed</i>	Speed sets the frequency of the LFO that drives the delay time modulation.
<i>LP Filter</i>	LP Filter sets the low pass filter frequency applied to the chorus effect.
<i>HP Filter</i>	HP Filter sets the high pass filter frequency applied to the chorus effect.

## Flanger

The Flanger effect is created by creating two copies of the sound source with one of these subject to a very short modulated delay. In contrast with the chorus effect, the delay time is even shorter. The result is an enriched signal with comb filter characteristics. It is sometimes described as a whooshing sound.

<i>Length</i>	Length sets the delay time used to create the flanger effect
<i>Width</i>	Width sets the maximum modulation amount of the delay time (length)
<i>Speed</i>	Speed sets the frequency of the LFO that drives the delay time modulation.
<i>Feedback</i>	Feedback determines how much of the delayed signal is fed back to its input. In the context of the Flanger effect, increased feedback creates a more pronounced effect with a high level of resonance peaks.
<i>Pan Mod</i>	Pan Mod sets the amount of panning modulation

## Phaser

A phaser uses several comb filters that create moving peaks and troughs in the frequency spectrum. It gives the effect of continuous movement in the sound.

<i>Spread</i>	Spread sets the extent to which the individual comb filters are distributed across the frequency spectrum
<i>Feedback</i>	Feedback determines how much of the phased signal is fed back to its input
<i>Width</i>	Width sets the maximum amount of modulation of the filters
<i>Speed</i>	Speed determines how fast the filters move through the frequency spectrum
<i>Pan Mod</i>	Pan Mod sets the amount of panning modulation

## Stereo Delay

The stereo delay is made up of two tempo-based delays. The Tape Delay creates its delay effect by emulating the characteristics of an echo effect created by an analogue tape delay. Each of the audio channels (Left and Right) uses its own delay line. This effect type is useful for making deep pad sounds if you use different delay times for left and right, e.g. 1/8\* (Left) and 1/4 (right).

<i>Left Delay</i>	Left Delay sets the delay time in musical note values for the left channel.
<i>Right Delay</i>	Right Delay sets the delay time in musical note values for the right channel.
<i>Sync</i>	Switches the delay settings between tempo-based and time-based
<i>Feedback</i>	Feedback determines how much of the delayed signal is fed back to its input. It is useful for creating dense delay patterns.
<i>LP Filter</i>	The LP Filter applies a low-pass filter to the delayed signal. The control sets the filter frequency. Use it in combination with the feedback control
<i>HP Filter</i>	The HP Filter reduces the low frequency content in the delayed signal. The control sets the filter frequency. Use it to take out some of the woolliness of the delayed signal.

## Reverb

This effect reproduces the sound of acoustics in rooms using different sizes and reflections.

<i>Pre-Delay</i>	Pre-delay determines the time it takes for the first reverb reflections to appear
<i>Size</i>	The Size control represents the size of the reverberation room.
<i>Length</i>	Length sets the duration of the reverb
<i>Damp</i>	The Damping control sets the amount of low-pass filtering applied to the early reflections of the reverb signal
<i>HP Filter</i>	The high pass filter is applied to the overall reverb signal. The control sets the filter frequency. Use it when the input signal contains many low frequencies and the reverb signal becomes boomy.

# BACK PANEL



A click on the Go2 logo reveals the back panel. The back panel contains several global controls that affect all instances of Go2. Typically, the settings you make here are of the type Set-and-Forget; i.e. you only need to do it once right after installation of the plug-in. Think of these as a collection of preferences.

## Computer Keyboard on/off

You can leaf through the Presets and Banks using the computer-keyboard. The assigned keys are:

<i>Up Arrow Button</i>	Previous Preset
<i>Down Arrow Button</i>	Next Preset
<i>Left Arrow Button</i>	Decrease Preset number by 32
<i>Right Arrow Button</i>	Increase Preset number by 32
<i>Page Up</i>	Previous Go2 Bank
<i>Page Down</i>	Next Go2 Bank

### **External Midi Control Capture Mode**

The Capture Mode switch, when enabled, ignores incoming MIDI controller messages that are latched to a Go2 control, until the value of the MIDI controller matches that of the value of the Go2 control. It prevents sudden jumps in parameter values that otherwise may occur as soon as you touch a latched external MIDI controller.

### **Midi Program / Bank Change**

This switch enables Go2 to respond to Midi Bank Select and Midi Program Change commands to select Banks and Presets. If set to Off, Go2 will ignore any Program Change and Bank Select commands received over Midi.

### **Automatic Volume Limiting**

Go2 has many gain stages in its signal path, augmented with modulation options. In some cases, with certain settings, this may result in unintended distortion (clipping). The Automatic Volume Limiting switch can be used to protect the sound from internal clipping. Please see the Amp section for further details.

### **MIDI Channel**

The MIDI Channel setting selects the MIDI channel to which Go2 will respond. The Omni-setting means that Go2 responds to messages on any MIDI-channel.

### **Tuning**

It is possible to work with alternative tuning scales. Go2 comes with several tuning definition tables upon installation. These are accessible through a drop-down menu. Click on the current tuning name to display all the available tuning scales. Simply select the required scale from the menu. Be aware that this setting affects all instances and sounds of Go2. Click on the Reset label to revert to Standard Tuning.

## APPENDIX – MODULATION SOURCES

Source	Notes
<i>Mod Wheel</i>	Modulation-wheel.
<i>Mod/After</i>	Modulation-wheel or aftertouch.
<i>Channel After</i>	Channel aftertouch.
<i>Poly After</i>	Poly aftertouch.
<i>Velocity</i>	Note velocity.
<i>Pitchbend</i>	Midi pitch-bend.
<i>Breath</i>	Midi CC values.
<i>Foot</i>	
<i>Expression</i>	
<i>CC16</i>	
<i>CC17</i>	
<i>CC18</i>	
<i>CC19</i>	
<i>CC20</i>	
<i>CC21</i>	
<i>CC84</i>	
<i>CC85</i>	
<i>CC86</i>	
<i>CC87</i>	
<i>CC88</i>	
<i>CC89</i>	
<i>CC90</i>	
<i>Note</i>	Note number. The modulation value is the MIDI note number divided by 127. The range is 0 – 1
<i>Centre Note</i>	Distance from base notes (midi note 57) in octaves. Midi note 45 is -1 and midi note 69 is + 1 and so on.
<i>Note Random 1</i>	Random number generated when you play a note. The range is -1 – 1
<i>Note Random 2</i>	

<i>UniPolar Note Random 1</i>	Unipolar Random number generated when you play a note. The range is 0 – 1
<i>UniPolar Note Random 2</i>	
<i>Offset</i>	Constant offset.
<i>White Noise</i>	White noise modulation. The range is -1 – 1
<i>UniPolar White Noise</i>	Unipolar white noise modulation. The range is 0 – 1.
<i>Free Envelope</i>	Free Envelope.
<i>Filter Envelope</i>	Filter Envelope.
<i>Free LFO</i>	Free LFO, The range is -1 – 1.
<i>UniPolar LFO</i>	Unipolar Free LFO. The range is 0 – 1.
<i>SMod LFO</i>	The LFO used by Symmetry modulation. It is a sine wave which works as a Poly LFO (i.e. by voice) The range is -1 – 1.
<i>UniPolar SMod LFO</i>	Same as the SMOD LFO, but the range is 0 – 1..
<i>Arp Velocity</i>	Velocity of current Arp step.
<i>Arp Free</i>	Free value of current Arp step.
<i>XY X</i>	Current XY X's position The range is -1 – 1.
<i>UniPolar XY X</i>	Current XY Unipolar X's position. The range is 0 – 1.
<i>XY Y</i>	Current XY Y's position The range is -1 – 1.
<i>UniPolar XY Y</i>	Current XY Unipolar Y's position. The range is 0 – 1.
<i>XY Distance</i>	Distance of current XY position from the centre of the XY Pad

## APPENDIX MODULATION DESTINATION

Category	Destination
	<i>None</i>
Global Controls	<i>Portamento Amount</i>
	<i>Global Tune</i>
	<i>Arp Speed</i>
	<i>Arp Swing</i>
	<i>Arp Velocity / Key</i>
Unison Controls – for the following Modulation Destinations, Unison 2-4 refers to unison voices 2 to 4, Unison 2 refers to unison voice 2 and so on.	<i>Unison Detune</i>
	<i>Unison Spread</i>
	<i>Unison Semi 2-4</i>
	<i>Unison Semi 2</i>
	<i>Unison Semi 3</i>
	<i>Unison Semi 4</i>
	<i>Unison Fine 2-4</i>
	<i>Unison Fine 2</i>
	<i>Unison Fine 3</i>
	<i>Unison Fine 4</i>
	<i>Unison Volume 2-4</i>
	<i>Unison Volume 2</i>
	<i>Unison Volume 3</i>
	<i>Unison Volume 4</i>
	<i>Unison Pan 2-4</i>
	<i>Unison Pan 2</i>
	<i>Unison Pan 3</i>
	<i>Unison Pan 4</i>
	<i>Unison Morph 2-4</i>
	<i>Unison Morph 2</i>



	<i>Unison Morph 3</i>
	<i>Unison Morph 4</i>
	<i>Unison Main Filter Frequency 2 - 4</i>
	<i>Unison Main Filter Frequency 2</i>
	<i>Unison Main Filter Frequency 3</i>
	<i>Unison Main Filter Frequency 4</i>
<b>Oscillator Controls</b>	<i>Osc Morph</i>
	<i>Osc Semi-tune</i>
	<i>Osc Fine-Tune</i>
	<i>Osc Symmetry</i>
	<i>Osc Smod Amount</i>
	<i>Osc Smod Speed</i>
	<i>Osc Sub Osc Volume</i>
	<i>Osc Sub Osc Pitch</i>
	<i>Osc Spread</i>
	<i>Osc Up Spread Semi</i>
	<i>Osc Up Spread Fine</i>
<b>Filter Controls</b>	<i>Filter Frequency</i>
	<i>Filter Q</i>
<b>Filter Envelope Controls</b>	<i>Filter Envelope Amount</i>
	<i>Filter Envelope Speed</i>
	<i>Filter Envelope Attack</i>
	<i>Filter Envelope Decay</i>
	<i>Filter Envelope Sustain</i>
	<i>Filter Envelope Fade</i>
	<i>Filter Envelope Release</i>
<b>High Pass Filter Controls</b>	<i>Highpass Filter Frequency</i>
	<i>Highpass Filter Q</i>
<b>Amp Controls</b>	<i>Main Volume</i>
	<i>Main Pan</i>
	<i>Amp Envelope Speed</i>

	<i>Amp Envelope Attack</i>
	<i>Amp Envelope Decay</i>
	<i>Amp Envelope Sustain</i>
	<i>Amp Envelope Fade</i>
	<i>Amp Envelope Release</i>
	<i>Distort Amount</i>
<b>Free LFO Controls</b>	<i>Free Lfo Speed</i>
<b>Free Envelope Controls</b>	<i>Free Envelope Speed</i>
	<i>Free Envelope Attack</i>
	<i>Free Envelope Decay</i>
	<i>Free Envelope Sustain</i>
	<i>Free Envelope Fade</i>
	<i>Free Envelope Release</i>
<b>Free Modulation Amount Controls</b>	<i>Free Mod 1 Amount</i>
	<i>Free Mod 2 Amount</i>
	<i>Free Mod 3 Amount</i>
	<i>Free Mod 4 Amount</i>
	<i>Free Mod 5 Amount</i>
	<i>Free Mod 6 Amount</i>
<b>XY Controls</b>	<i>XY Speed</i>
	<i>XY Smooth</i>
	<i>XY X To Free 1</i>
	<i>XY Y To Free 1</i>
	<i>XY X To Free 2</i>
	<i>XY Y To Free 2</i>
	<i>XY X To Morph</i>
	<i>XY Y To Morph</i>
<b>Chorus Controls</b>	<i>Chorus Length</i>
	<i>Chorus Width</i>
	<i>Chorus Speed</i>
	<i>Chorus LP</i>

Flanger Controls	Chorus HP
	Chorus Mix
	Flanger Length
	Flanger Width
	Flanger Speed
	Flanger Feedback
	Flanger Pan Mod
	Flanger Mix
Phaser Controls	Phaser Pitch
	Phaser Feedback
	Phaser Width
	Phaser Speed
	Phaser Pan Mod
	Phaser Mix
Delay Controls	Delay Left Length
	Delay Right Length
	Delay Length
	Delay Fine Length
	Delay Feedback
	Delay LP
	Delay HP
	Delay Mix
Reverb Controls	Reverb Pre-Delay
	Reverb Size
	Reverb Length
	Reverb Damp
	Reverb HP
	Reverb Mix