GO2x

Manual

Powered by RPCX

WELCOME

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 original Go2 was developed and it instantly became very popular and was used by many musicians and composers in their productions. Now it has been upgraded to Go2-X and it has been enhanced with even more useful features and enhancements to what already was the Go-To synthesizer!

As you may know, the current Rob Papen synthesizer collection offers many features and types of synthesis which sometimes can be daunting to the average user.

Still, we thought that it would be awesome to add some more features to Go2 without losing its powerful concept and then we added the X factor!

In Go2-X you can now draw your own waveforms and morph between them. We have expanded the arpeggiator with ratcheting and the Magic Mode (from BIT-2).

The Stereo Delay and Reverb can be used simultaneously.

In summary, Go2-X has many new features that make sure that it will boldly Go2 where no other synth in this category went before……

Rob Papen and Team

NAVIGATING Go2-X

First, we'll give you a quick overview of Go2-X, so you can find your way around. You will find the details that make up Go2-X 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-X logo to open the Back Panel
2	Oscillator	The Oscillator area contains all 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 free LFOs and free Envelopes as modulation sources and a 12-slot Modulation Matrix
5	Arpeggiator / User Wave	The Arpeggiator is fully programmable in 16 steps. This section is also used to construct your own wave shapes (User Wave)
6	Effects	Go2-X's effect section contains a Chorus, Phaser / Flanger, Delay and Reverb

CONTROLS

Go2-X 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. Ou will see the value change in Go2-X's read-out screen.

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.

To reset a control to its original value stored in a Preset, Alt-click the control.

There are three kinds of buttons:

On / Off Buttons	The value toggles between on and off with every mouse click. An example is the Free Osc button.
Radio Buttons	Select one option out of several predefined settings by clicking on the desired value, as in the Filter Envelope invert buttons
Trigger Buttons	A Trigger Button starts an action, such as the sound preview.

Menus

Go2-X uses drop-down menus to select a single option from a list of predefined items. 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 Ctrl-click on Mac) on a control opens the MIDI / Command 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:

Set to Default	Sets the control to its default value
Set to Original Value	Sets the control to the original value stored in the Preset
Set to Zero	Sets the controller to zero (0)
Set to Minimum	Sets the control to its minimum value
Set to Maximum	Sets the control to its maximum value
Set to Mid	Sets the control to its medium value
Set to Value	Enter the value as a numerical value in a text box
Set to Random	Sets the control to a random value
Increase	Increases the control by 1%
Decrease	Decreases the control by 1%.

MIDI Control through Latching

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

As an example, to latch Volume to an external MIDI expression controller:

- Right click on the Volume Knob
- Select Latch to MIDI in the pop-up menu
- Move the MIDI Expression controller.

From now the Expression controller will move the Go2-X Volume knob. You can still operate the Go2-X Volume knob directly in Go2-X though.

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

Note: In the Preset section you can save or load your whole MIDI (latch) controller setup to 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 / Command Menu gives access to modulation routing. More details are provided in the Modulation Matrix chapter.

Modulated By	Displays the modulation source that controls this parameter.
Modulate by XY X/Y 1/2	Sets the XY Free Destination Menu to this parameter.
Set Modulation To	Creates an entry in the Modulation Matrix that has this parameter as its destination.
Default Modulation Amount	Sets all entries in the modulation matrix that have this parameter as their destination, to the default amount.
Bypass / Un-Bypass Modulation	Bypasses or un-bypasses all modulation matrix entries using this parameter as a destination.
Clear Modulation	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-X's back panel is where you enable and disable this function. To access the back panel, click on the Go2-X logo.

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

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

PRESETS and GLOBALS

Go2-X uses a Preset menu to select and manage Presets. Please note that this is in addition to the Bank Manager section in Go2-X, 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 available Folders and their Presets. When you select a Preset, Go2-X loads the Preset itself and its corresponding Folder.

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 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 intended to 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-X 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-X 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-X. 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.

Copy Folder

Copies the current folder. All Presets in the folder are copied to the new folder.

Rename Folder

Renames the current folder, deleting the original folder (by renaming it with a ~).

Create New Folder

Creates a new folder.

Delete Folder

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. This allows you to recover it later if you need to.

Open Explorer / Finder
This function opens a new Explorer / Finder window.

100/125/150/200 Screen Size
Select the screen size for Go2-X. This takes effect after the next time you open Go2-X.

BANK

Go2-X uses a Bank menu to select and manage Bank Folders. Please note that this is in addition to using Bank Manager section in Go2-X. 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-X\Bank Folder\
- Mac: Applications\Rob Papen\Go2-X\Bank Folder\

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

Edit / Orig
As soon as you start editing a Preset (i.e., change a Go2-X control), the Edit button will light up. If you the 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
In the centre of the top bar area, you find four buttons that give you direct access to various Go2-X functions. These are:

Manager	Click to open the Bank Manager
Note (C3)	Click to play a C3 note to audition the current Preset
ECS	Click to open the ECS menu
Help	Click to open the Go2-X manual

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

EXTERNAL CONTROLLER SETUP (ECS)

Go2-X responds to external MIDI messages to change its sound parameters dynamically. The assignment of external MIDI messages to Go2-X controls is defined in the ECS. ECS is short for External Controller Setup. It contains all assignments of MIDI controllers to Go2-X 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-X that are loaded in your DAW.

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

CONTROL MENU ( )

A click on the Control Menu Icon (three horizontal lines in the top righthand corner) opens the Control Menu.

You can set the screen size, select how Go2-X responds to MIDI and other configuration items.

This is also the place to check for the availability of Go2-X updates. Some of the settings are duplicated on the Back Panel, which can be accessed by clicking on the Go2-X logo. Please check the chapter Back Panel for more information.

Screen Size
The Screen Size selection lets you enlarge the Go2-X plugin window to up to 200% of its original size with the following options: 100% / 125% 150% / 200%. Use this setting to adjust the plug-in to high-resolution screens. We recommend 100% size for Full HD monitors. The 125% / 150% are suitable for widescreen monitors (e.g., 3440x1440 resolution). The 200% size is best for 4K monitors. Depending on the host (DAW) you use, you may need to close and re-open Go2-X for the changes to take effect.

Dial Animations
This setting moves control dials as they are being modulated by a modulation source.

Show Envelope Dial / Show Graphic Envelopes
The Dial Env button switches the Filter and Volume Envelopes between graphical (Off) and control dials (On). This is a global setting.

Decay / Sustain Change
When enabled (On), you can change the Decay and Sustain parameters simultaneously by dragging the Envelope Decay handle left / right and up / down in a single movement.

Tool-Tips
When Tool-Tips are active, as you hover your mouse over a control a small window with the name of the control and its current value is displayed.

Computer Keyboard On/Off
You can step through the Presets and Banks using the computer-keyboard. The assigned keys are:

Up Arrow Button	Previous Preset
Down Arrow Button	Next Preset
Left Arrow Button	Decrease Preset number by 32
Right Arrow Button	Increase Preset number by 32
Page Up	Previous Go2-X Bank
Page Down	Next Go2-X Bank

Drag and Drop
When enabled, you can drag and drop controls onto the Modulation Matrix.

MIDI Program / Bank Change
These switches make Go2-X respond to MIDI Bank Select (MIDI CC 32), and MIDI Program Change messages to select Banks and Presets. When disabled, Go2-X will ignore any Program Change and Bank Select commands received over MIDI.

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

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

Reset Everything
Select this item to immediately turn off any notes which are currently playing.

About Go2-X
The About Go2-X item displays version information about Go2-X

Goto the Rob Papen Website
Opens your browser and takes you to www.robpapen.com

Download Latest
Download the latest version of Go2-X

OSCILLATOR

The heart of Go2-X is the morph oscillator. This oscillator uses two different waveforms and combines the two into a single oscillator output. Go2-X 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-X has only a single oscillator. But this is not the case. The moment you open the Spread Amount control, Go2-X turns into a dual oscillator setup. The two oscillators' tuning spreads as you open the control. In Go2-X's modulation section (MOD) 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 Second 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-X offers 182 different waveforms ranging from classic analogue style Waveforms including Saw, Square, Noise to Additive and Spectral Waveforms and two User defined Waveforms.

The Morph Amount slider sets the initial morph position to blend the waveforms. The Morph Mode (as described below) determines how Go2-X combines the waveforms.

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, 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 the First and 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 is used.
Low Partial Morph	The two waveforms are morphed together as in Morph mode, but the Morphing amount sets which partials are used from each wave, starting from just the low partials of Wave B going up to the high partials as you increase the Morph Amount.
High Partial Morph	The two waveforms are morphed together as in Morph mode, but the Morphing amount sets which partials are used from each wave, starting from just the high partials of Wave B going down to the low partials as you increase the Morph Amount.
Odd / Even Partial Morph	The two waveforms are morphed together as in Morph mode, but the Morphing amount sets which partials are used from each wave, starting from just the low odd partials of Wave B going up as the Morph Amount increases. At the midpoint the odd partials of Wave B are used and the even partials of Wave A. Then as you increase the Morph Amount the even partials of Wave B are used, till at maximum Morph Amount, only Wave B is heard
Even / Odd Partial Morph	The two waveforms are morphed together as in Morph mode, but the Morphing amount sets which partials are used from each wave, starting from just the low even partials of Wave B going up as the Morph Amount increases. At the midpoint the even partials of Wave B are used and the odd partials of Wave A. Then as you increase the Morph Amount the odd partials of Wave B are used, till at maximum Morph Amount, only Wave B is heard
Table Interpolate	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.

	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.
Table Split	Here the Morph Amount sets the split point of Wave A & Wave B wavetables, below the Split point Wave A's wavetable is used, above it Wave B's wavetable. At the minimum Morph Amount, only Wave A is heard, at maximum Wave B is heard and at the midpoint, the first half of Wave A's wavetable is used and the last half of Wave B's wavetable is used
Table Combine	Here both Wave A and B are played, one after another, where the Morph Amount sets how long Wave A is used as compared to Wave B. At the minimum Morph Amount, only Wave A is heard, at maximum Wave B is heard and at the midpoint, Wave A is used followed by Wave B, each of the same length
PM	The second waveform(Wave B) is used to phase modulate (PM) the first waveform(Wave A), with the Morph Amount changing the amount of Frequency 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.
AM	The second waveform(Wave B) is used to amplitude modulate (AM) the first waveform(Wave A), with the Morph Amount changing the amount of Frequency Modulation.
Ring Mod	The Second Wave is used to ring modulate the First Wave, with the Morph Amount changing the amount of Ring Modulation.
Wave Shaper	The second waveform(Wave B) is used to wave shape the first waveform(Wave A), with the Morph Amount changing the amount of wave shaping.
Range	Go2-X'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-X calculates the intermediate waveforms. Range Mode cannot use White Noise or Pink Noise waves.

MAIN OSCILLATOR CONTROLS

Free
When Free Playing is turned Off, the phase of the oscillator for the voice that is triggered is reset to zero when you play a note. All notes start with the same phase position. When it is turned On, the oscillators for all voices are free-running. As you play multiple notes, each voice's oscillator will start at a different phase.

Morph Wrap

The Morph sliders travel between Wave A at 0% and Wave B at 100%. However, you can also modulate the Morph amount via the mod matrix. For instance, use the Mod Wheel to add or subtract from the Morph Amount. Morph Warp controls how morphing responds to values below 0 or above 100%. When it is Off, the Morph amount is limited to between 0 to 100%. When it is On, the Morph amount wraps around and continues at the bottom of the range and vice versa.

Oct

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

Spread

Spread creates a stacked multi oscillator sound, derived from 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.

In the modulation matrix, you can control the tuning of the upper 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.

In the modulation matrix, you can control the Sub-oscillators, tuning, volume, phase and symmetry.

Sym

Sym controls the symmetry of the oscillator waveform. This is most 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.

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.

Additional Wave Shaping

You have the option to change additional oscillator properties as destinations in the modulation matrix. The Modulation Destinations are listed below.

Phase	Sets the phase of the oscillator
Feed	Feed controls the amount of self-modulation. The Oscillator signal is fed back into itself, creating a Phase Modulation effect. With a Sine Wave as the initial waveform, turning up Feed creates a Saw-like wave. In extreme settings this turns into a Noise-like sound with high levels of feedback. The Feedback control does not work with White and Pink Noise.
Warp	Warp increases the volume of the waveform. When it reaches and exceeds the maximum waveform level, the wave folds back on itself and creates additional harmonics.
Bits	Reduces the number of levels in the waveform, equivalent to bit-reduction distortion.

Oscillator Command Menu

The Oscillator Command Menu allows you to reset, copy and paste oscillator settings. A right click in the oscillator panel opens the menu.

XY PAD

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-X 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. Please note the following operations available:

- Control + Clicking or double clicking on the XY screen, when in Live mode, sets the XY position to its default value.
- Alt + Clicking on the XY screen sets the XY back to the initial position that was stored in the current Preset.
- Right Clicking there opens the XY Command Menu.

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 edges and corners in a path. Use this control if you want to avoid sudden changes in modulation signals.

Mode

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

Poly	Each note you play starts its own XY path and each path starts from Its initial position.
Free	The XY path is free running. It does not reset when you play a key, and all 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.
Mono	All notes played share the same XY path, but the XY path is reset every time you play a new key.
Legato	Legato is identical to Mono, but the XY Path is only restarted with new non-overlapping notes

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-X will snap all 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 Command Menu with the following options:

Set Oscillator / Output Display On / Off	Turn the Oscillator / Output display in the XY screen On and Off
Set To Oscillator / Output Display	Switches between Oscillator output or Go2-X output display
Edit Position	Enables editing of the path's points
Edit Grouping Single	Only the selected point is edited
Edit Grouping Narrow	The 3 points preceding and following the current position are selected for editing
Edit Grouping Wide	The 8 points preceding and following the current position are selected for editing
Reset XY Position	Resets the XY position
Reset All XY Settings	Resets all XY settings
Set XY to Original Settings	Reset all XY settings to as stored in the Preset
Reset XY Modulations	Resets all XY modulations controls
Clear XY Modulations	Clear all XY modulation values
Reset XY Modulation Amounts	Resets all XY modulations amounts
Copy XY	Copies the current XY settings
Paste XY	Pastes the last copied XY settings
Save / Load XY Preset	Save and Load XY settings
Presets	Load XY Preset shapes
Reverse	Reverses the XY path. It is traversed back to front
Flip Horizontally	Flips the XY path horizontally
Flip Vertically	Flips the XY path vertically
Rotate	Rotates the XY path by a set number of degrees
Snap to Grid	Snaps the XY path to a set number of grid points
Smooth	Smooths the XY Path
Scale X & Y	Scales the XY path around the centre by a set amount
Set X, Y, XY	Set X, Y, XY to a fixed value
Undo	Undo the last command

Latch X/Y to MIDI	Latches the X/Y position to the next received MIDI CC control
Set X/Y MIDI CC	Input box to set the MIDI CC to link the X/Y position to
Unlatch X/YMIDI	Unlatches the X/Y MIDI latching

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-X has two filters, Main and High Pass. They are connected in series. The Main Filter comes first, followed by the High Pass Filter.

The Main Filter can work as a Low Pass, Band Pass, Notch or Comb Filter and has Ring and Amplitude Modulation modes.

Clicking on the Filter label opens the Filter Command Menu.

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

Bypass	The filter is bypassed and the sound passes through unaffected
12/24 dB LowPass	Low frequencies pass through this filter; those above the Cutoff frequency are reduced by 12/24dB per octave.
12/24 dB BandPass	This filter mode is a combination of 12/24dB LowPass and 12/24dB 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 and therefore determines the low and high frequencies to be removed.
12/24 dB Notch	The frequencies in the region around the filter Cutoff frequency are reduced in volume (12/24dB). The resonance controls the width of this region.
Comb	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.
Ring Mod	The Ring Modulation Filter multiplies the incoming signal with a sine oscillator its frequency is set by the Filter frequency. The Q dial controls the ring modulation amount.
Amp Mod	Like Ring Modulation, the Amplitude Modulation Filter multiplies the incoming signal using a sine oscillator. Its frequency is set by the Filter frequency but uses the absolute value of this sine wave. The Q dial controls the modulation amount.

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

Cutoff Frequency Modulation

Velocity (Vel)
Velocity modulation changes the Main Filter Frequency based on how hard you strike the key (its velocity). If Go2-X 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.

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.

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).

The Filter Envelope can be displayed and edited in two different views: as a graph or as set of dials. You switch between the two using the Dial Env button in the Play-Mode section. When in graphic mode, you change the envelope by selecting a point and moving it left / right for the attack, decay and release values, and up / down for the sustain value. Hold the shift key to fine tune the setting. A right click gives you access to the Envelope Command Menu with operations such as latch, copy and default the envelope parameters.

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%. 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.

Filter Command Menu
The Filter Command Menu allows you to reset, copy and paste filter settings. This includes the Filter Envelope and the High Pass Filter. A right click in the filter panel opens the menu.

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-X 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-X 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-X'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.

The Volume Envelope can be displayed and edited in two different views: as a graph or as set of dials. You switch between the two using the Dial Env button in the Play-Mode section. When in graphic mode, you change the envelope by selecting a point and moving it left / right for the attack, decay and release values, and up / down for the sustain value. Hold the shift key to fine tune the setting. A right click gives you access to the Envelope Command Menu with operations such as latch, copy and default the envelope parameters.

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-X responds to notes played, polyphonically or monophonic or by triggering the Arpeggiator.

Play Mode

Poly	Multiple notes (up to 16) can be played at the same time.
Poly MPE	Each of the 16 voices operates on its own MIDI channel. This allows you to apply Pitch Bend and Aftertouch to individual notes/voices, rather than to all voices simultaneously. See MPE section below
Mono	Go2-X is monophonic and uses 1 voice. Only a single note can be played at a time. Any new note will stop the previous note.
Legato	Legato mode is like 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. In the Low / High mode, only notes lower / higher than the base note is triggered
Arpeggiator	The Arpeggiator is active and is triggered by the first note played. Please see the Arpeggiator Chapter for details on the Arpeggiator settings.

MPE
MPE is a relatively new addition to the MIDI specification, the universal protocol for electronic music. MPE is short for MIDI Polyphonic Expression. MPE uses data over separate MIDI channels that enables multidimensional controllers to control multiple parameters of every individual note within MPE compatible software.

Using MPE, digital instruments behave more like acoustic instruments in terms of spontaneous, polyphonic sound control. Musicians can express parameters like pitch, timbre (Filter) and expression for individual notes at the same time.

To make use of MPE, Go2-X requires an MPE controller. Examples of MPE hardware are the Roli Seaboard, Seaboard Blocks, Roger Linn's Linnstrument and the Expressive E Osmose. There are also apps available for iPad/iPhone that take advantage of MPE.

In Go2-X select the MPE mode in the Play Mode section via the Play Mode menu. In MPE mode each voices uses its own MIDI channel. MIDI Channel 1 triggers a note using Voice 1, MIDI Channel 2 plays Voice 2 and continuous on to MIDI Channel 16.

Before using the Poly MPE mode you need to make the correct setting in your music host program. The DAW (host) Track needs to respond to all MIDI Channels (All or Omni) in such a way that it can pass all MIDI Channel information on to Go2-X. Go2-X must be set to OMNI in its MIDI Channel setting. This can be set in the Command Menu or on the Back Panel.

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:

None	No portamento.
Constant Rate	The note pitch changes at a constant rate (speed) from one note to the next. Larger note intervals take a longer time.
Constant Time	The pitch transition between notes always takes the same time, regardless of the note interval.
Held Rate	This mode works the same as constant rate, but only affects overlapping notes (legato style)
Held Time	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-X allocates up-to 4 unison voices, for each note played. This works at an oscillator / filter level. You can still play up-to 16 voices in poly mode.

The Unison detune parameter changes the pitch slightly for 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-X's Unison can be used to play chords. You can play a single note and Go2-X will play a chord. This opens 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-X.

The table below lists the unison options:

Unison 2 - 4	This combines multiple voices for each note played. If you use the Unison detune, all voices are detuned resulting in a fatter sound.
2 Octave	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.
3 Octave	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.
2 SP	Plays the original note plus an additional note one octave below. Both will play in Unison 2 mode. A total of 4 voices will play for each note that is played.
Major to Diminished 7th	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, the voices are panned left and right. In those with 3 unison voices, the voices 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.

Lock Play

Lock Play maintains current Play Mode settings when switching Presets. It includes Play Mode, Unison Mode, Port Mode, and the Pitch Bend settings. This feature may be useful if you want to use Poly MPE mode on all Go2-X Presets.

TIP: When you intend to play in Poly MPE across all Presets, we recommend creating a dedicated Preset with the preferred settings for the MPE Play Mode. Select Lock before you audition other Presets.

Off	In this mode the Lock Play feature is disabled
On	The On setting locks all Play Mode parameters used in the currently selected Preset. When you change Preset, Go2-X maintains the previous Play Mode settings. It will unlock the Play Mode parameters when you select Off and return to the original Preset settings.
Set	Set copies the Play Mode parameters to the current Preset. Note that you still need to save the Preset, preferably with a different Preset name, to have the update Play Mode settings activated, when you select the Preset next

Drift

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

Dial Env

The Dial Env button switches the Filter and Volume Envelopes between graphical (Off) and control dials (On). This is a global setting.

ARPEGGIATOR

Go2-X offers a classic style arpeggiator. An arpeggiator (Arp) plays 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! The arpeggiator steps through its sequence for every note that you play. 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:

Step Number	Click on a step number to mute / un-mute it
Tie	Tie links the step to the previous step and as such extends the note length.
Slide	Slides the pitch from one step to the next. The slide rate is set by the Slide control
Tune	Each step has a range of -3 octaves to +3 octaves in semi-tones
Vel	Vel defines the velocity value of the note
Unison / Chord	A unique feature of Go2-X is that you can set the Unison mode for each step individually. This allows each step to play a different chord. Set – will play the note with the current unison mode, Off – will play the note with Unison off i.e., it will 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.
Free	The Free property can be used in the modulation matrix as a modulation source.
Ratchet	Each Step can be ratcheted (i.e., repeated within the Step duration). In the Off setting, the note plays as per normal. When set to 2, it plays twice, 3 plays 3 times, and 4 plays 4 times. Whether ratcheting occurs depends on the Ratcheting Menu / Vel > Ratcheting setting (see manual below)

Right clicking in the Arp screen opens the Arp Command Menu. There is also a dedicated CMD button in the Arpeggiator area. Remember that the general mouse operations apply here too. When you click-drag the mouse: hold Shift allows you to make fine adjustments; hold Ctrl to set the value, hold Alt to set the number of steps; and double clicking sets a value to its default value.

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

Start (Loop)

Sets the loop start position. This parameter can be used in a creative way. You can latch it to MIDI or record it as a parameter.

Start (Loop) Catch-Up

The Catch-Up setting helps to get musical results if you automate and/or change the Step Start parameter. The menu controls what values the Arpeggiator/Sequencer Steps number can have in catching up. The options are: All, Even and Odd.

Loop Mode

On	The Arp/Seq position from the first to the last step, returns to the Start step and continues cycling through the steps
Off	The Arp/Seq position moves to the last step and then stops.
Ping- Pong	The Arp/Seq travels to the last step and then changes direction. It travels backwards until it reaches the first step again. When it reaches the first step it changes direction again.

Steps (Number)

Set the number of steps in the Arpeggiator/Sequencer pattern, from 1 to 16 steps. This parameter can be used in a creative way and allows for dynamically changing arpeggiator / sequencer patterns. You can latch it to MIDI or record it as a parameter. To make changes musically useful, we added the Catch-Up setting option.

Steps (Number) Catchup

The Catch-Up setting helps to get musical results if you automate and/or change the Steps (Number) parameter.

This menu defines the values the Arpeggiator/Sequencer Steps number can use in catching up. The options are All, Even and Odd. We recommend as the most common for 4/4 music the Even setting to start off with.

Magic Mode

In Magic mode you can define a certain amount of randomization for the Arp. The number of steps changed is set by the Magic Dial (the first step is never changed).

When Magic Mode is turned On the Arp plays first without any changes. The next cycle it applies and plays with random changes. The subsequent cycle is without the changes again and this keeps alternating until you release the key. It cycles between the original Arp settings and Randomised Arp Settings. The Magic Dial selects the number of steps which may change. The range is 0 (no change), 1,2,3 and 4.

Other settings include whether the step randomises each cycle of the Arp (1, 2, 3, 4 Random) and whether the Arp randomization is set once and this is stored in the Preset (1,2,3,4 Set Random).

The Magic mode influences which of the steps are played and their tunings.

Step	Randomly changes the selected number of steps On/Off status
+7sm, -5sm, +7/-5sm, +12sm, -12sm,+/- 12sm	Randomly changes the selected number of steps by the set tuning (or in the +7/-5 and +/- 12sm, randomly between these two values).
Step and +7sm, -5sm, +7/-5 sm, +12sm, -12sm, +/- 12sm	In this case randomisation affects, Step On/Off and their tuning

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.

Up	The notes are played from low to high
Down	The notes are played from high to low
Up/Down	The notes are played from low to high followed by from high to low
Down/Up	The notes are played from high to low followed by from low to high
Random	The notes are played in random order
Ordered	The notes are played in the order in which they were triggered, i.e., first note played first and last note played last
Rev. Ordered	The notes are played in the reverse order in which they were triggered, i.e., last note played first and first note played last
Ordered Up/Down	The notes are played from first to last followed by last to first
Ordered Down/Up	The notes are played from last to first followed by first to last
Chord	The Arpeggiator plays all notes as chord in a rhythmic pattern. In Chord mode you cannot set the unison mode.
Mod	The Arpeggiator can be used as a modulator. This is to be used if the Play mode is Poly, Mono or Legato. Note: the Arpeggiator switches to Off the moment you select Modulator as mode. However, it will still run through its steps for modulation purposes
Sequencer	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.
Sequencer Reset	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.
Sequencer Mono	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 across 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:

Normal	Tied steps do not have individual slide, tune, velocity and free settings.
Special	Tied steps do have still individual slide, tune, velocity and free settings.
Toggle 1	The Arpeggiator alternates between Special Mode and Normal Mode (Special Mode on the first cycle).
Toggle 2	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 playing its current sequence, even when you change Presets. There are 3 modes:

Off	Lock is turned Off
On	Lock is turned On. The arpeggiator sequence continuous to play when you change Presets. It cannot be modified. It will not modify the stored version of the newly selected Preset..
Set	The current (locked) arpeggiator sequence is saved with new Preset. Locking is turned Off in the new Preset.

Ratchet Mode

Ratchet mode controls how and when ratcheting is applied in the Arp.

Off	The ratcheting is always Off.
On	The ratcheting is always On.
Off / On Cycle	The ratcheting uses the following pattern Off / On / Off / On…
On / Off Cycle	The ratcheting uses the following pattern On / Off / On / Off…
2 Off / 1 On Cycle	The ratcheting uses the following pattern Off / Off / On…
3 Off / 1 On Cycle	The ratcheting uses the following pattern Off / Off / Off / On…
1 On / 2 Off Cycle	The ratcheting uses the following pattern On / Off / Off…
1 On / 3 Off Cycle	The ratcheting uses the following pattern On / Off / Off / Off…
Velocity	Ratcheting is active only if the note velocity is below the threshold set with the Vel > ratcheting control

Ratchet Vel

Ratcheting is active only if the note velocity is below the threshold set with the Vel > Ratcheting control.

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 on the piece of music you are working on. 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 reset, copy, paste, clear, save and load arpeggiator settings. A right click in the arpeggiator display or the command button (CMD) opens the menu.

USER WAVES

Go2-X has two user definable waves. To work with User Waves, click the WAVE button in the Arpeggiator panel. Use the Wave 1 and Wave 2 buttons to switch between the two User Waves.

The User Waves are defined by 128 partials with amplitude and phase per partial. Partial amplitude and phase have their own view – Click the Partial button to switch to this view. Click on the Wave button to switch to waveform view. The Oscillator and Free LFOs can use a User Wave for sound generation (Osc) or as a modulation shape (LFO).

Additive Synthesis uses Sine Waves of different frequencies to create complex waves. The first Sine Wave is known as the fundamental or the First Partial. The second Sine Wave is twice the frequency of the fundamental and is known as the Second Partial. The third Sine Wave is three times the frequency of the fundamental and is known as the third partial. This pattern continuous until the 128th partial is reached.

By changing the Amplitude and Phase of individual Partials different types of waveforms can be created. The Partial amplitude and phases are drawn in the Partials screen and can be edited per partial. Simply click and drag each partial's values to the desired position. By changing these Partials, you create your own Waves, as displayed in the Preview area.

Wave Mode
In Wave Mode you can draw in a single cycle waveform and Go2-X automatically converts it partials.

Drawing on the display area in the main screen changes the current User Wavetable. Clicking on the Draw, Line or Erase buttons allows you to draw directly, draw lines or erase the selected areas.

Right Clicking on the User Wave screen or User Wave label opens the User Wave Command menu.

Hold Ctrl and Left Click / Double Click to set the User Wave to its default value.

Hold Alt and Left Click to set the User wave to the original value as it is stored in the Preset.

Partials
In Partials view, the partial amplitude and phase are drawn for each partial. The top half shows the Partials Amplitudes, and the bottom part the Partials Phases. The generated waveform is displayed on the right hand side of the screen.

Initially, partials 1 to 128 are drawn as a small vertical line, each with the same width. If you click on the EXP button, the Partials from 1 to 128 are shown in logarithmic display. Lower Partials have much wider bars than the higher Partials. This makes it easier to edit the important low order Partials.

Wave Shaper Commands
The Wave Shaper Commands allow you to shape the current User Wave with various wave shaping functions. The Amount controls define the strength of the wave shaping operation.

The display shows what the modified Wave looks like. Clicking on the preview display, previews the Wave.

Apply overwrites the current User Wave with the new Wave. Undo undoes any changes.

In any Wave Shaping mode you cannot directly change the User Wavetable shown in the Wave Screen or the Partials for the User Wavetable. You must switch back to Manual mode first. The other Wave Shaper commands are:

Volume	Gain controls the volume change; Scale changes the maximum /minimum volume change.
Volume Ramp	Changes the volume of the User Wavetable, Start is the volume change to the start of the Wavetable, End is volume change for the end of the Wavetable.
Shift	Shifts the position of User Wavetable.
Offset	Moves the User Wavetable up or down by changing its DC offset.
Phase	Shifts the Partials Phase values.
Sym	Changes the symmetry of the User Wavetable, at 50% there is no change.

Multi	Stretches the User Wavetable. Multi is the User Wavetable stretch amount. Shift shifts the User Wavetable.
Ping-Pong	Stretches the User Wavetable, but the user wavetable goes one direction and then reverses itself. Multi is the User Wavetable stretch amount. Shift shifts the User Wavetable.
Stretch	Stretches the part of the User Wavetable set by the start and end settings to occupy the whole User Wavetable
Filter	Filters the User Wavetable, by reducing the volume of the lower Partials (LP) and the upper Partials (HP).
Low Filter	Filters the User Wavetable, by reducing the volume of the lower Partials, Curve determines the curve of this volume reduction for the Partials.
High Filter	Filters the User Wavetable, by reducing the volume of the higher Partials, Curve determines the curve of this volume reduction for the Partials.
Smooth	Smooths the User Wavetable.
Ring	Ring modulates the User Wavetable, Freq is the frequency of the ring modulating Sine Wave, Amount is the amount of Ring Modulation.
Distort	Distorts the User Wavetable.
Bits	Reduces the bit and sample rate of the User Wavetable, making the User Wavetable more blocked appearing.
Ripples	Adds ripples into the Partials for the User Wavetable. Freq is the frequency of these ripples. Amount is the level of amplitude reduction.
Octave 1	Adds a frequency shifted copy of the Partials of the User Wavetable. Shift is the amount these Partials are shifted; Amount is how much of these shifted Partials are added to the original Partials.
Octave 2	Adds a frequency shifted copy of User Wavetable. Shift is the amount by which the User Wavetable is shifted. Amount represents how much of the shifted User Wavetable is added to the original User Wavetables.
Even / Odd	Targets the Even or Odd Partials

Random	Adds a random amount to the partials. Start is the amount added to the lower Partials, End is the amount added to the upper Partials.

Presets

Go2-X can load the built-in waves (from Sine to Spec 0128) or previously saved waveforms via the Preset menu.

Clear	Clears the current selected user wave.
Undo	Undoes any changes made to the current user wave.
Load / Save	Loads a previously saved user wave or saves the current user wave (to the Wave Presets folder).
Command	Opens the user wave command menu, which allows you to clear, copy/swap/ paste, load/save and normalise/smooth/remove DC to the current user wave.

You can load samples which are converted to user waves. Because only 128 partials are used, we suggest that you use single waveform samples as the source in this case. Longer samples may not work very well.

A click on the Preview User waves selection allows you to hear the current User Wave played by the oscillator, this allows you to see how the sound changes when you edit the wave or use the Shaping controls. Turn this Off to stop the review.

User Wave Command Menu

The User Wave Command Menu allows you to reset, copy and paste User Wave settings and perform wave edit operations. This includes saving and loading complete User Wave Presets. A right click in the User Wave panel opens the menu.

LFO

Go2-X contains two Free LFOs that generate modulation signals to be used as a source in a modulation path. Select the LFO by clicking on the LFO1 or LFO2 button.

Waveform type
The available waveforms are Sine, Triangle, Saw Up, Saw Down, Square, S&H User 1 and User 2. User 1 and User 2 are the two user waves. 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 three 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:

Poly	In poly mode, each note played has its own LFO.
Free	The LFO is free running and all notes share the same LFO. The LFO is always running and does not reset when you press a key.
Mono	Mon is like 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)
Legato	Legato is identical to Mono, but the LFO is only reset with new non-overlapping notes

Modulation Controls

In addition to the visible Free LFO controls, you can change the following parameters as destinations in the Mod Matrix section:

The LFO Shape / Symmetry (this is useful for changing the pulse-width of the Square LFO wave)

- The Smoothing of the LFO softens abrupt amplitude changes.
- The Bias of the LFO. The LFO is bipolar and has negative and positive sections. The bias changes the relative amplitude between the positive and negative sections.
- The Bit rate of the LFO – this controls the number of distinct levels the LFO can have.
- Sample and Hold – The update frequency of the LFO.
- Humanization – adds a level of randomization to the Free LFO to mimic natural variations in playing style. The speed is randomly adjusted every cycle, the amount set by the Humanization target in the Destination Mod menu.

LFO Command Menu

The LFO Command Menu allows you to reset, copy and paste LFO settings. This includes assigning the LFO to a modulation destination. A right click in the LFO panel opens the menu.

FREE ENVELOPE

Go2-X has two Free Envelopes that generate modulation signals to be used as a source in a modulation path. A 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.

Select the Envelope by clicking on the ENV1 or ENV2 button.

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 the 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 synchronised with the host tempo. When Sync is Off, the envelope segment lengths are set in milliseconds and the envelope times are independent of the host tempo.

Envelope Command Menu

The Envelope Command Menu allows you to reset, copy and paste Envelope settings. This includes assigning the Envelope to a modulation destination. A right click in the Envelope panel opens the menu.

MODULATION MATRIX

The modulation matrix allows you to dynamically change Go2-X parameters by using 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 12 different modulation matrix slots. Eight slots are visible at any time. Use the slider on the right to gain access to all 12 slots. The Slot Number column doubles as a Bypass switch to turn individual modulation paths On and Off. To do so, click on the slot number. A slot in bypass mode is displayed in grey.

The source column gives you access to all modulation sources.

The destination column lists which parameter is affected by changes in the modulation source.

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.

Note that you have access to the following operations:

- Right click in the Mod screen to open the Mod Command Menu.
- Hold shift and click and drag the mouse allows you to make small adjustments.
- Hold control and click the mouse to set the value.
- Hold Alt and click the mouse to set the value back as stored in the original Preset.
- Double click to set the parameter to its default value.

Mod Matrix Command Menu
The Mod Matrix Command Menu allows you to reset, copy and paste Mod Matrix settings. This includes saving and loading complete settings as Mod Matrix Presets. A right click in the Mod Matrix panel opens the menu.

BANK and PRESET MANAGER

In the Manager Section, you find and organize your Presets and Banks. A click on the Manager button opens the Preset Manager page. Click on it once more to return to the Main page.

There are four sections: Presets, Find, Search Category and Set Category. The list of Banks is always visible on the right-hand side. The Order By Date sorts the Presets based on creation date and/or edit date.

PRESET MANAGER

Click on the Preset Manager button switch to the Preset view. It lists the Presets in the current Folder (Bank). Presets in Go2-X are single .fxp files stored in Folders (Banks). A single Folder may contain up-to 256 Presets.

In the Preset screen, the current Preset is highlighted in green. Clicking on a Preset name loads the Preset immediately. Shift - clicking allows you to select a range of Presets and Ctrl - clicking allows you to select non-consecutive Presets. Right click on a Preset to hear a preview.

Star Presets

In the Preset Manager view you can mark any Preset with a Star. The Star appears after each Preset name and can be checked and unchecked with a mouse click. The Star system helps you identify Presets that you particularly like or are useful in a specific project. With many Presets available in Go2-X, the Star system helps you to organize and identify favourite Presets that you can recall between Go2-X sessions.

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

Behind the scenes, Go2-X builds a file that contains all 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-X\Bank Folder\Star.txt
- Mac: Applications\Rob Papen\Go2-X\Bank Folder\Star.txt

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

Preset Commands

The Preset Commands are organised as a row of buttons at the bottom of the Manager screen.

Select All	Selects all Presets.
Unselect All	Deselects all Presets.
Load	Loads a Preset using a file dialog screen. Go2-X 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.
Save	Overwrites the current Preset with any changes you have made to it.
Save As	Saves the current Preset with a different name, the original Preset still exists.
Copy	Copies the current or selected Presets.
Cut	Copies the current or selected Presets, but when you paste them the original Preset(s) are deleted.
Paste	Pastes the last copied Presets. This is primary used for copying Presets from one Folder to another.
New	Creates a new Preset with default settings.

Delete	Deletes the current or selected Presets. When a Preset is deleted, the extension of its name is changed to .~fx (from .fxp). This allows you to recover it manually if required.
Rename	Renames the current Preset. 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 in a Folder (I.e., over 256), the Presets are moved to the 98 Overflow Preset Folder.

Find

Click on the Find button to switch to Find Preset view. This allows you to search through all Banks for Presets that are named in the search for text box.

To search for the text Arp, for instance you enter Arp in the Search For box, and then press the return-key. All Presets that contain the string Arp will be listed. Presets are displayed in the [Preset no]Name of Preset. Presets in the current Bank are shown against a light green background. The current Preset is highlighted in green.

Clicking on a listed Preset loads it immediately. Unless you have saved the current Preset, any changes will be lost. Right Clicking on a found Preset plays a preview. Clicking on Clear clears the search.

Search Category

Click on the Search Category button to open the Search Category view. In Go2-X, Presets can have Tags in the categories Type, Tempo/Feel and Timbre. Clicking on a Tag in a category toggles the Tag On and Off. The Preset section lists all Presets with matching Tags.

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

Clicking on Clear clears the current search Tags.

Set Category

Click on the Set Category button to switch to the Set Category view. You can set Tags for Presets in the current Bank. Click on a tag to toggle it On and Off. You can select Presets and set their tags. The tags are saved as part of a Preset when you click on Apply and Save.

Select a range of Presets with Shift + left click (for continuous ranges) or Ctrl + left click for a non-continuous collection. Select All selects all Presets in the current Folder and Unselect deselects all Presets. All Tags are displayed across the selected Presets. If all selected Presets share a tag, the tag is highlighted in light green. Tags that are not shared between all Presets are highlighted in darker green.

Click on Clear to remove all Tags for the selected Presets.

Click on Set to Current to apply the Tags of the current Preset to all selected Presets.

Click on Combine Selected to set the Tags for all selected Presets to the collective set of Tags present in the selected Presets. For example, if two Presets are selected and one is tagged with Bass, and other with Dark, the Combine Selected command applies the Tags Dark and Bass to both Presets.

BANK MANAGER

The Banks are listed on the righthand side of the Manager screen. In Go2-X, Banks represent Folders on the drive / volume that holds the Go2-X Presets. The selected Bank is highlighted in green. A click on a Bank name loads it directly. You can use the scroll bar on the right to move through the Bank list.

Bank Commands
The Bank Commands are organised as a row of buttons at the bottom of the Bank list.

Copy	Copies the current Folder. All Presets in the Folder are copied to this new Folder.
New	Creates a new Folder.
Delete	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. This allows you to recover it later if you need to.
Rename	Renames the current Folder, deleting the original Folder (by renaming it with a ~ prefix as explained above).
Update	Rebuilds Go2-X's Folder and Preset structure. You may need to do this if you have changed Go2-X Presets or Folders outside of Go2-X.

FX SECTION

Go2-X has four effect units, a Chorus, a Flanger / Phaser, a Delay and a Reverb. You can turn each of these effects On and Off individually by clicking on their label and select between the Flanger or Phaser.

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

The Bypass All button bypasses all 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.

Modulation LFO

The Chorus, Flanger and Phaser modulation is created with a dedicated stereo LFO. You can change its speed and amount in the effect, but there are more advanced parameters accessible via the modulation matrix.

Spread	Changes the speed difference between the left and right channel FX LFO.
Separation	Changes the phase difference between the left and right channel FX LFO.
Phase	Changes the overall phase of the FX LFO.
Shape	Changes the shape of the FX LFO by adjusting its midpoint.
Bias	The bias of the FX LFO. The FX LFO is polar. It has negative and positive sections, the bias changes the relative amplitude between the negative and positive sections.
Bits	The bit rate of the FX LFO, this controls the number of distinct levels the LFO uses.
Sample & Hold	Sets the LFO update frequency
Humanization	Adds a level of randomisation to the FX LFO to mimic natural variations in playing style. The speed is randomly changed every cycle, the amount set by the FX Humanization in the Mod menu in the Mod Matrix

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 modulates the delay time.

Length	Length sets the delay time used to create the Chorus effect
Width	Width sets the maximum modulation amount of the delay time (length)
Speed	Speed sets the frequency of the LFO that drives the delay time modulation.
LP Filter	LP Filter sets the low pass filter frequency applied to the chorus effect.
HP Filter	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. Some people refer to it as a whooshing sound or when using extreme settings, as a jet engine.

Length	Length sets the delay time used to create the flanger effect
Width	Width sets the maximum modulation amount of the delay time (length)
Speed	Speed sets the frequency of the LFO that drives the delay time modulation.
Feedback	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.
Pan Mod	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.

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

Delay

The stereo delay consists 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 audio channel (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).

Left Delay	Left Delay sets the delay time in musical note values for the left channel.
Right Delay	Right Delay sets the delay time in musical note values for the right channel.
Sync	Switches the delay settings between tempo-based and time-based
Feedback	Feedback determines how much of the delayed signal is fed back to its input. It is useful for creating dense delay patterns.
LP Filter	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
HP Filter	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.

Pre-Delay	Pre-delay determines the time it takes for the first reverb reflections to appear
Size	The Size control represents the size of the reverberation room.
Length	Length sets the duration of the reverb
Damp	The Damping control sets the amount of low-pass filtering applied to the early reflections of the reverb signal
HP Filter	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-X logo reveals the back panel. The back panel contains several global controls that affect all instances of Go2-X. 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.

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

MIDI Program / Bank Change
These switches enable Go2-X to respond to MIDI Bank Select and MIDI Program Change commands to select Banks and Presets. If set to Off, Go2-X will ignore any Program Change and Bank Select commands received over MIDI.

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

Computer Keyboard on/off

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

Up Arrow Button	Previous Preset
Down Arrow Button	Next Preset
Left Arrow Button	Decrease Preset number by 32
Right Arrow Button	Increase Preset number by 32
Page Up	Previous Go2-X Bank
Page Down	Next Go2-X Bank

Preset Changed Warning

With the Warning button turned On, Go2-X will warn you when you try to change Presets and you have not yet saved the current Preset.

Decay / Sustain Change

With the Change button turned On, you can change the Decay and Sustain parameters simultaneously by dragging the Envelope Decay handle left / right and up / down in a single movement.

Big Screen

The Big Screen menu lets you enlarge the Go2-X plugin window to up to 200% of its original size. There are the following options: 100% / 125% 150% / 200%. We recommend 100% size for Full HD monitors. The 125% / 150% are suitable for widescreen monitors (e.g., 3440x1440 resolution). The 200% size is best for 4K monitors. Depending on the host (DAW) you use, you may need to close and re-open Go2-X for the changes to take effect. You can also select different screen sizes in the Control Menu.

Global Tuning

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

Tuning

It is possible to work with alternative tuning scales. Go2-X 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 available tuning scales. Simply select the required scale from the menu. Be aware that this setting affects all instances and sounds of Go2-X. Click on the Reset label to revert to Standard Tuning.

APPENDIX – MODULATION SOURCES

Source	Notes
Mod Wheel	Modulation wheel.
Mod Wheel/Aftertouch	Modulation wheel or aftertouch.
Channel Aftertouch	Channel aftertouch.
Poly Aftertouch	Poly aftertouch.
Velocity	Note velocity.
Note	Note played (the MIDI note value divided by 127. It generates a value between 0 and 1).
Centre Note	Distance from base notes (MIDI note 57) in octaves. MIDI note 45 is -1 and MIDI note 69 is + 1.
Note Random 1/2	Random number generated when you play a note. The range is -1 to +1.
UniPolar Note Random 1/2	A unipolar random value is generated when you play a note. The range is 0 to +1.
2/3/4 Alternative	Alternative mod source that steps through a small set of values with each new note. In Alt 2 – the sequence is -1, +1 , in Alt 3 the sequence is -1, 0, +1 and Alt 4 the sequence is -1, 0, +1, 0.
UniPolar 2/3/4 Alternative	Alternative unipolar mod source that steps through a small set of values with each new note. In Alt 2 – the sequence is 0, +1 , in Alt 3 the sequence is 0, 0.5, +1 and Alt 4 the sequence is 0, 0.5, +1, 0.5.
Velocity	Note velocity.
Pitch Bend	MIDI pitch bend.
Breath (CC2) to CC114	MIDI CC values.
Amp, Filter, Free 1 or 2 Envelope	Envelope values.
Inverse Amp, Filter, Free 1 or 2 Envelope	Inverse of the envelope values.

SMOD LFO	The LFO used by Symmetry modulation. It is a sine wave which works as a Poly LFO (i.e., per voice), and the value ranges from -1 to +1.
UniPolar SMOD LFO	Same as the SMOD LFO, but the range is 0 to +1.
Free LFO 1 / 2	Free 1 and 2 LFO. The range is -1 to +1.
UniPolar Free LFO 1 / 2	UniPolar Free 1 and 2 LFO. The range is 0 to +1.
Arp On / Off	Arp On / Off (0 or 1)
Arp Tune	Arp Tuning
Arp Velocity	Velocity of current Arp step.
Arp Free	Free value of current Arp step.
XY X	Current XY X's position. The range is -1 to +1.
UniPolar XY X	Current XY Unipolar X's position. The range is 0 to +1.
XY Y	Current XY Y's position. The range is -1 to +1.
UniPolar XY Y	Current XY Unipolar Y's position. The range is 0 to +1.
XY Distance	Distance of current XY position from centre.
Input to Output	Value at certain points in the oscillator path (or input in Go2-X).
Offset	Constant offset.
White Noise	White noise. The range is -1 to +1.
UniPolar White Noise	Unipolar white noise. The range is 0 to +1.
Pink Noise	Pink noise. The range is -1 to +1.
UniPolar Pink Noise	Unipolar pink noise. The range is 0 to +1.

APPENDIX MODULATION DESTINATION

Category	Destination
	None
General Controls	*Portamento Amount*
	Global Semi Tune
	Global Fine Tune
	Drift Amount
	Global Envelope Speed
	Global LFO Speed
	Arp Speed
	Arp Steps
	Arp Loop Start
	Arp Swing
	Arp Note Length
	Arp Slide Amount
	Arp Velocity/Key
	Arp Magic Steps
	Arp Ratchet Velocity
	Arp Smooth
	Arp Smooth Attack
	Arp Smooth Decay
Unison Controls	*Unison Detune*
	Unison Stereo Spread
	Unison Semi Tune 2-4

Unison Semi Tune 2
Unison Semi Tune 3
Unison Semi Tune 4
Unison Fine Tune 2-4
Unison Fine Tune 2
Unison Fine Tune 3
Unison Fine Tune 4
Unison Volume 2-4
Unison Volume 2
Unison Volume 3
Unison Volume 4
Unison Pan 2-4
Unison Pan 2
Unison Pan 3
Unison Pan 4
Unison Morph 2-4
Unison Morph 2
Unison Morph 3
Unison Morph 4
Unison Phase 2-4
Unison Phase 2
Unison Phase 3
Unison Phase 4
Unison Main Filter Frequency 2 - 4

	Unison Main Filter Frequency 2
	Unison Main Filter Frequency 3
	Unison Main Filter Frequency 4
Oscillator Controls	*Oscillator Morph*
	Oscillator Octave
	Oscillator Semi-Tune
	Oscillator Fine-Tune
	Oscillator Symmetry
	Oscillator SMod Amount
	Oscillator SMod Speed
	Oscillator Spread
	Oscillator Up Spread Semi-Tune
	Oscillator Up Spread Fine-Tune
	Oscillator Up Spread Volume
	Oscillator Up Spread Phase
	Oscillator Down Spread Semi-Tune
	Oscillator Down Spread Fine-Tune
	Oscillator Down Spread Volume
	Oscillator Down Spread Phase
	Oscillator Feed
	Oscillator Phase
	Oscillator Wrap
	Oscillator Bits
	Sub-Osc Volume

	Sub-Osc Semi-Tune
	Sub-Osc Fine-Tune
	Sub-Osc Symmetry
	Sub-Osc Phase
Filter Controls	*Filter Frequency*
	Filter Q
Filter Envelope Controls	*Filter Envelope Amount*
	Filter Envelope Speed
	Filter Envelope Attack
	Filter Envelope Decay
	Filter Envelope Sustain
	Filter Envelope Release
High Pass Filter Controls	*Highpass Filter Frequency*
	Highpass Filter Q
Amp Controls	*Main Volume*
	Main Pan
	Amp Envelope Speed
	Amp Envelope Attack
	Amp Envelope Decay
	Amp Envelope Sustain
	Amp Envelope Release
	Distort Amount
Free LFO Controls	*Free LFO 1 Speed*
	Free LFO 1 Phase

	Free LFO 1 Shape
	Free LFO 1 Smooth
	Free LFO 1 Bias
	Free LFO 1 Bits
	Free LFO 1 S&H
	Free LFO 1 Humanization
	Free LFO 2 Speed
	Free LFO 2 Phase
	Free LFO 2 Shape
	Free LFO 2 Smooth
	Free LFO 2 Bias
	Free LFO 2 Bits
	Free LFO 2 S&H
	Free LFO 2 Humanization
Free Envelope Controls	*Free Envelope 1 Speed*
	Free Envelope 1 Attack
	Free Envelope 1 Decay
	Free Envelope 1 Sustain
	Free Envelope 1 Fade
	Free Envelope 1 Release
	Free Envelope 2 Speed
	Free Envelope 2 Attack
	Free Envelope 2 Decay
	Free Envelope 2 Sustain

	Free Envelope 2 Fade
	Free Envelope 2 Release
Free Modulation Amount Controls	*Free Mod 1 Amount*
	Free Mod 2 Amount
	Free Mod 3 Amount
	Free Mod 4 Amount
	Free Mod 5 Amount
	Free Mod 6 Amount
	Free Mod 7 Amount
	Free Mod 8 Amount
	Free Mod 9 Amount
	Free Mod 10 Amount
	Free Mod 11 Amount
	Free Mod 12 Amount
XY Controls	*XY Speed*
	XY Smooth
	XY X To Free 1 Amount
	XY Y To Free 1 Amount
	XY X To Free 2 Amount
	XY Y To Free 2 Amount
	XY X To Morph Amount
	XY Y To Morph Amount
Chorus Controls	*Chorus Length*
	Chorus Width

	Chorus Speed
	Chorus Spread
	Chorus Widen
	Chorus Separation
	Chorus Phase
	Chorus Shape
	Chorus Bias
	Chorus Quantization
	Chorus S&H
	Chorus Humanization
	Chorus LP
	Chorus HP
	Chorus Pan
	Chorus Mix
Flanger Controls	*Flanger Length*
	Flanger Width
	Flanger Speed
	Flanger Feed
	Flanger Spread
	Flanger Widen
	Flanger Separation
	Flanger Phase
	Flanger Shape
	Flanger Bias

	Flanger Quantization
	Flanger S&H
	Flanger Humanization
	Flanger LP
	Flanger HP
	Flanger Pan Mod
	Flanger Pan Mod Speed
	Flanger Pan
	Flanger Mix
Phaser Controls	*Phaser Pitch*
	Phaser Width
	Phaser Speed
	Phaser Feed
	Phaser Q
	Phaser Spread
	Phaser Widen
	Phaser Separation
	Phaser Phase
	Phaser Shape
	Phaser Bias
	Phaser Quantization
	Phaser S&H
	Phaser Humanization
	Phaser LP

	Phaser HP
	Phaser Pan Mod
	Phaser Pan Mod Speed
	Phaser Pan
	Phaser Mix
Delay Controls	*Delay Left Length*
	Delay Right Length
	Delay Length
	Delay Fine Length
	Delay Feedback
	Delay LP
	Delay HP
	Delay Pan
	Delay Mix
Reverb Controls	*Reverb Pre Delay*
	Reverb Pre Feed
	Reverb Pre Widen
	Reverb Size
	Reverb Length
	Reverb Damp
	Reverb HP
	Reverb Pan
	Reverb Mix