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INTRODUCTION

Thank you for purchasing the SynthTools SoundDiviner Synthesiser Plugin for Korg Poly-61.

This Synthesiser Plugin is designed to work in conjunction with SoundDiviner and will not function as a standalone application. To use this Plugin to its full potential you will also require the original Korg Poly-61 synthesiser but as with other SoundDiviner Plugins this is not its sole purpose.

OVERVIEW

This Poly-61 Plugin is used as both a converter and an editor as well as introducing some new functionality to the original Poly-61 synthesiser. Poly-61 Snapshots can be viewed, imported and exported using File or Tape Interface. Individual patches can be edited using a full range of functions available from the original Korg Poly-61 front panel and managed using the SoundDiviner tools.

ADD-ONS

SoundDiviner is an application that can be extended with additional Synthesiser and Adaptor Plugins as listed in the main manual. As outlined above this Korg Poly-61 Plugin is a Synthesiser Plugin and is designed to work with the physical hardware but additional functionality can be obtained when using Patch Sheet and Adaptor Plugins, see below for more details.

HOW IT WORKS

Snapshots can be made directly from the Korg Poly-61 Tape Interface.

Snapshots can be transferred back to the Korg Poly-61 using the Tape Interface.

Previously saved or downloaded Snapshots can be imported to increase the patch library collection.

Patch Snapshots can be viewed, organised and named for easy transferral back to the Korg Poly-61.

Patch Snapshots can be edited using all available Korg Poly-61 Parameters including some new ones.

Patch lists can be easily created using large libraries and saved to disk as “.wav” files for non

SoundDiviner users or transferred back to the Poly-61 using the Tape Interface.

SoundDiviner Projects containing finalised Poly-61 Patch Snapshots can be downloaded free from SynthTools (<https://synthtools.co.uk/sound-library/downloads/category/korg-poly-61/>)

FIRST THINGS FIRST

It is recommended that you read through this manual and get a good understanding of how Plugin Korg Poly-61 works and interacts with SoundDiviner and the differences between SoundDiviner terminology and the original Korg Poly-61 manual, which you should also have to hand. If you have not already read through the main SoundDiviner manual yet then it's recommended that you do that first but if that seems a bit daunting then it's a good idea to read all the sections related to Tape Interfaces, Tape Snapshots and if required TAPE SNAPSHOTS STEP BY STEP; also the section related to Patch Snapshots as these sections will give you a good understanding of the Poly-61 Plugin.

WHATS ADDED

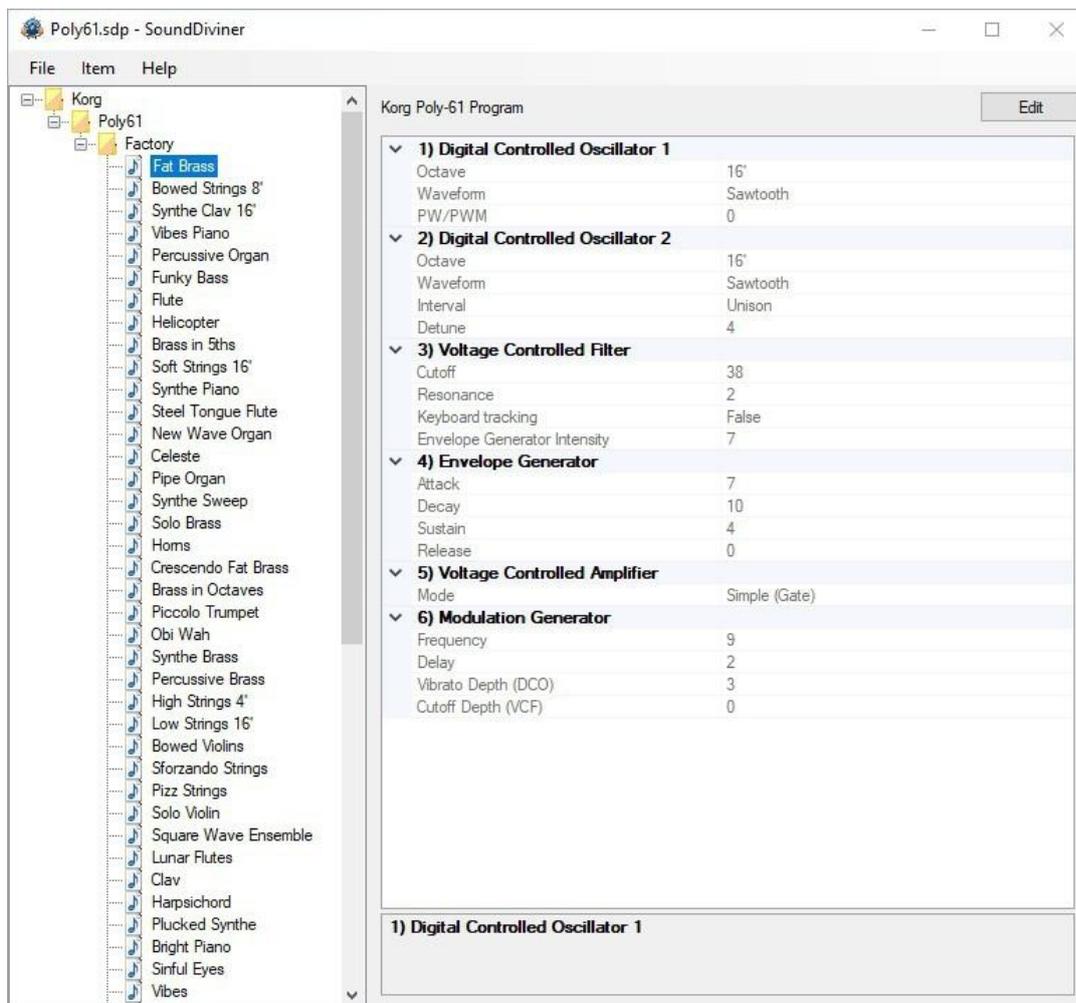
Korg Poly-61 will be added to the Plugin list and available for selection in the Select Device Windows.

Korg Poly-61 Synthesiser Plugin enables previously greyed Functions and makes others available.

The Workflow Area can now contain Patch Folders and Poly-61 Program Patch Snapshots.

Sample Options, New Patch Snapshot, Import Options, Export Options and Parse will all have available Functions as listed below and even Adapt will be accessible through additional Plugins.

The Snapshot Viewer becomes the Snapshot Editor when Patch Snapshots are selected and the Edit Control will also be available. Edit Mode gives access to change any of the Parameters used to create a Poly-61 Patch Snapshot, including the new Softmods as used in many of the DigiD Banks available free from the SynthTools Sound Library. Softmods include new Interval and Detune Values as detailed below but as the Poly-61 has no real time MIDI control all editing is disconnected.



FigureP61a

WORKFLOW AREA

Now the Poly-61 Plugin has been installed the Workflow Area can contain Patch Folders and Patch Snapshots that are compatible with the Poly-61 synthesiser as listed in the main manual. After importing or converting Tape Snapshots the Workflow Area will display Patch Folders that contain the 64 Patch Snapshots, each one representing a Preset held within the Korg Poly-61 memory.

Patch Folder

Patch Folders are really no different to any Folder Item in a SoundDiviner Project as they are just containers, once created they can be managed in the same ways as before. New Folder Items can be created within them and all Patch Snapshots listed can be managed as with any other Snapshot Item as detailed in the main manual. The free Packs online contain eight Patch Snapshots per Folder as this represent the program structure of the Poly-61 synthesiser (11-18 & 21-28 etc).

Patch Snapshot

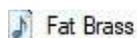
Selecting a Patch Snapshot now changes the Snapshot Area to the Snapshot Editor as described in the main manual (see Patch Snapshots), for full details on the SNAPSHOT EDITOR see below.

Patch Snapshot Type

Only one Patch Snapshot Type is available to this Plugin and this is a Korg Poly-61 Program.



After importing from File or Tape Interface Patch Snapshots will be named using the program number or Preset number as detailed in all SoundDiviner manuals, but Items can be renamed.



This is Preset 11 from the Korg Poly-61 factory tape, renamed to "Fat Brass" as listed in the original data table and parameter sheets, see FigureP61a above. Note that the Information bar displays the selected Patch Snapshot as "Korg Poly-61 Program".

SAMPLE OPTION

As detailed in the main manual, Sample Options are used to assign an audible example of the actual Poly-61 Preset to the Patch Snapshots. All Packs available from the SynthTools Sound Library have been Finalised using 22khz mono samples for identification and Edit protection.

Finalised

Once a Sample is assigned to a Patch Snapshot it is defined as Finalised and is not editable as detailed in the main manual, obviously editing the Patch Snapshot would create a different sounding Poly-61 Preset to the one selected. Remember; Edit Mode is both destructive and disconnected, it is standard practice to Edit Patch Snapshot copies as this also removes the assigned Sample as detailed in the main manual (see Snapshot Editor in the main manual for more information).

NEW PATCH SNAPSHOT

Used to create a New Patch Snapshot as detailed in the main manual (see New Patch Snapshot), by selecting Type Korg Poly-61 Program from the available manufacturer lists in the Create Patch Snapshot Window, a Poly-61 Program Patch Snapshot will be created in the Workflow Area. New Patch Snapshots will always have the Parameter values set to "0" or the first choice in the list, see the bottom row on the Poly-61 front panel for details. These Patch Snapshots can be used to create quick templates with known or anticipated results for exporting to the Poly-61 for hands on audible editing before importing back into SoundDiviner for Finalising and adding to your own libraries.

IMPORT OPTIONS

Now this Poly-61 Plugin is installed, new Import Options are possible by selecting the Device Korg Poly-61 from the available Select Device Window during the related Import Option. As detailed in the main manual selecting Korg Poly-61 Plugin instead of Unknown Device at the appropriate time in the Import File Process or Import Tape Process will create Patch Snapshots instead of Tape Snapshots, for more information see IMPORT FILE PROCESS or IMPORT TAPE PROCESS in the main manual or if you are familiar with these processes see IMPORT FILE WINDOW below.

Single Patch files can also be Imported, see BINARY DUMP below or multiple Patch Snapshots can be imported using the SoundDiviner project options as detailed in the main manual.

IMPORT FILE WINDOW

Available when importing Files or data directly from the Tape Interface (see IMPORT OPTIONS) in the main manual for full details, Korg Poly-61 Plugin will now be available for selection as a Device.



FigureP61b

Device

Used to open the Select Device Window as listed in the main manual, expand the manufacturer list for Korg and select the Poly-61 and then click OK to use the Plugin. Once selected the Do Not Import Duplicate tick box is now available for selection if required (see below).

Do Not Import Duplicates

Clicking this Tick Box instructs the Import Process to check all of the Patch Snapshots to be imported with the ones currently in your SoundDiviner Project and only imports any that are different. Using this Function, you can quickly see any new Patch Snapshots as only these are available in the new Patch Folder created using the Name inserted (see FigureP61b above).

DUPLICATES FOUND WINDOW



FigureP61c

The total amount of Duplicates Found in the Import Process will be displayed, see FigureP61c above.

Yes

Click the Yes button to display the list of Duplicates Found, see Duplicate List below.

No

Click the No button if you do not want to see the Duplicate List, see below.

DUPLICATES LIST

A standard Windows text file containing a list of the Duplicate Patch Snapshots Found will be created, passed and automatically displayed in Windows Notepad. Entries will be listed using the full SoundDiviner Project path and Patch Snapshot Name followed by the Preset Number of the Korg Poly-61 that matched the Patch Snapshot in your SoundDiviner Project, as detailed below.

Example

Korg\Poly61\Factory\Fat Brass = 11

Conclusion

Patch Snapshot “Fat Brass” located in your SoundDiviner Project “Korg\Poly61\Factory\” was Duplicated in the Import Process with the data located at Korg Poly-61 Preset number “11”.

EXPORT OPTIONS

This Korg Poly-61 Plugin enables Patch Snapshots to be exported using a range of different functions. Single Patch Snapshots can be exported and saved with the Binary dump function see BINARY DUMP below, or multiple Patch Snapshots can be exported using the SoundDiviner project options as detailed in the main manual, or directly to the Korg Poly-61 using the Export Item Process see EXPORT PATCH SNAPSHOT below.

BINARY DUMP



By selecting a Patch Snapshot you can now use (Item – Export – Binary Dump...), to open the Save As Window used to save a Patch Snapshot to a File using the extension “.sdbd_KP61Prg”. These Files can then be used for importing or shared with other compatible SoundDiviner Poly-61 Plugin users.

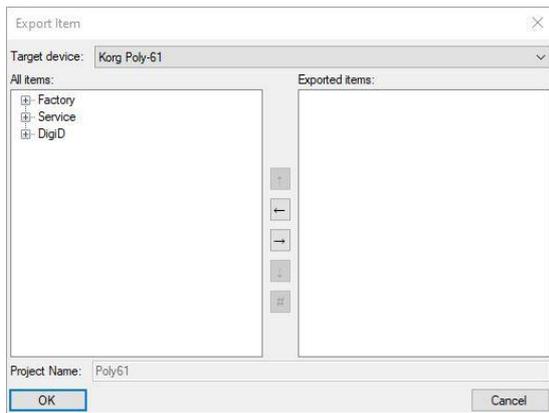
EXPORT PATCH SNAPSHOT

After correct Item selection; Export File or Export Tape Play automatically starts the Export Item Process, see below. If more than one Plugin is installed the selections in this process can become more complex as detailed in the main manual, for a better understanding of Exporting Patch Snapshots see EXPORT PATCH SNAPSHOT in the main manual unless you are totally familiar with all of these processes and just need details relating to this Plugin.

Export Item Process

This Korg Poly-61 Plugin gives you the ability to create Export lists that contain sixty-four Patch Snapshots, one for every Preset memory location or program number as detailed in the Poly-61 manual. These lists can then be exported directly to the Korg Poly-61 using the Tape Interface or saved to File in “.wav” format as detailed in the main manual.

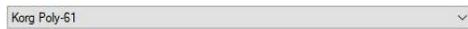
Export Item Window



FigureP61d

After selecting a Patch Folder in the Workflow Area (see FigureP61a above), in this example “Factory” all compatible Items within the Parent Folder “Poly61” will be included in the Export Item Window – All Items list (see FigureP61d above). Full details on using the Export Item Window can be found in the main manual but the following is included to help with Korg Poly-61 list building.

Target Device

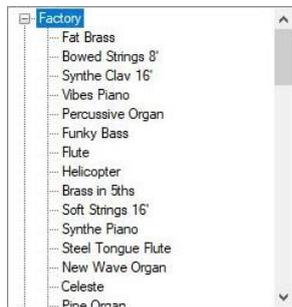


If the Device Korg Poly-61 is not already selected by default choose it now before continuing.

All Items



Patch Folders can be selected and added to the Exported Items list for quick list creating, or expanded so that specific Patch Snapshots can be selected for compilation list building.



By using the scroll bar, Patch Snapshots can then be selected and added to the Exported Items list in any order you require, filling the Korg Poly-61 memory locations from slot “11” to “88”.

Exported Items

As you should be fully aware the Korg Poly-61 has sixty-four memory locations and due to this the Exported Items list can only contain a maximum of sixty-four Patch Snapshots; not all of these locations need to be filled as Blank Programs will be used to fill any remaining spaces, for more information on these (see Blank Programs below), however exceeding the Exported Items list will result in warning and or error as detailed below.

Exported Items List



Items can be selected and moved up or down in the Exported Item List using the Control Buttons automatically changing the Korg Poly-61 memory location, as fully detailed in the main manual.

Exported Item

...[11] Fat Brass (Factory)

Items will be listed by the Korg Poly-61 memory location "Preset Number", followed by the Patch Name and Patch Folder. Korg Poly-61 only supports Preset Numbers, other information is not stored. Remember; Do Not Import Duplicates creates lists of Preset Number, Patch and Folder Names.

Blank Program

Any Preset Numbers that are not used will be filled with Blank Programs; Blank Programs have all Parameter values set to "0" or the first choice in the list, see the bottom row on Poly-61 front panel.

Export Item Warning



When trying to add more Patch Snapshots to the Export List than there are available Preset spaces will result in the following Warning message Window. Failed to add files; will report how many Patch Snapshots you are attempting to place in the Export List and the total amount that would then be in the Export List, followed by a question "Do you want to add the first XX files".

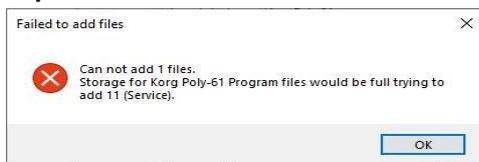
Yes

Click the Yes button to add the first XX files you selected to add to your Export Item List.

No

Click the No button to cancel the selection and not add any files to the Export Item List.

Export Item Error



When trying to add a Patch Snapshot to an already full Export Item List you will receive an Export Item Error. Failed to add files; Cannot add XX files.

OK

Click the OK Button to acknowledge the Error.

PARSE

As detailed in the main manual Parse is used to extract Patch Snapshots from Poly-61 Tape Snapshots. Any compatible Tape Snapshot in your existing SoundDiviner Project can be selected and then converted to a Patch Folder containing all sixty-four Patch Snapshots by using Parse. The new Patch Folder will be named in accordance with the original Tape Snapshot and all Patch Snapshots will be named using the Poly-61 program numbers, for full details see the main manual.

ADAPT

Adapt is used to convert Patch Snapshots between compatible Synthesiser Plugins as detailed in the main manual. For this function to work, you require two Synthesiser Plugins and the related Adaptor Plugin. Korg Poly-61 Synthesiser Plugin is currently compatible with the following Plugins.

Synthesiser Plugins

Korg PolySix and Korg Legacy Polysix

Patch Sheet Plugins

Korg Poly-61.

Adaptor Plugins

Korg Poly-61<->Poly-61 Patch Sheet, Korg Poly-61<->PolySix and Korg Poly-61<->Legacy Polysix

SNAPSHOT EDITOR

After Patch Snapshot selection the Snapshot Area becomes the Snapshot Editor see FigureP61a above, click the Edit button on the Control Bar to start Edit Mode and make Parameter changes unless Finalised in which case a copy is required as listed above. The Snapshot Editor has been designed so you quickly see all of the Parameters available to a Poly-61 Patch Snapshot and the values that have been selected, for full details on the Snapshot Editor see the main manual.

PARAMETER LISTS

As listed in the main manual; the Parameter Lists have been populated with all of the Parameters available to the Korg Poly-61 as detailed in the synthesiser manual, all arranged in Parameter Groups see FigureP61e below (for more information see Snapshot Editor in the main manual).

Patch Snapshot (fat Brass)

1) Digital Controlled Oscillator 1	
Octave	16'
Waveform	Sawtooth
PW/PWM	0
2) Digital Controlled Oscillator 2	
Octave	16'
Waveform	Sawtooth
Interval	Unison
Detune	4
3) Voltage Controlled Filter	
Cutoff	38
Resonance	2
Keyboard tracking	False
Envelope Generator Intensity	7
4) Envelope Generator	
Attack	7
Decay	10
Sustain	4
Release	0
5) Voltage Controlled Amplifier	
Mode	Simple (Gate)
6) Modulation Generator	
Frequency	9
Delay	2
Vibrato Depth (DCO)	3
Cutoff Depth (VCF)	0

FigureP61e

PARAMETERS

All of the original Korg Poly-61 Parameters are listed below but more details can be found in the original synthesiser manual. All choices and values are the same as the original synthesiser but additional previously unobtainable values have been discovered when implementing the Poly-61 Synthesiser Plugin, only available through the Plugin these changes are called Softmods see below.

SOFTMODS

Softmods are values that are available to Parameters but not made selectable by the original manufacturer for a range of different reasons, some because they have no function and others because the results are the same as a previous value but a few have unlocked new sound capabilities and these have been included, see Digital Controlled Oscillator 2 below for more information. Unlike normal Parameter Values Softmods are beyond the available scale and are displayed by the Poly-61 differently depending on the Parameter, these values can be decreased using the Poly-61 front panel control stepping through the range until reaching the original maximum value at which point the Poly-61 will display the highest value available to the scale "5" in the case of Parameter Interval, but you cannot increase the Softmods value or return beyond the original range once entered.

PARAMETER VALUES

All Parameter Values including Softmods will be stored in the selected Patch Snapshot and can be managed using all of the available SoundDiviner tools, once these have been exported to the Poly-61 synthesiser via the Tape Interface they can be modified as usual with the synth front panel apart from Softmods that are limited as detailed above, all values including Softmods can be copied from one Poly-61 memory location to another for hands on audible editing and then imported back into SoundDiviner for naming, finalising and storing in your expanding Patch library.

DIGITAL CONTROLLED OSCILLATOR 1

1) Digital Controlled Oscillator 1	
Octave	16'
Waveform	Sawtooth
PW/PWM	0

FigureP61f

DCO1 is the first of two available Oscillators used to create sound with the Korg Poly-61.

Octave

Octave	16'
--------	-----

Parameter "11" on the synth front panel, Octave determines the basic pitch range. The smaller the value the higher the pitch of the Oscillator, three choices are available 16' "foot", 8' and 4'.

Waveform

Waveform	Sawtooth
----------	----------

Parameter "12" on the synth front panel, Waveform determines the Oscillator timbre. Three waveforms are available, "1" Sawtooth, "2" Pulse Width and "3" Pulse Width Modulation.

Pulse Width/Pulse Width Modulation

PW/PWM	0
--------	---

Parameter "13" on the synth front panel, this value ranges from "0-7" and interacts differently depending on the Waveform selected but having no effect on "1" Sawtooth, see FigureP61f above. When Waveform "2" Pulse Width selected; wave shape varies from "0" Square to "7" Narrow Pulse. When Waveform "3" Pulse Width Modulation selected; wave shape start point changes from "0" Square to "7" Wide Pulse, used in conjunction with the Modulation Generator Parameter "61" Frequency, wave shape will change over time from start point shape to Narrow Pulse and back.

DIGITAL CONTROLLED OSCILLATOR 2

2) Digital Controlled Oscillator 2	
Octave	16'
Waveform	Sawtooth
Interval	Unison
Detune	4

FigureP61g

DCO2 is used alongside of DCO1 to produce thicker and richer sounds, previous Interval settings prevented OSC2 from becoming a true Sub Oscillator but this has now been rectified with the new Softmods, see Interval below and Detune for additional Softmods.

Octave

Octave	16'
--------	-----

Parameter "21" on the synth front panel, Octave determines the basic pitch range. The smaller the value the higher the pitch of the Oscillator, three choices are available 16' "foot", 8' and 4'.

Waveform

Waveform	Sawtooth
----------	----------

Parameter "22" on the synth front panel, Waveform determines the Oscillator timbre. Three choices are available "1" Off, "2" Sawtooth and "3" Square.

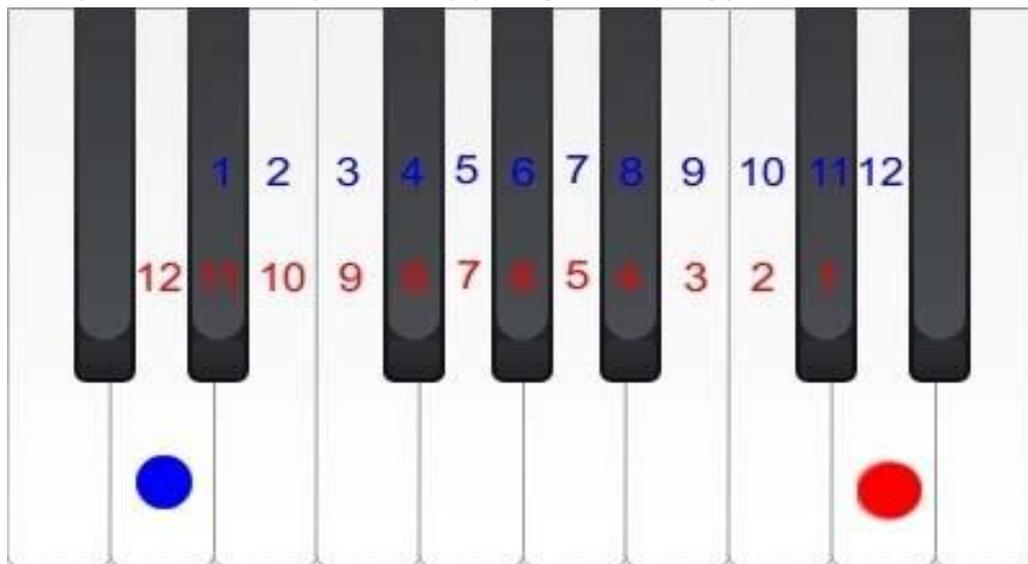
Interval

Interval	Unison
----------	--------

Parameter "23" on the front panel, Interval lets you offset the pitch of DCO2 so it sounds at a constant Interval above DCO1. However, changing the Octave value of DCO2 below DCO1 will invert the Interval and this behaviour is not fully described in the original Poly-61 manual just outlined. The original Korg Poly-61 has five choices available from the front control panel but three additional choices were never made selectable probably due to the complexity of how they relate to each other and some of the extreme side effects that can occur when using them, but if used correctly some truly new and exciting sounds can be created that were not possible before.

Interval Theory

To understand Intervals correctly it is a good idea to understand Interval and Inverted Interval Theory and this can be explained simply using the following picture and table.



FigureP61h

Interval "Ascending Interval"

DCO1="●" DCO2="1-12"

Inverted Interval "Inversion"

DCO1="●" DCO2="1-12"

Ascending Interval		Inversion	
Root "D3 in FigureP61h"	●	Root "D3 in FigureP61h"	●
Minor 2 nd	1	Major 7 th	11
Major 2 nd	2	Minor 7 th	10
Minor 3 rd	3	Major 6 th	9
Major 3 rd	4	Minor 6 th	8
Perfect 4 th	5	Perfect 5 th	7
Augmented 5 th	6	Diminished 4 th	6
Perfect 5 th	7	Perfect 4 th	5
Minor 6 th	8	Major 3 rd	4
Major 6 th	9	Minor 3 rd	3
Minor 7 th	10	Major 2 nd	2
Major 7 th	11	Minor 2 nd	1
Octave	12	Octave	12

FigureP61i

Remember; the root note changes but the relationship is always equal.

Unison



Value "1" on the Poly-61 screen; Unison sounds DCO1 and DCO2 at the same pitch, by changing the Octave values of either DCO you can make either sound lower by a maximum of two Octaves.

Minor Third



Value "-3" on the Poly-61 screen; Minor Third sounds DCO1 at Root and DCO2 three semitones higher "Minor 3rd" (see FigureP61h+i above), but only when both DCO Octave values match. When DCO2 Octave is set one value below DCO1 then the Ascending Interval becomes an Inversion creating a "Major 6th" and if set two values below it becomes a "Compound Interval 1 Octave + "Major 6th" or more commonly known a "Major 13th" the largest traditional Interval normally

recognised by name. When DCO1 Octave value is set one below DCO2 this becomes a “Compound Interval 1 Octave + Minor 3rd” or more commonly known a “Minor 10th” and when set two values below it becomes a “Compound Interval 2 Octave + Minor 3rd” or “Minor 17th”.

Major Third

Major Third 

Value “3” on the Poly-61 screen; Major Third sounds DCO1 at Root and DCO2 four semitones higher “Major 3rd” (see FigureP61h+i above), but only when both DCO Octave values match. When DCO2 Octave is set one value below DCO1 then the Ascending Interval becomes an Inversion creating a “Minor 6th” eight semitones down from DCO1 and if set two values below it becomes a “Minor 13th”. When DCO1 Octave value is set one below DCO2 this becomes a “Major 10th” and when set two values below it becomes a “Compound Interval 2 Octave + Major 3rd” or “Major 17th”.

Perfect Fourth

Perfect Fourth 

Value “4” on the Poly-61 screen; Perfect Fourth sounds DCO1 at Root and DCO2 five semitones higher “Perfect 4th” (see FigureP61h+i above), but only when both DCO Octave values match. When DCO2 Octave is set one value below DCO1 then the Ascending Interval becomes an Inversion creating a “Perfect 5th” seven semitones down, when two values below it becomes a “Perfect 12th”. When DCO1 Octave value is set one below DCO2 this becomes a “Perfect 11th” and when set two values below it becomes a “Compound Interval 2 Octave + Perfect 4th” or “Perfect 18th”.

Perfect Fifth

Perfect Fifth 

Value “5” on the Poly-61 screen; Perfect Fifth sounds DCO1 at Root and DCO2 seven semitones higher “Perfect 5th” (see FigureP61h+i above), but only when both DCO’s Octave values match. When DCO2 Octave is set one value below DCO1 then the Ascending Interval becomes an Inversion creating a “Perfect 4th” five semitones down and if set two values below it becomes a “Perfect 11th”. When DCO1 Octave value is set one below DCO2 this becomes a “Perfect 12th” and when set two values below it becomes a “Compound Interval 2 Octave + Perfect 5th” or “Perfect 19th”.

Mode Six

Mode Six 

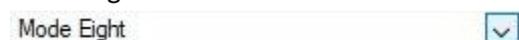
Value “_” on the Poly-61 screen; Mode Six is the 1st of the new Softmods and works differently to the five choices before. Mode Six is a true Inversion Perfect 4th where DCO1 will always be five semitones above DCO2 no matter what Octave value is used for DCO1, however setting the value of DCO2 one value below DCO1 will create a “Perfect 11th” and setting DCO2 two values below DCO1 creates a “Compound Interval 2 octaves + Perfect 4th” or “Perfect 18th”. Taking all this into account when DCO1 is set to value “1” 16’ the length of DCO2 will be 32’ so changing the Octave of DCO2 down one value will make it 64’ and then 128’ making middle A=27.5Hz and the lowest C=2.04Hz. As the Korg Poly-61 has no high pass filter these extremely low frequencies are potentially damaging so caution should be used especially when playing live into loud speaker systems. Having tested Mode Six the benefits of using DCO2 with the Octave value set to 16’ but keeping DCO1 to 4’ far outweighed the negative and obviously not so usable sub frequencies that can be generated.

Mode Seven

Mode Seven 

Value “_” on the Poly-61 screen but one setting above Mode Six; Mode seven almost did not make it into the list at all due to the unpredictable madness that results from this choice. After testing Mode Seven for some time, I have been unable to determine what is actually occurring as the changes are not actually constant across the keyboard range resulting in almost random Intervals creating drastic harmonic changes that are very discordant. Taking this into account some very interesting metallic twisting sounds can be created using this new Mode and for that reason it has been included, but as with Mode six above caution must be taken when utilizing low frequency waves.

Mode Eight



Value “_” on the Poly-61 screen but one setting above Mode Seven; Mode Eight is different again to any of the previous choices above and works with a new relationship between DCO1 and DCO2. Changing the Octave value of DCO1 still functions as normal but now also changes the Interval between DCO1 and DCO2. DCO1 will always be higher than DCO2 making the Interval an Inversion as detailed above and changing the Octave value of DCO2 increases the pitch distance as normal. There are three Inversions available in Mode Eight the first two are discordant and the last is concordant (see relationships below), a discordant or dissonant Interval is described as unstable when a concordant or consonant Interval is described as stable but dissonance is not an undesirable thing when creating sound or music in that matter as dissonance provides spice to music. Taking this into account some very interesting sounds can be created using Mode Eight but as with Mode Six and Seven above caution must be taken when utilizing low frequency waves.

Relationships

DCO1=4'

DCO2=4': Inversion Major 7th - DCO2=8': Major 14th - DCO2=16': Major 21st

DCO1=8'

DCO2=4': Inversion Minor 7th - DCO2=8': Minor 14th - DCO2=16': Minor 21st

DCO1=16'

DCO2=4': Inversion Minor 6th - DCO2=8': Minor 14th - DCO2=16': Minor 21st

Detune



Parameter “24” on the synth front panel, Detune allows the fine pitch adjustment of DCO2 used to create fatter sounds, originally the Korg Poly-61 had six choices available from the front control panel but two additional choices were never made selectable as they result in tuning adjustments and not fine pitch adjustments. Taking in to account that “100 cents = 1 semitone”, Detune starts just above zero when using value “1” to around fifty cents at value “6” as detailed in the Poly-61 manual.

Detune 7

Value “7” on the Poly-61 screen but one setting above value “6”, this Softmod value retunes both DCO1 and DCO2 to eighty cents, just shy of the next semitone up in much the same way as the Tune Knob on the Poly-61 front panel. At first glance this may seem pointless but this method of tuning has been implemented by guitar players for years and offers some very interesting harmonic characteristics even after returning the Poly-61 to key with the Tuning Knob.

Detune 8

Value “8” on the Poly-61 screen but one setting above value “7”, this Softmod value retunes both DCO1 and DCO2 to one hundred and ten cents, just above of the next semitone up in much the same way as the Tune Knob on the Poly-61 front panel. At first glance this may also seem pointless but this method of tuning has been implemented by guitar players for years and offers some very interesting harmonic characteristics even after returning the Poly-61 to key with the Tuning Knob.

VOLTAGE CONTROLLED FILTER

3) Voltage Controlled Filter	
Cutoff	38
Resonance	2
Keyboard tracking	False
Envelope Generator Intensity	7

FigureP61j

The Voltage Controlled Filter or VCF is used to control the tonal quality or timbre of the sound by removing and emphasising different harmonics in the DCO waveform. The Korg Poly-61 is only

supplied with one filter type and this is the more commonly used low pass filter that removes any harmonics above the Cutoff Frequency allowing those below to pass, whilst the Resonance value allows any harmonics at the point of Cutoff to be emphasized as detailed in the Poly-61 manual.

Cutoff

Cutoff 38

Parameter “31” on the synth front panel; Cutoff sets the frequency working point of the low pass filter, when set to “63” maximum all harmonic content will pass creating bright sounds, but when set to “0” minimum almost all of the waveform is filtered out leaving only the lowest frequency content.

Resonance

Resonance 2

Parameter “32” on the synth front panel; Resonance is used to boost the harmonics at the point of Cutoff and is used to create a range of subtle or dramatic effects, when set to “0” minimum no harmonic boosting occurs and the filter simply acts as a LPF but when set to “7” maximum any harmonics at the Cutoff point are fully boosted creating dramatic and often over exaggerated effects, by adjusting the Resonance you can emphasize just as much as required.

Keyboard Tracking

Keyboard tracking False

Parameter “33” on the synth front panel; KBD Track as listed in the Poly-61 manual can be switched On “1” or Off “0” represented by a True\False dropdown selector. When Keyboard Tracking is On “True” the Cutoff Frequency rises and falls in exact proportion to the pitch of the notes played on the keyboard allowing the timber to stay the same as the pitch changes as with conventional acoustic instruments, however when Off “False” the Cutoff Frequency is not affected by the keyboard pitch and lower notes will appear brighter than upper notes due to the VCF removing more and more of the harmonics as the pitch of the note rises.

Envelope Generator Intensity

Envelope Generator Intensity 7

Parameter “34” on the synth front panel; EG INT as listed in the Poly-61 manual is used to set how much if any the Envelope Generator is used to control the VCF Cutoff Frequency. When this value is set to “0” the Envelope Generator is not used to control the VCF Cutoff Frequency and the level remains static but when set to “7” the VCF Cutoff Frequency is fully controlled by the Envelope Generator allowing the harmonic content to change over time, by adjusting this value you can reduce the depth of the effect allowing for more subtle harmonic changes.

ENVELOPE GENERATOR

4) Envelope Generator	
Attack	7
Decay	10
Sustain	4
Release	0

FigureP61k

The Envelope Generator is used to produce changes to volume, timber or both over time and is used to create movement and expression in the sounds you create, see Poly-61 manual for more details.

Attack

Attack 7

Parameter “41” on the synth front panel; Attack is a time value and is used to determine how long it takes for the volume and or the Cutoff Frequency to rise to their maximum level after the key is pressed, when the value is set to “0” the Attack time will be as the key is pressed increasing to around ten seconds when the value is set to “15”, for more details see the Poly-61 manual.

Decay

Decay 10

Parameter “42” on the synth front panel; Decay is a time value and is used to determine how long it

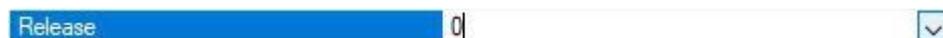
takes for the volume and or Cutoff Frequency to fall from the maximum level to the Sustain Level, Decay time starts after the Attack time is reached and during the period the key is pressed, when the value is set to “0” the Decay time is instant but increases to around twenty five seconds when set to “15” , for more details see page 38 of the Poly-61 manual.

Sustain



Parameter “43” on the synth front panel; Sustain is a level value and not a time value and is used to determine the level for the volume and or Cutoff Frequency after the Decay time is reached and during the period the key is pressed or Hold remains On, when set to “0” the level will be off but when set to “15” the level will be maximum as reached at Attack end, see Poly-61 manual.

Release



Parameter “44” on the synth front panel; Release is a time value and is used to determine how long it takes for the volume or Cutoff Frequency to fade away after you release a key, when set to “0” the Release time will be instant but increases to around twenty-eight seconds when set to “15” but this value is extremely logarithmic, when used in conjunction with the Release Pedal you obtain a greater variation of Release times as the Pedal increase the value proportionally.

Remember; when the Envelope level reaches off the key period ends.

VOLTAGE CONTROLLED AMPLIFIER



FigureP61l

The Voltage Controlled Amplifier or VCA controls the volume of the individual notes, it is used to produce volume changes over time in the same way the VCF can control timbers.

Mode



Parameter “51” on the synth front panel; EG Mode as listed in the Poly-61 manual has two Modes of operation, Simple Gate or Envelope Generator as detailed below

Simple Gate

Value “0” from the Poly-61 front panel; Simple Gate is used instead of the Envelope Generator to control the volume of the sound. Simple Gate is a square wave trigger and works as expected, when the key is pressed the volume is instantly set to maximum and remains at this constant level until the key is released and the volume is instantly return to zero or off. If the Release Pedal is connected to the Poly-61 it will have no effect when using this Mode.

Envelope Generator

Value “1” from the Poly-61 front panel; Envelope Generator is used to control the volume of the sound over time, see ENVELOPE GENERATOR above or pages 36-38 in the Poly-61 manual.

MODULATION GENERATOR

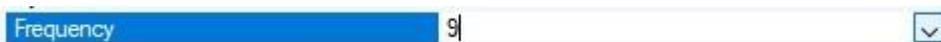


FigureP61m

The Modulation Generator or MG as listed in the Poly-61 manual is a Low Frequency Oscillator or LFO, used to create modulation effects. Only one LFO is available to the Korg Poly-61 but it can be used to modulate DCO1 and DCO2 Pitch, DCO1 Pulse Width Modulation and VCF Cutoff Frequency.

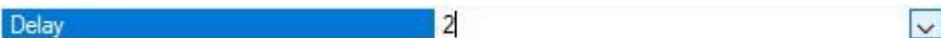
Technically a second LFO is available to the Poly-61 but this is used by the Joystick and unfortunately values for this are not stored in the programs as detailed in the Poly-61 manual.

Frequency



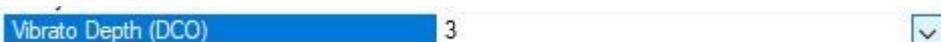
Parameter "61" on the synth front panel; Frequency determines the speed of the LFO, when set to the minimum value "0" the speed will be around 2.5 seconds per cycle (0.4Hz) increasing to a maximum value "15" where the speed will be around 80ms per cycle (12.5Hz).

Delay



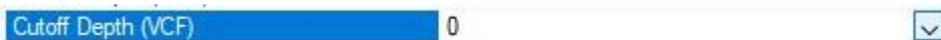
Parameter "62" on the synth front panel; Delay determines the time if any before the modulation effect starts after the key is pressed, when the value is set to "0" there will be no Delay and the modulation effect is applied as the key is pressed but this increases to around 1.7 seconds when set to value "3" the maximum setting. Delay has no effect on DCO1 Pulse Width Modulation.

Vibrato Depth



Parameter "63" on the synth front panel; Vibrato Depth (Digital Controlled Oscillator) or DCO as listed on the synth front panel and in the Poly-61 manual determines the Vibrato Depth, when set to value "0" no effect is applied but this increases to a maximum of "7" full Vibrato effect or pitch modulation as it is more commonly known on other synthesisers.

Cutoff Depth



Parameter "64" on the synth front panel; Cutoff Depth (Voltage Controlled Filter) or VCF as listed on the synth front panel and in the Poly-61 manual determines the Cutoff Depth; when set to value "0" no effect is applied but this increases to a maximum of "7" full effect, listed in the Poly-61 manual as Auto wah or auto variation in tone quality this effect is commonly known as Cutoff modulation.

PATCH SHEET PLUGIN

Unlike the Korg Poly-61 some synthesisers don't have program or Preset memory and these models are supported in SoundDiviner through the use of Patch Sheet Plugins. Patch Sheets have always been a very useful way to share and keep records for all synths not just those without memory, taking this all into account the Korg Poly-61 Patch Sheet Plugin is also available separately.

Korg Poly-61 Patch Sheet Plugin

After installation Korg Poly-61 (patch sheet) will be available as a Device and should be considered as a Device in its own right that works independently of the Korg Poly-61 Synthesiser Plugin described throughout this manual. Either used on its own or in combination with the Synthesiser Plugin the Patch Sheet Plugin is a very useful Addition that is supplied with the required Adaptor Plugin for Patch Snapshot conversion (Korg Poly-61<->Poly-61 Patch Sheet), for more information on the Korg Poly-61 Patch Sheet Plugin see the related Plugin manual.

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