SYNTH**T**OOLS **S**OUND**D**IVINER PATCH SHEET PLUGIN FOR KORG POLY-61

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SYNTHTOOLS SOUNDDIVINER PATCH SHEET PLUGIN FOR KORG POLY-61

INTRODUCTION

Thank you for purchasing the SynthTools SoundDiviner Patch Sheet Plugin for Korg Poly-61. This Patch Sheet 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 hardware and the Korg Poly-61 Synthesiser Plugin available separately but as with other SoundDiviner Plugins this Plugin has more than one purpose.

OVERVIEW

This Korg Poly-61 Plugin is used as both a converter and an editor but was primarily designed for creating comma separated value patch books (.csv), for quick and easy access to lists of Poly-61 programs. As with all Patch Sheet Plugins they are designed as a representation of the hardware synthesiser and all programming must be done using the synth front panel, but audio examples can still be attached for identification and Tape Snapshots can be made of the Korg Poly-61 for quick transferral of all sixty-four programs. Korg Poly-61 Patch Sheet Patch Snapshots can be viewed, imported, exported, edited and managed using all the SoundDiviner tools and even converted and transferred back to the Poly-61 hardware using additional Plugins.

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 Patch Sheet Plugin and is designed to work on its own or with Synthesiser Plugins. Technically Patch Sheet Plugins are both adaptor Plugins and synthesiser Plugins but they can't actually communicate with hardware or software synthesisers without the use of the required Synthesiser Plugin, see below for more details.

HOW IT WORKS

New Patch Snapshots can be created, edited and managed in the same way as any Patch Snapshot. Items can be imported\exported individually or in groups using different Import\Export Options. Patch Snapshots can be viewed, organised, named and easily retrieved for Poly-61 programming. Patch Sheets contain all of the Poly-61 Parameters displayed ascending for ease of viewing\editing. Supplied with a bidirectional Adaptor Plugin ready for conversions between Patch Sheet Plugin and Korg Poly-61 Synthesiser Plugin available separately, for more information see below.

FIRST THINGS FIRST

It is recommended that you read through this manual and get a good understanding of how this Plugin works and interacts with SoundDiviner and the differences between the Poly-61 Synthesiser Plugin available separately and this Poly-61 Patch Sheet Plugin. If you are not familiar with SoundDiviner terminology and the differences between the Plugins and the original Korg Poly-61 synthesiser it would be a good idea to read the sections of the main manual related to Patch Snapshots, Import Options and Export Options, focusing on sections related to Files.
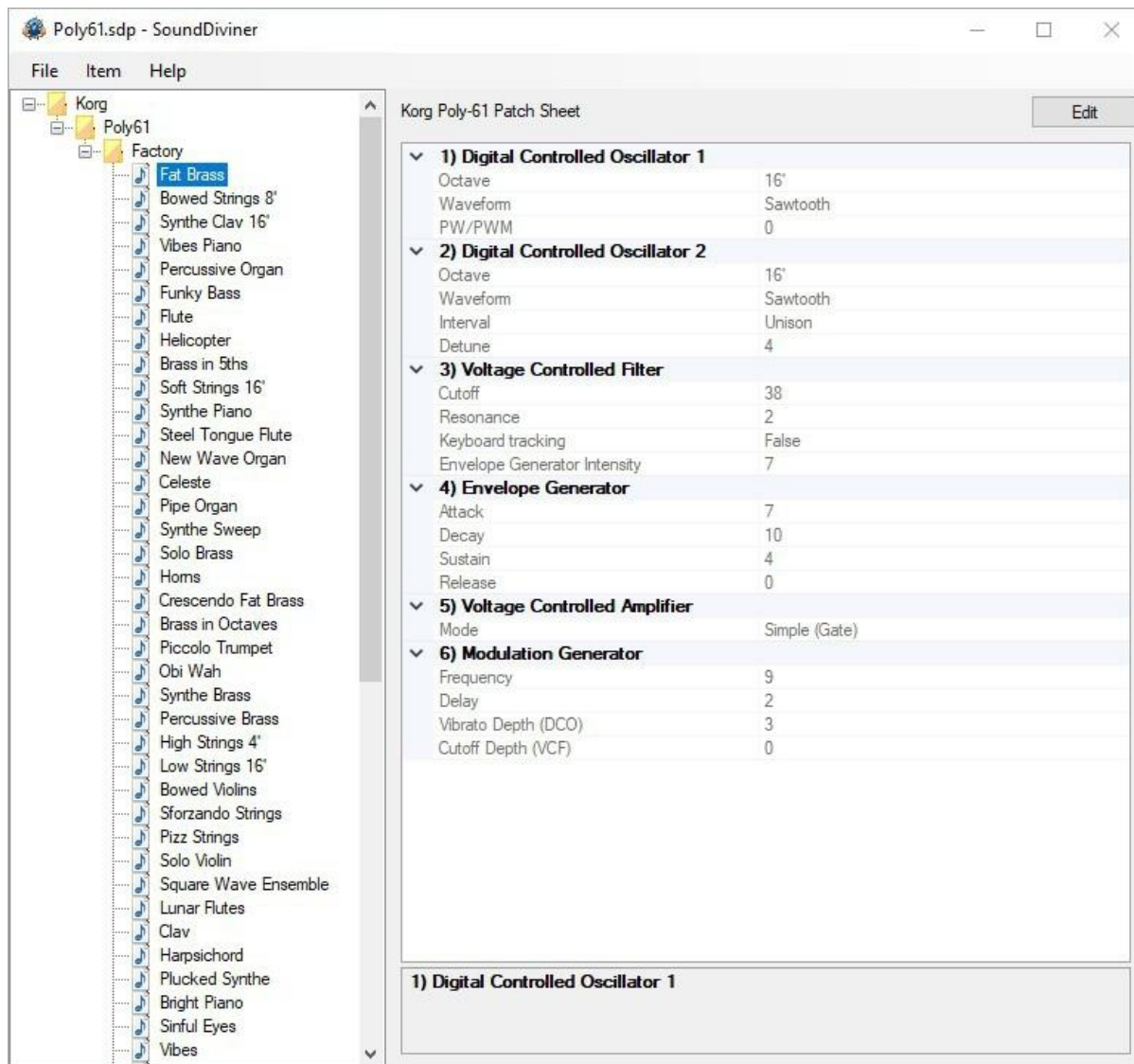
WHATS ADDED

Korg Poly-61 (patch sheet); will be added to the Plugin list and available for selection in the Select Device Windows, enabling previously greyed Functions and making others available. The Workflow Area can now contain Patch Folders and Poly-61 Patch Sheet Patch Snapshots. Sample Options, New Patch Snapshot, Import Options, Export Options and Parse will all have available Functions as listed below and even Adapt can 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 choices but these require the Korg Poly-61 Synthesiser Plugin available separately, for more information see below.

FigureP61A

WORKFLOW AREA

Now the Poly-61 Patch Sheet Plugin has been installed the Workflow Area can contain Patch Folders and Patch Snapshots that are compatible with the Poly-61 synthesiser and the Parameter values used to create sound as listed in the main manual. The Patch Snapshots displayed in FigureP61A; above are the original Korg Poly-61 factory sounds as listed in the data table for Poly-61, "Fat Brass" is currently selected and all Parameters are visible in their related Groups.
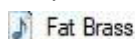
Patch Folder

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.

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 Patch Sheet.

♪ Fat Brass.sdp

This is program11 or Preset 11 as described in all SoundDiviner manuals; from the Korg Poly-61 data table and parameter patch sheets, renamed to "Fat Brass" as originally listed, see FigureP61A above. Note that the Information bar displays the selected Patch Snapshot as "Korg Poly-61 Patch Sheet".

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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 for quick identification and finalising.
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 (patch sheet) from the available manufacture lists in the Create Patch Snapshot Window, a Poly-61 Patch Sheet 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 as a representation of any of your Poly-61 Presets by entering the saved data as you would when using a physical paper patch sheet, with the benefits of a SoundDiviner Project Item.
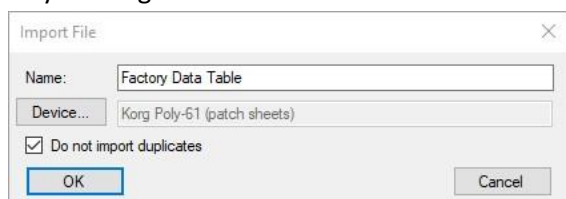
IMPORT OPTIONS
Now this Poly-61 Plugin is installed, new Import Options are possible by selecting the Device Korg Poly-61 (patch sheet) from the available Select Device Window during the related Import Option. As detailed in the main manual selecting Korg Poly-61 (patch sheet) Plugin instead of Unknown Device at the appropriate time in the Import File Process will create Patch Snapshots instead of Binary Snapshots, for more information see IMPORT FILE PROCESS in the main manual or if you are familiar with this process 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 (see IMPORT OPTIONS), in the main manual for full details, this Korg Poly-61 Plugin will now be available for selection as a Device.
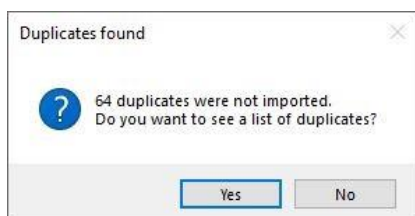

FigureP61B
Device
Used to open the Select Device Window as listed in the main manual, if not selected by default, expand the manufacturer list for Korg and select the Poly-61 (patch sheet) and then click OK to use the Plugin. Once selected the Do Not Import Duplicate tick box is now available for selection if required as detailed 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 Patch Name of the data record that matched the Patch Snapshot in your SoundDiviner Project, as detailed below.

Example

Korg\Poly61\Factory\Fat Brass = Fat Brass

Conclusion

Patch Snapshot "Fat Brass" located in your SoundDiviner project "Korg\Poly61\Factory\" was Duplicated in the Import Process with the data record "Fat Brass".

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 (.csv) File using the Export Item Process, for more details 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_KP61Row". These Files can then be used for importing or shared with other compatible SoundDiviner Poly-61 Plugin users.
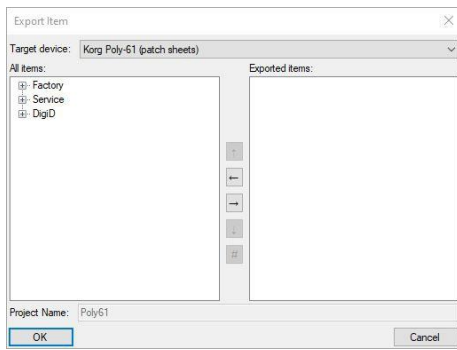
EXPORT PATCH SNAPSHOT

After correct Item selection; Export File 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 any numbers of Snapshots from any number of Folders. These lists can then be exported and saved to File in ".csv" format as outline in the main manual or below, (see CSV). When using the Adaptor Plugin to Export and save to File in ".wav" format, remember the Preset restriction (see related Plugin 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 Patch Sheet list building.
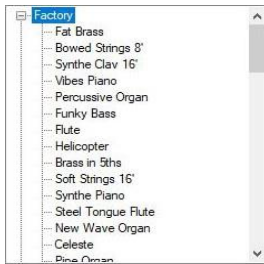
Target Device

If Korg Poly-61 (patch sheet) 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.
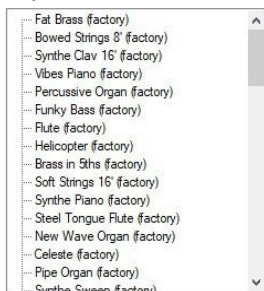

By using the scroll bar, Patch Snapshots can then be selected and added to the Exported Items list in any order you require as this represents the data record order.
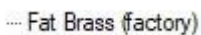
Exported Items

There is no limit to the amount of Patch Snapshots that can be added to the Export Items List, in fact only one Item need be in the list for the Process to complete, see CSV 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 data record order, as fully detailed in the main manual.

Exported Item

Divided into two sections and not three as with Synthesiser Plugins; Items will be listed by the Patch Name and Patch Folder only, but the Folder name will not be included in the data records only the Parameter values. Remember; Do Not Import Duplicates creates lists of Folder and Patch Names.

CSV

Name	DCO1 Octave	DCO1 Waveform	DCO1 Intensity	DCO2 Octave	DCO2 Waveform	DCO2 Interval	DCO2 Detune	VCF Cutoff	VCF Resonance	VCF Kbd Track	VCF EG int	Attack	Decay	Sustain	Release	VCA Mode	MG Frequency	MG Delay	MG Depth DCO	MG Depth VCF
Fat Brass	16'	Sawtooth	0	16'	Sawtooth	Unison	4	38	2	FALSE	7	7	10	4	0	Simple (Gate)	9	2	3	0

FigureP61E

As you should be aware a ".csv" File is a comma separated value file as mentioned in this manual and fully documented on the internet as this format has been in use for many years. CSV files can be opened in a range of different software application including different spreadsheet ones, tools can be used to create the style of patch sheet or patch sheet book you require as displayed above. In this example only one Patch Snapshot has been exported "Fat Brass", see FigureP61E above. The first row of the data records will always be Name followed by the Parameter headers; each with a standard separator, the second and consecutive data records will be the Patch Snapshot Name followed by the Parameter Values, see FigureP61E above as the first record has been highlighted.

PARSE

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

ADAPT

Adapt is used to convert Patch Snapshots between compatible Synthesiser Plugins, for this function to work you require two Synthesiser Plugins and the related Adaptor Plugin as detailed in the main manual. As mentioned above, Patch Sheet Plugins are technically both and by design they are compatible with their synthesiser namesake. Korg Poly-61 (patch sheet) Plugin is supplied with the bidirectional Adaptor Plugin to convert Patch Snapshots between itself and the Korg Poly-61 Synthesiser Plugin as mentioned above, creating a real link between the Patch Sheet and hardware.

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 FigureP61F below (for more information see Snapshot Editor in the main manual).

Patch Snapshot "fat Brass"

FigureP61F

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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 were 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. Due to these restrictions Softmods can be selected when editing Patch Sheets but not implemented on the Poly-61 hardware without the use of the appropriate Synthesiser Plugin as detailed above.

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, these Values can be manually programmed into the Poly-61 synthesiser via the front panel apart from Softmods as detailed above and an audio example assigned to Finalise the Patch Snapshot for identification and safe keeping.

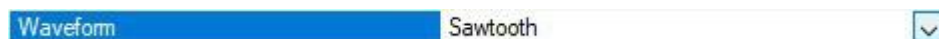DIGITAL CONTROLLED OSCILLATOR 1

FigureP61G

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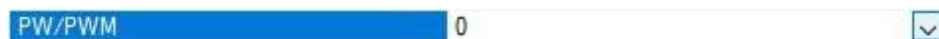
Octave

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

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

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 FigureP61G 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

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

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

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

Interval

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 where never implement 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"

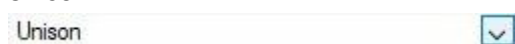DCO1="🔵" DCO2="**1-12**"

Inverted Interval "Inversion"

DCO1="🔴" DCO2="**1-12**"

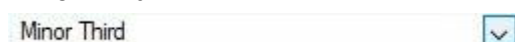| Ascending Interval		Inversion	
Root "D3 in FigureP61h "	🔵	Root "D3 in FigureP61h"	🔴
Minor 2nd	**1**	Major 7th	**11**
Major 2nd	**2**	Minor 7th	**10**
Minor 3rd	**3**	Major 6th	**9**
Major 3rd	**4**	Minor 6th	**8**
Perfect 4th	**5**	Perfect 5th	**7**
Augmented 5th	**6**	Diminished 4th	**6**
Perfect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

FigureP61I

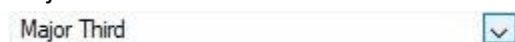Remember; the root note changes but the relationship is always equal.

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.
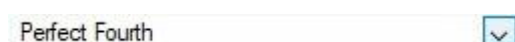
Minor Third

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

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

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

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 mater 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

Detune	4	⌄

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 where never implement 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.
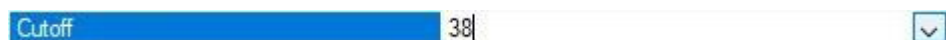
Detune 8

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

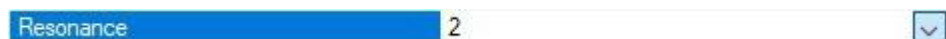| ⌄ **3) Voltage Controlled Filter**	
Cutoff	38
Resonance	2
Keyboard tracking	False
Envelope Generator Intensity	7

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 boasting occurs and the filter simply acts as a LPF but when set to "7" maximum any harmonics at the Cutoff point are fully boasted 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

Sustain	4	☑

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.
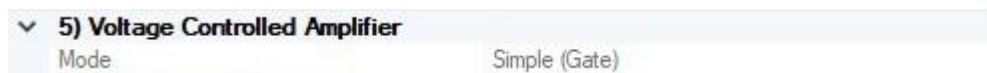
Release

Release	0	☑

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.

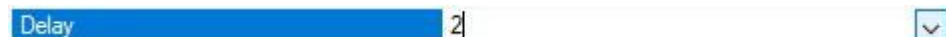
MODULATION GENERATOR

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).
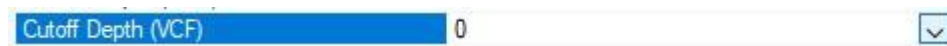
Delay

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

Cutoff Depth (VCF)	0	⌄

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.

SYNTHESISER PLUGIN

Unlike the Korg Poly-61 some synthesisers don't have program or Preset memory and these models are only supported in SoundDiviner through the use of Patch Sheet Plugins. Synthesisers with Preset memory are supported in SoundDiviner through Synthesiser Plugins using the required interface.
Korg Poly-61 Synthesiser Plugin
After installation Korg Poly-61 will be available as a Device and this works directly with the Poly-61 hardware synthesiser through the use of the Tape Interface. Korg Poly-61 Synthesiser Plugin enables the creation of Program Patch Snapshots and the use of Softmods as listed above. All Patch Snapshots created with the Poly-61 (patch sheet) Plugin can be converted to Program Patch Snapshots and transferred to the Korg Poly-61 hardware synthesiser using Export Lists and the Tape Interface, for more information on the Korg Poly-61 Synthesiser Plugin see the related manual.

ADAPTOR PLUGIN

Unlike Synthesiser Plugins for hardware or software synths Patch Sheet Plugins are supplied with the bidirectional Adaptor Plugin required for converting Patch Sheets to Programs as listed above.

ADAPTOR PLUGIN INTRODUCTION

"SynthTools SoundDiviner Adaptor Plugin for Korg Poly-61<-> Korg Poly-61 (patch sheet)" is designed to work in conjunction with SoundDiviner and its related Plugins and will not function as a standalone application. This Adaptor Plugin is supplied with the Korg Poly-61 (patch sheet) Plugin but requires the Korg Poly-61 Synthesiser Plugin available separately to have any function within the SoundDiviner application.

ADAPTOR PLUGIN OVERVIEW

This Korg Poly-61 Plugin is used as a link between the Korg Poly-61 (patch sheet) Plugin and the Korg Poly-61 Synthesiser Plugin. This link or Adaptor as they are described in all SoundDiviner manuals is used when converting Patch Snapshots between the Patch Sheet Plugin and the Synthesiser Plugin.

ADAPTOR PLUGIN 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 an Adaptor Plugin and is designed to work with the supplied Patch Sheet Plugin and the Synthesiser Plugin available separately. Technically Adaptor Plugins are not available for selection per se but instead allows the required Device to be selected when converting between Plugins, see below for more details.

ADAPTOR PLUGIN HOW IT WORKS

Patch Snapshots created with the Korg Poly-61 (patch sheet) Plugin can be converted to Korg Poly-61 Program Patch Snapshots using the Adapt Function, for more details see below.
Patch Snapshots created with the Korg Poly-61 Synthesiser Plugin can be converted to Patch Sheet Patch Snapshots using the Adapt Function, for more details see below.
Patch Sheets can be compiled in lists, converted and transferred directly to the Korg Poly-61 hardware synthesiser via the Tape Interface with the use of both Plugins and Audio Interface.

SYNTHTOOLS SOUNDDIVINER PATCH SHEET PLUGIN FOR KORG POLY-61

ADAPTOR PLUGIN FIRST THINGS FIRST
It is recommended that you read through this manual and get a good understanding of how this Plugin works and interacts with SoundDiviner and the required Plugins and the differences between SoundDiviner terminology and the original Korg Poly-61 manual. If you have not already familiarised yourself with the section in the main manual relating to Patch Snapshots, this would be a good time.

ADAPTOR PLUGIN WHATS ADDED
After installation of this Korg Poly-61 Adaptor Plugin; Converter Korg Poly-61 Program to Korg Poly-61 Patch Sheet and Converter Korg Poly-61 Patch Sheet to Korg Poly-61 Program will be added to the available Plugin List. No additional functionality will be added to SoundDiviner unless you already have the Korg Poly-61 Synthesiser Plugin installed. Once the Korg Poly-61 Synthesiser Plugin is installed, Patch Snapshots from both Program and Patch Sheet Plugins will be compatible with each other enabling the Adapt Function and allowing both devices to become available in any of the appropriate Export processes, for more information see below.

ADAPTOR PLUGIN ADAPT
Assuming that all of the correct Plugins are installed as detailed above; Adapt has two ways of working, the Adapt Function as described in the main manual (see Adapt Function) Remember; the Target Device is ether Korg Poly-61 when converting from Patch Sheet to Program or Korg Poly-61 (patch sheet) when converting from Program to Patch Sheet. The second way of working is through the Export Item Process as detailed in the main manual (see EXPORT PATCH SNAPSHOT) in the main manual or in either of the related Plugin manuals for full details on that Plugin as the Target Device, or below for additional information and pointers. Remember; As both of these Korg Poly-61 Plugins are related to the same hardware synthesiser all conversion will be exact.

ADAPTOR PLUGIN EXPORT PATCH SNAPSHOT
After correct Item selection; Export File automatically starts the Export Item Process as detailed in the main and Plugin manuals. Now both of the Korg Poly-61 Plugins are installed, either will be available for selection as the Target Device (see below). Remember when exporting to ".csv" File, the Export List has no size restrictions but when exporting to ".wav" File, the Export List is reduced to sixty-four Patch Snapshots as this is the limit available to the Korg Poly-61 hardware synthesiser and detailed in the Plugin manual (See Korg Poly-61 Plugin manual).
After correct Item selection; Export Tape Play automatically starts the Export Item Process as detailed in the main and Plugin manuals. Now both of the Korg Poly-61 Plugins are installed Patch Snapshots Types from both will be compatible with the Korg Poly-61 hardware synthesiser and will be available in the All Items list, for more information see Korg Poly-61 Plugin manual.
Target Device
Select the Device Korg Poly-61 (patch sheet) to convert Program Patch Snapshots to Patch Sheet Patch Snapshots or select Device Korg Poly-61 to convert Patch Sheet Patch Snapshots to Program Patch Snapshots. Remember; Patch Snapshot Type is displayed in the Information Bar.

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