

MAIN CONTENTS

MAIN CONTENTS	1
INTRODUCTION	2
OVERVIEW	2
ADD-ONS	2
HOW IT WORKS	2
FIRST THINGS FIRST	2
WHATS ADDED	2
WORKFLOW AREA	3
SAMPLE OPTION	4
NEW PATCH SNAPSHOT	4
IMPORT OPTIONS	4
IMPORT FILE WINDOW	4
DUPLICATES FOUND WINDOW	5
DUPLICATES LIST	5
EXPORT OPTIONS	5
BINARY DUMP	5
EXPORT PATCH SNAPSHOT	5
Export Item Window	6
PARSE	7
ADAPT	7
SNAPSHOT EDITOR	8
PARAMETER LISTS	8
PARAMETERS	8
SOFTMODS	8
PARAMETER VALUES	9
VOLTAGE CONTROLLED OSCILLATOR	9
VOLTAGE CONTROLLED FILTER	10
VOLTAGE CONTROLLED AMPLIFIER	11
ENVELOPE GENERATOR	11
MODULATION GENERATOR	12
EFFECTS	13
PATCH SHEET PLUGIN	14
INDEX	15

## INTRODUCTION

Thank you for purchasing the SynthTools SoundDiviner Synthesiser Plugin for Korg PolySix. 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 Polysix synthesiser but as with other SoundDiviner Plugins this is not its sole purpose.

## OVERVIEW

This PolySix Plugin is used as both a converter and an editor as well as introducing some new functionality to the original Polysix synthesiser. PolySix 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 Polysix 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 PolySix 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

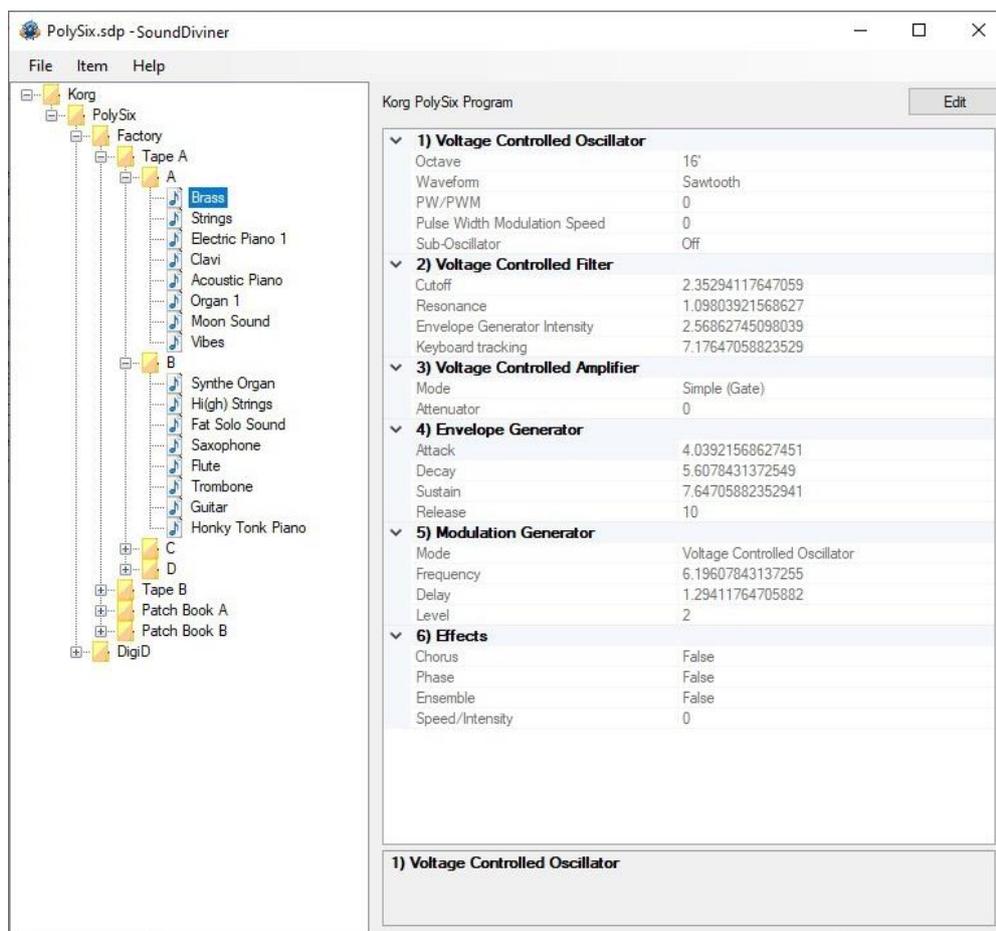
Snapshots can be made directly from the Korg Polysix Tape Interface. Snapshots can be transferred back to the Korg Polysix using the Tape Interface. Previously saved or downloaded Snapshots can be imported to increase the patch library collection. Patch Snapshots can be viewed, organised and named for easy transferral back to the Korg PolySix. Patch Snapshots can be edited using all available Korg Polysix controls or Parameters as they are described in all SoundDiviner manuals and some have new selections previously unavailable. 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 Polysix using the Tape Interface. SoundDiviner Projects containing finalised PolySix Patch Snapshots can be downloaded free from SynthTools (<https://synthtools.co.uk/sound-library/downloads/category/korg-polysix/>).

## FIRST THINGS FIRST

It is recommended that you read through this manual and get a good understanding of how Plugin Korg PolySix works and interacts with SoundDiviner and the differences between SoundDiviner terminology and the original Korg Polysix 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 PolySix Plugin.

## WHATS ADDED

Korg PolySix will be added to the Plugin list and available for selection in the Select Device Windows. Korg PolySix Synthesiser Plugin enables previously greyed Functions and makes others available. The Workflow Area can now contain Patch Folders and PolySix 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 PolySix Patch Snapshot, including the new Softmods as used in some of the DigiD Banks available free from the SynthTools Sound Library. Softmods include new MG and Effects selections as detailed below but as the PolySix has no real time MIDI control all editing is disconnected.



FigureP6-01

## WORKFLOW AREA

Now the PolySix Plugin has been installed the Workflow Area can contain Patch Folders and Patch Snapshots that are compatible with the Polysix synthesiser as listed in the main manual. After importing or converting Tape Snapshots the Workflow Area will display Patch Folders that contain the thirty-two Patch Snapshots, each one representing a Preset within the Korg Polysix 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 bank\program structure of the Polysix synthesiser (A1-8 to D1-8).

### 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 PolySix Program.



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



This is Preset A1 from the Korg Polysix factory tape A, renamed to “Brass” as listed in the original setting charts, see FigureP6-01 above. Note that the Information bar displays the selected Patch Snapshot as “Korg PolySix Program”.

### SAMPLE OPTION

As detailed in the main manual, Sample Options are used to assign an audible example of the actual PolySix 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 PolySix 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 PolySix Program from the available manufacturer lists in the Create Patch Snapshot Window, a PolySix Program Patch Snapshot will be created in the Workflow Area. New Patch Snapshots will always have the Parameter Values set to “true zero” and this may not be how you assume them to be as the internal structures are different to the Polysix front panel control values and switch selections; for example, EG Intensity has a scale of “-5 to +5” but true zero will be “-5” as this is the lowest value that can be selected with this control or Parameter as described in all SoundDiviner manuals (see Parameter Values below). These Patch Snapshots can be used to create quick templates with known or anticipated results for exporting to the Polysix for hands on audible editing before importing back into SoundDiviner for Finalising and adding to your own library’s.

### IMPORT OPTIONS

Now this PolySix Plugin is installed, new Import Options are possible by selecting the Device Korg PolySix from the available Select Device Window during the related Import Option. As detailed in the main manual selecting Korg PolySix 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 PolySix Plugin will now be available for selection as a Device.



FigureP6-02

#### Device

Used to open the Select Device Window as listed in the main manual, expand the manufacturer list for Korg and select the PolySix 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 FigureP6-02 above).

#### DUPLICATES FOUND WINDOW



FigureP6-03

The total amount of Duplicates Found in the Import Process will be displayed in the Duplicates Found Window, see FigureP6-03 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 PolySix that matched the Patch Snapshot in your SoundDiviner Project, as detailed below.

Example

Korg\PolySix\Factory\Tape A\A\Brass = A1

Conclusion

Patch Snapshot “Brass” located in your SoundDiviner Project “Korg\PolySix\Factory\Tape A\A\” was Duplicated in the Import Process with the data located at Korg PolySix Preset number “A1”.

#### EXPORT OPTIONS

This Korg PolySix 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 Polysix 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\_KP6Prg”. These Files can then be used for importing or shared with other compatible SoundDiviner PolySix Plugin users.

#### EXPORT PATCH SNAPSHOT

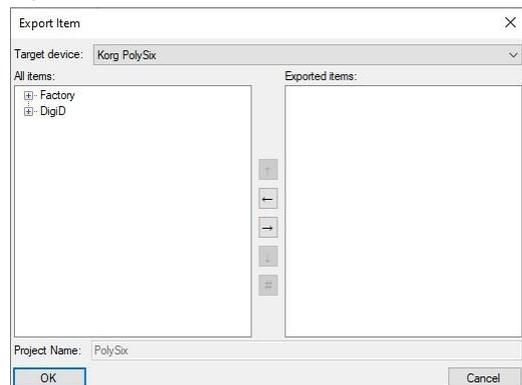
After correct Item selection; Export File or Export Tape Play automatically starts the Export Item Process, see below. If more than one Plugin is installed the selections in this process can become more complex as detailed in the main manual, for a better understanding of Exporting Patch Snapshots see 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 PolySix Plugin gives you the ability to create Export lists that contain thirty-two Patch Snapshots, one for every Preset memory location or bank\program number as detailed in the Polysix

manual. These lists can then be exported directly to the Korg Polysix using the Tape Interface or saved to File in “.wav” format as detailed in the main manual.

### Export Item Window



FigureP6-04

After selecting a Patch Folder in the Workflow Area (see FigureP6-01 above), in this example “Factory” all compatible Items within the Parent Folder “PolySix” will be included in the Export Item Window – All Items list (see FigureP6-04 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 PolySix list building.

#### Target Device

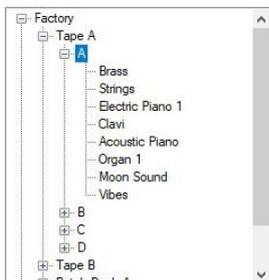


If the Device Korg PolySix is not already selected by default choose it now before continuing.

#### 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 Polysix memory locations from slot “A1” to “D8”.

#### Exported Items

As you should be fully aware the Korg Polysix has thirty-two memory locations and due to this the Exported Items list can only contain a maximum of thirty-two 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 Polysix memory location, as fully detailed in the main manual.

Exported Item

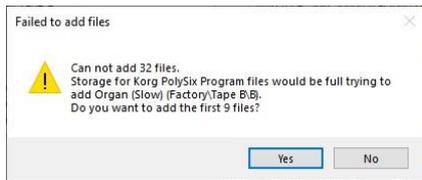
... [A1] Brass (Factory\Tape A\A)

Items will be listed by the Korg Polysix memory location “Preset Number”, followed by the Patch Name and Patch Folder. Korg Polysix 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 “true zero” as with New Patch Snapshots, for more information on this see New Patch Snapshot above and Parameter Values below.

**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”.

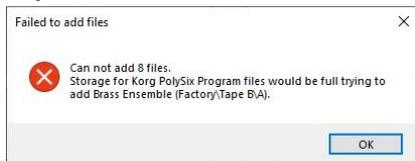
Yes

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 PolySix Tape Snapshots. Any compatible Tape Snapshot in your existing SoundDiviner Project can be selected and then converted to a Patch Folder containing all thirty-two 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 Polysix bank\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 PolySix Synthesiser Plugin is currently compatible with the following Plugins.

Synthesiser Plugins

Korg Poly-61 and Korg Legacy Polysix

Patch Sheet Plugins

Korg Poly-61.

Adaptor Plugins

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

### SNAPSHOT EDITOR

After Patch Snapshot selection the Snapshot Area becomes the Snapshot Editor see FigureP6-01 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 PolySix Patch Snapshot and the values that have been selected, for full details on the Snapshot Editor see the main manual. Remember; All PolySix controls are known as Parameters in all SoundDiviner manuals.

### PARAMETER LISTS

As listed in the main manual; the Parameter Lists have been populated with all of the Parameters available to the Korg PolySix as detailed in the synthesiser manual, all arranged in Parameter Groups see FigureP6-05 below (for more information see Snapshot Editor in the main manual).

#### Patch Snapshot (Brass)

<b>1) Voltage Controlled Oscillator</b>	
Octave	16'
Waveform	Sawtooth
PW/PWM	0
Pulse Width Modulation Speed	0
Sub-Oscillator	Off
<b>2) Voltage Controlled Filter</b>	
Cutoff	2.35294117647059
Resonance	1.09803921568627
Envelope Generator Intensity	2.56862745098039
Keyboard tracking	7.17647058823529
<b>3) Voltage Controlled Amplifier</b>	
Mode	Simple (Gate)
Attenuator	0
<b>4) Envelope Generator</b>	
Attack	4.03921568627451
Decay	5.6078431372549
Sustain	7.64705882352941
Release	10
<b>5) Modulation Generator</b>	
Mode	Voltage Controlled Oscillator
Frequency	6.19607843137255
Delay	1.29411764705882
Level	2
<b>6) Effects</b>	
Chorus	False
Phase	False
Ensemble	False
Speed/Intensity	0

FigureP6-05

### PARAMETERS

All of the original Korg PolySix 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 PolySix Synthesiser Plugin, only available through the Plugin these changes are called Softmods see below. As the Korg Polysix is an analogue synthesiser with true analogue controls the Parameter Values will not be displayed as you may assume and will be derived from the exact saved values as defined by the eight-bit ADC and DAC, for more information on this see PARAMETER VALUES below.

### SOFTMODS

Softmods are values that are available to Parameters that were 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 Modulation Generator and Effects below for more information. Unlike normal Parameter Values Softmods are beyond reach from the Polysix front panel and have no visual way of displaying their presence apart from the obvious new changes to the sound itself, if the Polysix front panel control connected to any of the Softmods is adjusted the setting will be replaced with that of the front panel and cannot be reinstated, see related Parameter Value below.

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 Polysix synthesiser via the Tape Interface they can be modified as usual with the synthesiser front panel apart from Softmods that are limited as detailed above, all values including Softmods can be copied from one Polysix 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.

Analogue Values

The Korg Polysix is a true analogue synthesiser as outlined above and due to this the values displayed are derived from the exact saved values as defined by the eight-bit ADC and recalled by the DAC when updating the analogue circuitry. These values can be displayed down to a maximum of sixteen decimal places depending on the actual location of the Polysix control. As I am sure you are aware all potentiometers are slightly different and all Polysix synthesisers will be calibrated slightly differently but by using these accurate values you can see the differences between what your front control indicator is listing and the actual value stored by your Polysix.

Value Style 4



Parameter Values can be changed using one of three different Value Styles as listed in the main manual but Analogue Values have access to a fourth style similar to Value Style 2, but instead of one Value display there are two. The top Value display is rounded to four decimal places and can be used to input smaller values that represent the Polysix controls more familiarly whilst the lower screen displays the factual value stored by the ADC. Note that due to hardware limitations odd number values like “1,3,5,7 and 9” cannot be obtained exactly but will not be far off.

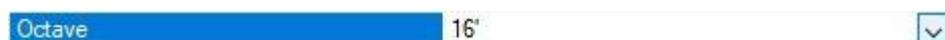
VOLTAGE CONTROLLED OSCILLATOR

<b>1) Voltage Controlled Oscillator</b>	
Octave	16'
Waveform	Sawtooth
PW/PWM	0
Pulse Width Modulation Speed	0
Sub-Oscillator	Off

FigureP6-06

The Voltage Controlled Oscillator or “VCO” as labelled on the front of the Polysix is the basic sound source of the synthesiser, five Parameters are available as detailed below.

**Octave**



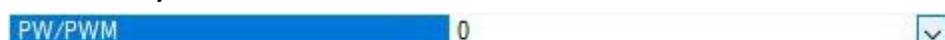
Octave determines the basic pitch range, the smaller the value the higher the pitch of the Oscillator, three choices are available in the following order 16’ “foot”, 8’ and 4’.

**Waveform**



Waveform determines the Oscillator timbre; three waveforms are available in the following order, Pulse Width, Sawtooth and Pulse Width Modulation. Note; this order differs to the control selector on the front of the Polysix, as this is the true internal structure order, Pulse Width being true zero.

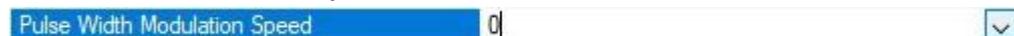
**Pulse Width/Pulse Width Modulation**



PW/PWM as labelled of the front of the Polysix interacts differently depending on the Waveform selected but having no effect on Sawtooth, see FigureP6-06 above. When Waveform Pulse Width is selected; wave shape varies from “0” square “50% cycle” to around “8” narrow pulse, after this the pulse becomes so narrow as to collapse as detailed in the Polysix manual.

When Waveform Pulse Width Modulation is selected; the width of the VCO Pulse Waveform is continuously changed or modulated by the Pulse Width Modulation Speed Parameter below. The PW/PWM Parameter now becomes the depth control for this effect. At “0” there is no effect or modulation just a constant square “50% cycle”. At around “8” the effect will be from square wave to narrow pulse and back, but once beyond “8” pulse collapse will introduce a stutter effect similar to hard gating as the VCO shuts off for part of the cycle.

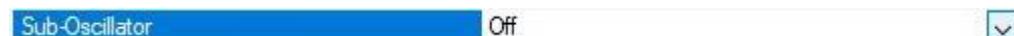
**Pulse Width Modulation Speed**



Pulse Width Modulations Speed or PWM Speed as it is labelled on the front of the Polysix has no effect on Waveform Pulse Width or Sawtooth, but when set to Pulse Width Modulation the Parameter is used to set the time it takes for the PWM cycle to complete. Used in conjunction with PW\PWM detailed above, the greater the Value the faster the effect speed.

Remember; PW\PWM must be set greater than “0” for this Parameter to be audible.

**Sub Oscillator**



Sub Oscillator or Sub Osc as it is labelled on the front of the Polysix is used to add a second tune either one or two octaves below the VCO pitch as listed in the Polysix manual. This second Oscillator is a constant square “50% cycle” and has three available choices, Off, Two and One. Note; this order differs to the control switch on the front of the Polysix.

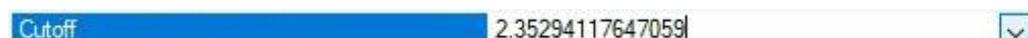
**VOLTAGE CONTROLLED FILTER**

<b>2) Voltage Controlled Filter</b>	
Cutoff	2.35294117647059
Resonance	1.09803921568627
Envelope Generator Intensity	2.56862745098039
Keyboard tracking	7.17647058823529

FigureP6-07

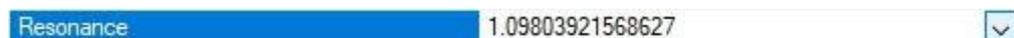
The Voltage Controlled Filter or VCF as labelled on the front of the Polysix is used to control the tonal quality or timbre of the sound by removing and emphasising different harmonics of the VCO Waveform. The Korg Polysix is only supplied with one filter type and this is a 4 pole 24db low pass filter used to remove 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 below and in the Korg Polysix original paper manual.

**Cutoff**



Cutoff sets the frequency working point of the low pass filter, when set to “10” maximum all harmonic content will pass creating bright sounds, but when set to “0” minimum all of the Waveform is filtered out leaving no signal at all.

**Resonance**



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 “10” maximum any harmonics at the Cutoff point are fully boosted creating dramatic effects to the point of self-oscillation, by adjusting the Resonance you can emphasize just as much as required or use the VCF as a sound source in its own right.

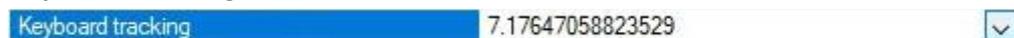
**Envelope Generator Intensity**



Envelope Generator Intensity or EG Intensity as labelled on the front of the Polysix is used to set how much if any the Envelope Generator is used to control the VCF Cutoff frequency and in which direction, negatively or positively. 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 “-5” or “true zero”

the VCF Cutoff frequency is fully controlled by the Envelope Generator allowing the harmonic content to change over time in a negative direction, by adjusting this value you can reduce the depth of the effect allowing for more subtle harmonic changes as the value become closer to “0”. When this value is set to “5” or “+5” as labelled on the Polysix control the VCF Cutoff frequency is also fully controlled by the Envelope Generator but in a positive direction as it is when used for the VCA see below. Adjusting this value closer to “0” also reduces the depth of the effect allowing for more subtle harmonic changes in the same way as before.

**Keyboard Tracking**



Keyboard Tracking or KBD Track as labelled on the Polysix front panel, is used to control the amount that the filter tracks the keyboard and follows the notes as they are played up and down the key range. When set at “0” there is no tracking and sounds played in the lower register will sound bright and lively when the upper registers will be dull and could even disappear. The variable nature of the Polysix KB Tracking allows for different effects as fully detailed in the owner’s manual but it is worth noting that values around “7” should be one to one (100%). Values below “7” will cause the VCF effect to lag behind the played note whilst values above “7” cause the VCF Cutoff to increase faster.

VOLTAGE CONTROLLED AMPLIFIER



FigureP6-08

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

**Mode**



VCA Mode as labelled on the Polysix front panel has two Modes of operation, Simple Gate or Envelope Generator as detailed below. Note that Simple Gate is the first in the list “true zero”.

Simple Gate

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.

Envelope Generator

The Envelope Generator is used to control the volume of the sound over time, see ENVELOPE GENERATOR below or pages 12-13 of the Polysix owner’s manual.

**Attenuator**



The Attenuator is used to control the overall volume of the program or Preset, across a range totalling 20dB. The minimum value is “-10dB” or true zero to a maximum of “10dB”.

ENVELOPE GENERATOR



FigureP6-09

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 Polysix manual for more details.

**Attack**

Attack 4.03921568627451

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 (about 1 millisecond), increasing to around 15-30 seconds when the value is set to “10”, for more details see the Polysix manual.

**Decay**

Decay 5.6078431372549

Decay is also 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 (about 1 millisecond), but increases to around 15-30 seconds when set to “10”, for more details see pages 12-13 of the Polysix owner’s manual.

**Sustain**

Sustain 7.64705882352941

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 “10” the level will be maximum as reached at Attack end, see Polysix owner’s manual for full details.

**Release**

Release 10

Release is a time value and is used to determine how long it takes for the volume or Cutoff frequency to reach zero “off” after you release a key, when set to “0” the Release time will be instant (about 1 millisecond), but increases to around 15-30 seconds when set to “10”.

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

**MODULATION GENERATOR**

<b>5) Modulation Generator</b>	
Mode	Voltage Controlled Oscillator
Frequency	6.19607843137255
Delay	1.29411764705882
Level	2

FigureP6-10

The Modulation Generator or MG as listed in the Polysix owner’s manual is a Low Frequency Oscillator or LFO, used to create modulation effects. The LFO in the MG cannot be synced to the Pulse Width Modulation Speed listed above and the shape cannot be changed but it can be used to create some very useful effects including access to one of the new Softmods listed below.

**Mode**

Mode Voltage Controlled Oscillator

Mode or MOD as listed in the Polysix manual is used to select which Parameter the LFO is connected to and the kind of modulation effect you want to obtain, four choices are available instead of the original three as follows. Voltage Controlled Amplifier “VCA” true zero, Voltage Controlled Filter “VCF”, Voltage Controlled Oscillator “VCO” and a new choice VCF and VCO.

**VCA**

This choice is used to create volume modulation effects or tremolo as it’s more commonly known.

**VCF**

This choice is used to create wah-wah like effects or Cutoff modulation as it’s commonly known.

**VCO**

This Choice is used to create pitch modulation effects or vibrato as it’s more commonly known.

Technically this is the same as using the MG wheel but obviously storable with the Preset when the wheel settings are not, it’s worth noting that the MG wheel does add additional depth to this effect.

VCF & VCO

This new Softmods choice allows the LFO to modulate both the VCF and the VCO at the same time. Technically this is the same as selecting VCF and using the MG wheel but this new choice can be saved for Preset recall and the MG wheel will still provide more depth as with the VCO choice above. Remember; Softmods can't be reselected after changing the MOD switch position on the Polysix.

**Frequency**

Frequency 6.19607843137255

Frequency determines the speed of the LFO, when set to the minimum value "0" the speed will be around 30 seconds per cycle (0.03Hz), but when set to the maximum value "10" the speed will be around 20ms per cycle (50Hz) or fifty cycles per second.

**Delay**

Delay 1.29411764705882

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 8 seconds when set to value "10" the maximum setting.

**Level**

Level 2

Level controls the depth of the modulation effect, when set to minimum "0" there will be no effect at all, but as the Level is increased the effect becomes greater until reaching its maximum at "10". It's worth noting that when modulating VCO the maximum depth is around one tone up and down but using the MG wheel will increase this to two tones up and down.

EFFECTS

<b>6) Effects</b>	
Chorus	False
Phase	False
Ensemble	False
Speed/Intensity	0

FigureP6-11

This section is the famous Korg Polysix Effects unit that can be used to apply Chorus, Phase or Ensemble to the Preset to create fatter or rhythmical shifting sounds. Originally only one of these Effects could be selected but the new Softmods allow for any combination of these to be selected. Note that False "Off" is true zero.

**Chorus**

Chorus False

Chorus is listed in the Korg Polysix owner's manual as a relatively subtle ambiance type of effect, but faster speeds make this sound like a rotary speaker due to the depth reducer. Used in conjunction with the other two choices the Chorus seems to have a calming effect (see Combinations below).

**Phase**

Phase False

Phase is listed in the Korg Polysix owner's manual as more pronounced with a mild resonant edge, but this phasing effect is more apparent when at slower speeds. Used in conjunction with the other two choices this phasing characteristic is definitely adopted (see Combinations below)

**Ensemble**

Ensemble False

Ensemble is listed in the Korg Polysix owner's manual as producing heavy complex modulations which are very useful for string and orchestral sounds. Used in combination with the other two choices this modulating nature is very apparent (see Combinations below).

**Speed/Intensity**

Speed/Intensity 0

As listed in the Korg Polysix owner's manual the Speed/Intensity Parameter works differently for

Chorus and Phase than it does for Ensemble. When used with Chorus and Phase the value adjusts both the Speed and the depth of the Effect, when set to “0” the speed is at its slowest, increasing until you reach maximum at “10”, to prevent unnatural side effects a built-in depth reducer is applied as the Speed increases. When used with the Ensemble Effect this Parameter adjusts the Intensity, the lower values creating milder effects but the complex modulation patterns do not require speed adjustments. When used with the new Softmods this Parameter adjusts both the Speed of the Chorus and Phase and the Intensity of the Ensemble (see Combinations below).

### **Combinations**

As listed above the new Softmods allow for Combinations of all of the Effects and this creates four new Effects, all subtly different from the choices available above as follows.

#### **Chorus\Phase**

This Combination is very similar to the original Phase only Effect but is slightly calmed by the Chorus addition but is more akin to a soft Phase. Using the Speed\Intensity Parameter will increase the Speed and depth reducer in the same way as related to the original Chorus or Phase Effects.

#### **Chorus\Ensemble**

This combination mixes the subtleties of the original Chorus Effect with the complex modulation of the Ensemble Effect to produce a new modulation effect. Different to the original Ensemble modulation this new effect has a longer cycle in which the two effects rise and fall to create additional modulations based on the Speed\Intensity Parameter. Raising the Speed\Intensity Parameter now increases the Speed of the Chorus and the Intensity of the Ensemble whilst the built-in depth reducer prevents the faster modulation of the Chorus from overpowering the Ensemble.

#### **Chorus\Phase\Ensemble**

This Combination mixes all three original Effects to produce a new Phase Modulation Effect that is slightly calmed by the Chorus but still very much phased. Different to any of the Combinations listed before this new Phase Modulation Effect also has a longer cycle in which all three effects modulate against each other based on the Speed\Intensity Parameter but now soft phases between patterns. Raising the Speed\Intensity Parameter now increases the Speed of the Chorus\Phase Effects and the Intensity of the Ensemble but as the built-in depth reducer is working on two effects the combined result is more of a modulation crescendo.

#### **Phase\Ensemble**

This Combination mixes the original Phase and Ensemble Effects to produce a second Phase Modulation Effect that is more Phase without the calming effects of the Chorus. Different again to any of the Combinations above this second Phase Modulation Effect also has a longer cycle in which both effects modulate against each other based on the Speed\Intensity Parameter but now with a more resonant edge to the effect. Raising the Speed\Intensity Parameter now increases the Speed of the Phase Effect and the Intensity of the Ensemble whilst the built-in depth reducer works the same as it did on the original Phase Effect.

### **PATCH SHEET PLUGIN**

Unlike the Korg Polysix 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 PolySix Patch Sheet Plugin is also available separately.

#### **Korg PolySix Patch Sheet Plugin**

After installation Korg PolySix (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 PolySix 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 PolySix<->PolySix Patch Sheet), for more information on the Korg PolySix Patch Sheet Plugin see the related Plugin manual.

## INDEX

**A**

ADAPT .....	7
Adaptor Plugins.....	7
ADD-ONS.....	2
All Items .....	6
Analogue Values .....	9
<b>Attack</b> .....	12
<b>Attenuator</b> .....	11

**B**

BINARY DUMP.....	5
<b>Blank Program</b> .....	7

**C**

<b>Chorus</b> .....	13
Chorus\Ensemble.....	14
Chorus\Phase.....	14
Chorus\Phase\Ensemble.....	14
<b>Combinations</b> .....	14
Conclusion .....	5
<b>Cutoff</b> .....	10

**D**

<b>Decay</b> .....	12
<b>Delay</b> .....	13
Device .....	4
Do Not Import Duplicates .....	4
DUPLICATES FOUND WINDOW .....	5
DUPLICATES LIST .....	5

**E**

EFFECTS.....	13
<b>Ensemble</b> .....	13
Envelope Generator .....	11
ENVELOPE GENERATOR .....	11
<b>Envelope Generator Intensity</b> .....	10
Example .....	5
Export Item Process .....	5
<b>Export Item Warning</b> .....	7
Export Item Window.....	6
EXPORT OPTIONS.....	5
EXPORT PATCH SNAPSHOT .....	5
Exported Item .....	7
Exported Items.....	6
Exported Items List .....	6

**F**

FigureP61a .....	3
FigureP61d .....	6
FigureP61e .....	8
Finalised .....	4
FIRST THINGS FIRST .....	2
<b>Frequency</b> .....	13

**H**

HOW IT WORKS.....	2
-------------------	---

**I**

IMPORT FILE WINDOW .....	4
IMPORT OPTIONS.....	4
INDEX .....	15
INTRODUCTION.....	2
<b>Item Error</b> .....	7

**K**

<b>Keyboard Tracking</b> .....	11
Korg PolySix Patch Sheet Plugin .....	14

**L**

<b>Level</b> .....	13
--------------------	----

**M**

MAIN CONTENTS.....	1
<b>Mode</b> .....	11, 12
MODULATION GENERATOR .....	12

**N**

NEW PATCH SNAPSHOT .....	4
No5, 7	

**O**

<b>Octave</b> .....	9
OK7	
OVERVIEW.....	2

---

**P**

PARAMETER LISTS ..... 8

PARAMETER VALUES ..... 9

PARAMETERS ..... 8

PARSE ..... 7

Patch Folder ..... 3

PATCH SHEET PLUGIN ..... 14

Patch Sheet Plugins ..... 7

Patch Snapshot ..... 3, 8

Patch Snapshot Type ..... 3

**Phase** ..... 13

Phase\Ensemble ..... 14

**Pulse Width Modulation Speed** ..... 10

**PW/PWM** ..... 9

---

**R**

**Release** ..... 12

**Resonance** ..... 10

---

**S**

SAMPLE OPTION ..... 4

Simple Gate ..... 11

SNAPSHOT EDITOR ..... 8

SOFTMODS ..... 8

**Speed/Intensity** ..... 13

**Sub Oscillator** ..... 10

**Sustain** ..... 12

Synthesiser Plugins ..... 7

---

**T**

Target Device ..... 6

---

**V**

Value Style 4 ..... 9

VCA ..... 12

VCF ..... 12

VCF & VCO ..... 13

VCO ..... 12

VOLTAGE CONTROLLED AMPLIFIER ..... 11

VOLTAGE CONTROLLED FILTER ..... 10

VOLTAGE CONTROLLED OSCILLATOR ..... 9

---

**W**

**Waveform** ..... 9

WHATS ADDED ..... 2

WORKFLOW AREA ..... 3

---

**Y**

Yes ..... 5, 7