

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
CSV	7
PARSE	7
ADAPT	7
SNAPSHOT EDITOR	7
PARAMETER LISTS	7
PARAMETERS	8
SOFTMODS	8
PARAMETER VALUES	8
VOLTAGE CONTROLLED OSCILLATOR	9
VOLTAGE CONTROL FILTER	9
VOLTAGE CONTROLLED AMPLIFIER	10
ENVELOPE GENERATOR	11
MODULATION GENERATOR	12
EFFECTS	13
SYNTHESISER PLUGIN	14
ADAPTOR PLUGIN	14
ADAPTOR PLUGIN INTRODUCTION	14
ADAPTOR PLUGIN OVERVIEW	14
ADAPTOR PLUGIN ADD-ONS	14
ADAPTOR PLUGIN HOW IT WORKS	15
ADAPTOR PLUGIN FIRST THINGS FIRST	15
ADAPTOR PLUGIN WHATS ADDED	15
ADAPTOR PLUGIN ADAPT	15
ADAPTOR PLUGIN EXPORT PATCH SNAPSHOT	15
INDEX	16

## INTRODUCTION

Thank you for purchasing the SynthTools SoundDiviner Patch Sheet Plugin for Korg PolySix.

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 PolySix synthesiser hardware and the Korg PolySix Synthesiser Plugin available separately but as with other SoundDiviner Plugins this Plugin has more than one purpose.

## OVERVIEW

This Korg PolySix 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 PolySix 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 PolySix for quick transferral of all thirty-two programs. Korg PolySix 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 PolySix 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 PolySix 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

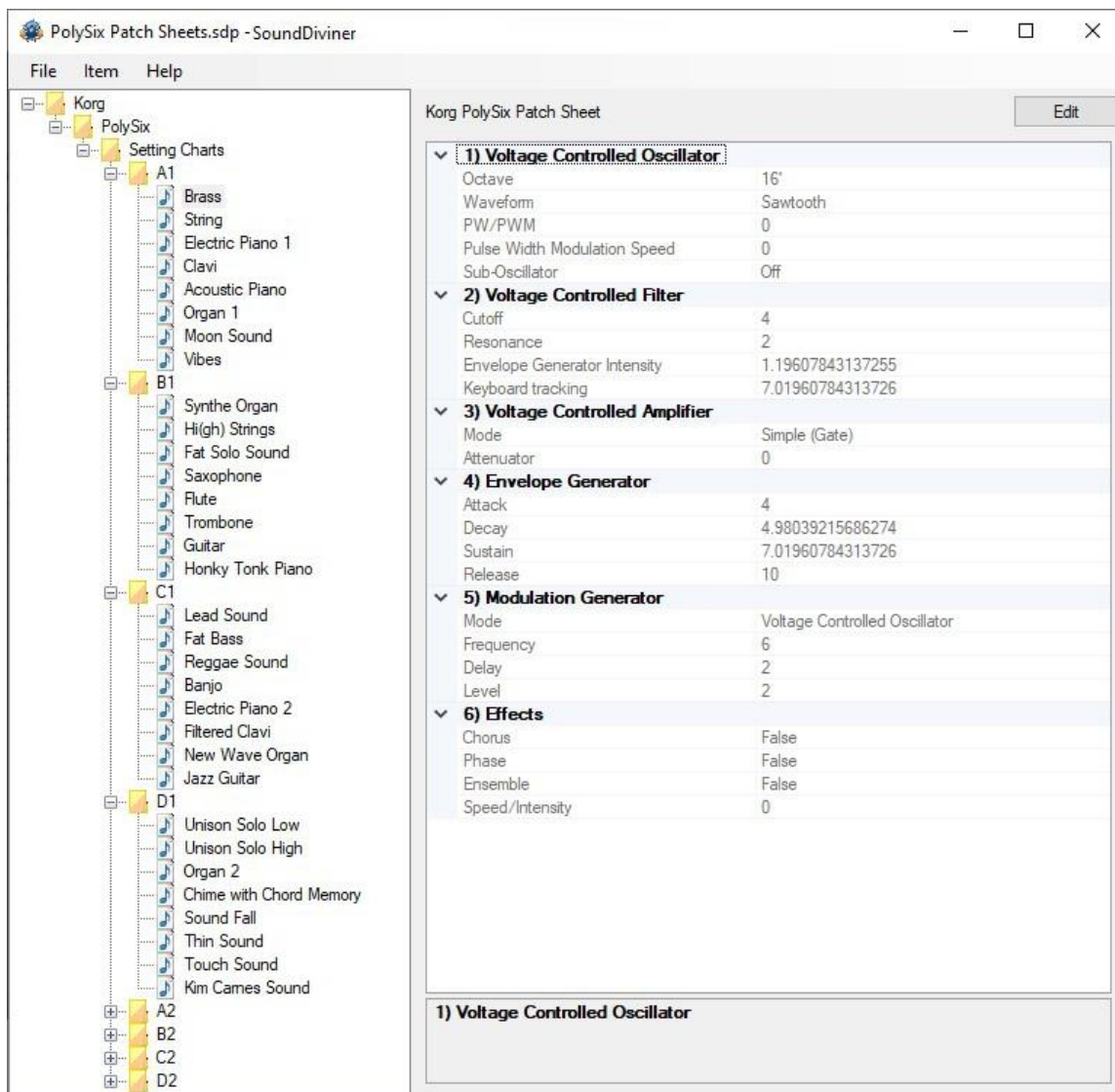
New Patch Snapshots can be created, edited and managed in the same way as any Patch Snapshot. Items can be imported\exported individually or in groups using different Import\Export Options. Patch Snapshots can be viewed, organised, named and easily retrieved for PolySix programming. Patch Sheets contain all of the PolySix Parameters displayed ascending for ease of viewing\editing. Supplied with a bidirectional Adaptor Plugin ready for conversions between Patch Sheet Plugin and Korg PolySix 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 PolySix Synthesiser Plugin available separately and this PolySix Patch Sheet Plugin. If you are not familiar with SoundDiviner terminology and the differences between the Plugins and the original Korg PolySix 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 PolySix (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 PolySix 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 PolySix Patch Snapshot, including the new Softmods choices but these require the Korg PolySix Synthesiser Plugin available separately, for more information see below.



FigureP6-A01

## WORKFLOW AREA

Now the PolySix Patch Sheet Plugin has been installed the Workflow Area can contain Patch Folders and Patch Snapshots that are compatible with the PolySix synthesiser and the Parameter values used to create sound as listed in the main manual. The Patch Snapshots displayed in FigureP6-A01; above are the original Korg PolySix factory sounds as listed in the PolySix Setting Charts, “Brass” is currently selected and all Parameters are visible in their related Groups.

### Patch Folder

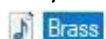
Patch Folders are really no different to any Folder Item in a SoundDiviner Project as they are just containers, once created they can be managed in the same ways as before. New Folder Items can be created within them and all Patch Snapshots listed can be managed as with any other Snapshot Item as detailed 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 PolySix Patch Sheet.



This is Preset A1 from the Korg PolySix factory tape A, renamed to “Brass” as listed in the original setting charts, see FigureP6-A01 above. Note that the Information bar displays the selected Patch Snapshot as “Korg PolySix Patch Sheet”.

### 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 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 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 (patch sheet) from the available manufacturer lists in the Create Patch Snapshot Window, a PolySix Patch Sheet 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 is on a scale from “0-10” 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 as a representation of any of your PolySix Presets by entering the control values as you would when using a physical paper patch sheet, with the benefits of a SoundDiviner Project Item.

### IMPORT OPTIONS

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



FigureP6-A02

#### 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 PolySix (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 FigureP6-A02 above).

## DUPLICATES FOUND WINDOW



FigureP6-A03

The total amount of Duplicates Found in the Import Process will be displayed in the Duplicates Found Window, see FigureP6-A03 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\Setting Charts\A1\Brass = Brass

Conclusion

Patch Snapshot “Brass” located in your SoundDiviner Project “Korg\PolySix\Setting Charts\A1\” was Duplicated in the Import Process with the data record “Brass”.

## 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 (.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\_KP6 Row”. These Files can then be used for importing or shared with other compatible SoundDiviner PolySix Plugin users.

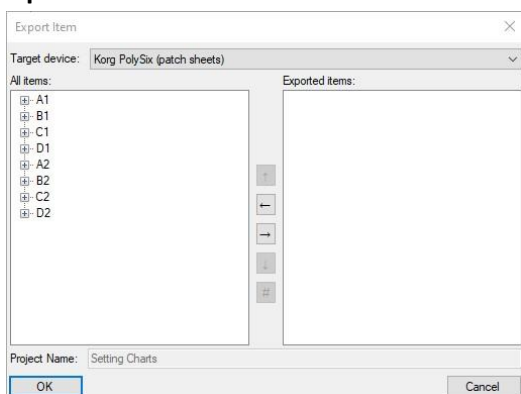
## EXPORT PATCH SNAPSHOT

After correct Item selection; Export File 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 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).

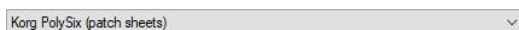
### Export Item Window



FigureP6-A04

After selecting a Patch Folder in the Workflow Area (see FigureP6-A01 above), in this example “A1” all compatible Items within the Parent Folder “Setting Charts” will be included in the Export Item Window–All Items list (see FigureP6-A04 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

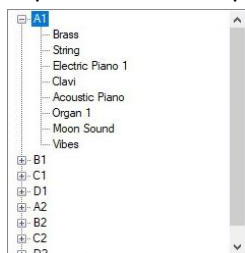


If Korg PolySix (patch sheet) is not already selected by default choose it now before continuing.

#### 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	VCO Octave	VCO Waveform	VCO PW/PWM	VCO PWM Speed	VCO Sub-Osc	VCF Cutoff	VCF Resonance	VCF Env Int	VCF Env Trk	VCO Mode	VCA Attenuator	Attack	Decay	Sustain	Release	Mic Mode	M1 Frequency	M1 Delay	M1 Level	Effect Chorus	Effect Phase	Effect Ensemble	Effect Speed/Int
Brass	16'	Sawtooth	0	0	Off	4	2	1.19607843137255	7.01960784313726	Simple (Gate)	0	4	4.99039215686274	7.01960784313726	10	None	6	2	0	True	True	True	0

FigureP6-A05

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 applications 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 “Brass”, see FigureP6-A05 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 FigureP6-A05 above as the first record has been highlighted.

PARSE

As detailed in the main manual Parse is used to extract Patch Snapshots from PolySix 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 PolySix (patch sheet) Plugin is supplied with the bidirectional Adaptor Plugin to convert Patch Snapshots between itself and the Korg PolySix 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 FigureP6A01 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.

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-A05 below (for more information see Snapshot Editor in the main manual).

Patch Snapshot (Brass)

1) Voltage Controlled Oscillator	
Octave	16'
Waveform	Sawtooth
PW/PWM	0
Pulse Width Modulation Speed	0
Sub-Oscillator	Off
2) Voltage Controlled Filter	
Cutoff	4
Resonance	2
Envelope Generator Intensity	1.19607843137255
Keyboard tracking	7.01960784313726
3) Voltage Controlled Amplifier	
Mode	Simple (Gate)
Attenuator	0
4) Envelope Generator	
Attack	4
Decay	4.99039215686274
Sustain	7.01960784313726
Release	10
5) Modulation Generator	
Mode	Voltage Controlled Oscillator
Frequency	6
Delay	2
Level	2
6) Effects	
Chorus	False
Phase	False
Ensemble	False
Speed/Intensity	0

FigureP6-A05



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

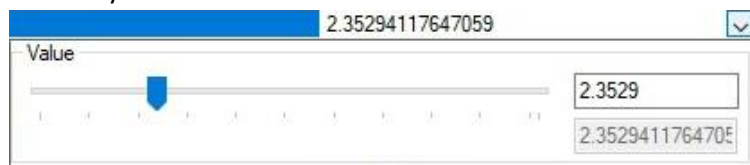
### PARAMETER VALUES

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 PolySix 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.

#### 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 as is the nature with these great synthesisers. When entering values using the number keys the auto rounding process will still be applied as with the original hardware.

#### 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-A06

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.

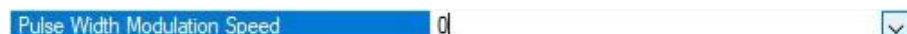
**Pulse Width/Pulse Width Modulation**



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-A06 above. When Waveform Pulse Width 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 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 CONTROL FILTER

<b>2) Voltage Controlled Filter</b>	
Cutoff	4
Resonance	2
Envelope Generator Intensity	1.19607843137255
Keyboard tracking	7.01960784313726

FigureP6-A07

The Voltage Control 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**



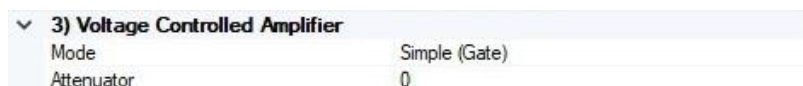
Envelope Generator Intensity or EG Intensity as labelled on the front of the PolySix is used to set how much if any the Envelope Generator is used to control the VCF Cutoff frequency and in which direction, negatively or positively. When this value is set to “0” the Envelope Generator is not used to 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 course the VCF effect to lag behind the played note whilst values above “7” course the VCF Cutoff to increase faster.

**VOLTAGE CONTROLLED AMPLIFIER**



FigureP6-A08

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 than 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**

<b>4) Envelope Generator</b>	
Attack	4
Decay	4.98039215686274
Sustain	7.01960784313726
Release	10

FigureP6-A09

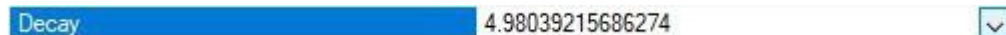
The Envelope Generator is used to produce changes to volume, timber or both over time and is used to create movement and expression in the sounds you create, see PolySix manual for more details.

**Attack**



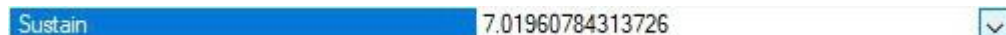
Attack is a time value and is used to determine how long it takes for the volume and or the Cutoff frequency to rise to their maximum level after the key is pressed, when the value is set to “0” the Attack time will be as the key is pressed (about 1 millisecond), increasing to around 15-30 seconds when the value is set to “10”, for more details see the PolySix manual.

**Decay**



Decay 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 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 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

5) Modulation Generator	
Mode	Voltage Controlled Oscillator
Frequency	6
Delay	2
Level	2

FigureP6-A10

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 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 addition 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 selected using the PolySix MOD switch.

**Frequency**

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 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 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

6) Effects	
Chorus	False
Phase	False
Ensemble	False
Speed/Intensity	0

FigureP6-A11

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

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 increase. 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.

## SYNTHESISER PLUGIN

Unlike the Korg PolySix 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 PolySix Synthesiser Plugin

After installation Korg PolySix will be available as a Device and this works directly with the PolySix hardware synthesiser through the use of the Tape Interface. Korg PolySix Synthesiser Plugin enables the creation of Program Patch Snapshots and the use of Softmods as listed above. All Patch Snapshots created with the PolySix (patch sheet) Plugin can be converted to Program Patch Snapshots and transferred to the Korg PolySix hardware synthesiser using Export Lists and the Tape Interface, for more information on the Korg PolySix 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 PolySix<-> Korg PolySix (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 PolySix (patch sheet) Plugin but requires the Korg PolySix Synthesiser Plugin available separately to have any function within the SoundDiviner application.

## ADAPTOR PLUGIN OVERVIEW

This Korg PolySix Plugin is used as a link between the Korg PolySix (patch sheet) Plugin and the Korg PolySix 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 PolySix 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 PolySix (patch sheet) Plugin can be converted to Korg PolySix Program Patch Snapshots using the Adapt Function, for more details see below.

Patch Snapshots created with the Korg PolySix 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 PolySix hardware synthesiser via the Tape Interface with the use of both Plugins and Audio Interface.

### 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 PolySix 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 PolySix Adaptor Plugin; Converter Korg PolySix Program to Korg PolySix Patch Sheet and Converter Korg PolySix Patch Sheet to Korg PolySix Program will be added to the available Plugin List. No additional functionality will be added to SoundDiviner unless you already have the Korg PolySix Synthesiser Plugin installed. Once the Korg PolySix 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 either Korg PolySix when converting from Patch Sheet to Program or Korg PolySix (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 PolySix 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 PolySix 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 thirty-two Patch Snapshots as this is the limit available to the Korg PolySix hardware synthesiser and detailed in the Plugin manual (See Korg PolySix 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 PolySix Plugins are installed Patch Snapshots Types from both will be compatible with the Korg PolySix hardware synthesiser and will be available in the All Items list, for more information see Korg PolySix Plugin manual.

#### Target Device

Select the Device Korg PolySix (patch sheet) to convert Program Patch Snapshots to Patch Sheet Patch Snapshots or select Device Korg PolySix to convert Patch Sheet Patch Snapshots to Program Patch Snapshots. Remember; Patch Snapshot Type is displayed in the Information Bar.



**INDEX**

---

**A**

ADAPT ..... 7  
 ADAPTOR PLUGIN ..... 14  
 ADAPTOR PLUGIN ADAPT ..... 15  
 ADAPTOR PLUGIN ADD-ONS ..... 14  
 ADAPTOR PLUGIN EXPORT PATCH SNAPSHOT ..... 15  
 ADAPTOR PLUGIN FIRST THINGS FIRST ..... 15  
 ADAPTOR PLUGIN HOW IT WORKS ..... 15  
 ADAPTOR PLUGIN INTRODUCTION ..... 14  
 ADAPTOR PLUGIN OVERVIEW ..... 14  
 ADAPTOR PLUGIN WHATS ADDED ..... 15  
 ADD-ONS ..... 2  
 All Items ..... 6  
 Analogue Values ..... 8  
**Attack** ..... 11  
**Attenuator** ..... 11

---

**B**

BINARY DUMP ..... 5

---

**C**

**Chorus** ..... 13  
 Chorus\Ensemble ..... 13  
 Chorus\Phase ..... 13  
 Chorus\Phase\Ensemble ..... 13  
**Combinations** ..... 13  
 Conclusion ..... 5  
 CSV ..... 7  
**Cutoff** ..... 10

---

**D**

**Decay** ..... 11  
**Delay** ..... 12  
 Device ..... 4  
 Do Not Import Duplicates ..... 4  
 DUPLICATES FOUND WINDOW ..... 5  
 DUPLICATES LIST ..... 5

---

**E**

EFFECTS ..... 13  
**Ensemble** ..... 13  
 Envelope Generator ..... 11  
 ENVELOPE GENERATOR ..... 11  
**Envelope Generator Intensity** ..... 10  
 Example ..... 5  
 Export Item Process ..... 5  
 Export Item Window ..... 6  
 EXPORT OPTIONS ..... 5

EXPORT PATCH SNAPSHOT ..... 5  
 Exported Item ..... 6  
 Exported Items ..... 6  
 Exported Items List ..... 6

---

**F**

FigureP61d ..... 6, 7  
 FigureP61e ..... 7  
 FigureP6-A01 ..... 3  
 Finalised ..... 4  
 FIRST THINGS FIRST ..... 2  
**Frequency** ..... 12

---

**H**

HOW IT WORKS ..... 2

---

**I**

IMPORT FILE WINDOW ..... 4  
 IMPORT OPTIONS ..... 4  
 INDEX ..... 16  
 INTRODUCTION ..... 2

---

**K**

**Keyboard Tracking** ..... 10

---

**L**

**Level** ..... 12

---

**M**

MAIN CONTENTS ..... 1  
**Mode** ..... 10, 12  
 MODULATION GENERATOR ..... 12

---

**N**

NEW PATCH SNAPSHOT ..... 4  
 No5

---

**O**

**Octave** ..... 9  
 OVERVIEW ..... 2

---

**P**

PARAMETER LISTS..... 7  
 PARAMETER VALUES..... 8  
 PARAMETERS..... 8  
 PARSE..... 7  
 Patch Folder..... 3  
 Patch Snapshot ..... 3, 7  
 Patch Snapshot Type..... 3  
**Phase** ..... 13  
 Phase\Ensemble ..... 14  
**Pulse Width Modulation Speed** ..... 9  
**PW/PWM** ..... 9

---

**R**

**Release** ..... 11  
**Resonance** ..... 10

---

**S**

SAMPLE OPTION ..... 4  
 Simple Gate..... 11  
 SNAPSHOT EDITOR..... 7  
 SOFTMODS..... 8  
**Speed/Intensity**..... 13  
**Sub Oscillator** ..... 9  
**Sustain** ..... 11

SYNTHESISER PLUGIN..... 14

---

**T**

Target Device ..... 6

---

**V**

Value Style 4..... 8  
 VCA..... 12  
 VCF ..... 12  
 VCF & VCO..... 12  
 VCO ..... 12  
 VOLTAGE CONTROL FILTER ..... 9  
 VOLTAGE CONTROLLED AMPLIFIER ..... 10  
 VOLTAGE CONTROLLED OSCILLATOR..... 9

---

**W**

**Waveform**..... 9  
 WHATS ADDED ..... 2  
 WORKFLOW AREA..... 3

---

**Y**

Yes..... 5