USER'S MANUAL

Information contained in this manual is subject to change without notice and does not represent a commitment on the part of ARTURIA. The hardware unit and the software product described in this manual are provided under the terms of a license agreement or non-disclosure agreement. The license agreement specifies the terms and conditions for its lawful use. No part of this manual may be produced or transmitted in any form or by any purpose other than purchaser's personal use, without the explicit written permission of ARTURIA S.A. All other products, logos or company names quoted in this manual are trademarks or registered trademarks of their respective owners.

© ARTURIA SA – 1999-2011 – All rights reserved.

4, Chemin de Malacher

38240 Meylan

FRANCE

http://www.arturia.com

February 2011 edition

PROJECT MANAGER

Emilie de Fouchecour

PRODUCT MANAGER

Frédéric Brun
Romain Dejoie
Chris De Jong

PROGRAMMING

Kevin Molcard (Lead Developer)
Emilie de Fouchecour
Bruno Pillet
Adrien Courdavault
Philippe Wicker
Vincent Travaglini
Niccolo Comin
Guillaume Piolat

ELECTRONICS

Laurent Baret
Bruno Pillet

DESIGN

Thomas & Wolfgang Merkle (Bitplant)
Axel Hartmann (Design Box)
Morgan Perrier
Daniel Vester

SOUND DESIGN

Noritaka Ubukata
Jean-Michel Blanchet
Christian Lafitte (Cigale Prod)
Pierce Warnecke
Oliver Fauque
Thomas Koot

INDUSTRIALIZATION

Nicolas Dubois
Richard Phan
Gerard Buracchini

MANUAL WRITING

William Talgorn

MANUEL TRANSLATION

Tomoya Fukuchi
Niccolo Comin
Pierce Warnecke
Antoine Back

SPECIAL THANKS

Sean Weitzmann, Gérard Buracchini, Cedric Pallier, Elodie Cao, Denis Frouin, Philippe Girard-Buttoz, Yannick Bonnefoy, Peter Gelhaus (acoustic drum kit photo), Kevin Lamb, Patrick Kunz, Frank Orlich, Miguel Silva, Houston Haynes, Cristian Kreindler, Paul Steinway

SOUND SAMPLES

MODERNBEATS

SONIC REALITY

UltimateSoundBank

ueberschall

Thank you for purchasing Spark Creative Drum Machine!

This manual concerns two distinctive products:

- *Spark* software, a highly creative beat production center
- *Spark* MIDI controller.

In this package you will find:

- A DVD-ROM containing Spark Creative drum machine installer for Mac OS X and Windows XP/Vista/Seven
- A registration card (credit card format) including the Serial Number and Unlock Code.
- The User's Manual for Spark Creative Drum Machine software and the Spark MIDI Controller.
- Spark MIDI controller
- An USB cable

Carefully store your registration card!

In order to actually use the software, you have to **register**, then **authorize** your virtual instrument. By registering, you identify yourself as the legitimate owner and thus will be sure to receive the latest news and updates for your instrument.

The Serial Number and Unlock Code are required to register & authorize Spark, so these codes are the real value of your product.

See chapter 3 Registration & Authorization for more information about the authorization process.

Special Message Section

The MIDI controller uses USB or an external power adapter. Do not connect this product with any other power supply or adapter than the one described in this manual specifically recommended by Arturia. (See chapter 1.1.1 Power Supply for more details).

WARNING:

Do not place this product in a place or position where one might walk on, trip over or roll anything over power or connecting cords.

The use of an extension cord is not recommended! If you must use one, make sure the cord has the ability to handle maximum current needed by this product. Please consult a local electrician for more information on your power requirements.

This product should be used only with the components supplied or recommended by Arturia. When used with any other components, please observe all safety markings and instructions that accompany the accessory products.

SPECIFICATIONS SUBJECT TO CHANGE:

The information contained in this manual is believed to be correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

IMPORTANT:

Always follow the basic precautions listed below to avoid the possibility of serious injury or even death from electrical shock, damages, fire or other risks.

The product used either alone or in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high level or at a level that is uncomfortable.

If you encounter any hearing loss or ringing in the ears, you should consult an audiologist.

NOTICE:

Service charges incurred due to a lack of knowledge relating to how a function or feature works (when the unit is operating as designed) are not covered by the manufacturer’s warranty, and are therefore the owner's responsibility. Please study this manual carefully and consult your dealer before requesting service.

PRECAUTIONS INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

- Read and understand all the instructions.
- Always follow the instructions on the instrument.
- Before cleaning the instrument, always remove the electrical plug from the outlet, as well as the USB cable. When cleaning, use a soft and dry cloth. Do not use gasoline, alcohol, acetone, turpentine or any other organic solutions; do not use a liquid cleaner, spray or cloth that's too wet.
- Do not use the instrument near water or moisture, such as a bathtub, sink, swimming pool or similar place.
- Do not place the instrument in an unstable position where it might accidentally fall over.
- Do not place heavy objects on the instrument. Do not block openings or vents of the instrument; these locations are used for air circulation to prevent the instrument from overheating. Do not place the instrument near a heat vent or any place of poor air circulation.
- Only use the recommended specified AC adaptor (9 Vdc, 800 mA)
- Make sure the line voltage in your location matches the input voltage specified on the AC power adaptor.
- Do not open and insert anything into the instrument that may cause a fire or electrical shock.
- Do not spill any kind of liquid onto the instrument.
- Always take the instrument to a qualified service center. You will invalidate your warranty if you open and remove the cover, and improper assembly may cause electrical shock or other malfunctions.
- Do not use the instrument with thunder and lightning present; otherwise it may cause long distance electrical shock.
- Do not expose the instrument to hot sunlight.
- Do not use the instrument when there is a gas leak nearby.
- Arturia is not responsible for any damage or data loss caused by improper operations to the instrument.

HANDLING CD-ROMS:

Avoid touching or scratching the shiny underside (encoded surface) of the disc. A damaged or dirty CD-ROM disc may not read properly. Keep your CD-ROMs clean, using a commercially available CD cleaner.

Table of Contents

1 INTRODUCTION 11

1.1 WELCOME TO SPARK 11
1.2 2.2. HISTORY 11

2 INSTALLATION 13

2.1 WINDOWS INSTALLATION (7/XP/VISTA) 13
2.2 MAC OSX INSTALLATION (10.5/10.6) 17

3 REGISTRATION & AUTHORIZATION 18

3.1 REGISTRATION 18
3.2 AUTHORIZATION 20

4 QUICK START 21

4.1 SPARK CONTROLLER OVERVIEW 21
4.2 SPARK SOFTWARE OVERVIEW 21
4.2.1 The Center panel 22
4.2.2 The Bottom panel 22
4.2.3 The Top panel 23
4.3 NAMES AND CONCEPTS YOU SHOULD KNOW 24
4.3.1 Project 24
4.3.2 Kit 24
4.3.3 Instrument 24
4.3.4 Audio Source 25
4.3.5 Bank 25
4.3.6 Pattern 25
4.3.7 Song 25
4.3.8 Channel 25
4.3.9 Track 25
4.4 AUDIO AND MIDI SETUP 25
4.4.1 Windows 25
4.4.2 Mac OS X 25
4.5 FIRST STEPS WITH SPARK 26
4.5.1 Loading a project 26
4.5.2 Select and play a pattern 26
4.5.3 Change Instrument parameters 27
4.5.4 Select an Instrument and change filter and mixer parameters 27
4.5.5 Play and edit a pattern 28
4.5.6 Record a pattern with instrument pads 28
4.5.7 Change Instruments/Kits with the jog dial 29
4.5.8 Save your project 30
4.5.9 Switching views 30

5 USING SPARK 31

5.1 THE TOOLBAR 31
5.2 THE MAIN PANEL (OVERVIEW) 31
5.2.1 The Digital display 35
5.2.2 The Sequencer zone 35
5.2.2.1 The Step Pads 35
5.2.2.2 The Shuffle Knob 35
5.2.2.3 The Transport Zone 36
5.2.2.4 The Tap Button 36
5.2.2.5 The Tempo Button 37
5.2.2.6 The Accent Button 37
5.2.2.7 The Erase Button 37
5.2.2.8 The Loop zone 37

5.2.3 The Song/Pattern zone ... *38*
5.2.3.1 The Song Mode ... 38
5.2.3.2 Editing Songs from the Main panel ... 38
5.2.3.3 Banks and Patterns ... 39
5.2.4 The Jog Dial ... *40*
5.2.5 The FX Live Pad ... *40*
5.2.6 The Filter / Slicer / Roller ... *41*
5.2.6.1 The Filter Button ... 41
5.2.6.2 The Slicer button ... 41
Repeat mix ... 41
Repeat ... 41
Tape ... 42
Reverse ... 42
Strobe ... 42
Pan ... 42
5.2.6.3 The Roller button ... 42
5.2.7 The Instrument control zone ... *42*
5.2.7.1 The instrument Pads ... 43
5.2.7.2 The Parameter Knobs ... 43
5.2.7.3 Select Button ... 43
5.2.7.4 1-8 / 9-16 Button ... 43
5.2.7.5 Mute button ... 43
5.2.7.6 Solo button ... 43
5.2.7.7 Filter/Mixer parameters ... 43
5.3 THE BOTTOM PANEL (OVERVIEW) ... 44
5.3.1 The Studio ... *45*
5.3.1.1 Instrument Edit Window ... 46
5.3.1.2 Studio Buttons ... 47
5.3.2 The Mixer ... *48*
5.3.2.1 The Instrument tracks ... 48
5.3.2.2 The Return 1 and 2 tracks ... 49
5.3.2.3 The Master track ... 50
5.3.2.4 The Effects ... 50
FX parameters ... 50
Compressor parameters ... 51
BIT CRUSHER parameters ... 51
Chorus parameters ... 52
Delay parameters ... 52
Distortion parameters ... 53
Parametric EQ parameters ... 53
Phaser parameters ... 54
Plate Reverb parameters ... 55
Reverb parameters ... 55
5.3.3 The Library ... *56*
5.3.3.1 The Library Window ... 56
5.3.3.2 The Current Project window ... 57
5.3.3.3 Creating a new project ... 58
5.3.3.4 How to load Kits and Instruments ... 58
5.3.3.5 How to load Banks and Patterns ... 58
5.3.3.6 Importing and Exporting a project ... 58
5.3.3.7 Saving a project ... 59
5.4 THE TOP PANEL ... 59
5.4.1 Overview ... *59*
The Pattern Panel ... *59*
5.4.2 ... *59*
The Toolbar ... *59*
5.4.3 ... *59*
5.4.4 The Sequencer ... *61*
5.4.4.1 How to select a track ... 61
5.4.4.2 How to copy or swap tracks ... 62
5.4.4.3 How to copy or swap Step parts ... 62
The Automation editor ... *62*
5.4.5 ... *62*
The Song panel ... *63*
5.4.6 ... *63*
5.4.7 The Song slots ... *63*

5.4.7.1 How to copy patterns to song slots. 63
5.4.7.2 How to move and paste/insert slots 64
5.4.7.3 How to set song playing position 64
5.4.7.4 How to select several slots 64
Preferences Button 64
5.4.8 64
5.4.8.1 Sequencer preferences 64
5.4.8.2 File preferences: 65
MIDI Import/Export preferences: 65
5.4.8.3 65

6 MODES OF OPERATIONS 66

6.1 STANDALONE (OVERVIEW) 66
6.1.1 Launching the standalone application 66
6.1.2 Preferences configuration – Audio & MIDI settings 66
6.1.2.1 Windows 66
6.1.2.2 Mac OS X 66
6.2 PLUG-IN MODE 67
6.2.1 Toolbar Extra Buttons 67
6.2.2 Saving project 67
6.3 VST 68
Installation 68
6.3.1 68
6.3.1.1 Windows 68
6.3.1.2 Mac OS X 68
Instrument use in VST mode 68
6.3.2 68
Connection to an instrument track 68
6.3.3 68
Multi Output Mode 69
6.3.4 69
6.4 AUDIO UNIT (MAC OS X ONLY) 69
6.4.1 Installation 69
6.4.2 Use in Logic Pro 70
Stereo Mode 70
6.4.2.1 70
Multi Output Mode 70
6.4.2.2 70
6.4.3 Use in Digital Performer 71
Stereo Mode 71
6.4.3.1 71
Multi Output Mode 72
6.4.3.2 72
Assign MIDI Track 72
6.4.3.3 72
6.4.4 Stereo Mode and Multi Output Mode 72
6.4.4.1 Stereo Mode 72
Multi Output Mode 72
6.4.4.2 72
6.5 PRO TOOLS 73
Installation 73
6.5.1 73
Utilization and opening of the Plug-in 73
6.5.2 73
Saving the project 73
6.5.3 73
Automation under Pro Tools 74
6.5.4 74

7 THE SPARK MIDI CONTROLLER 75

7.1 FRONT PANEL (OVERVIEW) 75
7.1.1 Device ports 75
Choose between Kit or Instrument mode 76
7.1.2 76

7.1.3 Roller FX ... *76*
Use as Spark Controller ... *76*
7.1.4 ... *76*
7.1.5 Use as MIDI Controller ... *77*
Use as USB/MIDI interface ... *77*
7.1.6 ... *77*
Power Supply ... *77*
7.1.7 ... *77*
7.2 REAR PANEL (OVERVIEW) ... 77
Rear panel Connectors and power supply ... *77*
7.2.1 ... *77*
7.3 SPARK MIDI CONTROLLER SOFTWARE ... 78
Overview ... *78*
7.3.1 ... *78*
The Menu ... *78*
7.3.2 ... *78*
7.3.3 Edit Instrument Pad window ... *79*
Edit Instrument knob window ... *80*
7.3.4 ... *80*
7.3.5 Edit Instrument parameter knob window ... *80*
7.3.6 Edit Clickable knob window ... *81*
The Jog Dial (Wheel) ... 81
7.3.6.1 ... 81
7.3.6.2 2. The Move button (Loop Move) ... 81
7.3.7 Edit Touch pad window ... *82*
7.4 CONTROLLING SPARK AN EXTERNAL MIDI CONTROLLER ... 82
7.4.1 Assign a MIDI note to pads ... *82*
7.4.2 Assign a MIDI note to bank buttons ... *83*
7.4.3 Assign a MIDI note to pattern buttons ... *83*
7.4.4 Assign a MIDI note to loop on button ... *83*
7.4.5 Assign a MIDI CC to Loop divide knob ... *83*
7.4.6 Assign a MIDI CC to Loop Move knob ... *83*
7.4.7 Assign a MIDI CC to shuffle knob ... *83*
7.4.8 Assign a MIDI CC to master Volume knob ... *83*
7.4.9 Assign a MIDI CC to cutoff/res/Pan/Aux1/Aux2/Volume knobs ... *83*
7.4.10 Assign a MIDI CC to instrument parameters knobs ... *83*
7.4.11 Assign a MIDI CC to tempo knob ... *83*

8 SPARK CREATIVE DRUM MACHINE LEGAL INFORMATION ... 84

8.1 SOFTWARE LICENSE AGREEMENT ... 84
8.2 FCC INFORMATION (USA) ... 86
8.3 CANADA ... 87
8.4 EUROPE ... 87

9 NOTES: ... 88

1 INTRODUCTION

1.1 WELCOME TO SPARK

BEAT THE FUTURE

Combining the power of analog synthesis, physical modeling and samples, through the intuitive workflow of a hardware drum machine, Spark is a highly creative beat production center. Spark will save you time when looking for the right drum kit and will get you hooked by its amazing ease-of-use and sound possibilities.

Spark embeds vintage analog drum machines, sample based beatboxes and acoustic drum sets. Then Spark lets you break through their sonic boundaries thanks to a highly tweakable controller.

With in-depth control over your sounds, an advanced loop mode and an XY touchpad with 8 real time effects, Spark will allow you to create unique beat experiments and constantly feed your creativity with innovative ideas.

Spark's sonic power is nothing but huge, embedding three distinctive drum engines: analog synthesis, sampling and physical modelling. Thanks to its automations available on all parameters, every kit is very tunable and customizable, bringing a fun and complementary approach to sample browsing while making it more interactive and user-friendly than similar products.

Incorporating a 16-step sequencer and 8 velocity sensitive touch pads into a sturdy beat station, Spark is your weapon of choice to bring the best groove into your tracks whether you are working in the studio or performing on stage.

1.2. HISTORY

In early 2001, Arturia began working on advanced algorithms for the digital emulation of analog circuit audio characteristics. They are known as TAE®, standing for True Analog Emulation. In non-technical language, this is an unprecedented way of creating the very unique sound one finds in a synthesizer such as the Moog Modular. Nearly a year after they began work on the algorithms, Arturia was ready for feedback. At the 2002 NAMM show in California, Arturia shared an early version of what would later be the Moog Modular V with the renowned maker of the original Moog synthesizer, Doctor Bob Moog.

In seeking insight from sound production experts, such as Dr. Moog, as well as avid synthesizer users, Arturia was able to ensure the quality of the instruments they made; so well in fact the Dr. Moog himself endorsed the Moog Modular V. The launch of this sound powerhouse was an instant success, winning awards from several top magazines, and leading to the development of other synth recreations.

Shortly thereafter, Arturia started receiving many requests from musicians, producers and bands. Many of them explained how they were planning to replace their original hardware synthesizers by virtual instruments. Artists around the globe were beginning to see the advantages of a software alternative to hardware-based synthesizers.

The CS-80V emulated the legendary Yamaha CS-80, considered by many as "the ultimate polyphonic" synthesizer, and was launched at the AES 2003 in New York. Imagine some of your favorite music from diverse artists such as Keith Emerson or Stevie Wonder, and you'll get an idea of what the CS-80V is capable of.

The ARP 2600 V was launched at the NAMM 2005 in Anaheim. This is a faithful reproduction of the ARP 2600 and is great for just about any sound one might wish to create: everything from drum n' bass stabs to Star Wars' R2-D2 sounds have been made with the ARP.

At the Winter NAMM Show 2006, ARTURIA announced the release of its seventh product: the Prophet V. This powerful hybrid gives you two instruments in one: it combines the warmth of the legendary Prophet 5 programmable analog synth with the unique Vector Synthesis textures of the digital Prophet VS.

And finally, at the summer 2007 NAMM Show, Arturia launched the Jupiter-8V. In terms of sonic possibilities, it complemented its "Arturian siblings" by bringing something different. The Jupiter-8 V was capable of creating very versatile sounds. You could easily make 'fat' or 'Crystal' sounds with it. In fact, the Jupiter-8 sounded the way it looked, 'sleek and polished'.

The electro-pop community became quickly convinced by the qualities of the original Jupiter-8. 'Relax', by Frankie Goes to Hollywood was produced incorporating a Jupiter 8, and players such Vince Clarke, John Foxx, and Martyn Ware also used it abundantly. The path to classic status of the Jupiter started there.

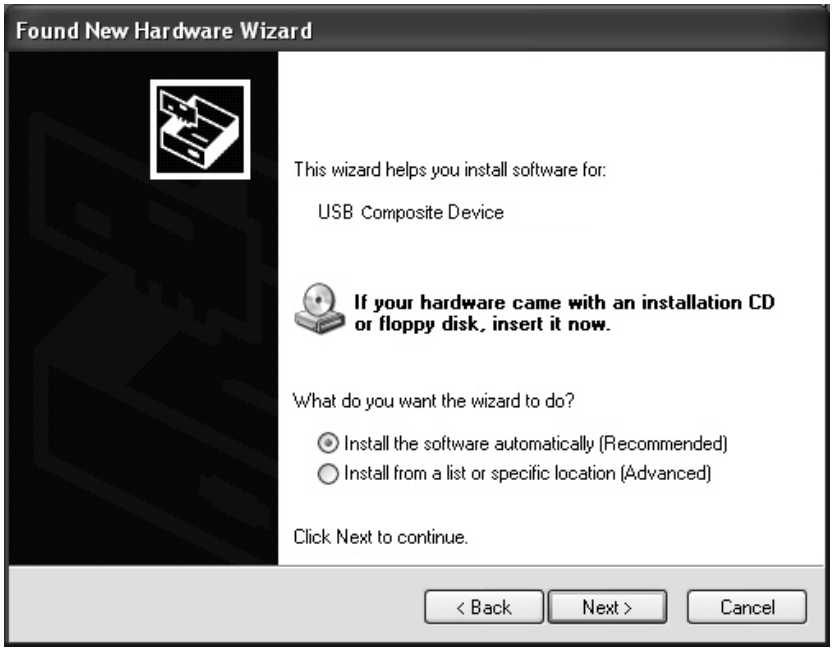
Other artists that have used The Jupiter-8 include: Howard Jones, Tangerine Dream, Underworld, Jean Michel Jarre, Depeche Mode, Prince, Gary Wright, Adrian Lee, Heaven 17, Kitaro, Elvis Costello, Tears for Fears, Huey Lewis and the News, Journey, Moog Cookbook, Yes, Devo, Freddy Fresh, Simple Minds, Jan Hammer and BT.

2 INSTALLATION

2.1 WINDOWS INSTALLATION (7/XP/VISTA)

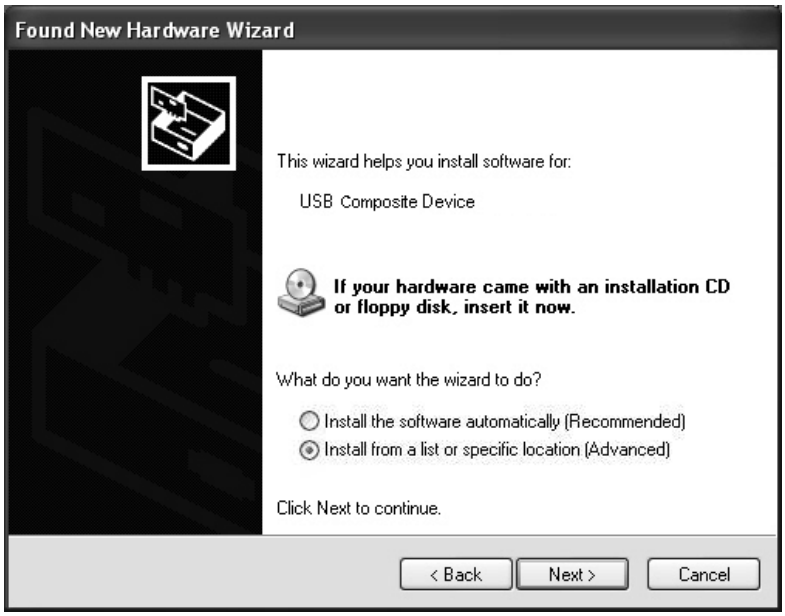
- Place the Windows®-specific installation DVD in your computer's DVD-ROM drive.
- Use Windows® Explorer to browse the content of the DVD-ROM.
- Double-click the installer file named **SPARK Setup.exe**.
- Click Next.
- To continue, you need to first accept the license agreement. After you have read the license agreement, check the corresponding checkbox and click Next.
- To perform a complete installation, leave the Complete option checked and click Next. To deselect components or to install the SPARK application and sound library to an alternative location, select Custom. Then click Next. In the next dialog, choose the destination folders for the installation. To use the default path, just click Next. If you wish to select a custom path for a SPARK component, click Change, browse to the folder where you want to install the application or sound library. Then click Next. If you select VST (and/or VST 64 bits) you will have to select your VST (and/or VST 64 bits) folder.
- The Setup Program will lead you through the installation procedure. Follow the onscreen instructions.
- After the installation has been performed successfully, click Finish.
- Next, in order to install the SPARK Controller hardware driver, you need to connect the SPARK Controller to your computer. On Windows® Vista, the driver setup will finish automatically. On Windows® XP, installation is a two step process, described below. The following screen should appear:
- Installation starts with Composite Device install:

- Choose “Yes this time only”, and click next.

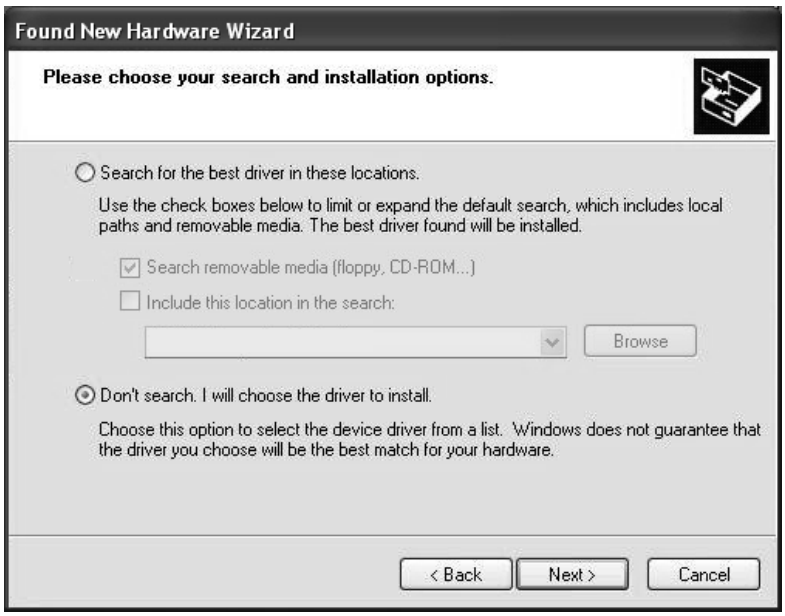


- Click next.
- After processing, Composite Device will be installed correctly.
- Installation should continue with USB Audio Device install.

- Choose “No, not this time”, and click next.



- Choose "Install from a list or specific location", and click next



- Choose "Don't search, I will choose the driver to install".
- Click Next.

- Click "Have Disk"
- Click Browse, and locate Spark_XP.inf on Spark install DVD :

[YourDVDdrive]:\Driver\Spark_XP.inf

- Choose "Spark Controller", and click Next

- Click "Continue Anyway".

Your Spark Controller should now be ready to use.

2.2 MAC OSX INSTALLATION (10.5/10.6)

- Place the installation DVD-ROM in your computer's DVD-ROM drive. Its icon will appear in the Mac OS® X Finder.
- Connect the SPARK Controller using the USB cable. If you want to connect the Controller to a USB-hub instead, make sure the hub has its own power supply. SPARK's Controller will not work on a passive (bus-powered) USB hub.
- Double-click the SPARK DVD icon to display the content of the DVD.
- Double-click the installer file named SPARK.
- Click Continue to proceed.
- To continue, you need to first accept the license agreement. After you have read the license agreement, press Continue and click Agree.
- Select the hard disk onto which you would like to install SPARK. Please note that you can only install SPARK onto hard disks which contain a Mac OS® X version matching the system requirements. Hard disks with an incompatible Mac OS® X version will be flagged with a red Stop sign and you will not be able to select them from the Installation Destination dialog. From Mac OS® X 10.5 on, this screen will be skipped automatically.
- Click Continue.
- Select the elements you want to install (we recommend installing all elements, however if you know that you don't need a certain element like a plug-in format, uncheck the checkbox next to it).
- If you want to install the SPARK Library contents to a custom location, e.g. to an external hard disk, click the folder icon in the Location column to open a dialog in which you can specify a destination for the installation.
- Click Install to continue. The Setup Program will lead you through the installation procedure. Follow the onscreen instructions.

3 REGISTRATION & AUTHORIZATION

3.1 REGISTRATION

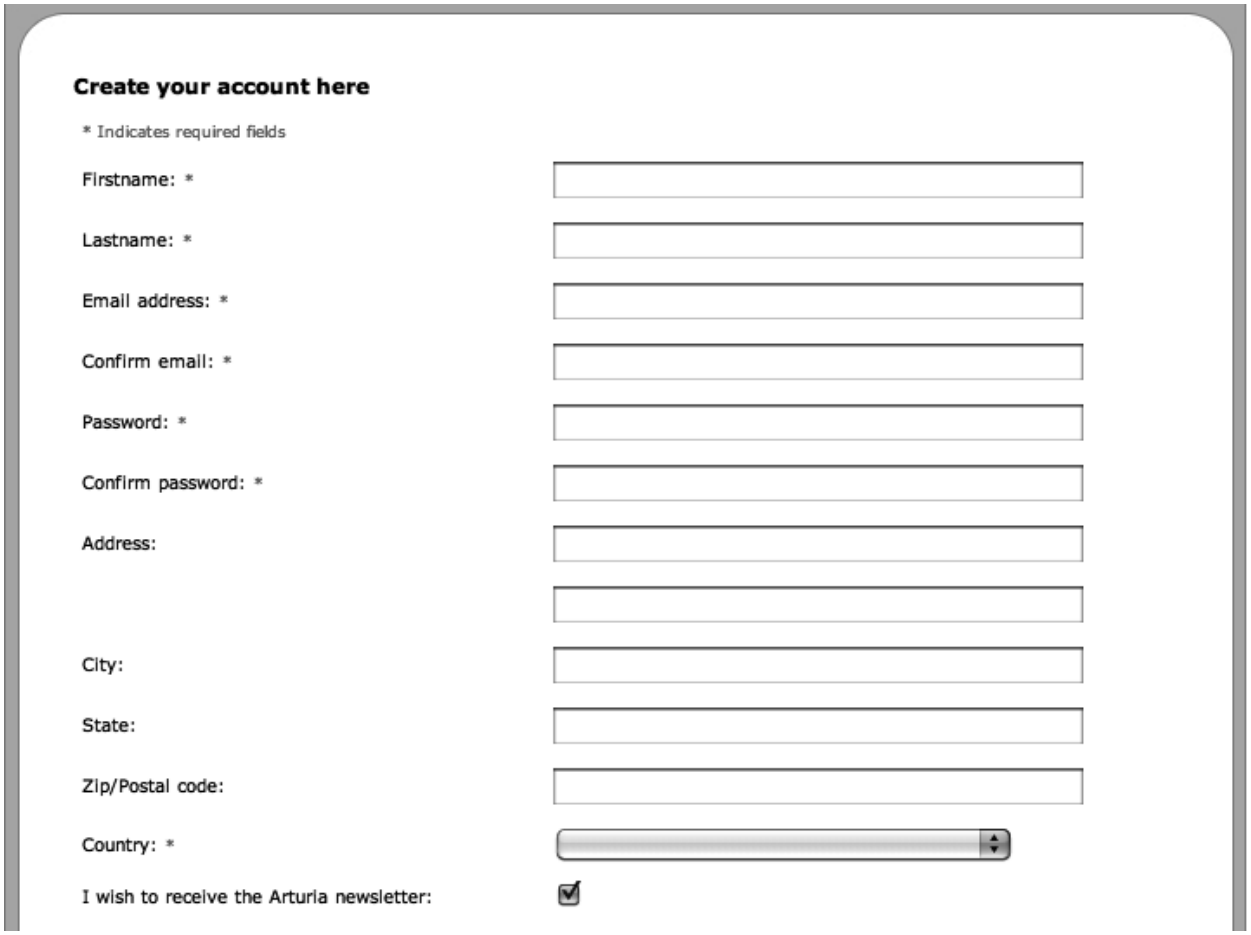
Now that your SPARK Software has been installed, the first step is to register your software in order to obtain the activation code that will enable you to actually use the software.

You should have handy the license serial number of SPARK Software and the unlock code (these are an integral part of the software and are printed on a small plastic card).

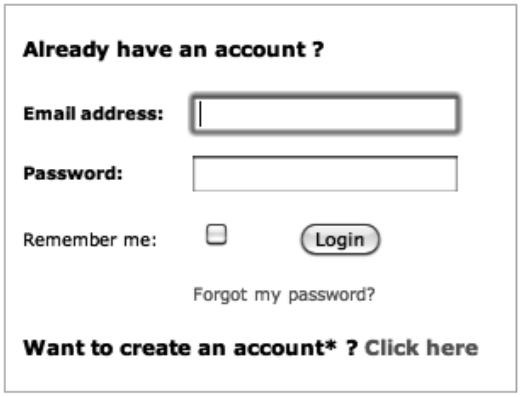
Connect your computer to the Internet, and go to this web page:

http://www.arturia.com/login

If you don't have an Arturia account yet, please create one now. This will take you to this form:

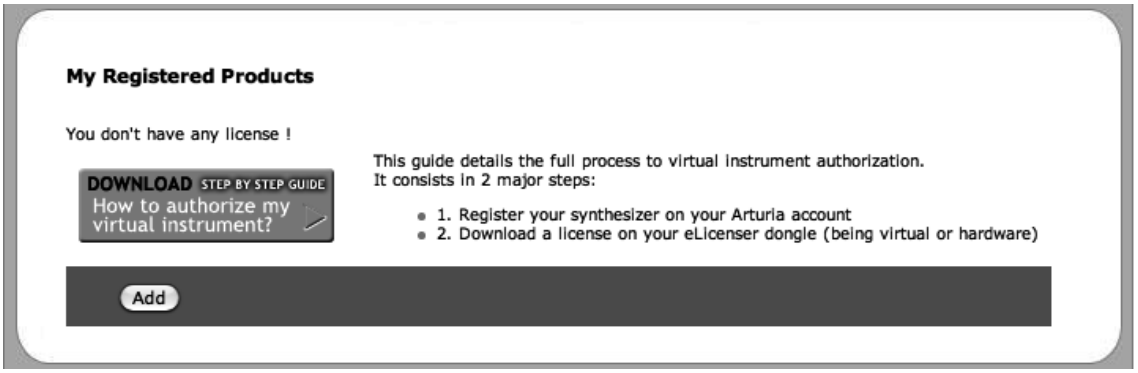


If you already have an account, simply log in:

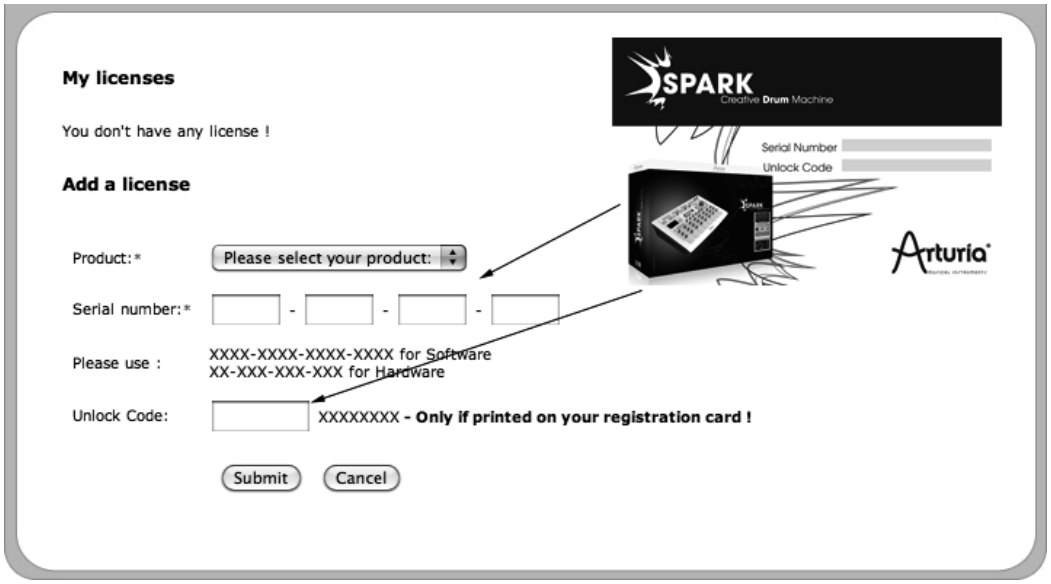


Once you are logged into your account, you can register your Spark and request your activation code.

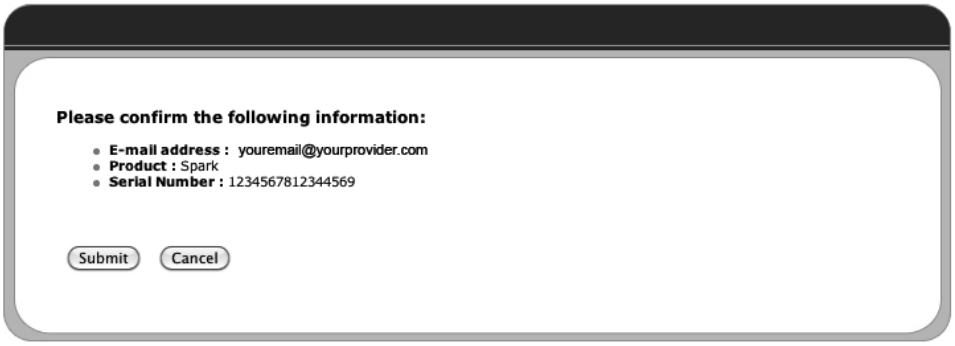
Go to the "My Registered Products" section of your account and click on the "Add" button:



In the form that appears, select "SPARK Software" from the drop down menu, and key in your software serial number and unlock code (as written on the registration card), and click Submit:



You should then see the confirmation screen, click Submit:



3.2 AUTHORIZATION

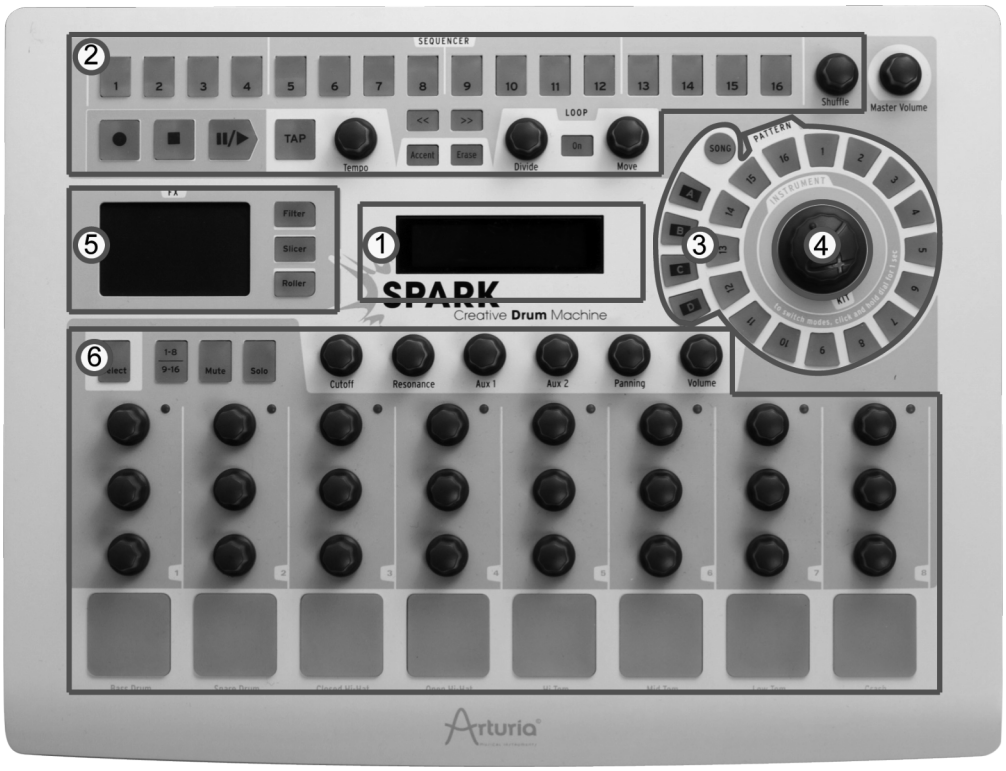
Finally there is a screen to copy the **activation code**. The very same information is sent to you by email as a backup.

Copy the **activation code** and paste it in the window that shows when you launch SPARK:

If your activation code has been entered correctly, the software will launch.

4 QUICK START

4.1 SPARK CONTROLLER OVERVIEW



1.	Digital Display
2.	Sequencer zone
3.	Song/Pattern zone
4.	Jog dial
5.	FX live Pad
6.	Instruments control zone

Connect the SPARK Controller using the USB cable. If you want to connect the Controller to a USB-hub instead, make sure the hub has its own power supply. SPARK's Controller will not work on a passive (bus-powered) USB hub.

4.2 SPARK SOFTWARE OVERVIEW

This chapter will introduce you to the SPARK software's user interface elements. If you need to look up a certain user interface element's name, you can return to this chapter at any time for a refresher!

Spark's user interface is divided in three main panels called: "TOP", "CENTER" and "BOTTOM".

4.2.1 The Center panel

When launching SPARK, the CENTER PANEL will appear by default.

1.	Digital Display
2.	Sequencer zone
3.	Song/Pattern zone
4.	Jog dial
5.	FX live Pad
6.	Instruments control zone

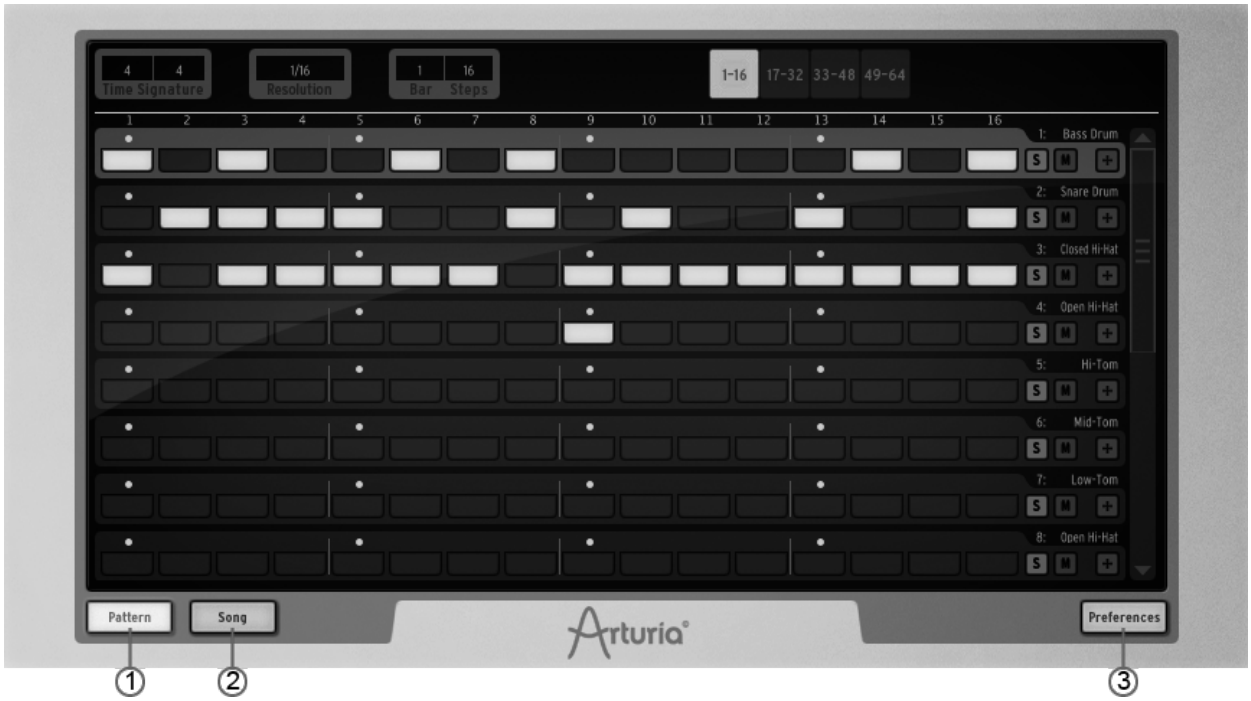
4.2.2 The Bottom panel

The Bottom panel features the Studio, the Mixer and the Library.

1.	Studio Button
2.	Display Instruments 1 to 8
3.	Display Instruments 9 to 16
4.	Display all Instruments
5.	Mixer button
6.	Library button

4.2.3 The Top panel

The Top panel features the Pattern, the Song and the Library interface.



1.	Pattern button
2.	Song button
3.	Preferences

4.3 NAMES AND CONCEPTS YOU SHOULD KNOW

This chapter will introduce you to SPARK's terminology and explain how these different elements relate to one another.

4.3.1 Project

A Project contains all data needed for a Song: a 16 instrument kit and up to 64 Patterns with their settings, automations and FX.

4.3.2 Kit

Each kit is made up of 16 instruments, i.e. Bass drum, Hi-hat, etc.

You will find all of the instrument Kits in the Library, under the project window (Bottom panel).

4.3.3 Instrument

An instrument is a sound generated from an audio source assigned to a track pad. For example, you can assign the instrument Bass Drum to track 1, which you will then hear when hitting the bottom left pad in the main panel.

4.3.4 Audio Source

Sample (.wav, .aiff audio files)

Physical (Physical parameters)

Analog (Vintage drum machines with analog parameters)

4.3.5 Bank

SPARK features 4 banks of 16 MIDI patterns each, called A-B-C-D.

Go to the main panel, click on "A" and then "1" in the Song/Pattern zone. Then click on the play/pause button: you will hear the pattern number 1 of Bank A.

4.3.6 Pattern

A Pattern is a sequence of notes played by instruments.

4.3.7 Song

A Song is an editable ordered sequence of several patterns that defines your song structure.

SPARK allows songs made of 64 patterns maximum.

4.3.8 Channel

A specific channel is assigned to each instrument in the Mixer.

The channels are numbered from 1 to 16 in the same way the instruments are.

4.3.9 Track

The pattern window in the Top Panel shows you the 16 instrument tracks. Each track is the score played by one instrument.

4.4 AUDIO AND MIDI SETUP

4.4.1 Windows

To access the preferences window, click on the SPARK menu > Setup > Audio & MIDI Settings. This window allows you to configure the global preferences of SPARK. These are saved automatically.

4.4.2 Mac OS X

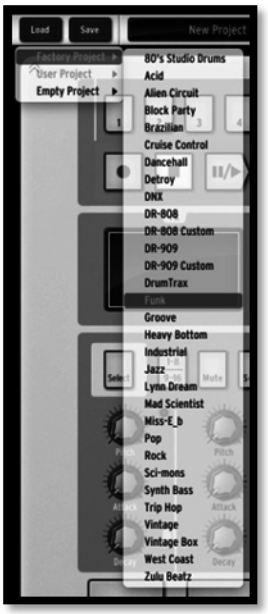
To access the preferences window click on the SPARK menu>Preferences. The Audio settings window will appear. This window features the global preferences of SPARK. These are saved automatically.

For further details on how to setup Audio and MIDI, please refer to Chapter6 : MODES OF OPERATIONS of this manual.

4.5 FIRST STEPS WITH SPARK[1]

4.5.1 Loading a project

To load a project, go to the tool bar and click on LOAD.

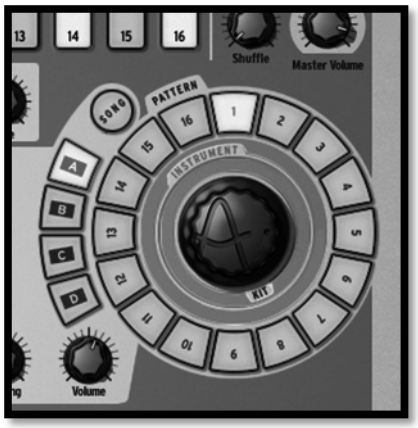


Move your cursor over "Factory Project" and click on a project in the drop-down list, for example "FUNK".

This project is now loaded into SPARK and its name appears in the window next to the button "SAVE".

4.5.2 Select and play a pattern

To select and play a pattern, move your cursor to the "Song/Pattern" zone and choose a Bank of patterns, for example the BANK A (click on "A") and a pattern in BANK A, for example pattern #1 (Click on "1"). You will notice that your selection is now highlighted.



Now, go to the transport zone and click on the "Play/Pause" button to listen to Pattern #1 in Bank A. To listen to a different pattern, just click on another pattern number. You

1 When reading "Click" for the software version of SPARK, replace by "Press" for the Hardware version or refer to chapter 7 of this manual: THE SPARK MIDI CONTROLLER.

do not necessarily need to stop playing a pattern to listen to another. The same applies to switching from Bank to Bank.

4.5.3 Change Instrument parameters

The three buttons above each of the instrument's pad are the instrument's parameters. Let's try and change the pitch of the snare drum. While the pattern is playing, place your cursor over the "Pitch" button", click on it and while maintaining your click, move your cursor up and down slowly. This will turn the "Pitch" button up and down. Listen how the pitch of the Snare drum is changing. The Digital display window in the center of the main panel shows the changes applied on the Pitch range.

4.5.4 Select an Instrument and change filter and mixer parameters

To select an instrument, for example the snare drum, move your cursor to the dividing line above the 2nd pad from the left called "Snare Drum". The dividing line will be highlighted to let you know that you entered its selection zone.

Click once. The "Snare drum" pad is now lit as well as the red diode. The instrument "Snare Drum" is now selected. Alternatively, press the Select Button and an instrument pad to select it.

Click the Select Button again to exit from the Select mode.

To change the filter and/or the mixer parameters, first select an instrument and simply click on one of the filter or mixer parameter buttons and while holding your click, then move your mouse up or down to change the parameter's value. The Digital display window in the center of the main panel shows you in real time the changes applied to the selected parameter.

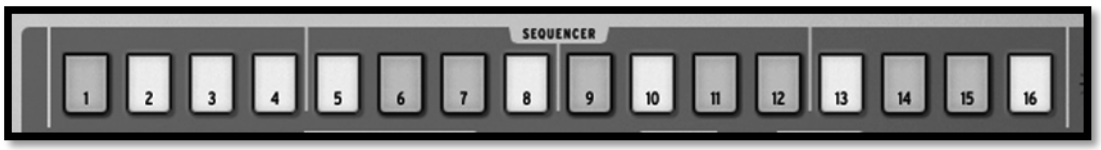
4.5.5 Play and edit a pattern

To play a pattern use the Play/Pause button located in the upper left corner of the CENTER PANEL interface.

To edit a pattern, you will use the 16 small pads located at the top of the main panel. You will notice that when you play a pattern, the current playing position is shown with a lit pad in real time. When a pad lights up, it means that the sequencer will play a MIDI note-on (a beat) at this pattern's position. If a pad is not lit, it means that no note will be played, therefore no sound will be heard. You can trigger a note-on or remove it by pressing these pads.

To better understand, click on Bank A / pattern #1 and then select the snare drum track:

Look at the 16 small pads at the top of the main panel: some pads are lit and others are not. The ones lit are the note-ons, those unlit are not triggering note-on messages.



Every lit pad is a Snare drum's beat. You can edit this track by pressing a pad to add or remove a note-on. Try it! While the pattern plays, click on pads 2, 3, 4 and 5. They are now unlit, therefore you do not hear any snare drum beats any more. Now click on pads 1 and 4: you are starting to compose your own pattern.

4.5.6 Record a pattern with instrument pads

To do so, we will start by erasing the current pattern and start from scratch.

First, click on the "ERASE" BUTTON, right above the digital display window and then go to the Song/Pattern zone and click on the currently selected pattern – it should be Pattern #1 of BANK A:

The pattern #1 of Bank A is now erased. The 16 editing pads are not lit anymore (since the snare drum track is now empty as well as all the other instrument tracks). Click on Pattern #1. We are now ready to record a new pattern #1 with the instruments pads.

To use the Metronome, click on the Metronome Button, set its volume and proceed with recording your pattern. Clicking on the Metronome button again will switch the metronome off.

Click on the pad called Bass Drum at the bottom left side of the Center panel. You are now playing bass drum. To record a Bass drum, click first on the record button and then on the play button, the recording has now started.

Play your Bass drum part on the Bass Drum pad and then click stop. By clicking "Play", you will now listen to the track you just recorded. To record another instrument, select another instrument track (If you forgot how to do this, go back to 5.5.4. Select an instrument) and repeat the same steps to start recording.

4.5.7 Change Instruments/Kits with the jog dial

To change an instrument with the Jog Dial, you need to first select the instrument you want to change. Now, go to the Song/Pattern zone. Click above the Jog Dial where it says: "Instrument". Click on the Jog Dial and while holding your click, move your mouse up or down to select a new instrument. The name of the instrument will be displayed in the Digital display window in the center of the main panel. Once your choice is made, click on the Jog Dial to load the new instrument.

The procedure to change a Kit is the same, except that you do not need to select an instrument since you're loading all of them. Just click below the Jog Dial where it says: "Kit", and follow the same procedure as with the instrument selection.

4.5.8 Save your project

To save your project, go to the toolbar and click "Save". A drop down menu will appear. Chose "Save as…"

Give a name to your project and choose a style from the drop down menu. Click "OK". Your first project is now saved. Congratulations!

The name you gave to your project is now showing in the display window next to the button save.

4.5.9 Switching views

SPARK's interface is made up of 3 main panels. The "TOP" panel, the "CENTER" panel, and the "BOTTOM" panel. Up until now, you have only been introduced to the main or "CENTER" panel.

You are now ready to discover everything SPARK has to offer.

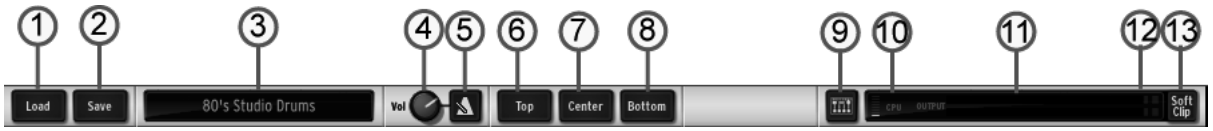
To show the "TOP" panel, go to the toolbar and click on "TOP".

To show the "BOTTOM" panel, click on "BOTTOM"

All 3 panels are now showing, you can scroll up and down to go from one panel to another.

5 USING SPARK

5.1 THE TOOLBAR



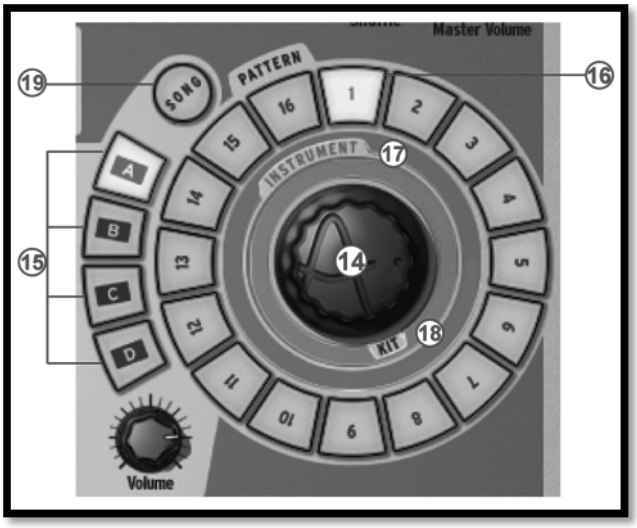
1.	Load button
2.	Save button
3.	New Project window
4.	Set Metronome volume button
5.	Set Metronome on
6.	Open or center "TOP" panel in the main window
7.	Open or center "CENTER" panel in the main window
8.	Open or center "BOTTOM" panel in the main window
9.	Connect Hardware
10.	CPU Meter
11.	Main volume meter
12.	Clipping indicator
13.	Set Soft clip on/off

5.2 THE MAIN PANEL (OVERVIEW)[2]

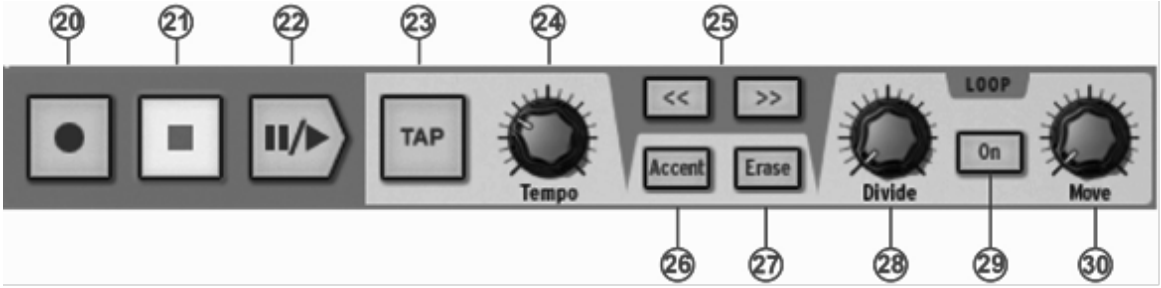
2 When reading "Click" for the software version of SPARK, replace by "Press" for the Hardware version or refer to chapter 8 of this manual: THE SPARK MIDI CONTROLLER.

1.	Play instruments with Pads (Right click: Edit instrument)
2.	Instrument parameter knobs (Right click: edit motion/disable motion)
3.	Instrument Select Button (Click on select, then on instrument.)
4	Instruments page Button (Instrument 1-8 and 9-16)
5.	Mute Button (Click on mute, then on instrument(s).)
6.	Solo Button (Click on solo, then on instrument.)
7.	FX – Aux 1 and 2 – Pan and volume Buttons (Right click: edit motion/disable motion)
8.	Click zone to select instrument track

9.	FX display window
10.	Filter Button (Right click: Always on/only on touch)
11.	Slicer Button (Right click: Always on/only on touch)
12.	Roller Button (Right click: Always on/only on touch)



14.	Jog Dial (Right click: Instrument mode/Kit mode)
15.	Bank select Buttons (A-B-C-D)
16.	Pattern select Buttons (1 to 16)
17.	Instrument select Button
18.	Kit select button
19	Song select Button



20.	Record button (Right click to select quantized/unquantized recording)
21.	Stop Button
22.	Play/Pause Button
23.	Tap Button (Tap tempo)
24.	Tempo knob (Change Tempo)
25.	Display previous/next 16 pattern steps
26.	Set accent mode Button (On patterns or steps)
27.	Erase/Cancel Erase Button (Use to erase Instruments/Patterns or Automation)
28.	Divide loop size knob
29.	Loop On/Off Button
30.	Move loop locator knob (Right click: Shift by one step/Shift by one loop size)

31.	Sequencer Steps: ON/OFF pads
32.	Shuffle knob (Right click: Swing range / velocity mode)
33.	Master volume knob

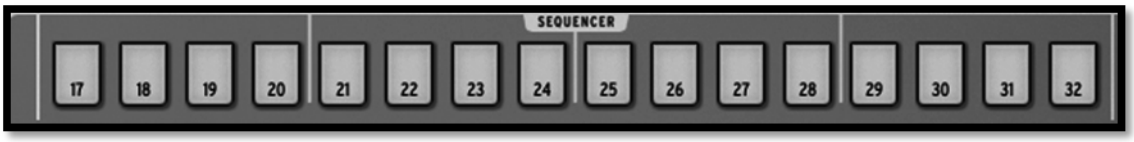
5.2.1 The Digital display

The digital display is of an invaluable help. It displays all the information needed while using SPARK. (i.e. Project name, precise changes applied when using Volume knob, FX knobs, etc.)

5.2.2 The Sequencer zone

The Sequencer zone is divided into several zones:

5.2.2.1 The Step Pads



16 Step pads numbered from 1 to 16.

These pads allow you to edit your pattern by triggering note-on messages on your instrument track. Patterns have a maximum number of 64 steps. If your pattern has more than 16 steps, use the << or >> buttons to navigate to the previous or next page. If you click on the >> next page button, you will see the numbering on the pads switch from 1-16 to 17-32 for the second page, and so on.

The step resolution is a sixteenth of a note by default. You can change the resolution in the pattern panel. (See Chapter 5.4.2)

5.2.2.2 The Shuffle Knob

This knob sets the amount of shuffle applied to a pattern. Shuffle is a rhythmic shifting of a Pattern in which the first note in a series of two plays for a longer time than the one that follows.

When the Shuffle knob is turned all the way up, the first note in a series will play twice as long as the one that follows.

Right click on the shuffle button to set the swing range (1/4, 1/16, 1/32 of a note). This will define the value of the note on which the swing will be applied.

Click on velocity mode to apply shuffle to the note velocity.

Shuffle is a function better heard than described. Try it!

5.2.2.3 The Transport Zone

These buttons, from left to right, are:

- Record
- Stop
- Play/Pause

To record, click on the Record button and then on the Play/Pause button. The Record button will turn to red to indicate recording mode is on.

To stop recording, click on the Stop button.

To disable recording mode, click on the Record button again.

While a pattern plays, clicking on the Play/Pause button will pause the playing. Click again on Play/Pause to resume playing.

Click on Stop to reset current position to the beginning of the pattern.

Right-click on the Record button to choose between quantized or unquantized recording function.

In Quantize mode; the recorded notes will be set exactly to the nearest step position. When quantize mode is disabled, the recorded notes will keep the exact position they were played on. Spark uses the Shift parameter (see Chapter 5.4.2) to remember the exact triggering time relative to a step position.

This setting (shift-editing pattern) is not available on the hardware version of Spark.

5.2.2.4 The Tap Button

The Tap button allows you to define the tempo of your pattern by simply tapping this pad at the desired tempo. It is a beat/minute counter, so you have to tap the beats.

5.2.2.5 The Tempo Button

The Tempo button allows you to set the tempo for your pattern when SPARK is not externally synced to a host.

5.2.2.6 The Accent Button

The accent button allows you to set accents onto steps. Setting accents is very similar to writing a "forte" on a music score. The accented steps will be played with more strength that the unaccented ones. This allows for a very "natural" feel when listening to a pattern.

Click on the accent button to set the sequencer steps to Edit accent mode. Now the sequencer's steps in the main panel show the accents set on steps (not to confused with the note-ons in the normal Step mode).

Set an accent by clicking on the step: the step will light up. Remove the accent by clicking on a highlighted step.

To exit accent mode, click on the accent button again.

Accent ON sets velocity to 127, Accent OFF sets velocity to 64.

5.2.2.7 The Erase Button

Click on the erase button to set Erase mode.

You can erase Instruments, Banks or Patterns.

For example, to erase pattern 1 in Bank A, make sure Bank A is selected then click on Erase and then on 1 in the Pattern section.

5.2.2.8 The Loop zone

Click on the button "ON" to set Loop mode on.

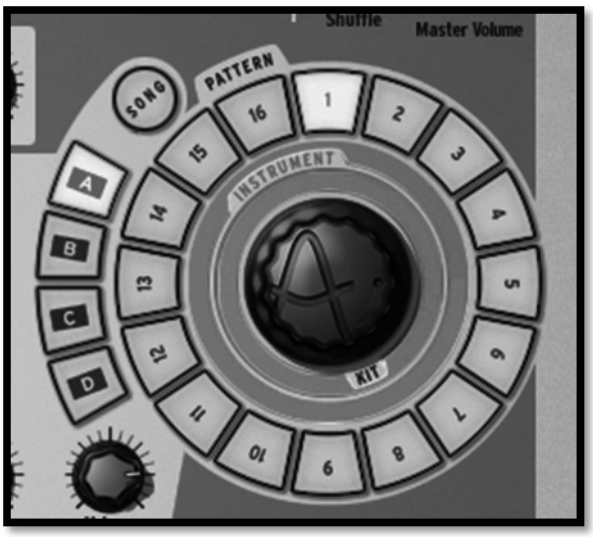
The Divide knob allows you set the loop size.

Moving the knob one notch will halve the loop size.

The settings are 1/2, 1/8 and 1/16 of the pattern size, all the way down to the minimum loop size: one step.

The Move knob allows you to move the loop start in one of two ways. Using “shift by one step” mode will shift the loop start to a given step of the pattern. Alternatively, you can move the loop in increments of the loop size (defined with the divide knob) by using "shift by one loop size" mode. Right click on the Move knob to choose the Move Loop mode.

5.2.3 The Song/Pattern zone



The Song/Pattern zone is where you can trigger the Song mode, select and play your patterns, load Instruments or load a kit into your project.

5.2.3.1 The Song Mode

A Song is made up of a maximum of 64 patterns chained together. Click on the Song button to enter the Song mode. The Song button will flash continuously to let you know that you are now in Song mode. Click on the Play button in the transport zone.

Listen! Your patterns are now chained together and played one after another from pattern to pattern and Bank to Bank.

The Step pads (numbered from 1 to 16 at the top of the Center Panel) light up as each pattern is being played. They show you which pattern is currently being played.

To edit your Song, refer to Chapter: 6.4.6 The song panel

5.2.3.2 Editing Songs from the Main panel

As we have just seen, a Song is made up of several patterns chained together. The order in which each pattern is played can be changed from the main panel.

When in Song mode, each step pad, numbered from 1 to 64 represents the position occupied by a pattern in the chain (to select the next page, click on the next 16 steps page button >>).

When the Song plays, the step pads will light up successively showing you which pattern is currently being played in the chain.

The number under the step pad represents the position of a given pattern in the chain. This number has no relation whatsoever with the pattern number. For example, you can decide that the pattern B-12 will be played first, then pattern A-1, and so forth.

To edit a song, first of all make sure you've selected the Song mode by clicking on the Song Button. The song button should blink.

Then, press the record button in the transport zone. You are now ready to assign a location to your patterns in the chain.

Let's say you want pattern A-2 to be in first position when playing the song. Click on Step pad #1 and then, in the Song/pattern zone, click on Bank A then on pattern 2. That's it. When you will play your song, pattern A-2 will be the first pattern of your song.

Repeat this operation to create your song. Remember to click on the next or previous 16 pattern page button [>> or <<] to go to the next or previous page.

5.2.3.3 Banks and Patterns

The patterns are organized in 4 banks (labeled from A to D) of 16 patterns each (numbered from 1 to 16).

To select pattern number 6 of Bank B, click on Bank B and then on pattern 6. The selected pattern can now be played when clicking on the Play button in the transport zone.

But you can also use the Song/Pattern zone to copy or swap patterns in the currently selected Bank.

To copy a pattern, drag and Drop a pattern number while holding [alt] on Mac OSX or [Ctrl] on Windows and drop it on another pattern number. A pop-up menu will ask you to confirm your choice. Click Ok.

In this example, Pattern 1 is being copied to pattern 13.

To swap patterns, simply drag and Drop a pattern number onto another one. A pop-up menu will ask you to confirm your choice.

The exact same procedure applies to copying or swapping Banks.

5.2.4 The Jog Dial

The Jog Dial allows you to load Kits or load Instruments when working on a project.

To load a kit, click on "Kit" under the Jog Dial. Click on the Jog dial and while maintaining your click, move your mouse up or down to select a kit.

The kits name will appear in the center display window. Then, click on the Jog dial again to load a new kit.

To load a new instrument to an instrument pad, first select the instrument pad you want the instrument to be assigned to. Then, click on “Instrument" above the Jog dial. Next, click on the Jog Dial and while holding move your mouse up or down to select a different instrument. The list of Instruments will appear in the center display window. Select an Instrument and then click on the Jog dial.

The new instrument is now assigned to the Instrument pad previously selected; the new instrument's name appears below the pad.

The instrument list is organized this way:

- Same type first (BD, Snare,…)
- Other types but same style (Rock, etc…)
- Other types.

5.2.5 The FX Live Pad

The FX live pad is a striking tool, especially if you plan on playing live. Its touch sensitive screen will apply live effects in real time to your song or patterns, allowing you to shape your sound with great precision. When your cursor enters the FX pad zone, it turns from an arrow to a cross.

The Live Pad features 3 main effect buttons called Filter, Slicer and Roller. By right clicking on any of them, you can choose between: "Always on" or "Only on touch".

"Always on" will not cut off the effect when releasing your click, the "Only on touch" option will cut off the effect upon releasing your click.

5.2.6 The Filter / Slicer / Roller

5.2.6.1 The Filter Button

The Filter button brings you a Low pass, a Band pass and a High pass filter with cutoff and resonance.

To select Low pass, Band pass or High pass, click on the FILTER button repeatedly. Your choice will be displayed on the center display window.

The Cutoff and resonance can be modulated with the mouse on the software version or your finger on the hardware version.

The modulation can be set to "On Touch" (will cancel when releasing your click) or to "Always on" (will remain set on the last cursor's position when releasing your click) by right clicking on the Filter button.

The resonance is modulated vertically from the bottom of the pad to the top of the pad.

Cutoff is modulated horizontally, from the right side of the pad to the left side of the pad.

Play a pattern of your choice and click anywhere on the right edge of the FX pad while maintaining your click; draw a straight horizontal line towards the left side of the FX pad. You will hear the cutoff modulating. The amount of modulation applied can be seen on the center display panel.

Now place the cursor close to the bottom right corner of the FX pad and trace a line straight up to the top edge of the pad. You are modulating the resonance.

Of course, both Cutoff and Resonance can be modulated simultaneously by moving the mouse in any direction and at any speed you wish.

5.2.6.2 The Slicer button

The Slicer will repeat the value of the note selected while applying an effect. You can choose between the following effects:

Repeat mix

Click to choose the value of the note to be repeated with the Repeat mix effect. The effect will be applied for the amount of time your mouse click is maintained. Release your click to cancel and resume normal playing.

Repeat mix will continue playing the pattern while the effect is applied.

Repeat

The Repeat effect is the same as Repeat mix, except the pattern is **not** played while applying the effect.

Tape

The tape effect simulates the effect of slowing down a tape player.

Reverse

The reverse effect simulates the effect of playing a tape recording backwards.

Strobe

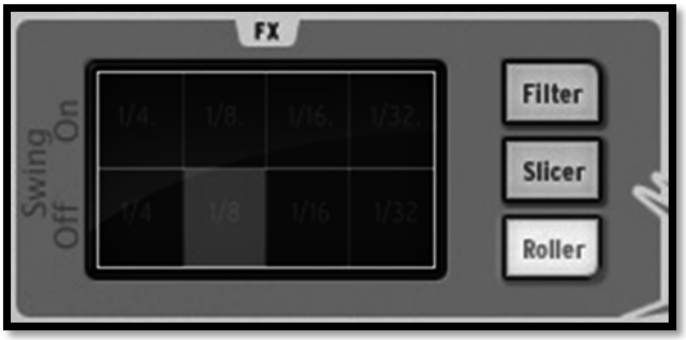
The strobe effect will play and shut off the sound alternatively at the rate of the selected note value.

Pan

The pan effect will move the sound from the left speaker to the right speaker at the rate of the selected note value.

5.2.6.3 The Roller button

The roller could be described as a "Drum roll" tool.



Choose the note value for the Roller effect. Then, click and maintain your click on the snare drum pad. The snare drum will play a "Mommy Daddy" roll, the speed at which it is played depending on the selected note value.

You can play, of course, any instrument pad using this effect.

The beginning of the roll is quantized by default.

A swing effect can be added by simply clicking on the upper note values for Swing on, or on the bottom values for Swing off. When swing is off, one beat is played per note value.

When Swing is on, a beat is added before the second beat resulting in playing close to a triple time bar.

5.2.7 The Instrument control zone

The instrument control zone is made up of:

5.2.7.1 The instrument Pads

There are 16 instrument Pads but only 8 of them are shown on SPARK's interface. To navigate to the next set of 8, click on the 1-8/9-16 button.

An instrument is assigned to each pad. The far left pad is by default the Bass Drum, next to it is the Snare drum, and so on; but you can of course personalize this arrangement.

To edit an instrument, right click on the pad, and then Click on edit. This will take you to the "STUDIO" bottom panel where you will be able to edit a full array of instrument parameters. (See next chapter 5.3.1 The Studio).

5.2.7.2 The Parameter Knobs

Each instrument pad has 3 parameter knobs above it.

These parameters act on the sound generator to modify the sounds in real time so as to give each sound its own color.

Common instrument parameters are pitch, envelop decay, attack and release. Some sounds feature more than 4 parameters.

You do not need to select a specific instrument to change its parameter. Any effect is applied in real time while the pattern is playing.

Each instrument has between 3 and 6 parameters.

The parameter motion can be recorded as an automation into the pattern and edited later accurately using the automation graphic editor. (see chapter 1.1.1 The Automation editor).

Right click on a parameter knob to edit the corresponding automation. You can also choose to momentarily disable a Motion parameter in this way.

5.2.7.3 Select Button

The Select button allows you to easily select an instrument. Just click on [Select] and then on the instrument pad of your choice to specifically select the corresponding instrument.

This function was designed to quickly select an instrument when using the Spark controller.

5.2.7.4 1-8 / 9-16 Button

The main panel interface shows 8 instrument pads while a kit contains 16 instruments.

To navigate to the next set of 8 instruments, click on this button.

5.2.7.5 Mute button

This button allows you to bypass the audio sound of a specific instrument. Select an instrument pad and then click on the Mute button. You will no longer hear that instrument when playing your pattern. When in mute mode, you can select multiple instruments to mute them together.

5.2.7.6 Solo button

The Solo button mutes the other instruments so you can listen to the currently selected instrument and this one only. When in solo mode, you can select multiple instruments in order to solo them together.

5.2.7.7 Filter/Mixer parameters

A specific filter is applied to each instrument of a kit. The filter type can be changed in the Studio Edit instrument view. (See next chapter 5.3.1 The Studio).

To change the filter and/or the mixer parameters, first select an instrument and simply click on one of the filter or mixer parameter buttons and while maintaining your click, move your mouse up or down to change the parameter. The Digital display window in the center of the main panel shows you the changes applied to the selected parameter in real time.

These motion parameters can be recorded as automations into the pattern and edited later accurately using the automation graphic editor. (See chapter 1.1.1 The Automation editor).

Right-click on a Filter or Mixer knob to edit or disable its Motion.

- Cutoff: Set Filter cutoff on current instrument
- Resonance: Set Filter resonance on current instrument.
- Aux1/Aux2: Set Aux1 or Aux2 amount on current instrument.
- Pan: Set amount of Pan on current instrument.
- Volume: Set the volume on current instrument.

5.3 THE BOTTOM PANEL (OVERVIEW)

The Bottom panel features the Studio, the Mixer and the Library.

To access the Bottom panel from the Main panel, go to the toolbar and click on "Bottom".

Right click on the picture to change the background. A pop-up menu will let you choose between:

- No background
- Classic drums
- Electronic drums
- Physical drums
- Electro box

5.3.1 The Studio[4]

The studio panel displays all your instruments as well as their parameters.

From here you can assign instruments to tracks, apply filters and effects, etc.

The picture above shows the 1-8 instrument view.

Let's look at the Bass drum window:

1.	Load a new instrument To load a new instrument, click on the down arrow. A drop-down menu will appear listing all the instruments of the selected Kit. Choose a new instrument in the list and click on its name.
2.	Instrument icon Clicking on this icon will trigger the instrument's sound.
3.	Set Pan Click and maintain click to set panning. A small window appears next to the button to let you know the amount and direction of pan applied. Click right to edit or disable pan or volume motion.

4 Not available in the Hardware version of SPARK.

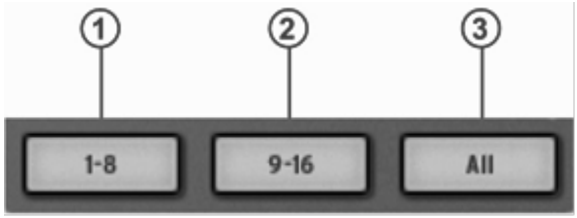
4.	Set volume Click and maintain click to set volume. A small window appears next to the button to let you know the amount and direction of volume applied. Click right to edit or disable pan or volume motion.
5.	Mute an instrument The Mute button on the center panel will flash to indicate that a Mute has been set from another panel (studio, mixer or sequencer).
6.	Set solo on an instrument The solo button on the center panel will flash to indicate that a solo has been set from another panel (studio, mixer or sequencer).
7.	Edit mode button Click on the Edit mode button to enter the instrument edit Mode.

5.3.1.1 Instrument Edit Window

1	Change instrument type.
2	Rename instrument.
3	Turn Mute on (M) / Turn solo on (S).
4	Set pan.
5	Set volume.
6	Change filter type on instrument.

7	Cutoff filter knob.
8	Resonance filter knob.
9	Sample layer display for each layer - Numbered 1 to 6 (For Sample type instruments only)
10	Load new sample.
11	Set reverse mode on sample.
12	Unload a sample.
13	Layer display window.
14	Layer tool.
15	Gain knob for sample.
16	Change Center panel knob assignment.
17	Change value for parameter 1 (out of 6 total) of edited instrument.
18	Play edited instrument.

5.3.1.2 Studio Buttons



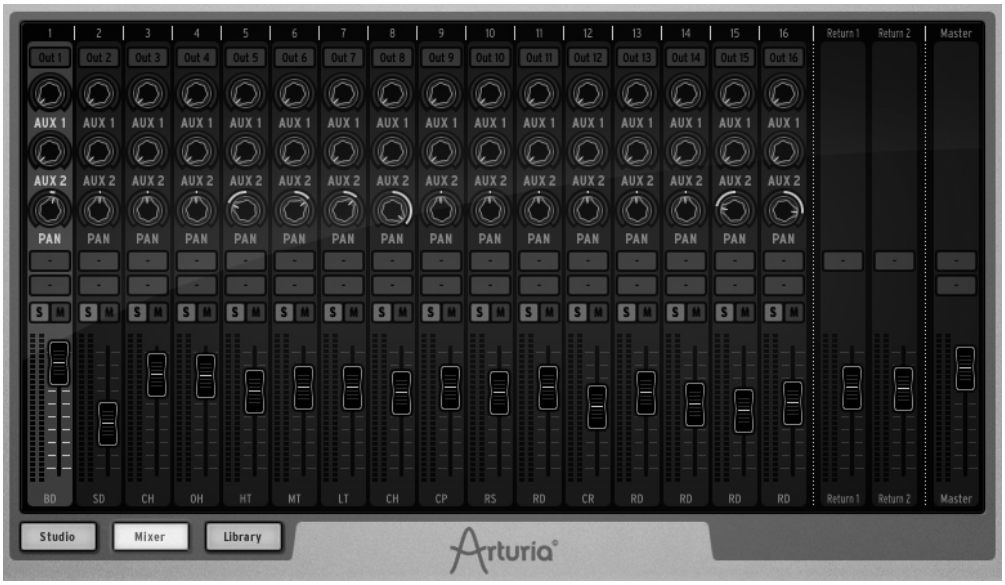
1.	Display Instruments 1 to 8
2.	Display Instruments 9 to 16
3.	Display all instruments / Hide Instrument view

Click on the 1-8 button to display the first eight Instruments.

If you want to see all of your instruments displayed at once, click on "All".

5.3.2 The Mixer[6]

Click on "Mixer" to display the Mixer panel

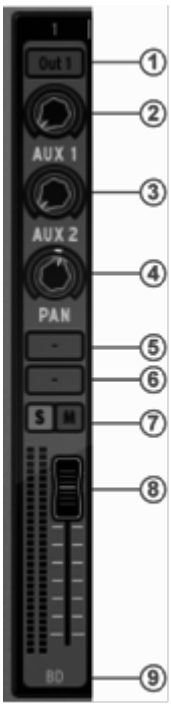


This panel is your 16 channel mixer panel. This is where all your instruments will be mixed together. Here, the modified signals will be summed to produce the combined output signals.

Each track is numbered from 1 to 16 at the top of the window. To the right of the mixer window are Return1 – Return 2 and finally the Master track.

Let's take a close look at the Mixer.

5.3.2.1 The Instrument tracks



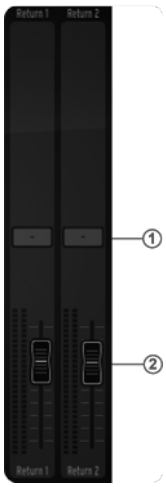
1	Assign an output for instrument 1

6 Not available in the Hardware version of SPARK.

2	Set Aux1 amount for instrument/Channel 1
3	Set Aux1 amount for instrument/Channel 1
4	Set Pan for instrument/Channel 1
5	Open FX1 window for instrument/Channel 1
6	Open FX2 window for instrument/Channel 1
7	Set Solo/Mute for instrument/Channel 1
8	Change volume for instrument/Channel 1
9	Instrument name

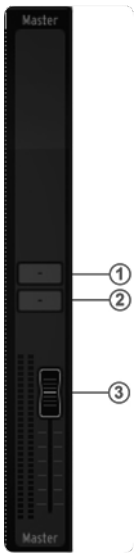
To select a track click on the bottom of the track, on the instrument's name.

5.3.2.2 The Return 1 and 2 tracks



1	Open AUX FX window
2	Set volume for AUX return

5.3.2.3 The Master track



1	Open Master insert 1 FX window
2	Open Master insert 2 FX window
3	Set Master volume

5.3.2.4 The Effects

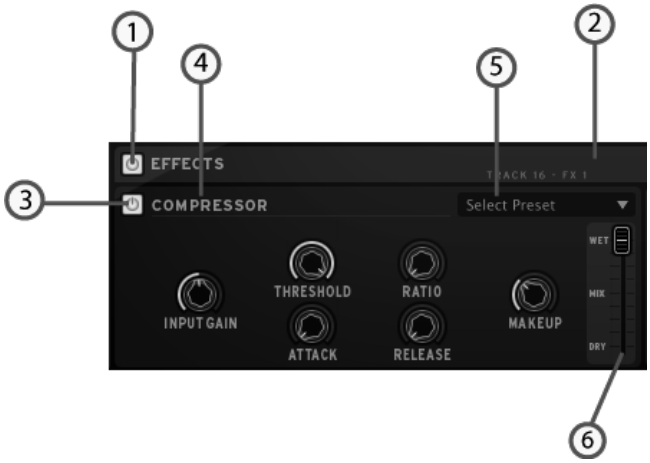
When you click on one of the Aux FX buttons, a scroll up window will appear: this is the AUX FX window.

To select an effect, click on [SELECT EFFECT].

Choose one from the list, for example Compressor. The compressor window appears.

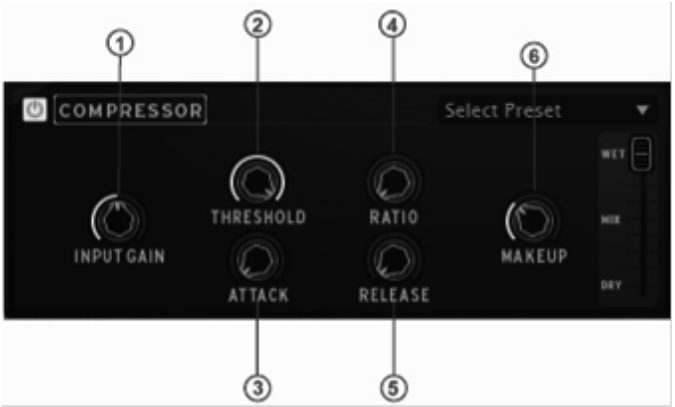
You can now set the parameters for the Compressor FX.

FX parameters



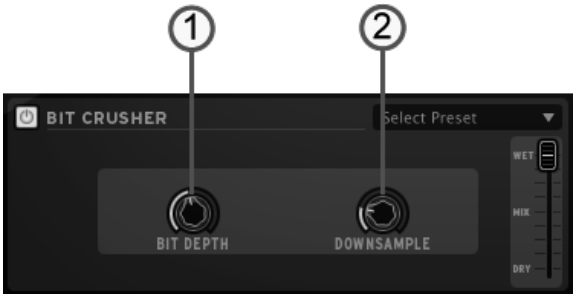
1	Bypass all effects
2	Close FX window
3	Bypass FX1/FX2 for one instrument /channel-Aux-Master insert
4	Change/Remove FX (Inst./Channel, Aux or Master insert)
5	Load a factory FX preset
6	Set Dry/Wet mix (Inst./Channel, Aux or Master insert)

Compressor parameters



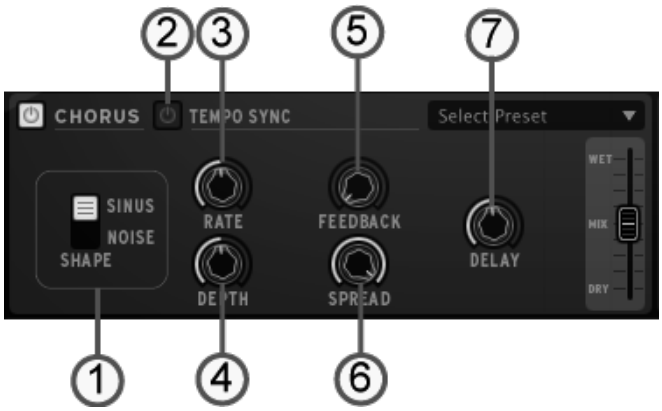
1	Change Input gain
2	Change Threshold
3	Change Attack
4	Change Ratio
5	Change Release
6	Change Makeup

BIT CRUSHER parameters



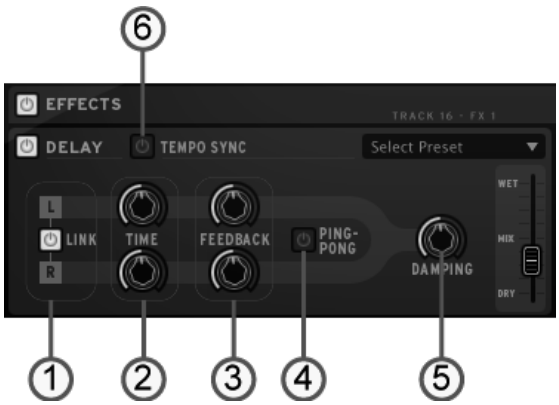
1	Change Bit depth
2	Change Downsample

Chorus parameters



1	Change Shape
2	Set Tempo sync on/off
3	Change Rate
4	Change Depth
5	Change Feedback
6	Change Spread
7	Change Delay

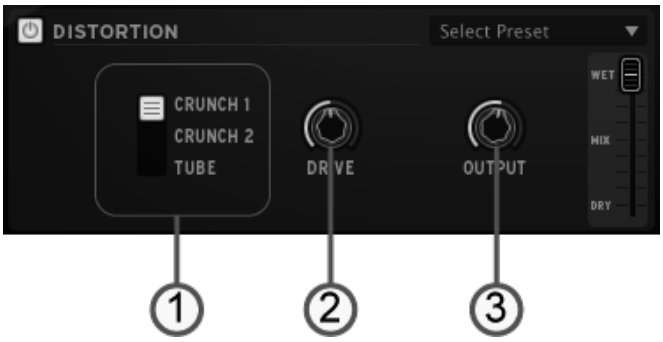
Delay parameters



1	Delay output (Link/Unlink). Apply (Disable) same values for right and left

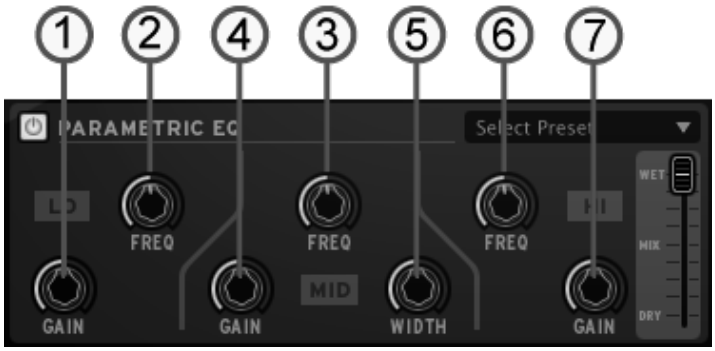
2	Set time for left and/or right channel
3	Set Feedback for left/right channel
4	Set ping-pong mode on/off (Can be turned on only if "Link" is off.)
5	Set Damping value
6	Set tempo sync on/off

Distortion parameters



1	Change Distortion type
2	Change Drive amount
3	Change Output gain

Parametric EQ parameters



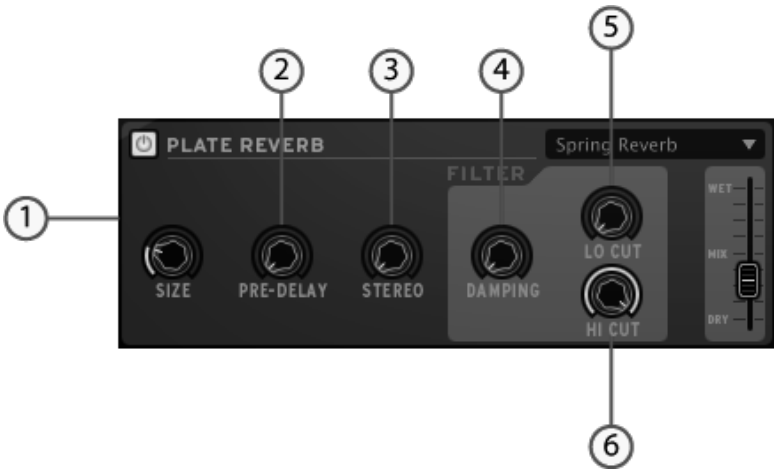
1	Change Low frequency
2	Change Low gain
3	Change Middle frequency

4	Change Middle gain
5	Change Middle band frequency width
6	Change High frequency
7	Change High gain

Phaser parameters

1	Change Tempo sync on/off
2	Change Rate on stage 1 and/or stage 2
3	Change Feedback on stage 1 and/or stage 2
4	Change Depth on stage 1 and/or stage 2
5	Change Shape on stage 1 and/or stage 2
6	Set Dual mode on/off

Plate Reverb parameters



1	Change Reverb size
2	Change Pre-delay size
3	Change Stereo value
4	Change Reverb filter damping
5	Change Low cut frequency filter
6	Change High cut frequency filter

Reverb parameters

1	Change gain
2	Change High frequency damping
3	Change Brightness
4	Change Diffusion

5	Change Decay time
6	Change Pre-delay Feedback
7	Change Pre-delay Time

5.3.3 The Library

Click on "Library" to display the Library panel.

The library is divided into 2 main windows: the library window and the current project window.

5.3.3.1 The Library Window

1	Display Factory project only (Click to select)
2	Display User project only (Click to select)
3	Import a project to the Library
4	Make a new project
5	Delete a project from the Library (Only user projects can be deleted)
6	Display Kit/Instruments information for one project in Library. Double click on kit to Load it.
7	Load a Bank (A,B,C or D) from the Library to the corresponding one in the Current project

8	Load a Pattern (1 to 16) from the Library to the corresponding pattern in the Current project
9	Load a kit from the Library to the current project
10	Load an instrument from the Library to the corresponding selected instrument in the Current project
11	Enter "Edit current project" mode
12	Select a project in the coverflow.

5.3.3.2 The Current Project window

1	Import a MIDI file or a REX file in current pattern
2	Export current project as .ads file (SPARK) or export current pattern as MIDI or AUDIO file
3	Save current project
4	Save as a current project
5	Exit current project edit mode (takes you back to the Coverflow).
6	Change image for current project
7	Change the style of the current project
8	Change author name
9	Bank list of the current project
10	Pattern list of the current project
11	Loaded instruments of the current project

5.3.3.3 Creating a new project

To create a new project, click on the "New Project" button in the library window. Give a name to your new project. It will appear in the project list as the current project. You can now edit your new project.

5.3.3.4 How to load Kits and Instruments

To load a Factory or user project in your current project, double click on an instrument kit in the Library/Project window. This will load the entire kit to your current project.

To load one or several instruments from a kit, go to the Library/Instruments window.

Double click on an instrument to load it to your project. When double clicking on an instrument, it is placed in the selected instrument slot in the Loaded Instruments window in the current project window. To select a slot, click on the instrument number in the Loaded Instruments window.

An easier way is to "Drag and Drop" an instrument from the “Instruments" window to any slot in the Loaded Instruments window.

You do not need to select an instrument slot when doing it this way.

5.3.3.5 How to load Banks and Patterns

In the same way, you can load a bank or a pattern from the library to the same bank or same pattern number in your current project by double clicking on it.

If you want to load Bank A from the Library to Bank D of your current project, drag and drop Bank A on to Bank D.

To load pattern A1 to pattern C3 of your current project, simply drag and drop A1 to C3. Pattern C3 will light up to confirm your selection.

5.3.3.6 Importing and Exporting a project

To import a project click on the "Import" button in the current project window. A menu lets you choose between MIDI file and REX file formats.

To export a project click on the "Export" button in the current project window. A menu lets you choose between:

- Exporting as a SPARK project (.spk)
- Exporting selected pattern as a MIDI file (.mid)
- Exporting selected pattern as an AUDIO file (.wav)

You can personalize the cover image of your project:

Click on "Change image" next to the current cover image. Choose a picture in your own picture library and click on “Open” to replace it.

5.3.3.7 Saving a project

To save your project, click on the "Save as" button.

A drop down menu will appear. Chose "Save as…" in the current project window. Give a name to your project and choose a style from the drop down menu. Click "OK". Your project is now saved.

If you make changes to a project you already saved just click on the button "Save".

5.4 THE TOP PANEL

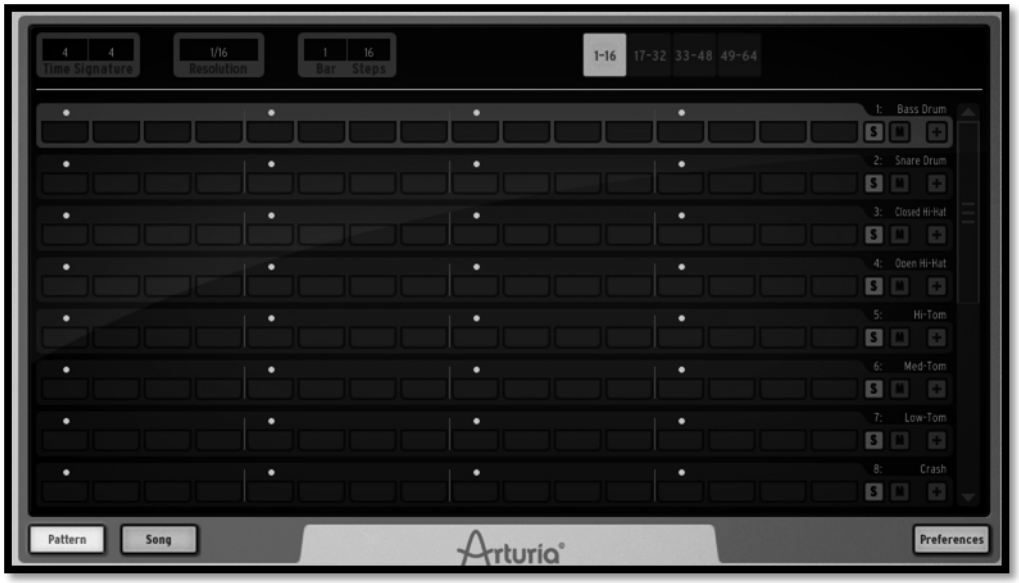
5.4.1 Overview

The top panel features the Pattern panel and the Song panel as well as SPARK preferences menu.

When you click on the "TOP" button in the toolbar the pattern window opens by default.

At the bottom of the panel you will find the Pattern Panel button, the Song panel button as well as the Preferences button.

5.4.2 The Pattern Panel



The Pattern panel features SPARK's sequencer. It is both a composing tool as well as a powerful editing tool.

5.4.3 The Toolbar

1	Change upper part

2	Change lower part
3	Change step resolution
4	Change number of bars
5	Change number of steps
6	Click to display patterns 1 to 16

The time signature is a notational convention used in musical notation to specify how many beats are in each measure and which note value constitutes one beat.

Time signatures consist of two numerals, one stacked above the other: the lower numeral indicates the note value that represents one beat (the "beat unit").

The upper numeral indicates how many such beats there are in a bar.

For instance, 4/4 means four quarter-note (quarter note) beats; 3/8 means three eighth-note (quaver) beats, etc.

1. Click to change the upper part of the time signature of the current pattern. This defines the number of notes (units) in one bar: Setting the signature to 4/4 means that there 4 quarter notes in a bar, if signature is 3/4 (waltz) it means there are 3 quarter notes in a bar.

2. Click to change the lower part of the time signature of the current pattern. This defines the note value (unit): 1=whole - 2=half note - 4=quarter note - 8=eighth note.

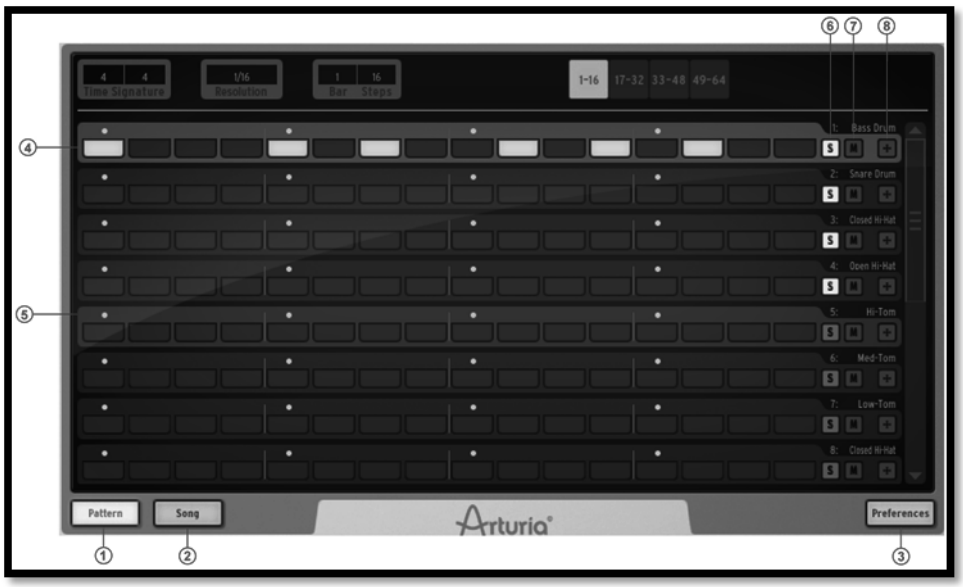
3. Click to change the Step resolution. The step resolution is the value of one step: 1/16=sixteenth note - 1/8=eighth note - 1/4=a quarter note, etc. A pattern has from 1 to a maximum of 64 steps.

4. Click to change the number of bars in the current pattern.

5. Click to change the total number of steps in the current pattern. The number of steps is automatically calculated by Spark using the step resolution, the number of bars in the pattern, and the time signature. But you can adjust it if you want to work with your own bar calculation.

6. Click to display Step 1 to 16 in the current pattern.

5.4.4 The Sequencer



The Pattern panel shows 8 instrument tracks out of the 16 available. To see the next 8 tracks, use the scroll bar.

The picture above shows the pattern panel with a time signature of 4/4, hence 4 bars of 4 steps each- which adds up to 16 steps.

1	Click to display the Pattern panel
2	Click to display the Song panel
3	Click to display the preferences panel
4	Set Step on/off on one track in the current pattern
5	Select a track in the current pattern. (Hover above the track until it lights up, then click).
6	Set Solo on/off on one sequencer track in the current pattern. (The solo button in the center panel will flash to indicate that a solo has been set from another panel (studio, mixer or sequencer)).
7	Set Mute on/off on one sequencer track in the current pattern. (The Mute button in the center panel will flash to indicate that a mute has been set from another panel (studio, mixer or sequencer)).
8	Click to open or close the Automation editor for one track in the current pattern.

5.4.4.1 How to select a track

To select a track, move your cursor over the track. When the track lights up, click to select.

5.4.4.2 How to copy or swap tracks

To copy a track, move your cursor over the track. When the track lights up, click [alt] on Mac / [Ctrl] on Windows, then click and drag the track onto another one.

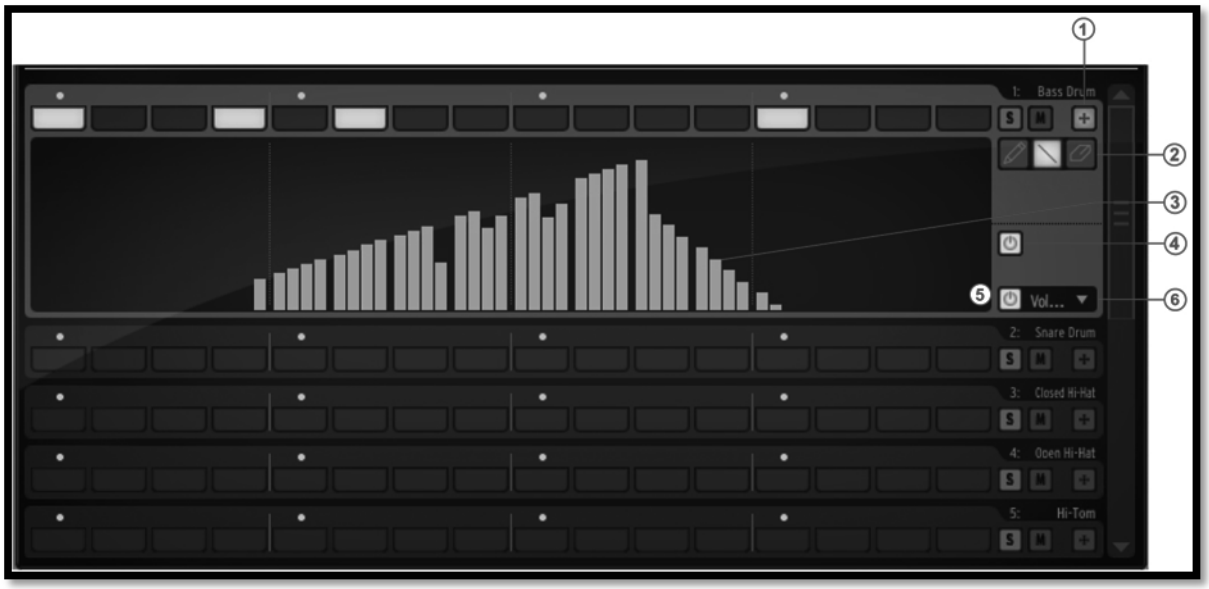
To swap tracks, just drag a track onto another one.

5.4.4.3 How to copy or swap Step parts

To copy step parts click on a step part button while holding [Alt] on Mac / [Ctrl] on Windows and drag it onto another one.

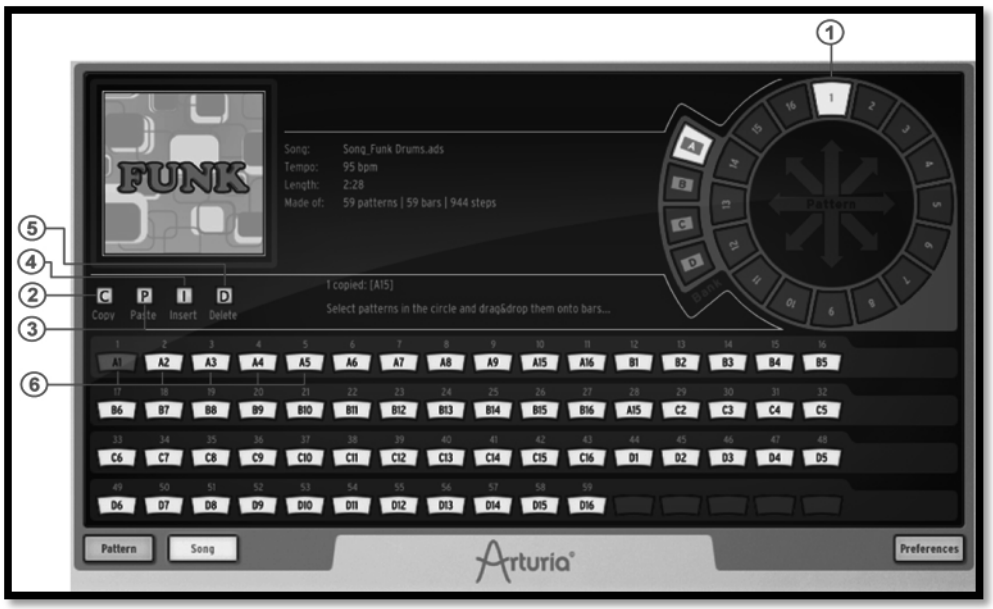
To swap step parts, click on a step part and drag it onto another one.

5.4.5 The Automation editor



1	Click to display the automation value of a single parameter in the current pattern.
2	Pen tool – Line tool – Eraser tool
3	Click and drag to draw automation on a single parameter using the pen or line tool or erase drawing.
4	Disable/Enable all automations in the current pattern.
5	Disable/Enable one single automation in the current pattern.
6	Click to trigger drop down menu of parameters on to which automations may be applied.

5.4.6 The Song panel



The song panel allows you to chain all your patterns to create a Song.

As we have seen before, a song is an editable ordered sequence of several patterns that defines the structure of your song.

SPARK allows songs made of 64 patterns maximum.

The Song panel will allow you to organize your patterns in sequences to make your song.

1	Click and drag a pattern from one bank into a song slot.
2	Select song slot and click "copy" button [C] to copy into SPARK clipboard.
3	Click on destination slot then click on paste [P]. If you have copied 3 slots, the 3 slots located at your paste location will be replaced.
4	If bars are copied into clipboard, click on a slot where you want to insert selection and click [Insert]
5	Once slots are selected you can click on [Delete] to delete them. This will shift back all the slots that were located after the last deleted bar.
6	Song slots are numbered from 1 to 64. Click to select.

5.4.7 The Song slots

The Song plays chained patterns from the first one to the 64th.

The song is organized in 64 slots; each slot can receive a pattern. But your song can be any number of patterns with a maximum of 64.

5.4.7.1 How to copy patterns to song slots.

To copy a pattern to a song slot, click on a pattern in the pattern wheel and drag it to a song slot.

5.4.7.2 How to move and paste/insert slots

You can select a slot or a group of slots and paste or insert them in another location.

To do so, once the slot (or group of slots) has been selected, drag the selection and drop it onto another slot: If your mouse pointer is on the first half of a bar this will insert the dragged pattern at the location. If your mouse pointer is in the last half of a bar, it will be pasted and will replace bars at location

5.4.7.3 How to set song playing position

Double click on a slot to set the song playing position.

5.4.7.4 How to select several slots

To select several song slots, just click on a slot and drag your cursor over the neighboring slots.

5.4.8 Preferences Button

The preferences are divided into:

- Sequencer
- File
- MIDI Import/Export

5.4.8.1 Sequencer preferences

Switch pattern instantaneously: If set to "Yes", a new pattern will play instantaneously when it is selected. If set to "No", it will be played when the current pattern is finished playing.

Follow current step: When set to "Yes", and when on Sequencer panel, the step pads on the center panel will automatically display the step part that contains the current played step.

Quantize record: When set to "Yes", all pads playing aswell as any recordings will be quantized.

Auto-start song: When on, clicking on the Song button in the center panel will open the song panel and start playing the song automatically.

Click Output: Selects output for metronome click.

Next Bank/Pattern switch mode: When set to immediately, clicking a different bank will directly play the same pattern number in the new bank. Otherwise, one must first select the new bank, then specify the pattern of this new bank, even if it's the same pattern number as the currently played pattern.

Automation Loop free: When on, the loop will be applied only on notes in the pattern, not on automations.

5.4.8.2 File preferences:

Save a copy of Audio samples in Library: When importing .wav/.aiff files to Spark, the source file will be copied in the library. You have the choice between:

- Always: always copy files in the library
- Ask: ask the user
- Never: never copy files in the library

Library path: Changes the path to SPARK's library.

5.4.8.3 MIDI Import/Export preferences:

Pattern Drag&Drop export mode in library: When dragging a pattern in the library panel, the pattern will be exported as MIDI file or bounced to .wav file.

Wave export size: When saving a pattern as a .wav file, you can choose between exporting the pattern in its initial size, or doubling the size of the pattern. Doubling the size will avoid losing an effect playing beyond the end of the pattern (i.e. a reverb or a delay).

Choose Drum map model for MIDI pattern import: When importing a MIDI pattern, you have the choice to import it as a SPARK, General MIDI or ADDICTIVE Drum map.

6 MODES OF OPERATIONS

6.1 STANDALONE (OVERVIEW)

6.1.1 Launching the standalone application

To launch the standalone application:

- On Windows: Start menu > Programs > Arturia > Spark… and choose Spark.
- On Mac OS X: Finder > Applications > Arturia > Spark… and double-click on the Spark application icon.

6.1.2 Preferences configuration – Audio & MIDI settings

6.1.2.1 Windows

To access the preferences window click on the SPARK menu > Setup > Audio & MIDI Settings. This window allows you to configure the global preferences of SPARK. These are saved automatically.

6.1.2.2 Mac OS X

To access the preferences window click on the SPARK menu > Preferences. The Audio settings window will appear. This window allows you to set the global preferences of SPARK. These are saved automatically.

(Windows) AUDIO DEVICE TYPE	Selects the appropriate driver for your audio device.
(Mac_OS) OUTPUT *(Windows)* DEVICE	Chooses which audio output SPARK will send sound out of. Default is "Built-in Output" on the Mac; for Windows we highly suggest to use an adequate ASIO driver for your sound card.
TEST	Send out a short sine wave tone to help make sure sound is being sent out the correct device.
SAMPLE RATE	Choose the sample rate; default is 44,100 Hz. Increasing the sample rate increases the quality of sound, but adds a bigger load to CPU.
AUDIO BUFFER SIZE	Chooses the audio buffer size, displayed in samples and milliseconds. Default is 512 samples. Decreasing this number lowers latency, but adds more load to CPU. Increasing lessens load on CPU but augments latency (latency is the delay between a note played and actual sound output).
ACTIVE MIDI INPUTS	Displays the available MIDI inputs that can be used to control SPARK.

6.2 PLUG-IN MODE

For specific use in VST, Audio Unit and RTAS please refer to 6.3, 6.4 and 6.5 sections.

6.2.1 Toolbar Extra Buttons

When using SPARK in Plug-in mode, the toolbar features 2 additional buttons:

1.	Host button When on, the current Spark pattern will start and stop along with the Host sequencer transport.
2.	Tempo button When on, the current Spark tempo will be set to the host tempo.

6.2.2 Saving project

When the project is saved, SPARK is saved in its last mode of operation, with all modifications intact. For instance, if you are working on a project in which you have modified parameters (without saving this as a separate preset in the plug-in itself), the next time you open the project SPARK will load the project and the modifications as well.

The drop-down menu with the VST sequencer, allowing you to save a new project, is of course usable with SPARK. However, it is highly advised to use the SPARK's internal menu: the presets saved in this way are usable in any other mode (standalone or with another sequencer), and can be exported and exchanged more easily, as well as remain compatible with future SPARK versions.

6.3 VST

6.3.1 Installation

6.3.1.1 Windows

During installation, select the box "VST" among the proposed format choices of plug-ins. The installer will automatically detect the VST folder of the instruments shared by Cubase or any another compatible VST sequencer.

6.3.1.2 Mac OS X

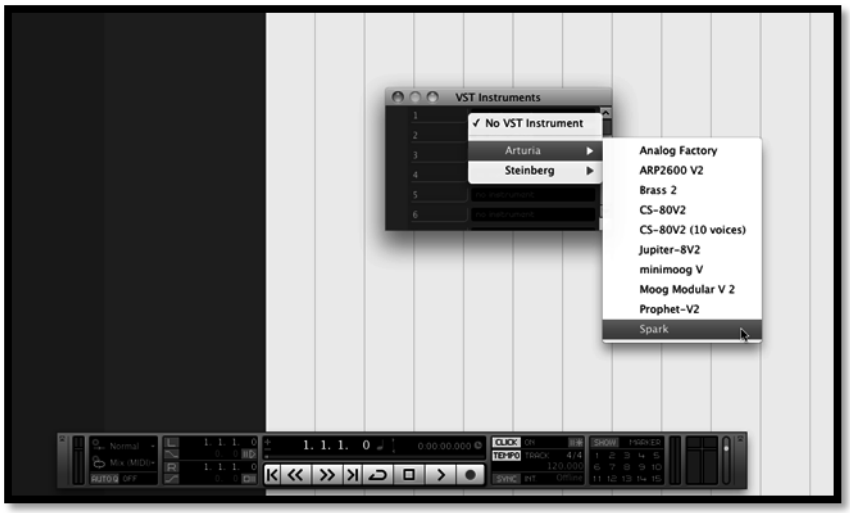
The VST plug-in is automatically installed in the folder of the system corresponding to the VST instruments: **`/Library/Audio/Plug-Ins/VST/`**

The VST plug-in will be usable by all your VST host applications.

6.3.2 Instrument use in VST mode

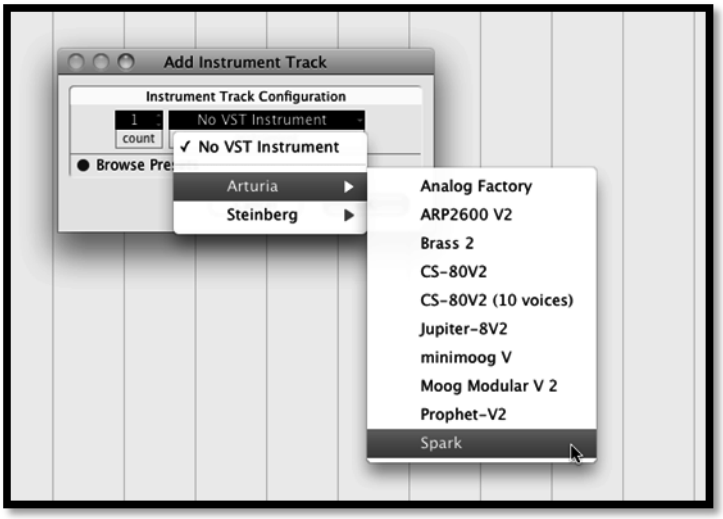
The opening of VST SPARK plug-ins is the same as opening all other VST plug-ins. Please consult the instruction manual of your favorite host sequencer for more specific information.

For instance, under Cubase, open the menu "VST Instruments", and choose Spark in the rack.



6.3.3 Connection to an instrument track

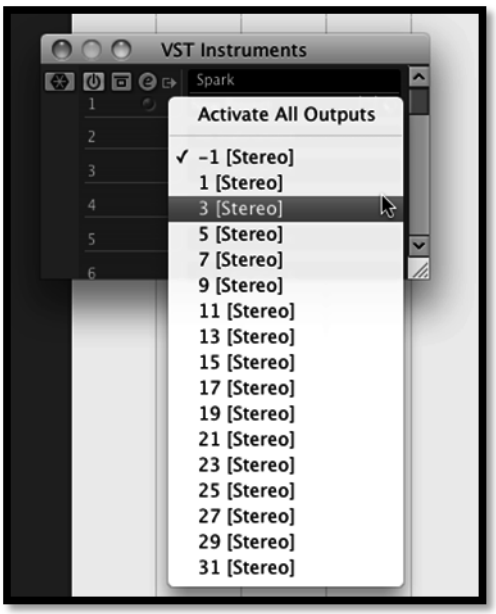
In order for SPARK to play information coming from an Instrument track, you have to choose an Instrument track and select Spark as the output of this track. See the picture below for more detail on how this is accomplished.



The events played on a MIDI keyboard are recorded by your host sequencer, and you can now use the MIDI editing possibilities of the sequencer to control any parameter in SPARK.

6.3.4 Multi Output Mode

Create an instrument using the VST Instrument Menu then click on Spark; then select the output you want to enable by clicking on the button just on the left of the instrument name in this menu.



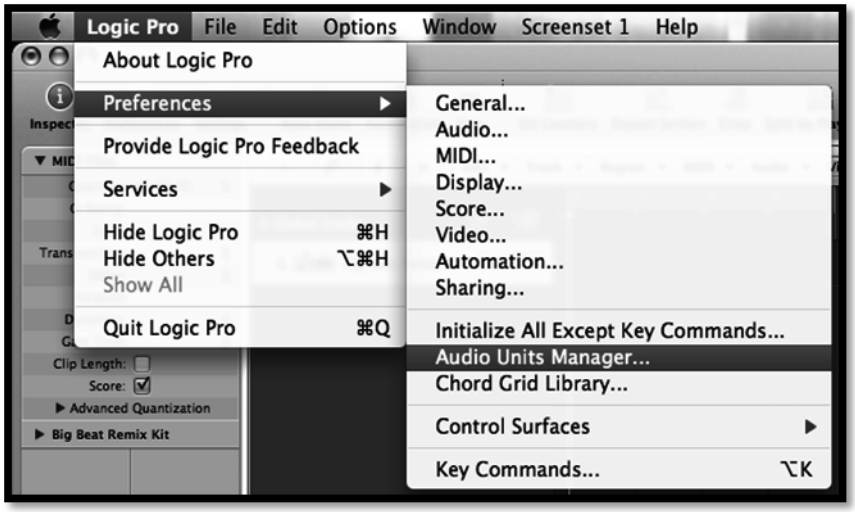
6.4 AUDIO UNIT (MAC OS X ONLY)

6.4.1 Installation

The Audio Unit plug-in is automatically installed and by default in the following folder: **/Library/Audio/Plug-Ins/Components/**

6.4.2 Use in Logic Pro

From version 7 and on, Logic Pro features an Audio Unit plug-in manager. To launch the Audio Unit plug-in manager, click on the menu Preferences > Audio Units Manager.



This Manager will show you the list of available plug-ins, test their compatibility with Logic, and then allow you to activate or de-activate them.

If an Arturia plug-in poses problem in Logic, start by checking that this plug-in has passed the compatibility test, and that it is actually selected.

6.4.2.1 Stereo Mode

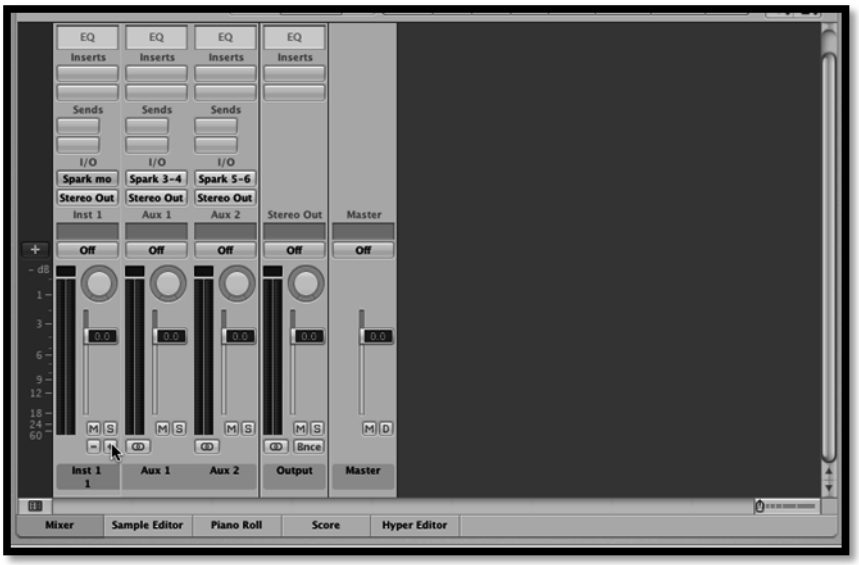
Select an Instrument track. On the mixer portion of the corresponding track, click on the button "I/O" to obtain the list of plug-ins, then select AU Instruments > Arturia > Spark > Stereo.

6.4.2.2 Multi Output Mode

To use the separate outputs:

Select an Instrument track. On the portion of the mixer corresponding to the selected track, click on the button "I/O" to obtain the list of plug-ins, then select AU Instruments > Arturia > Spark > Multi Output (16xStereo).

Then go to the mixer view and click on the "+" button at the bottom of the instrument track to add Aux tracks.

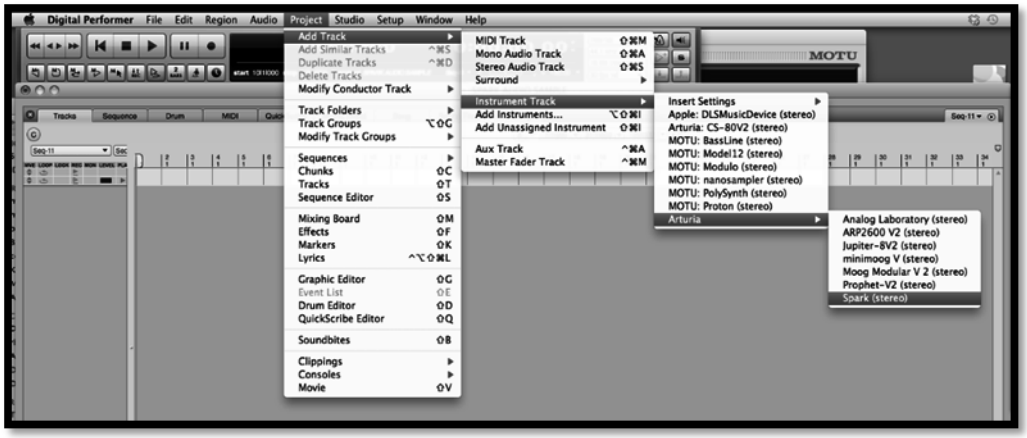


You can choose the output number of each instrument in Spark in the Mixer View. (see chapter **Erreur ! Source du renvoi introuvable.**).

6.4.3 Use in Digital Performer

6.4.3.1 Stereo Mode

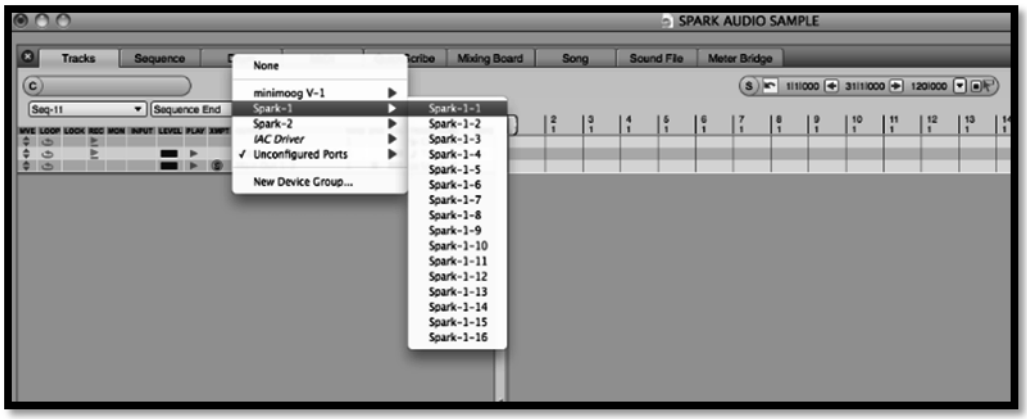
To add an instrument, choose the menu Project > Add Track > Instrument Track > Arturia > Spark (stereo)



Once you have added this instrument, it's possible to assign a MIDI track to it. In the connection menu of the MIDI track, select the instrument and the MIDI channel that you want to use. Make sure you activate the track before starting to play or record.

6.4.3.2 Multi Output Mode

To use the separate outputs, create the number of new Audio tracks you want, and then choose the correct OUT of the Spark plugin.



6.4.3.3 Assign MIDI Track

Once you have added this instrument, it's possible to assign a MIDI track to it. In the connection menu of the MIDI track, select the instrument and the MIDI channel that you want to use. Make sure you activate the track before starting to play or record.

6.4.4 Stereo Mode and Multi Output Mode

6.4.4.1 Stereo Mode

To add an instrument, choose the menu Project > Add Track > Instrument Track > Arturia > SPARK.

Once you have added this instrument, it's possible to assign a MIDI track to it. In the connection menu of the MIDI track, select the instrument and the MIDI channel that you want to use. Make sure you activate the track before starting to play or record.

6.4.4.2 Multi Output Mode

To use separate outputs: select an Instrument track. Then on the portion of the mixer corresponding to the selected track, click on the button "I/O" to obtain the list of plug-ins, then select AU Instruments > Arturia > SPARK > Multi Output (16xStereo).

6.5 PRO TOOLS

6.5.1 Installation

In Mac OS X, the plug-in is directly installed in the folder reserved for the ProTools plug-ins in:

/Library/Application Support/Digidesign/Plug-Ins

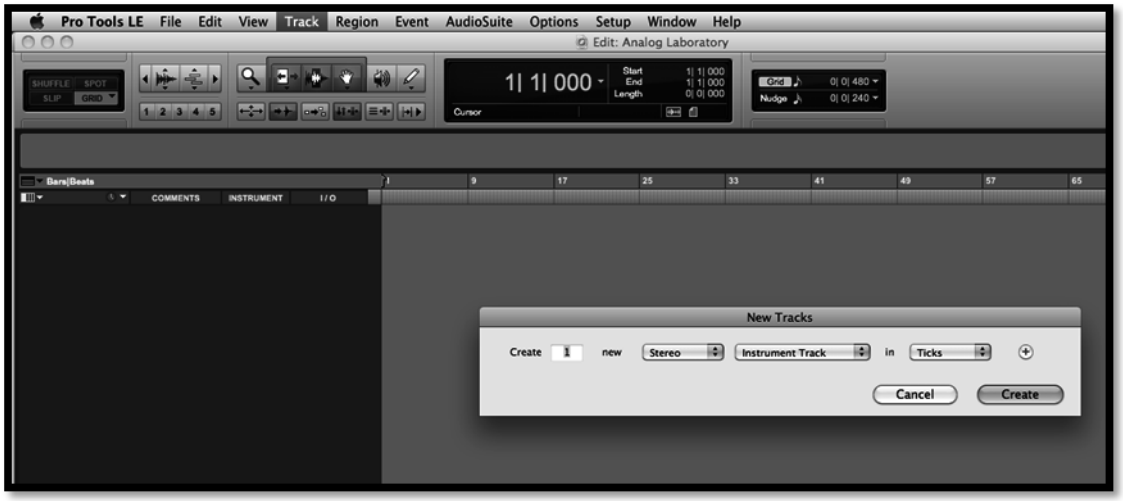
In Windows, at the time of the installation procedure, select the RTAS plug-in among the proposed choices of plug-ins. Then, when the system asks, indicate the folder in which the other RTAS plug-ins are located.

Usually, this path is:

C:\Program Files\CommonFiles\Digidesign\DAE\Plug-Ins

6.5.2 Utilization and opening of the Plug-in

Access to the SPARK plug-in is like all other plug-ins; simply create a stereo Instrument track:



In order for SPARK to play the information coming from the Instrument track, you have to associate it to an Insert channel via the appropriate menu.

More information on plug-in connections can be found in the *Pro Tools* User's Manual.

6.5.3 Saving the project

When the session is saved, the status of SPARK is saved as it is, even if its programming does not correspond to the preset. For example, you are working on a project in which you have modified the parameters (without saving them in the plug-in itself), the next time you open the session SPARK will load the project plus the modifications.

The Librarian Menu of Pro Tools can be used with SPARK as with any other plug-in. Nevertheless, it is highly recommended to use the internal SPARK menu: with the presets saved this way, they are usable no matter which mode is used (standalone or other sequencer), and they can be exported and exchanged more easily. They will stay compatible with the future versions of SPARK.

6.5.4 Automation under *Pro Tools*

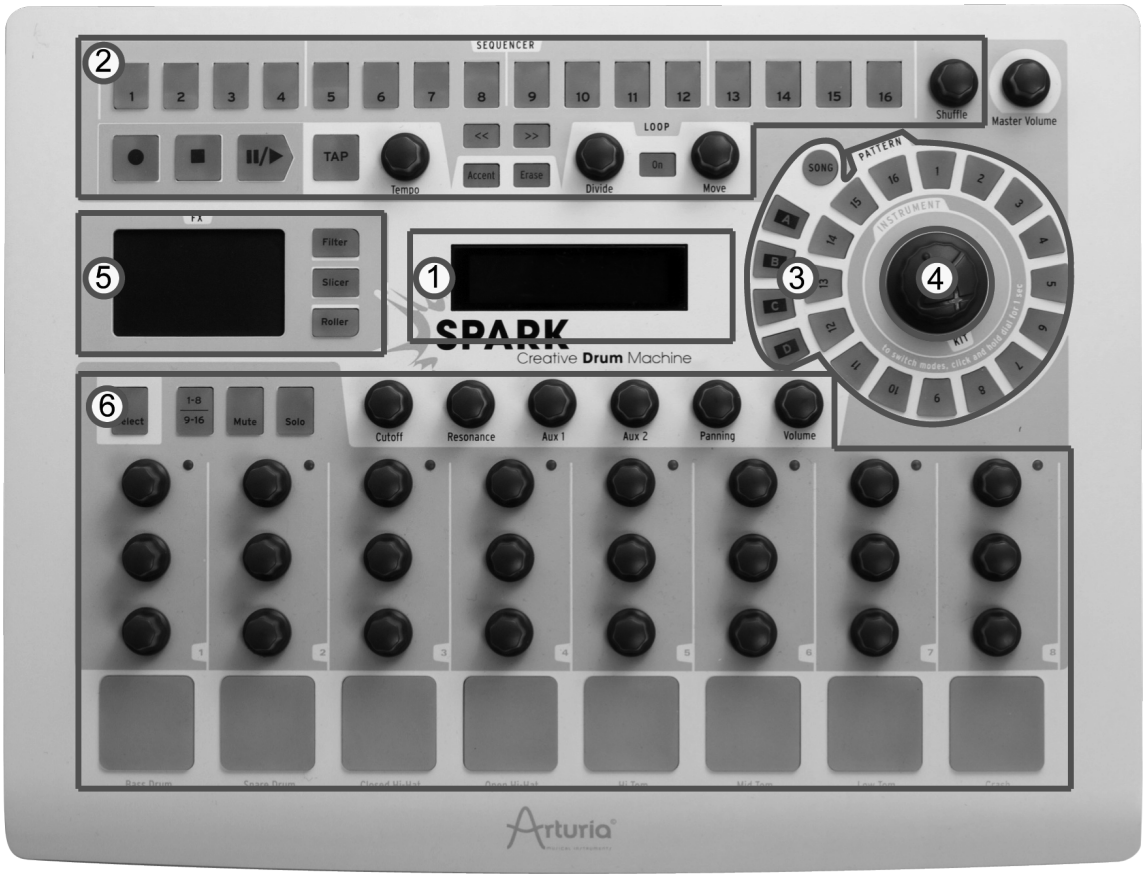
The automation in SPARK works as with all RTAS/HTDM plug-ins.

Please refer to the Pro Tools documentation for more details on automation plug-ins.

7 THE SPARK MIDI CONTROLLER

7.1 FRONT PANEL (OVERVIEW)

The SPARK's Hardware Controller has the same interface as the Main Panel in the SPARK software version. In this overview, we will focus on the features specific to the Hardware controller.



1.	Digital Display
2.	Sequencer zone
3.	Song/Pattern zone
4.	Jog dial
5.	FX live Pad
6.	Instrument control zone

7.1.1 Device ports

The Spark controller is listed by a host as being made up of 2 MIDI ports:

The first one:

- On Windows Vista and 7: "MIDIIN2(Spark Controller)"
- On Windows XP: "Spark Controller [2]"
- On Mac: “Spark Private IN” and “Spark Private OUT”

is used for internal communication between SPARK and the Controller. This MIDI port SHOULD NEVER BE USED by the user; doing so would impair the efficiency of the controller.

The second one:

- On Windows Vista, 7 and XP: "**Spark Controller"**
- On Mac: “Spark Public IN” and “Spark Public OUT”

is the public port to be used by the user.All messages sent to this port will be sent out the controller's MIDI OUT. All messages sent to the MIDI IN port by a third party machine will be transmitted to the host on the public port. When using Spark's Hardware as a MIDI controller, the data flow from the controller will be sent on the USB public port to the host, as well as on the MIDI OUT port, adding itself to any other existing MIDI information.

7.1.2 Choose between Kit or Instrument mode

To change from Kit to Instrument mode on SPARK's Hardware controller, press and hold for 1 second the Jog Dial to change from Kit to Instrument mode.

7.1.3 Roller FX

When using the Roller effect in the software version of SPARK, the Roll effect can be applied only to one instrument at a time, for the obvious reason that you are using your mouse to play the instrument.

When using the Hardware controller, you are free to apply the Roll effect to any number of instruments, simultaneously. You can also start a roll on one instrument and press another instrument pad while maintaining your initial Roll. Enjoy!

The Roll velocity is triggered on the software version by clicking on a pad and while maintaining your click, moving the cursor up and down on the pad. This can be done on the Hardware controller thanks to its Sensitive pads sending Aftertouch information: the instrument pad being “pressure sensitive" you can modulate the velocity applied to the Roll effect in real time.

7.1.4 Use as Spark Controller

To use your SPARK hardware controller as a SPARK controller, launch Spark Software (then press the Connect button on SPARK's toolbar if needed).

If you were in MIDI Controller mode Press the [Filter]+[Slicer]+[Roller] buttons.

7.1.5 Use as MIDI Controller

To use your SPARK Controller as MIDI controller, Press [Filter] + [Slicer] +[Roller] (then open public MIDI port or connect a MIDI cable to MIDI Out).

7.1.6 Use as USB/MIDI interface

To use your SPARK Controller as USB/MIDI interface, open the public MIDI port in your host program and connect the MIDI cable(s) to your Spark Hardware controller.

7.1.7 Power Supply

Connect to USB 2.0 host. Avoid using a non-powered USB-Hub. The device is self-powered by USB.

If you don't need or want to power your Spark Hardware controller via USB, use the DC jack input with the following power supply unit:

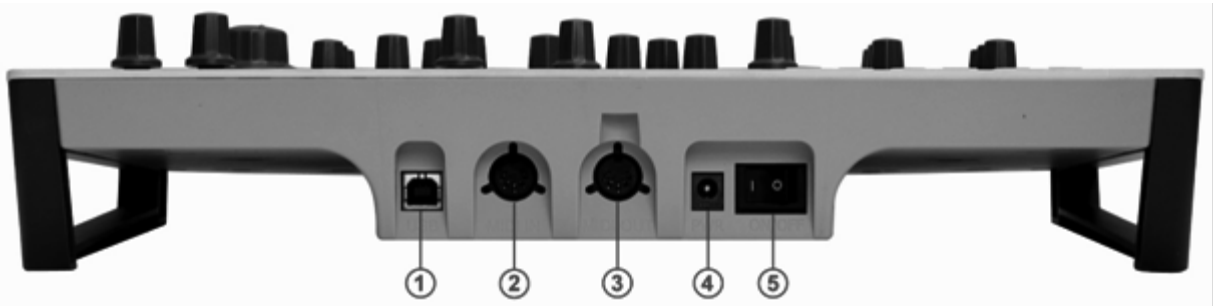
Voltage: 9 Vdc

Current: 800 mA

Polarity: center positive

7.2 REAR PANEL (OVERVIEW)

7.2.1 Rear panel Connectors and power supply



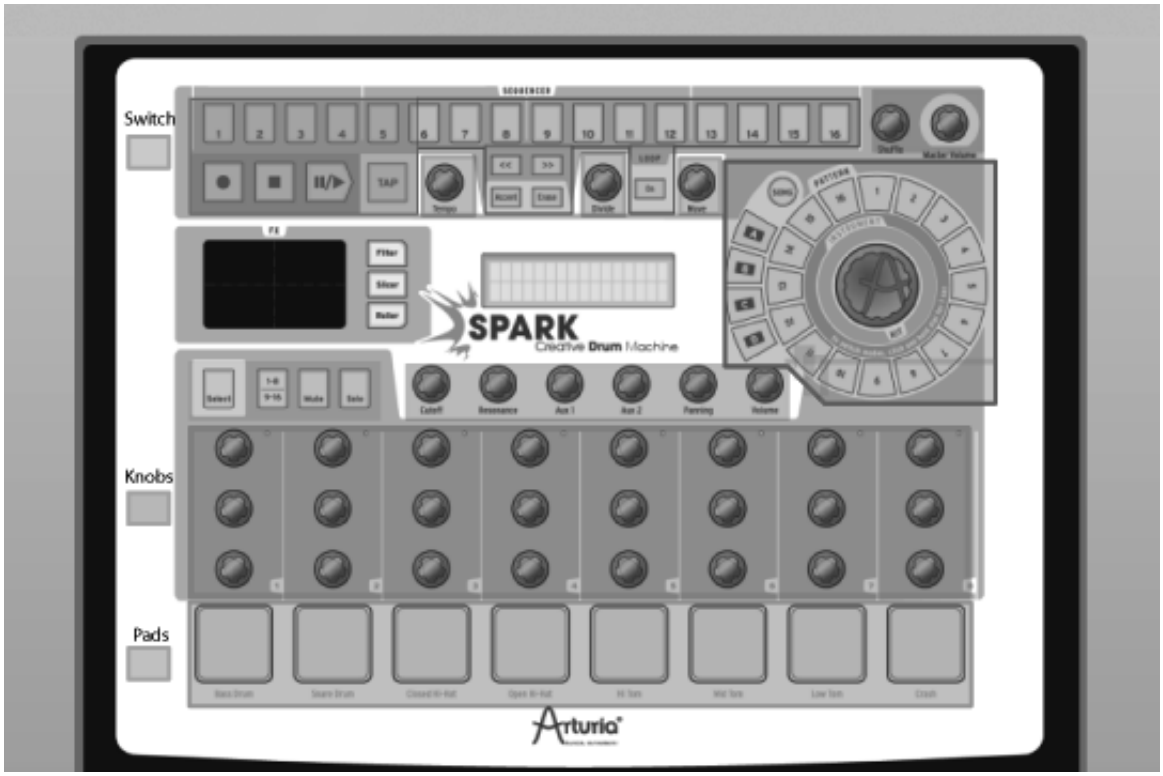
1.	USB connector
2.	MIDI IN port
3.	MIDI OUT port
4.	Power supply
5.	Power on/off switch

7.3 SPARK MIDI CONTROLLER SOFTWARE

With the SPARK MIDI controller software you can customize the functions of the Pads, Knobs and Buttons according to your needs.

When connected, you can use the Hardware controller itself instead of the Controller software interface to select the buttons, switches or knobs you want to work on.

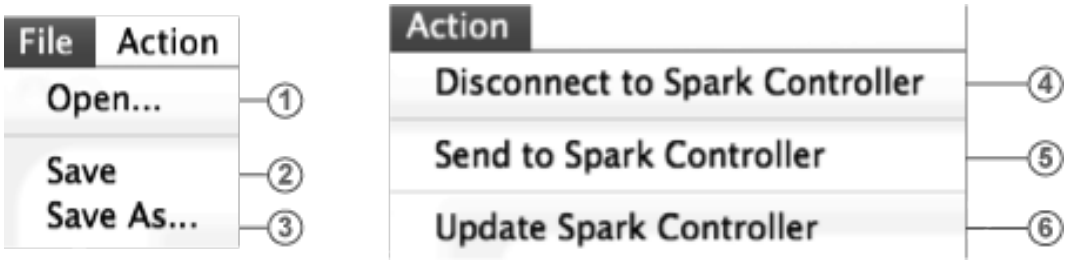
7.3.1 Overview



The SPARK MIDI controller software interface is rigorously the same as the SPARK Hardware interface or SPARK software main panel.

All the buttons, pads and knobs can be reprogrammed to suit your needs.

7.3.2 The Menu



1.	Open and Load a Template
2.	Save A Template on the Computer
3.	Save As A Template on the Computer

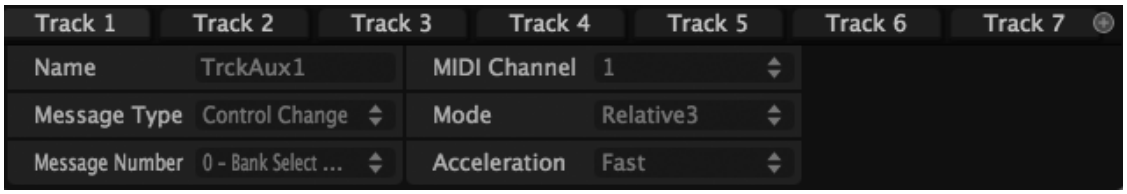
4.	Disconnect Or Connect to Spark Controller
5.	Send Template to Spark Controller
6.	Update Spark Controller Firmware

7.3.3 Edit Instrument Pad window

When clicking on a pad, a window appears with several tabs and drop-down menus to let you change the parameters assigned to pads.

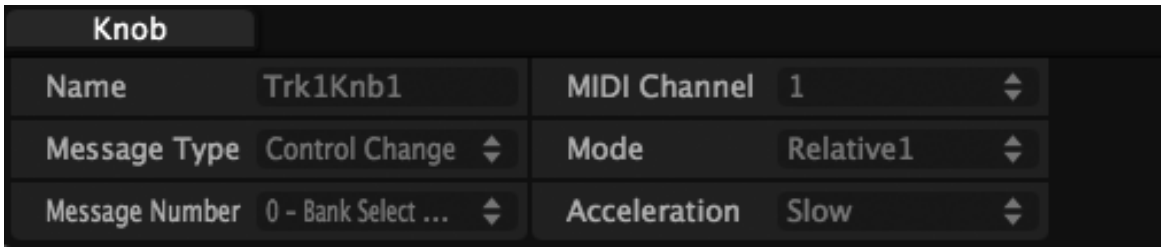
1.	Edit Pads Trig MIDI Message
2.	Edit Pads Press MIDI Message
3.	Edit Pads Mute MIDI Message
4.	Edit Pads Solo MIDI Message
5.	Edit Pads Select MIDI Message
6.	Choose Switch (and Pad) MIDI Message Type (Choice between CC, Note, Start, Stop, Continue, Program Change, Channel Pressure, Aftertouch and Off).
7.	Choose Switch MIDI Message Number (Not available for Start, Stop, Continue)
8.	Choose Switch MIDI Message Channel (Not available for Start, Stop, Continue)
9.	Choose Switch MIDI Message Mode. Choice between Gate and Toggle. (Not available for Start, Stop, Continue)
10.	Choose Switch MIDI Message Minimum Value (Not available for Start, Stop, Continue)
11.	Choose Switch MIDI Message Maximum Value (Not available for Start, Stop, Continue)
12.	Choose Switch MIDI Message Action On. Choice between Push or Release *(Not available in Gate Mode)*

7.3.4 Edit Instrument knob window



1.	Edit Instrument 1 to 8 Knob MIDI Message
2.	Choose Knob MIDI Message Type (Choice between CC and Off)
3.	Choose Knob MIDI Message Number (0 to 127)
4.	Choose Knob MIDI Message Channel (1 to 16)
5.	Choose Knob MIDI Message Mode (Choice between Absolute, Relative1, Relative2, Relative3)
6.	Choose Knob MIDI Message Min Value (0 to 127 (should be < max val))
7.	Choose Knob MIDI Message Max Value (0 to 127 (should be > min val))
8.	Choose Knob MIDI Message Acceleration (Choice between None, Slow and Fast - not available for encoder with detent: Encoders with detent are Move, Jog Dial, Loop)

7.3.5 Edit Instrument parameter knob window



1.	Edit Instrument parameter knob 1 to 8 MIDI Message
2.	Choose Knob MIDI Message Type (Choice between CC and Off)

3.	Choose Knob MIDI Message Number (0 to 127)
4.	Choose Knob MIDI Message Channel (1 to 16)
5.	Choose Knob MIDI Message Mode (Choice between Absolute, Relative1, Relative2, Relative3)
6.	Choose Knob MIDI Message Min Value. *0 - 127* (should be < max value)
7.	Choose Knob MIDI Message Max Value. *0 - 127* (should be > min value)
8.	Choose Knob MIDI Message Acceleration (Choice between None, Slow and Fast - not available for encoder with detent: Encoders with detent are Move, Jog Dial, Loop)

7.3.6 Edit Clickable knob window

You will find only 2 clickable buttons on SPARK's Hardware:

7.3.6.1 The Jog Dial (Wheel)

1.	Choose MIDI Message Type (Choice between CC, Note, Start, Stop, Continue, Program Change, Channel Pressure, Aftertouch and Off).
2.	Choose Action on MIDI Message (Choice between Push/release)

7.3.6.2 2. The Move button (Loop Move)

1.	Choose MIDI Message Type (Choice between CC, Note, Start, Stop, Continue, Program Change, Channel Pressure, Aftertouch and Off).
2.	Choose Switch MIDI Message Number (0 to 127)
3.	Choose Switch MIDI Message Channel (1 to 16)

4.	Choose Switch MIDI Message Mode. (Choice between Toggle, Trigger, Gate, Inc, Gate and Toggle).
5.	Choose Knob MIDI Message Min Value. 0-127 (should be < max value)
6.	Choose Knob MIDI Message Max Value. 0-127 (should be > min value)
7.	Choose Switch MIDI Message Action On. Choice between Push or Release *(Not available in Gate Mode)*
8.	Choose Action on. (Choice between Push/Release)

7.3.7 Edit Touch pad window

1.	Choose Touch Pad MIDI Message Type (Choice between CC and Off)
2.	Choose Touch Pad MIDI Message Number (0 to 127)
3.	Choose Touch Pad MIDI Message Channel
4.	Choose Touch Pad MIDI Message X or Y Minimum Value 0 to 127 (should be < maximum value)
5.	Choose Touch Pad MIDI Message X or Y Maximum Value 0 to 127 (should be > minimum value)

7.4 CONTROLLING SPARK AN EXTERNAL MIDI CONTROLLER

7.4.1 Assign a MIDI note to pads

Click holding [Cmd] on Mac / [Ctrl] on Windows on [Pads] #115 to #122 and press button or key on your MIDI controller.

7.4.2 Assign a MIDI note to bank buttons

Same as previous on corresponding button/pad.

7.4.3 Assign a MIDI note to pattern buttons

Same as previous on corresponding button/pad.

7.4.4 Assign a MIDI note to loop on button

Same as previous on corresponding button/pad.

7.4.5 Assign a MIDI CC to Loop divide knob

Click holding [Cmd] on Mac / [Ctrl] Win on [Loop] #49 and move knob or fader on your MIDI controller.

7.4.6 Assign a MIDI CC to Loop Move knob

Same as previous on corresponding knob.

7.4.7 Assign a MIDI CC to shuffle knob

Same as previous on corresponding knob.

7.4.8 Assign a MIDI CC to master Volume knob

Same as previous on corresponding knob.

7.4.9 Assign a MIDI CC to cutoff/res/Pan/Aux1/Aux2/Volume knobs

Same as previous on corresponding knob.

7.4.10 Assign a MIDI CC to instrument parameters knobs

Same as previous on corresponding knob.

7.4.11 Assign a MIDI CC to tempo knob

Same as previous on corresponding knob.

8 SPARK CREATIVE DRUM MACHINE LEGAL INFORMATION

8.1 SOFTWARE LICENSE AGREEMENT

In consideration of payment of the Licensee fee, which is a portion of the price you paid, Arturia, as Licensor, grants to you (hereinafter termed "Licensee") a nonexclusive right to use this copy of the Spark Creative Drum Software (hereinafter the "SOFTWARE").

All intellectual property rights in the software belong to Arturia SA (hereinafter: "Arturia"). Arturia permits you only to copy, download, install and use the software in accordance with the terms and conditions of this Agreement.

The product contains product activation for protection against unlawful copying. The OEM software can be used only following registration.

Internet access is required for the activation process. The terms and conditions for use of the software by you, the end-user, appear below. By installing the software on your computer you agree to these terms and conditions. Please read the following text carefully in its entirety. If you do not approve these terms and conditions, you must not install this software. In this event give the product back to where you have purchased it (including all written material, the complete undamaged packing as well as the enclosed hardware) immediately but at the latest within 30 days in return for a refund of the purchase price.

1. Software Ownership

Arturia shall retain full and complete title to the SOFTWARE recorded on the enclosed disks and all subsequent copies of the SOFTWARE, regardless of the media or form on or in which the original disks or copies may exist. The License is not a sale of the original SOFTWARE.

2. Grant of License

Arturia grants you a non-exclusive license for the use of the software according to the terms and conditions of this Agreement. You may not lease, loan or sub-license the software.

The use of the software within a network is illegal where there is the possibility of a contemporaneous multiple use of the program.

You are entitled to prepare a backup copy of the software which will not be used for purposes other than storage purposes.

You shall have no further right or interest to use the software other than the limited rights as specified in this Agreement. Arturia reserves all rights not expressly granted.

3. Activation of the Software

Arturia may use a compulsory activation of the software and a compulsory registration of the OEM software for license control to protect the software against unlawful copying. If you do not accept the terms and conditions of this Agreement, the software will not work.

In such a case the product including the software may only be returned within 30 days following acquisition of the product. Upon return a claim according to § 11 shall not apply.

4. Support, Upgrades and Updates after Product Registration

You can only receive support, upgrades and updates following the personal product registration. Support is provided only for the current version and for the previous version during one year after publication of the new version. Arturia can modify and partly or completely adjust the nature of the support (hotline, forum on the website etc.), upgrades and updates at any time.

The product registration is possible during the activation process or at any time later through the Internet. In such a process you are asked to agree to the storage and use of your personal data (name, address, contact, email-address, and license data) for the purposes specified above. Arturia may also forward these data to engaged third parties, in particular distributors, for support purposes and for the verification of the upgrade or update right.

5. No Unbundling

The software usually contains a variety of different files which in its configuration ensure the complete functionality of the software. The software may be used as one product only. It is not required that you use or install all components of the software. You must not arrange components of the software in a new way and develop a modified version of the software or a new product as a result. The configuration of the software may not be modified for the purpose of distribution, assignment or resale.

6. Assignment of Rights

You may assign all your rights to use the software to another person subject to the conditions that (a) you assign to this other person (i) this Agreement and (ii) the software or hardware provided with the software, packed or preinstalled thereon, including all copies, upgrades, updates, backup copies and previous versions, which granted a right to an update or upgrade on this software, (b) you do not retain upgrades, updates, backup copies und previous versions of this software and (c) the recipient accepts the terms and conditions of this Agreement as well as other regulations pursuant to which you acquired a valid software license.

A return of the product due to a failure to accept the terms and conditions of this Agreement, e.g. the product activation, shall not be possible following the assignment of rights.

7. Upgrades and Updates

You must have a valid license for the previous or more inferior version of the software in order to be allowed to use an upgrade or update for the software. Upon transferring this previous or more inferior version of the software to third parties the right to use the upgrade or update of the software shall expire.

The acquisition of an upgrade or update does not in itself confer any right to use the software.

The right of support for the previous or inferior version of the software expires upon the installation of an upgrade or update.

8. Limited Warranty

Arturia warrants that the disks on which the software is furnished is free from defects in materials and workmanship under normal use for a period of thirty (30) days from the date of purchase. Your receipt shall be evidence of the date of purchase. Any implied

warranties on the software are limited to thirty (30) days from the date of purchase. Some states do not allow limitations on duration of an implied warranty, so the above limitation may not apply to you. All programs and accompanying materials are provided "as is" without warranty of any kind. The complete risk as to the quality and performance of the programs is with you. Should the program prove defective, you assume the entire cost of all necessary servicing, repair or correction.

9. Remedies

Arturia's entire liability and your exclusive remedy shall be at Arturia's option either (a) return of the purchase price or (b) replacement of the disk that does not meet the Limited Warranty and which is returned to Arturia with a copy of your receipt. This limited Warranty is void if failure of the software has resulted from accident, abuse, modification, or misapplication. Any replacement software will be warranted for the remainder of the original warranty period or thirty (30) days, whichever is longer.

10. No other Warranties

The above warranties are in lieu of all other warranties, expressed or implied, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose. No oral or written information or advice given by Arturia, its dealers, distributors, agents or employees shall create a warranty or in any way increase the scope of this limited warranty.

11. No Liability for Consequential Damages

Neither Arturia nor anyone else involved in the creation, production, or delivery of this product shall be liable for any direct, indirect, consequential, or incidental damages arising out of the use of, or inability to use this product (including without limitation, damages for loss of business profits, business interruption, loss of business information and the like) even if Arturia was previously advised of the possibility of such damages. Some states do not allow limitations on the length of an implied warranty or the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

8.2 FCC INFORMATION (USA)

Important notice: DO NOT MODIFY THE UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirement. Modifications not expressly approved by Arturia may void your authority, granted by the FCC, to use the product.

IMPORTANT: When connecting this product to accessories and/or another product, use only high quality shielded cables. Cable (s) supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FFC authorization to use this product in the USA.

NOTE: This product has been tested and found to comply with the limit for a Class B Digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide a reasonable protection against harmful interference in a residential environment. This equipment generate, use and radiate radio frequency energy and, if not installed and used according to the instructions found in the user's manual, may cause interferences harmful to the operation to other electronic devices. Compliance with FCC regulations does not guarantee that interferences will not occur in all the installations. If this product

is found to be the source of interferences, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

- Relocate either this product or the device that is affected by the interference.
- Use power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter(s).
- In the case of radio or TV interferences, relocate/ reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to coaxial cable.
- If these corrective measures do not bring any satisfied results, please the local retailer authorized to distribute this type of product. If you cannot locate the appropriate retailer, please contact Arturia.

The above statements apply ONLY to those products distributed in the USA.

8.3 CANADA

NOTICE: This class B digital apparatus meets all the of the Canadian Interference-Causing Equipment Regulation.

AVIS: Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

8.4 EUROPE

CE This product complies with the requirements of European Directive89/336/EEC.

This product may not work correctly by the influence of electro-static discharge; if it happens, simply restart the product.

9 NOTES: