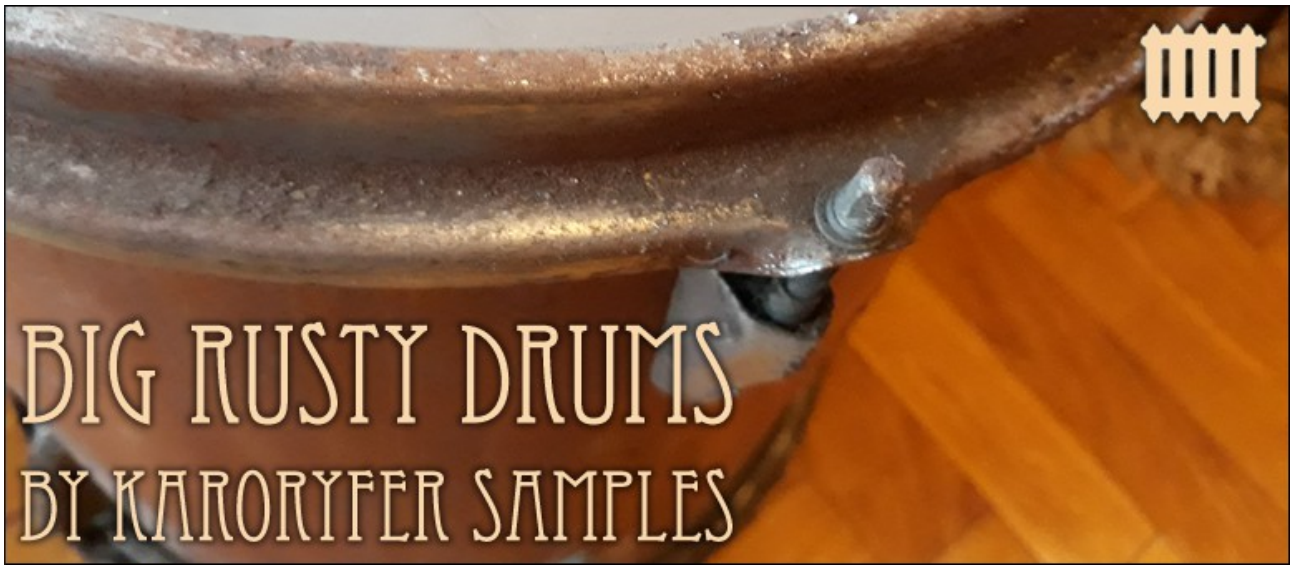
BIG RUSTY DRUMS USER GUIDE



Version 1.000

Big Rusty Drums by Karoryfer Samples is a virtual drum kit based on samples of a kit made by Zygmunt Szpaderski in Poland decades ago. It works in the Plogue Sforzando sampler version 1.933 or higher, which is free and can be downloaded from https://www.plogue.com/products/Sforzando/

Any questions or comments? Contact us at samples@karoryfer.com

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INTRODUCTION

They're big, they're kind of rusty, and they come from the scary side of the Iron Curtain. Zygmunt Szpaderski was probably Poland's most important drum maker from the 1950s until the 1990s, making thousands of drum kits in his little one-man workshop. No official records or serial numbers exist, but our best guess is that this one's from the early 1980s. Big drums were in at the time, and this kit is big – 24x18 kick, 14x8 snare, 18x16 floor tom, and absolutely ridiculous 15x15 and 14x14 rack toms. We also set up an Estonian-made RMIF 22x16 kick as an extra floor tom – it matched the Szpaderski kit well, also having a birch shell, and unusually for a kick triple-flange rims like a regular tom would, instead of simple hoops and clawhooks. We recorded mostly good, modern cymbals, though we used the kit's original old rusty stands for those. The drums also had all their original heads, though the snare's wires had broken and we had to use a replacement. The only other non-original parts were some of the plastic feet on the stands and the RMIF kick's heads and wrap.

KIT PIECES AND ARTICULATIONS

Big Rusty Drums includes the following kit pieces:

24"x18” kick - Szpaderski

pedal: kick (dampened), kick (undampened), pedal click noise, pedal return noise
sticks: rim click, shell click, tomholder click

14”x8” wooden snare - Szpaderski

sticks: sidestick, center hit, edge hit, rimshot, rim click, shell click
sticks with 13” RMIF concert tom on top of the snare: center hit, sidestick, rimshot
sticks with tambourine on top of the snare: center hit, rimshot
brushes: center hit, dig, stir, flutter, release noise
mallets: center hit

22"x16” tom – RMIF kick set up horizontally

sticks: center hit, rim click, shell click
brushes: center hit
mallets: center hit

18"x16” tom - Szpaderski

sticks: center hit, rim click, shell click
brushes: center hit, dig, stir, flutter, release noise
mallets: center hit

15"x15” tom - Szpaderski

sticks: center hit, rim click, shell click
brushes: center hit
mallets: center hit

14"x14” tom - Szpaderski

sticks: center hit, rim click, shell click
brushes: center hit
mallets: center hit

14” hi-hat – Sabian HHX Evolution

sticks: tip hit (six degrees of openness), shank hits(four degrees of openness), shaft click
brushes: hits with six degrees of openness
pedal: foot chik, foot splash, chik return noise, pedal click noise, pedal return noise

22” ride – Sabian Big & Ugly King

sticks: bow, bell, edge
brushes: bow
mallets: edge
edge choke

17” crash – Sabian AAX V-Crash

sticks: edge
brushes: bow
mallets: edge
edge choke

18” China crash – Sabian HHX Evolution

sticks: edge
brushes: bow
mallets: edge
edge choke

19” sizzle ride – unknown origin

sticks: bow, bell, edge
brushes: bow
mallets: edge
edge choke

17” sizzle crash – unknown origin

sticks: bow, bell, edge
brushes: bow
mallets: edge
edge choke

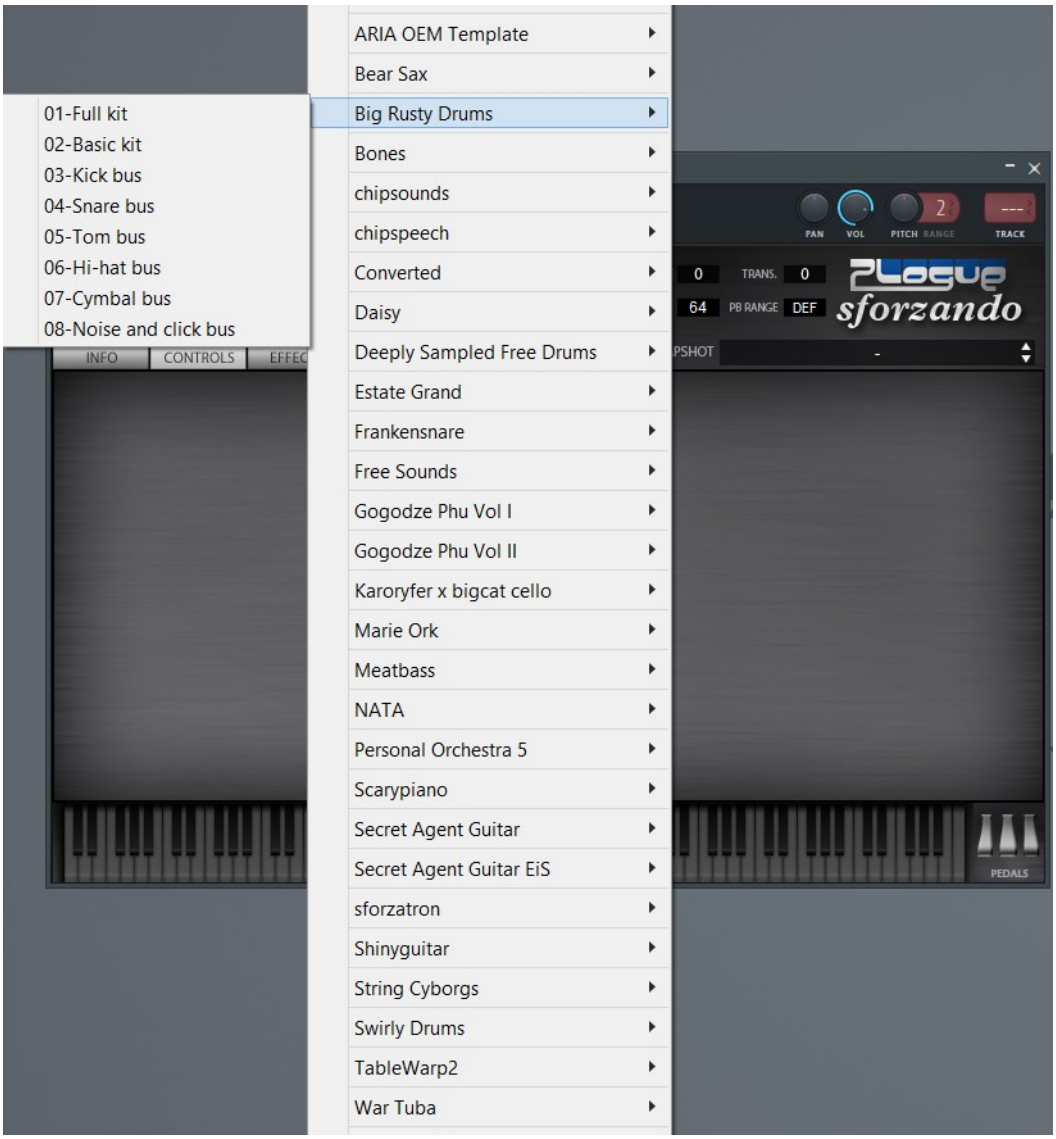
Three-cymbal stack – 21” Trowa ride, 16” Trowa crash, and half a 14” Polmuz hi-hat

sticks: middle layer, edge layer

INSTALLATION AND REGISTRATION

If you do not have Sforzando installed, install that first – version 1.933 or newer is required. After downloading and unzipping the Big Rusty Drums content into a folder, launch Sforzando, either in standalone mode or as a plugin. It is important that all the files stay in the same folder – changing the folder structure would require editing the SFZ files. Drag the Big Rusty Drums.bank.xml file onto the Sforzando interface – if this does not work in your DAW, try doing it with Sforzando in standalone mode. After providing administrator credentials, the instrument will be registered. On registration, the full kit instrument will also load, which can take several minutes on some systems – please be patient.

The SFZ files and WAV files can be used without registration, but registration causes Big Rusty Drums to appear in Sforzando's instrument list, which allows the instruments to be loaded with the GUI.



Special Articulations

While most of Big Rusty Drums work like any other drum kit - hit a note, and get the sound of a kit piece being hit – many of the kit pieces have additional articulations. Most of them also work like hits, but the stirs and flutters on the snare and 18” floor tom are very different.

Stirs and Flutters

The snare and 18” tom have some additional brushed articulations recorded – stirs and flutters.

The stirs are where things get more unusual, and they are the main reason we made this kit. Hitting one of the stir notes results in a stir sound which rises gradually, then falls. The Stir Time and Stir Tail parameters control the duration of this, meaning the stirs can be set up to fit a track's feel and tempo.

There are three stir articulations. The long stir is the most basic, and is mainly designed for stirs which make one circle per measure. The short stir s shorter, louder and has the brush moving across the head faster, making it useful for accents. There is also a flutter, which has the same duration as the short stir, and which involves moving the brush back and forth rapidly.

All these articulations mute each other. This means long stirs can be accented with short stirs or flutters without all the sounds playing simultaneously. There is also a special stir mute key, which makes no sound but mutes any stir or flutter currently playing on either drum. It can be used to shorten stirs if needed.

Digs

Digs basically work like brush hits, except the brush stays in contact with the head throughout. At the start, the wire tips are already touching the head, and the brush is then pressed into the head, without being picked up afterwards. They are useful for accenting stirs.

Performance Noises

Another feature not found in most drum kits is the performance noises. The snare and 18” floor tom also include the sound of a brush being picked up from the head – a subtle little noise useful after a section with stirs, or just as some incidental noise a drummer makes during a quiet section. The hi-hat has a return sound recorded with the hi-hat installed, plus pedal click and pedal return noises with no hi-hat in place. The kick pedal also has pedal click and pedal return noises recorded without the drum.

Though the pedals were functional and greased well enough to work, they still didn't quite operate as smoothly as well-maintained modern hardware, and made more noise. We took the opportunity to capture this.

CLICKS

Every drum has rim clicks and shell clicks recorded as well. These are techniques rarely used outside of marching band music, but we recorded them anyway, because we thought they sounded neat. There are also clicks recorded on the massive tomholder, and clicks on the hefty hi-hat shaft.

STICKING SELECTION

Most of the kit was recorded with sticks, brushes and mallets, except for the kick drum which was obviously recorded with its kick pedal. The sticking can be selected separately for each kit piece category, allowing the snare to be played with a brush while toms and cymbals are played with a stick, for example, as many drummers will do in real life.

The exceptions to this are as follows: the hi-hat only has sticks and brushes available. We actually recorded it with mallets as well, but it didn't sound good enough for those samples to be worth editing. The cymbal stack and all the various rim and shell clicks were recorded with sticks only.

The snare drum was also recorded with a 13” concert tom laid on top of it, with center hits, sidesticks and rimshots recorded; and with a tambourine laid on top, with center hits and rimshots. These are selected with the same MIDI CC control as the snare sticking. No matter what is selected, the brush stirs, flutter and dig articulations are available, and the sidestick key (MIDI note 37 in the default keymap) is the regular sidestick played with a stick. When the snare with the tom on top is selected, the sidestick recorded in this configuration is on MIDI note 39 in the default keymap, so there are actually two different sidesticks available.

When brushes or mallets are selected for the snare, notes 38, 39 and 40 all trigger center hits. When tambourine on top is selected, notes 38 and 39 both trigger center hits.

CYMBAL ARTICULATIONS

The cymbal stack has two different strike locations recorded – the middle layer and the bottom layer. These always use sticks, no matter what sticking is selected, because the stack just didn't sound good with brushes or mallets.

The crash and China crash cymbals have two articulations: edge hits and chokes. The choke mutes any hit on this cymbal currently playing, and it is up to the user to trigger the choke at the correct velocity for the desired volume. That usually means higher-velocity chokes soon after a hit, and low-velocity chokes when the cymbal's been ringing longer. Lower-velocity chokes will also be less obvious and sound more like a gradual fadeout.

The other cymbals – the ride, sizzle ride and sizzle crash – have bow, bell and edge strike locations recorded with the sticks. The bow is more of a ride sound, while the edge is a crash sound, and the bell is obviously a bell. They also have chokes, which work the same way as described above. With brushes, there are only bow recordings, and with mallets only edge recordings. When brushes or mallets are selected for the cymbals, these will be triggered by any of the bow, bell or edge keys for each cymbal.

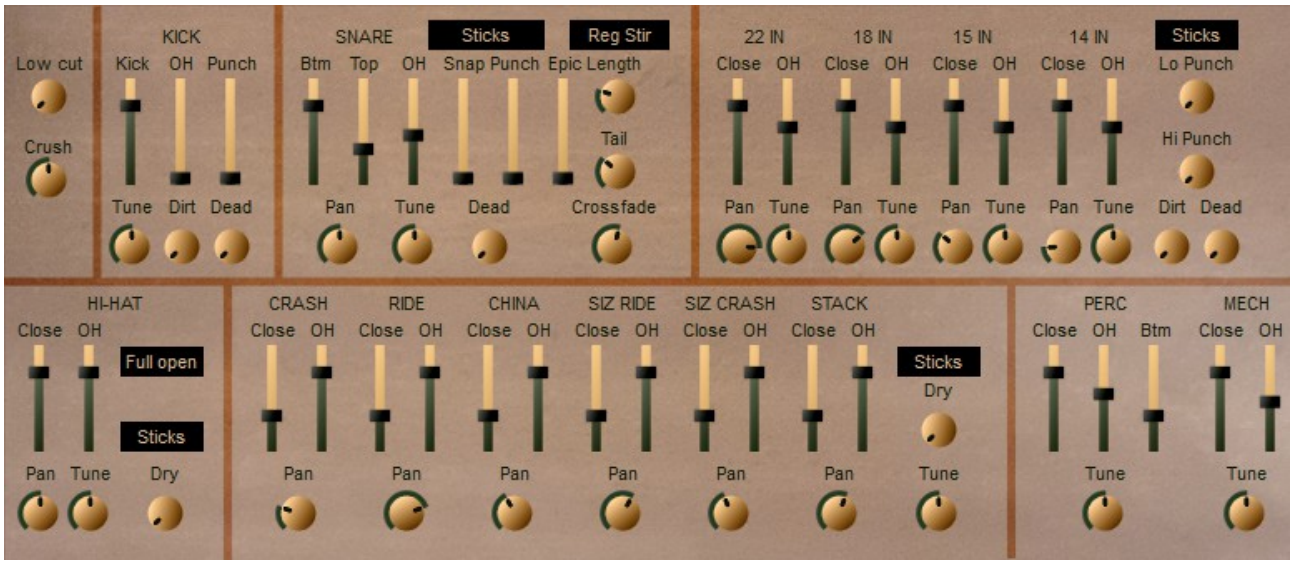
INSTRUMENT BANK

The Big Rusty Drums bank for Sforzando consists of two kit instruments - full and basic - and six bus instruments. The full kit contains all kit pieces, stickings and articulations. The basic kit has the dampened kick, snare, hi-hat, crash and ride cymbals, and 18", 15" and 14" toms, and no brush or mallet samples.

The kick bus instrument contains both the dampened and undampened kick. The snare bus instrument contains only the snare (including stirs, digs, and release noise), the hi-hat bus only the hi-hat, the tom bus all four toms (again including stirs, digs, and release noise for the 18” tom), the cymbal bus all five cymbals and the cymbal stack, and finally the noises bus contains the mechanical noises and clicks. As Sforzando only has one stereo output, the bus instruments are useful for sending various kit pieces to different mixer channels for separate processing. Consult your DAW's documentation for sending the same MIDI data to multiple bus instruments at once.

The note and MIDI CC assignments are consistent across the bank.

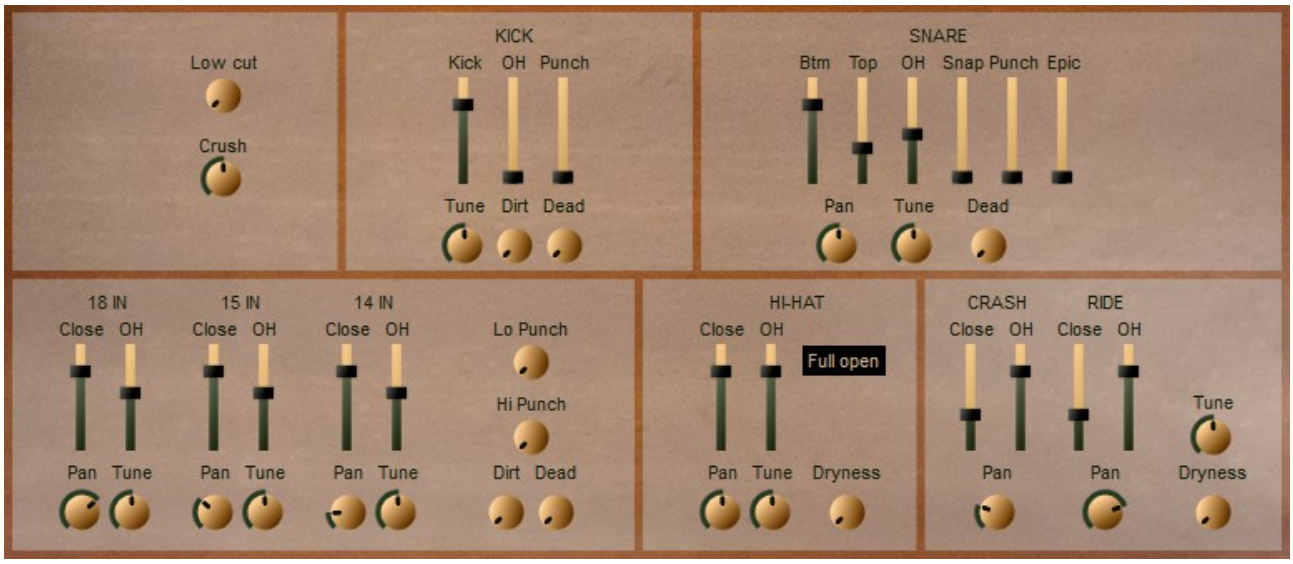
CONTROLS



The Controls tab contains graphical controls for the parameters. All parameters are also accessible as MIDI CC.

VOLUME, PAN AND TUNE

The functionality of the Volume, Tune and Pan controls is fairly standard. The Tune controls' range is from one octave down at 0% to one octave up at 100%, except for the clicks which are one octave down at 0% and natural pitch at 50%, but two octaves up at 100%. The hi-hat, cymbals and mechanical noises were miked with a mono close mic and a pair of stereo overheads, and thus have two volume controls each. The snare has an additional bottom mic. This mic was also recorded for the kick and toms, and its volume is controlled by the Dirt knobs. The tuning of the Dirt is affected by the snare tuning, not the kick and tom tuning.



The kick, snare and toms also have a Punch control, which is the close mic (top mic for the snare) transposed an octave up. This is useful for adding, well, punch, obviously, and can especially come in handy when tuning the drums down.

Instead of a separate Punch control for each tom, the toms have two – the Low Punch affects the lower toms more and doesn't affect the 14” tom at all, and the High Punch affects the high toms more and has no effect on the 22” tom. The snare also has Snap, which is the bottom mic transposed an octave up, and Epic, which is the overheads an octave down.

DEADEN AND DRYNESS

The Deaden controls for the kicks, snare, toms apply envelopes which shorten the sound. They have no effect at 0%, and at 100% leave only a short percussive noise. Again, this is obviously not realistic, but we decided to allow it, as it can be musical in an organic yet unrealistic way. Intermediate values are useful for emulating drums which have been muted with towels, tape etc. Digs are affected by this, but stirs, flutters and rim/shell clicks are not.

The Dryness controls for the hi-hat and cymbals are similar to Deaden, but less extreme. At 100%, the sound fades out completely approximately by the midpoint of the sample. Dryness can be useful for controlling sound buildup in dense patterns, increasing ride stick definition, or just emulating cracked cymbals which have lost much of their natural sustain.

HI-HAT POSITION

The hi-hat pedal position can be selected from a drop-down menu, which will also display the current hi-hat pedal position if using an external controller.

STIR AND FLUTTER TIME

The stirs and flutters have Length and Tail controls, whose purpose is to adjust the stir timng to the feel needed for a particular track and tempo. Length is, roughly speaking, the attack time of the stirs' envelope, and Tail is the decay time. There is also a Release control, which affects the crossfade time when a stir or flutter is muted, whether by another stir/flutter or by the mute key.

At very low values of Length or Tail these stop sounding realistically like stirs, but we included the possibility to use those values because they can be useful for emulating shakers or for special effects.

The Stir Shape selection offers a choice of three curves for the stir and flutter attack and decay. Smooth is a basic flat envelope, and the other two will have a less immediate attack and a more distinct peak in the middle of the stir. Generally, the more curved envelopes sound more similar to how a drummer would play stirs in faster tracks.

EFFECTS

There are also two global effects controls. Low Cut cuts low frequencies from everything except the kick close mic and kick punch, which cleans up the bottom end. Crush adds gain to the built-in limiter, resulting in a louder, more squashed sound.

CONFIGURATION

SNAPSHOTS

Specific control settings can be saved using Sforzando's Snapshot function – basically, these are presets. This saves a snapshot of the instrument currently loaded into one instance of Sforzando and its MIDI CC settings, which means a complete kit of bus instruments would consist of a separate snapshot for each bus instrument.

A few factory snapshots for the full kit are included.

EFFECTS AND SETTINGS TABS

The Effects tab and Settings tab contain default Sforzando functions. Effects can be used to add more reverb (together with the Send control at the top of the Sforzando interface), and Settings can be used for monitoring adjusting RAM usage and polyphony, though in general, the default settings appear to work well for these drums.

Increasing the maximum engine RAM may be needed in projects which use many instances of Sforzando and other ARIA engine products which combine to use a large amount of RAM.

KEYMAP EDITING

The default keymap (see appendix) is based on General MIDI, but as these drums have a lot of things General MIDI didn't anticipate, it mostly goes off on its own beyond the basics.

Editng the keymap for the Sforzando instrument requires using a text editor to make changes to the keymap file. The Programs/keymap folder contains the keymap.sfz file, plus MIDI CC ranges for the hi-hat. To change the user keymap, edit the keyamp.sfz file in this folder using a text editor. Avoid putting multiple sounds on the same MIDI note, unless they are not to be used anyway (see below).

USE WITH E-KIT CONTROLLERS

Electronic drum kit controllers have some additional considerations, and we've provided e-kit versions of configuration files for both the instruments in the bank and the graphics to better suit e-kit users.

HI-HAT DIRECTION

By default, the hi-hat is fully open with CC4 at 127, and fully closed with CC4 at 0. However, most electronic drum kits will have pedals which use a MIDI CC value of 0 for fully open, and 127 for fully closed. To reverse the hi-hat, copy the files from the Programs/ekit folder into the Programs folder, overwriting those files there. This will make the hi-hat work backwards.

GUI CONTROLS

The hi-hat's degree of openness labeling also needs to match the correct order in the user interface. To fix this, copy the files from the GUI/ekit folder into the GUI folder, overwriting the files there. This will make the hi-hat openness appear correctly with the reversed direction, and will also change how the toms and cymbals are displayed in the GUI. For keyboard use, the toms and cymbals appear in the same order they do on the keyboard with the default note mapping. In the e-kit version, they appear in the same order as their natural pan position from the drummer's perspective – that means the smallest toms (which, in the case of this kit, are still quite large) are on the left, and the hugest on the right. The crash cymbal is on the left, ride on the right, and others inbetween.

The Programs/default folder contains a backup copy of the default SFZ files as well as the default keymap, and the GUI/default folder contains a backup copy of the default XML files.

KEYMAP

Keymap editing works as described above, but most e-kits won't have enough pads and zones to cover all the sounds present in this kit. Some decisions must be made about how priorities. Sounds which will not fit should not be commented out or deleted from these files, as that would cause errors with missing variables. They can be moved to a placeholder note which the controller is not capable of sending. Multiple sounds can be put on the same placeholder note, as it will never be triggered anyway.

CREDITS AND ACKNOWLEDGMENTS

Thanks to the Hańba guys for hauling drums in the middle of the night on their way back from gigs not once but twice, and to Paul Chapman for loaning us the cymbals. Plogue Art et Technologie Inc. for support and Sforzando. Peter Jones for the hi-hat muting SFZ and testing. And everybody we borrowed microphones from.

APPENDIX

DEFAULT KEYMAP

The default keymap mostly follows the General MIDI specification up to the crash cymbal, then changes. As General MIDI does not have any place for stirs and other brush techniques or performance noises, we tried to arrange the sounds in a user-friendly way. The various hi-hat sounds are all on F#, G# and A# notes. Each cymbal's various articulations are kept together as much as possible. After the cymbals come the stirs and flutters, then the percussion. The performance noises are placed below the kick notes.

The note numbers are what's actually configured. The note names in the below table should work for most DAWs, but some DAWs may differ by an octave – so a C will still be a C, but a C3 might be C2 or C4 instead.

24	C2	kick pedal click
25	C#2	kick pedal return
26	D2	snare brush pickup
30	F#2	hi-hat pedal click
31	G2	18” tom brush pickup
32	G#2	hi-hat pedal return
34	A#2	hi-hat cymbal return
35	B2	kick undampened
36	C3	kick dampened
37	C#3	snare sidestick
38	D3	snare center hit
39	D#3	snare edge hit
	(+tom sidestick, +tambourine center hit, brush center hit, mallet center hit)	
40	E3	snare rimshot
	(brush center hit, mallet center hit)	
41	F3	22” tom hit
42	F#3	hi-hat tightly closed tip hit
43	G3	18” tom hit
44	G#3	hi-hat foot chik
45	A3	15” tom hit
46	A#3	hi-hat tip hit with variable openness
	(6 degrees for either stick or brush)	
47	B3	14” tom hit
49	C#4	crash edge hit
	(brush bow hit)	
50	D4	crash edge choke
51	D#4	ride bow hit
	(mallet edge hit)	
52	E4	ride edge hit
	(brush bow hit)	
53	F4	ride bell hit
	(brush bow hit, mallet edge hit)	

54 F#4 hi-hat tightly closed shank hit
(brush tip hit)
55 G4 ride edge choke
56 G#4 hi-hat footsplash
57 A4 China crash edge hit
(brush bow hit)
58 A#4 hi-hat shank hit with variable openness
(stick hit uses shank for closed, loosely closed and quarter open, tip for half open and fully open; brush hit is always a tip hit)
59 B4 China crash edge choke
60 C5 sizzle ride bow hit
(mallet edge hit)
61 C#5 sizzle ride edge hit
(brush bow hit)
62 D5 sizzle ride bell hit
(brush bow hit, mallet edge hit)
63 D#5 sizzle ride edge choke
64 E5 sizzle crash bow hit
(mallet edge hit)
65 F5 sizzle crash edge hit
(brush bow hit)
67 G5 sizzle crash bell hit
(brush bow hit, mallet edge hit)
69 A5 sizzle crash edge choke
71 B5 three-cymbal stack middle layer hit
72 C6 three-cymbal stack outer layer hit
73 C#6 snare long stir
74 D6 snare short stir
75 D#6 snare flutter
76 E6 snare dig
77 F6 stir or flutter mute
78 F#6 18” tom long stir
79 G6 18” tom short stir
80 G#6 18” tom flutter
81 A6 18” tom dig
83 B6 kick shell click
84 C7 kick rim click
85 C#7 tomholder click
86 D7 snare rim click
87 D#7 hi-hat shaft click
88 E7 snare shell click
89 F7 22” tom rim click
90 F#7 22” tom shell click
91 G7 18” tom rim click
92 G#7 18” tom shell click
93 A7 15” tom rim click
94 A#7 15” tom shell click
95 B7 14” tom rim click
96 C8 14” tom shell click

MIDI CC ASSIGNMENTS

4 hi-hat pedal position
- 0-25 closed
- 26-51 loosely closed
- 52-76 quarter open
- 77-102 half open
- 103-127 fully open

15 hi-hat close volume
16 hi-hat overhead volume
17 hi-hat pan
18 hi-hat tuning
19 hi-hat dryness

20 stir length
21 stir tail
22 stir crossfade
23 stir shape
- 0-41 smooth
- 42-84 regular
- 85-127 peaky

25 snare sticking
- 0-31 sticks
- 32-47 sticks with concert tom on top of snare
- 48-63 sticks with tambourine on top of snare
- 64-95 brushes
- 96-127 mallets

26 tom sticking
- 0-63 sticks
- 64-95 brushes
- 96-127 mallets

27 hi-hat sticking
- 0-63 sticks
- 64-127 brushes

28 cymbal sticking
- 0-63 sticks
- 64-95 brushes
- 96-127 mallets

30 22” tom close volume
31 22” tom overhead volume
32 22” tom pan
33 22” tom tune
34 18” tom close volume
35 18” tom overhead volume
36 18” tom pan
37 18” tom tune
38 15” tom close volume
39 15” tom overhead volume
40 15” tom pan
41 15” tom tune
42 14” tom close volume
43 14” tom overhead volume
44 14” tom pan
45 14” tom tune
46 low tom punch
47 high tom punch
48 tom dirt
49 tom deaden

70 kick close volume
71 kick overhead volume
72 kick dirt
74 kick punch
75 kick tune
76 kick deaden
77 low cut

80 snare bottom volume
81 snare top volume
82 snare overhead volume
83 snare snap
84 snare punch
85 snare epic
88 snare pan
89 snare tune
90 snare deaden

92 mechanical noise close volume
93 mechanical noise overhead volume
94 mechanical noise tune
95 click close volume
96 click overhead volume
97 click snare bottom volume
98 click tune

100 crash close volume
101 crash overhead volume
102 crash pan
104 ride close volume
105 ride overhead volume
106 ride pan
108 China crash close volume
109 China crash overhead volume
110 China crash pan
112 sizzle ride close volume
113 sizzle ride overhead volume
114 sizzle ride pan
116 sizzle crash close volume
117 sizzle crash overhead volume
118 sizzle crash pan
120 cymbal tuning
121 cymbal dryness
124 cymbal stack close volume
125 cymbal stack overhead volume
126 cymbal stack pan

401 limiter threshold
402 limiter level