



Editing a Drumset to Provide User-Defined Percussion Keys

Article 1 : The Drumset Editor

In this series of two articles we shall investigate how to use the Drumset Editor to make a User Drumset and then to use that User Drumset to allocate particular percussion sounds to certain keys which can then be used while playing. This will result in a facility very similar to that of some other organ manufacturers whereby the bottom note or notes on a manual can be assigned to a particular percussion instrument, eg bass drum, triangle, etc, with very effective results.

Firstly we shall need to investigate the Drumset Editor and in the final article we can use the Editor to produce our desired result. To open the Drumset Editor, the pathway is:

Settings > Edit Drumsets (in the first Settings column "Change Sounds")

Here is the Drum Edit screen which then opens up.

The Optional Package called "Drumsets1" (also known as "Studio Drums") is used in these Articles.

The screenshot shows the 'Drum Edit' interface with the following elements:

- 1** (Load DrumSound): A list of drum sounds at a specific key (C 1). The list includes:
 - C 1 - Bass Standard 2
 - C 1 - Bass Standard 2
 - C# 1 - RimShot 2
 - D 1 - Snare Std 2 High
 - D# 1 - Clap 2
 - E 1 - Snare Std 1 High
 - F 1 - Tom Std 5
 - F# 1 - Hihat Closed 1b
 - G 1 - Tom Std 5
 - G# 1 - Hihat Foot 1
 - A 1 - Tom Std 3
 - A# 1 - Hihat Open 1b
- 2** (Octave): A control for the octave, currently set to 0, with a downward arrow button.
- 3** (Envelope): A section for adjusting the sound's envelope, including:
 - Attack: 0
 - Decay: 0
 - Vel to Attack: 63

Other visible controls include:

- General Volume: 70
- General Reverb: 63
- General Reverb 2: 90
- General Delay: 0
- Group-Volume and EQ: Edit button
- Generals: Volume (75), Panorama (63)
- Tuning: Semi Tune (0), Cent (-1)
- Filter: Filter Cut (127), Filter at Vel (105)

This is a fairly busy screen so I've outlined sections of it to investigate in detail. Each area to be investigated is numbered 1 - 3 in the screenshot above.

At the top of the screen are the name of the screen (Drum Edit) and the usual "Save" and "Back" buttons. Just below is the often-seen selection box in yellow with the downward-pointing arrow to its right. Touching the arrow presents a scrollable list of all the available Drumsets on the instrument, including any user-edited ones. Pre-hearing Drumset sounds is provided by the Upper Manual.

Section 1

Import Drum Sound button

This is for loading a sound from an external source into the currently selected key in the currently selected Drumset. To save such a result requires the Drumset to be renamed and then saved in the User Drumset area. Each sound is a .wav file and it's possible to import any such sound into this area, providing it is in the format 44.1 kHz / 16-bit. We shall not use this button in these articles - it has been covered partly in Robert New's article "Drumsets - 1".

*Load Drum Sound button

This provides a list of all the available percussion sounds within all the Drumsets on the instrument. Although the highest ascribed number is 1361, there are numerous gaps in the sequence of sounds which total 272 in the Drumsets 1 optional package. The list makes no reference to the Drumsets within which they are factory allocated. We shall use this feature extensively in the next article. *NB: The appropriate key must be pressed to change the sound - it isn't sufficient just to select the place for changing the sound on the screen.*

** There are problems with comparing this List with the sounds in the panel in Section 1. See page 5**.*

Drumsound at Key: panel

This scrollable panel is in ascending key order and shows the key allocation of each percussion sound within the stated Drumset. In the above example, the scrollbar shows partial descent through the list and the key C1 is currently selected (*Bass Standard 2* in this case). The yellow box just above shows that the instrument *Bass Standard 2* is loaded into key C1 which is the lowest note on either the Lower or Upper Manual when the Octave selection is 0 [8'].

The lowest key in this panel is C#-1 (C sharp negative one). That's two octaves below C1. To play such a key requires a double octave lowering of the relevant manual to an Octave setting of -2 [32']. The highest key usually presented in this screen panel is C5 which is an octave below the top C of either keyboard when the Octave selection is 0 [8']. Therefore an octave setting of -1 [16'] will apply a percussion sound to all the keys available on the manual. The bottom octave of percussion sounds available can then be reached by lowering the octave setting to -2. Some Drumsets have instruments in the C#5 to E5 range which can be played only with Octave settings of 0 (8') to 2 (2'). Just remember that Middle C is C3 at a pitch of 8' (Octave is zero).

Section 2

Changing the Octave Setting



Touching the downward pointing arrow once will change the "0" to a "-1" indicating an octave drop for each key. This is reflected in an octave rise of each sound from its previous key position. Touching the arrow again results in a further octave drop (to "-2") for each key and a subsequent further octave rise of each sound, allowing the bottom octave of sounds, starting with C#-1 (Surdo Open in this Drumset), to be playable. The arrow will then be pointing upwards as that is now the only available next direction and you can then return one octave at a time to the zero setting of 8'.

None of these changes results in any pitch change of the sound. The octave rise and fall referred to is just a position change on the manual, usually called an Octave Shift. The panel Octave Shift button in the "Upper" group could be used instead of the on-screen button.

Section 3 (Drum Edit Screen)

Generals

All adjustments in this section apply to the currently selected sound alone.

Volume and Panorama (ie stereo position).

These are self-explanatory and can be easily explored. A move of stereo position could well require an increase in volume. The full range available is 0 to 127 for each. This volume setting is related to the other two volume settings available according to the summary towards the end of page 3.

Tuning

Semi-Tune actually means "Semi-Tone" and offers a range of two octaves in 24 semi-tone stages (-12 to +12). **Cent** offers a -50 to +50 fine tune of each Semi-Tone position.

Envelope

Three parameters can be adjusted here:

Attack - how quickly the sound starts, with a value of zero representing the fastest attack.

Vel(ocity) to Attack : 63 is the centre value. Above this value the attack will be slower the faster you strike the keys and vice versa. It doesn't seem to work too well?

Decay should alter the way the sound decays.

0 to 127 is the range of values in each case.

Filter

Filter Cut acts like a treble cut with a value of 127 exhibiting maximum treble.

Filter at Vel(ocity) works when Filter Cut has a value less than 127 and provides the effect of cutting treble according to how fast the key is struck, high values having most change.

If you make any changes to the existing values for a Drumset, exiting the Drumset Edit screens will produce a blue panel asking if you wish to save the changes you have made. If you select "Yes" you will be taken to a screen which will allow you to save the new Drumset in the first spare slot in the User Drumset area. Touching the name of the current Drumset (which you will wish to change) produces the usual virtual typewriter for changing its name. There is nothing really new in the way this saving function works.

How would you employ a User Edited Drumset?

Apart from the specific purpose of these two articles outlined at the start, you can also change the Drumset(s) in an existing Style.

Each Style has two Drumset slots, DRM1 and DRM2. This is covered in the articles on the Styles Editing page of our website. In the column "Sounds" the currently selected Drumset for that particular Style is displayed for each of DRM1 and DRM2. By touching that button containing the Drumset name a full list of all available Drumsets will be presented including any user edited ones. You can therefore change the Drumset for any Style and, if it's a User Style, it can be saved directly back into its original slot in the database. If you want to change the Drumset(s) for a Factory Style, the whole Style will need saving again in the User Style section - the original factory style will still retain its original Drumset.

This is therefore a way of personalising still further the sound of your particular instrument and the opportunities are, as usual, pretty endless.

In the next and final article we shall create a new Drumset for the specific purpose of providing five sets of five different percussion sounds which can be placed in the lowest five keys of the Upper Manual and stored as such in a Total Preset. Any of those sounds can then be played for special effect at any time while playing a piece of music. Have you ever wanted to thump a bass drum at a particular point in a piece of music, for example? The system is quite versatile as we shall see.

There are four companion documents for download.

- **Drumset Key Comparison Chart** : for the first time, so far as I am aware, this lists all the percussion sounds for all the drumsets in Drumsets 1.
- **Drumset Instruments List** : lists all the percussion sounds available in the Wersi database and obtained from the Wersi folder in the instrument.
- **Drumset Instruments Explanatory Document** : offers a brief description and picture of some of the percussion instruments.
- **Use of Drumset Instruments within Drumsets** : a table of Drumsets in columns against instruments from "Drumset Instruments List" showing in which Drumsets each instrument is used. **There are many instruments not used; some instruments have different names in each list; some instruments are spelled differently in each list. This document includes a "Comments" column in which I have attempted to offer my subjective explanation of as many of these anomalies as I was able to solve.

You may, however, have already noticed a problem. If you follow the above procedure to change a Drumset in a Style, how do you know which sounds from the Drumset are being used in the Style and so which changes would provide a difference? A quick glance at the document "Drumset Key Comparison Chart" will show that most of the Drumsets have very similar lists of instruments being used with only a few variations. It could be that changing a Drumset would have no effect on a particular style if the only sounds used are common to both the original and the changed Drumsets. It would be helpful to know which Drumset sounds are used in any particular Style so that a change of Drumset could be made which would actually make that Style sound different.

In the next article we shall be interested in changing the sound in particular keys, drawing our changed sound from the Wersi database as listed in the document "Drumset Instruments List". If you do that in order to create a new Drumset you have to save the Drumset as a new user one and then you can replace the Drumset in a Style with your new creation. But again, if only you knew which Drumset sounds are being used in the Style then you would know which sounds to change for your new Drumset, apart from changing them all regardless!

The solution to this is rather involved but there is a solution. The pathway is:

[Settings](#) > [Edit Styles](#) > [DRM1 \(under "Controls"\)](#) > [Any existing pattern, eg "Major" etc](#) > [Edit Events](#)

Following the above pathway will end with a screen like the following (although this says "Edit Track" and is actually from the Sequence Edit routine: it doesn't matter here because it contains the same relevant items found in the "Edit Pattern" screen produced after selecting "Edit Events").

Position	Event	Val 1	Val 2	Length
3:04:000	Note	F#1	64	120
3:04:000	Note	C1	49	120
3:04:240	Note	F#1	35	120
3:05:000	Note	F#1	35	120
3:05:240	Note	F#1	60	120
3:05:240	Note	Eb4	55	121
3:06:000	Note	F#1	31	120
3:06:240	Note	F#1	33	120

Control Panel:

	Val1	Val2	On
Notes	Off	Off	✓
PRG-Ch.	Off	Off	--
Controller	Off	Off	--
Pitch Bend			--
AfterTouch			--

Buttons: Copy, Delete, Insert, Delete All, Exchange, Modify, Apply, Paste

What is important and useful is the column headed "**Val 1**". This shows the keys used throughout the drum rhythm sequence which is always looped eventually, unless it's a Fill, Break, Intro or Ending. Here's where the extraction of the information is involved. Cycle through the full sequence noting each new key used. Let's take the Wersi 8 Beat 1 Var A as an example.

Here's the full key list for DRM 1 (Major, though the sequence is the same for Minor and Septime; likely for untuned instruments) which uses the default **01 Standard 1 XG Drumset**. By the side of each key in this list I've placed the name of the sound it produces, obtained by inspection of the "Drumset Key Comparison Chart" for the 01 Standard 1 XG Drumset.

A#4 Shaker
B0 Bass Pop 1
C#1 Rimshot 2
G#1 Hihat Foot 1

By following this procedure for all parts of this Style, a full picture of the percussion instruments used by the drums within it can be established: but it's rather an involved procedure as well as being time-consuming. Yet it's the only way I know of becoming informed before creating new Drumsets. The full list for the Wersi **8 Beat 1** is shown in the table below. Only the newly introduced sounds are shown as you read the table from left to right. Break 2 and End 2 introduce no new sounds.

Main A	Main B	Main C	Main D	Break 1	Break 2	Intro 1	Intro 2	End 1	End 2
A#4 Shaker	E1 Snare Std 1 High	C1 Bass Std 2	D#2 Ride Cymbal 2	A1 Tom Std 3		G1 Tom Std 5	E5 Silence	C2 Tom Std 2	
B0 Bass Pop 1	F#1 Hihat 1 Closed 1b			A#1 Hihat Open 1b				F1 Tom Std 5	
C#1 Rimshot 2	F#2 Tambo Modern			B1 Tom Std 3				G2 Crash Cymbal 3	
G#1 Hihat Foot 1				C#2 Crash Cymbal 2					
				D2 Tom Std 1					

Now wouldn't it be useful if the person who knows all this detail for all the Styles (someone produced them, after all) would share that information with the rest of us? Anyway, armed with the above data you can see that changing only some or all of the above 20 sounds in the 01 Standard 1 XG Drumset can provide a new User Drumset. You can then place that new Drumset in the DRM 1 slot for all sections of the Wersi 8 Beat 1 Style and save that Style as your own version of 8 Beat 1. That will then have completely different instruments playing the same 8 Beat 1 rhythm. Changing any other sounds would have no effect in that Style.

I've provided on the website a demonstration audio Download of such a changed 8 Beat 1 Style. I merely changed nineteen of the above sounds to others of a similar instrument. A more discerning approach would be to audition alternative instruments for each key and to choose discriminately: that would be more time-consuming but would provide a well-formulated result. The E5 key was not changed as there is no sound in that key for the 01 Standard 1 XG Drumset. The silence that results has a rhythm effect and so I left it in situ.

You can download from the WersiClub International website that mp3 audio file of this edited DRM 1 track from the 8 Beat 1 style, where all the sections which have changed sounds are played.

In the second and final article we shall use all the information from this article and the additional documents to produce our user-defined percussion keys.