How to set a fixed midi channel per controller instead of using the global midi channel?

It is possible to override the global midi channel on your Bitstream 3X on a per controller basis. For example, you can have one knob send a CC on midi channel 3, while the next sends it CC on the global midi channel and the third on midi channel 11. In the meantime your sliders send out their messages on midi channel 8!

To do so, you need to use the configuration software that came with your Bitstream 3X (and is downloadable from the website www.waveidea.com). So it is not possible to set a fixed midichannel with the Bitstream 3X itself (well, with OS1.7 that is. You'll never know what future updates will make possible, so be sure to check the website every now and then for updates, since we are constantly working on improving the Bitstream 3X!).

First of all, where is the global midi channel assigned? Well, that is done on the Bitstream 3X itself.
Quite easy to do actually: Press "edit" and the screen wil show "Midi config" with a little arrow before it. Press "ok", and a subline says "midi channel". Press "ok" again and in the bottom off the screen you can choose the global midi channel (it is set to "1" as default).
This setting means that all controllers, in all groups will send out their default CCs and other messages on global channel 1.

But sometimes you don't want that! Imagine working with a multitimbral racksynthesizer, where two different patches are used in multimode acting on *different* midichannels.
Let's say that you want the first 4 faders of the Bitstream 3X work as an ADSR filter envelope on patch 1, midichannel 4 on your racksynthesizer, and the other four faders also as an ADSR filter envelope, but now on patch 2, midichannel 6 on your racksynthesizer.
Furthermore we have set the global midi channel on the Bitstream 3X to channel 2.

And let us also asume that we are gonna use "Group 0" on the Bitstream 3X for this and that the default CCs sended by the faders in this group (CC40, 41, 42, 43, 44, 45, 46 and 47) are not the right ones, but must be set to CC21, 22, 23 and 24, for both ADSR's.

To achieve this, we must use the configuration software to program the right CCs and midichannels.

Actually you could assign the new CCs *without* using the software, but you can't program the different midichannels on the faders so let's use the software for both actions.

Starting up the configuration software

After starting up the configuration software you will see this screen:
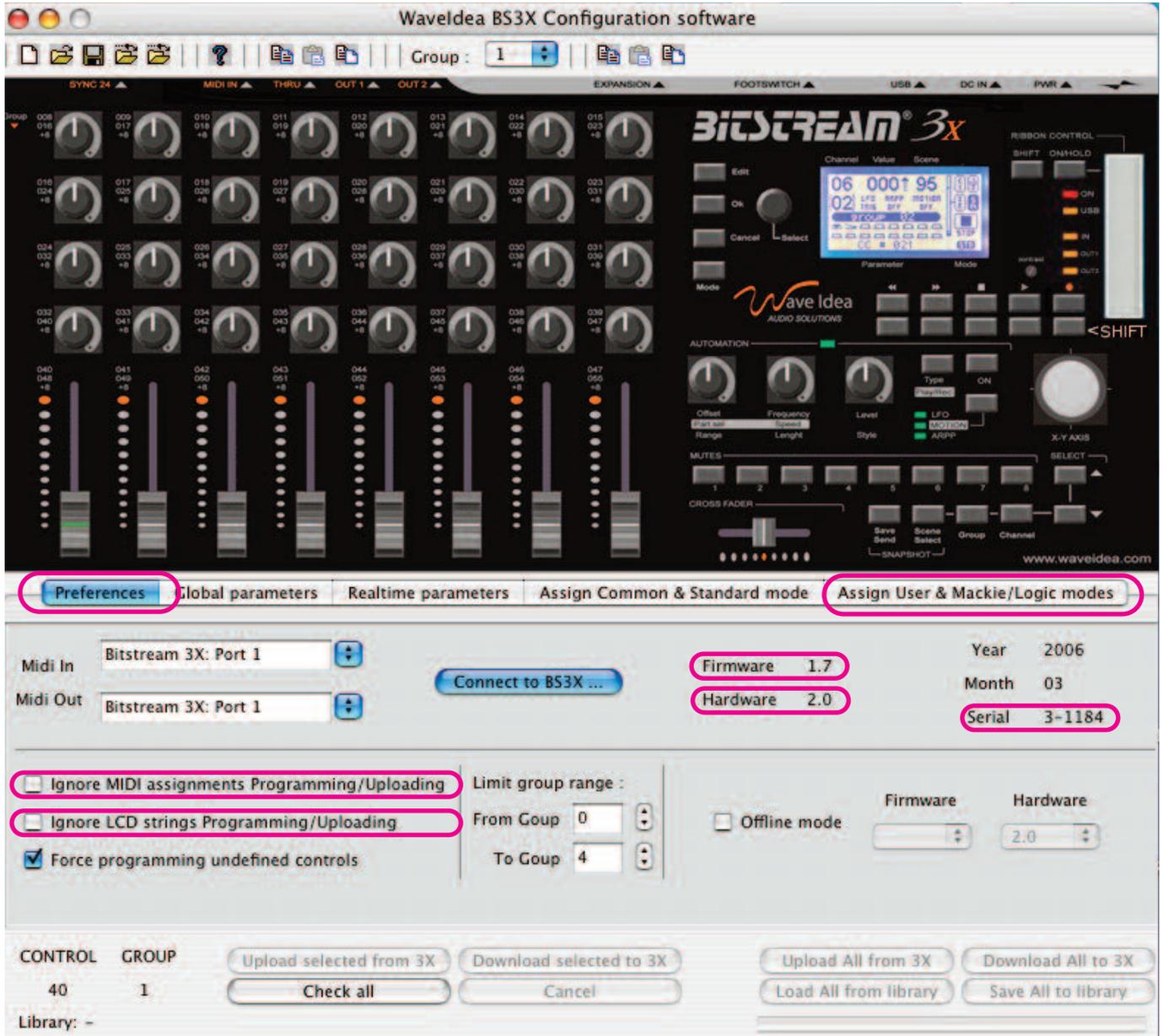
And with the right USB and/or midi connections, after connecting to the Bitstream 3X by pressing the "Connect to BS3X..." button, you'll see the loaded Firmware used by the Bitstream 3X and also the Hardware revision and Serialnumber.

Important in this screen is also to uncheck the "Ignore MIDI assignments Programming/Uploading" box and "Ignore LCD strings Programming/Uploading" box, otherwise you can't upload your programmed settings in the "Assign User & Mackie/Logic modes" screen.

Now let's go to the "Assign User & Mackie/Logic Modes" screen to program our faders!

First of all you need to "select" the knob or fader you want to program. In this case we start with fader 1. Just click on the representation of that fader in the upper part of the screen. You will notice that the horizontal line inside the fader turns green, meaning that you now selected it for assigning the wanted message to it:

After this select "Use standard template" in the upper right of the program part of the screen and click on the pop-up knob and choose "CC#21". Once you have done that you will see this screen:
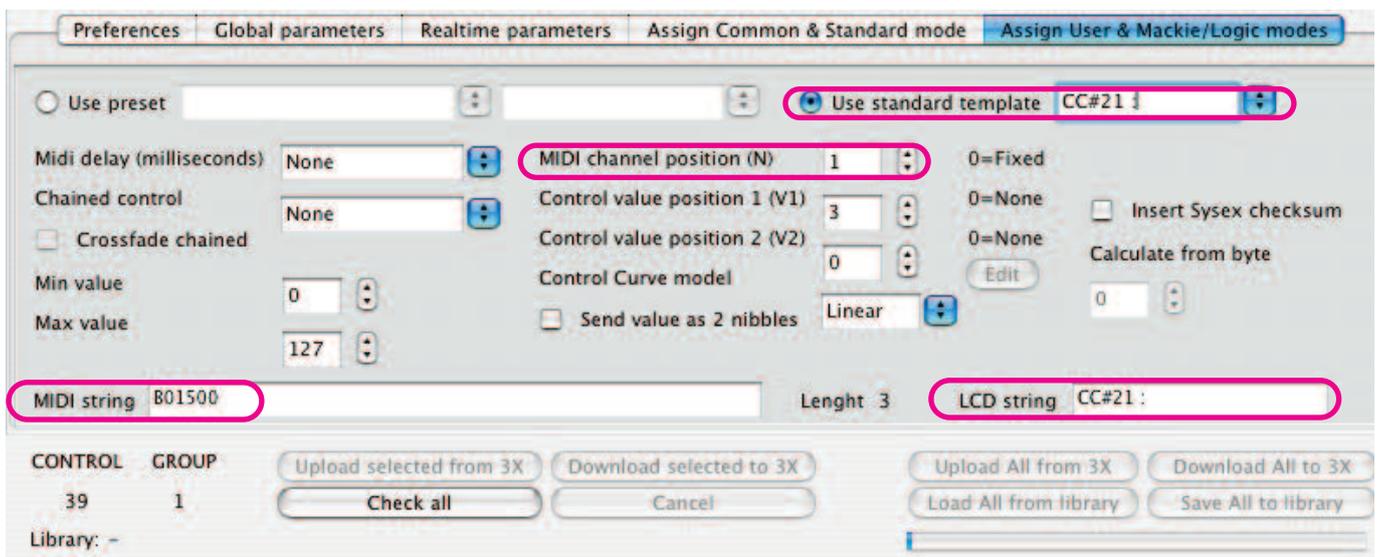
Notice the several places where new info is visible since we have choosen CC#21 in the "Use standard template" pop-up list.

First the easy stuff: in the lower right you see "LCD string" set to "CC#21:". Here you can

change the name that will be visible in the LCD screen later on, after downloading your settings to the Bitstream 3X. For instance, name it "P1 Attack FEnv" so you can see that touching that fader will alter patch 1 in the multi on your synth, changing the Attack of the Filter Envelope.

Now take attention: the "Midi channel position (N)", we call it "Mcp" further on, is used to set the *position* in the "midi string" (lower left) where the *global midi channel* will be send. Any other value then "0" will overrule the setting in the midi string made in the configuration software! If the "Mcp" value is set to "0", the controller will *not* use the global midi channel set on the Bitstream 3X, but the one programmed in the string, or none when there is none programmed.

In our example the software automatically sets the "Mcp" value to "1" and in the "midi string", on that first position in the string, the byte says "B0", meaning midi channel 1 has been choosen (all this is a default setting). But that last "B0" is not playing any role since the "Mcp" was set to 1, meaning the *global* midi channel is send on position "1" in the "midi string" and that was midi channel 2 in our example. So with this setting, the Bitstream will send CC21 on *global* midi channel 2.

To insert a different midichannel specially for that controller, you first must turn off sending the global midi channel. You do this by setting the "Mcp" value to "0", meaning we are gonna override the global midi channel.

Then take the wanted midi channel and distract it with 1! So, B0 means midi channel 1, B1 means, midi channel 2, etc. The values are in hexadecimal, see AN009 - Bitstream 3X Sysex introduction" on our website for a short explanation on hexadecimal values. We do want the first four faders to send out CCs on midi channel 4, so these four faders should all read "0" in the "Mcp" checkbox, and read "B3" as first byte in the "Midi string" box.

The faders 5-8 should also read "0" in the "Mcp" checkbox but read "B5" as first byte in the "Midi string" box (remember, we wanted the last four faders to send out on midichannel 6).

To sum up the eight midistrings for the eight faders it should look like this: B01500, B01600, B01700, B01800, B51900, B51A00, B51B00 and B51C00, and for all eight faders the "Mcp" setting is "0" to override the global midi setting.

Notice that the second byte indicates the used CC, also as a *hexadecimal* value. Again, for a short explanation on this, see "AN009 - Bitstream 3X Sysex introduction" on our website! The last third byte (on all faders set to 00) indicates the place where the CC value will be changed when you turn a knob or move a fader. This is also explained in "AN009 - Bitstream 3X Sysex introduction" on the website.

Now there is one last setting you can make, to be able to toggle on the Bitstream 3X (using the shift knob) between the global midi channel and the programmed midi channel which you downloaded into the Bitstream 3X using the configuration software.

For this, go to the global tab in the configuration software. It looks like this:
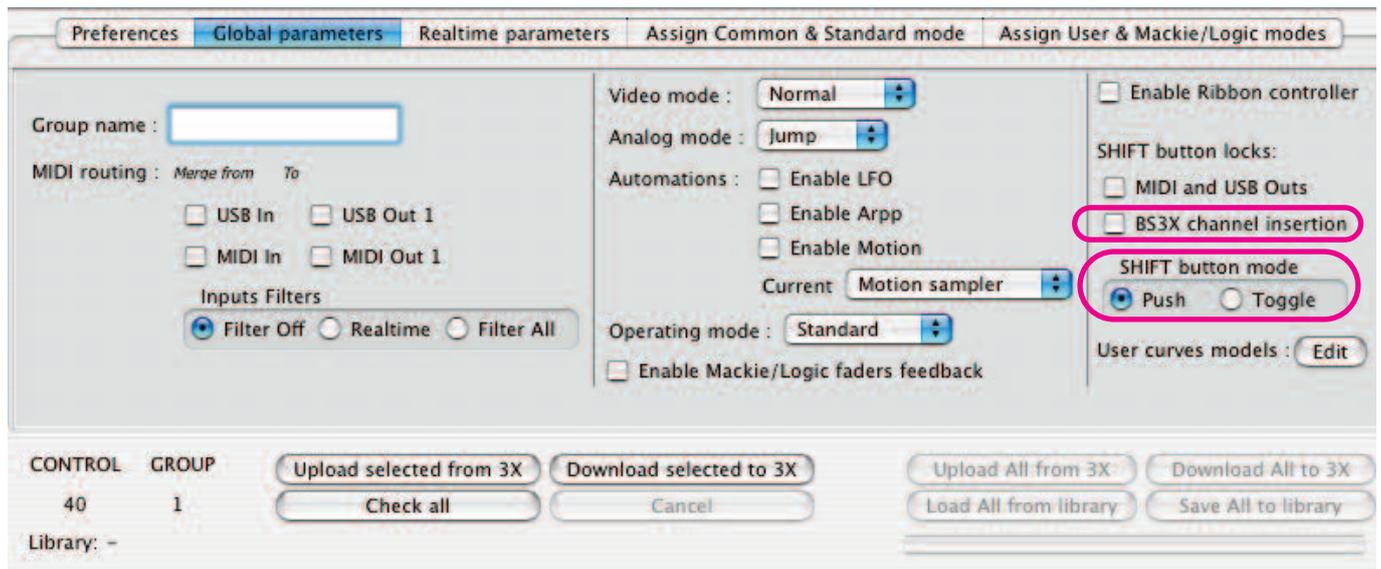
When you check the "BS3X channel insertion" checkbox, you can switch between global midi channel and programmed midichannel by pressing the SHIFT button on your Bitstream 3X. It depends on the way the knob functions what happens: in "Push" mode, you will return to the normal state when you release the button, in "Toggle mode" you toggle between SHIFT and normal mode.

All this may be a little confusing in the beginning (it was certainly to me!) but understanding the above should help you on your way to set fixed midichannels! Feel free to give comments or ask questions on our forum so we can improve the software and documents!

Boele Gerkes, convinced Bitstream 3X user!   November 5th, 2007

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