

## ***Synth Programmer manual – CC Mode***

Since firmware version 1.5 (01/2020) we integrated a „CC Mode“ in all editions of the Synth Programmer (except Pulse). This turns your Programmer into a universal Midicontroller for the so called „Midi Control Change“ commands (CC). Sending standard CC messages is quite handy for remoting VST plugins or hardware responding to CC. This manual describes the features and functions of the Synth Programmer's CC Mode in detail.

### ***Features of the CC Mode***

- Since OS version 1.5 the CC mode is automatically integrated in all editions (except Pulse) and will be switched on/off in the Programmer's PREFS. It is not necessary to flash a „CC mode edition“ on it's own. You need to flash the firmware update of your edition though.
- the CC mode offers 4 independent and configurable sets for quickly changing between different control targets / VST instruments / tasks
- each set got it's own editable name and all the definitions for the 45 knobs
- each knob can be assigned it's CC number and midi channel (1-16 or the Programmer's basechannel). In addition you can define a stepwidth (e.g. 0,4,8,12...) or a maximum value (e.g. to send the values 0-8 over the complete knob turn angle).
- Individual sets can be exported from the Programmer as SysEx-dump and they can be imported back of course.

### ***De-/Activating CC Mode***

It's the Programmer's PREFS where you activate or deactivate the CC Mode. We added a new PREFS parameter „Operate“ which can have the values „Native“ or „CC-Mode“. The Operate state keeps stored for the next powerup. As long as the CC Mode is active, all the Programmer's special Synthesizer features are deactivated.

## PLAY

PLAY is one of two operation modes (the other one is SETUP) and automatically active after powerup – as long as the CC Mode is selected in the PREFS. This is where you dial the knobs to control external hardware or software by sending CC commands from the Programmer. The 4 pushbuttons above the display allow selecting the 4 available sets. The button's LED of the lastly selected set keeps shining.

In the first line you see the set name (10 letters). The second line shows the parameters of the last touched knob:

- CC describes the Control Change number which is sent by this knob
- Ch stands for the used midichannel between 01 and 16. If it shows „bc“ this means the command is sent on the Programmer's basechannel as currently being set in the PREFS.
- To the end of the line the value of the sent CC command is shown.



## SETUP

This is the place to tweak the 4 parameters of each knob in the currently selected set. You can not switch between the sets themselves in SETUP, only in PLAY mode. **You enter SETUP by pressing the 3rd button to the left** – for the Matrix or Microwave edition this is the red CHORD button, for the VS it's a blue button labeled MATRIX. The LED gets highlighted and you are in SETUP. Press the button again and you fall back to PLAY mode, the LED gets off then.

Now while being in SETUP, move one of the 45 knobs to bring it's values on the display. The 4 encoders allow changing the last touched knob's settings to your likings:

- Encoder 1: select the CC number you want this knob to send. Keep in mind many of the CC numbers are already dedicated to fixed functions in the midi world: CC No. 1 e.g. is the modulation wheel, 5 is portamento time, 7 for panning and 10 for volume.
- Encoder 2 changes the knob's midi channel for the CC command to be sent on. In most cases it makes perfect sense to leave it on the Programmer's base channel (display showing „bc“ for „BaseChannel“). If you plan to use the Programmer as a multichannel midi volume mixer or to control multiple different devices you can set any of the channels from 1-16.
- Encoder 3 changes STEP – the stepwidth from 0 to the max value of 127
- Encoder 4 changes MAX – the max. value which should be reached when turning the knob fully clockwise.



STEP and MAX can only be used alternatively. As soon as you change one of them, the other one says „---“ which means „not used“. For mathematical reasons the maximum value of 127 can not be reached for some values of STEP. For technical reasons when using certain values for „Max“, the max value will be reached before the knob is fully turned cw.

Your changes will be saved when you touch another knob or when leaving SETUP.

**SETUP also allows to change the name of the set.** Press the pushbutton above the display for the currently active set – hint: it's the one with the bright LED ;-). Now you can edit the set name:

- Encoder 1 moves the cursor (underscore below active letter)
- Encoder 2 changes the letter
- Encoder 3 lets the letter jump to three starting points: Caps, small letters or numbers.
- Encoder 4 chooses a space instead of a letter

Press the set button above the display again to return to normal SETUP mode.



## *Import / Export of sets*

After changing the edition firmware, the Programmer's memory (including all of your CC-mode sets) will be reset to default values. To easily backup the CC-mode settings for your favourite VSTis, the Programmer offers exporting and re-importing complete sets as a simple SysEx dump. For the data transfer and saving the data to a backup medium you will need a PC or Mac with the appropriate software (e.g. midiOx on PC or SysExLibrarian on Mac).

Import as well as Export of Sets is only possible in PLAY mode of the CC-Mode.

### **Export**

- Connect the Programmer's **MIDI OUT 1** with your midi interface and configure your software to receive dumps. For midiOx you should set the right MIDI INPUT in *Options/MIDI devices*. Then choose the menu points *View / SysEx* and in the opening window: *SysEx / Receive Manual Dump*
- Select the set you wish to export on the Programmer
- Press the 2nd button to the left (beside the SETUP button) until the display says „Current Set exported“. Releasing the button before the message appears aborts the export.
- The dump of 195 bytes should have been received by the PC/Mac software. Save it to your backup media.

### **Import**

- Select the set on the Programmer where you want the import to be saved. Caution: after successful transmission the former settings of the currently selected set will be overwritten without request. The other 3 sets always remain untouched.
- Connect the MIDI OUT of your interface to the **MIDI IN 2** jack of the Programmer (not MIDI IN 1!)
- Open the SysEx file on your PC/Mac. For midiOx e.g. this would be *View / SysEx*, then *File / SendSysEx File*
- The file will be transmitted over Midi, the Programmer should showup the message „Set import successful“.

## *EEPROM chaos after flashing a new firmware*

CC Mode saves many values in the processor's memory (EEPROM). Additionally each edition got it's own PREFS values to be stored in EEPROM. At the time we started with the Programmer we did not take any CC Mode into account. As a consequence it might happen that – after flashing a new firmware - some values read from the processor's EEPROM do not hold the expected values. Although they are in between 'allowed' ranges they were not saved by a user with that value. On booting the Programmer always checks EEPROM values for being out of range – it then initializes the values showing „EEPROM initialize“ on display. If you see this message after a firmware update on bootup it's nothing to worry about :-)

Nevertheless – directly after flashing a new firmware, especially of a different edition – it can happen, the basechannel shows 15 or the CC mode sets have weird set names. It's advised to check the PREFS settings after a firmware update to go sure everything is set as you want it to be.