Synth Controller manual addendum for edition 'AS1'

Technical requirements

The midichannels for the Controller and the AS1 (Global Parameter „5. MIDIChannel")
must be identical .

There are two other global parameters (9. MIDIParamRcf to NRPN and 10.
MIDICOntrolEnble ON) which look like they should be set to the values in brackets. But
for whatever reason the editing from the Controller works perfect, no matter which
settings are tuned in there. Maybe it's a matter of the AS-1's firmware (tested with
1.0.2.1). If things dont work as expected please also set the global parameters 9 & 10
accordingly.

Another (luckily) wrong behaviour is that editing works from NRPN and CC at the same
time. The Controller uses NRPN to make use of the full 8bit resolution of some
parameters, VCF EG AMOUNT e.g. has a range from -127 up to +127. But the AS-1 also
allows to be remoted by ordinary CC messages, so you can use the Controller and
remote the AS-1 with CC-curves from a DAW (e.g. Cutoff LP on CC #102) at the same
time. The Synth Controller forwards incoming CC messages unchanged.

Parameters not covered by the Controller

All parameters of the sound engine are covered by the Controller, including the ones
which are already accessible on the AS-1's frontpanel directly. Pressure, Slider and
Sequencer parameters are not covered by the Controller.

Display of the currently tweaked parameter

If you are unsure about the exact value of the parameter you are currently editing
with the Controller (e.g. OSC FREQ, ARP TIMESIG, Glide Mode...) you might want to
select the parameter on the AS-1 itself. The AS-1 does not automatically bring the
currently changing parameter on screen but the currently shown parameter at least
updated when being changed over midi.

Buttonfunctions – LEARN CHANNEL

For getting things work, the controller and the AS-1 must share the same midichannel.
For teaching the controller the desired channel, hold the first 2 buttons for 2 seconds.
The LEDs start to flash, you can now send a midinote on the right channel into the
controller.

Buttonfunctions – BYPASS MODE

Being in Bypass mode, all incoming MIDI data is sent right to the MIDI OUT jack – no filtering, no processing – makes sense for sending SysEx-Banks into the AS-1 without the need to unplug the Controller. To engage bypass mode hold the combination printed on the faceplate for 2 seconds: the lower two buttons. The LEDS keep flashing while bypass is active. To exit to normal editing mode just shortly press one of the three buttons.

Bi-Polar parameters

Most of the knobs work the common way: leftmost is 0, rightmost is max. of value, like e.g. the envelope times or OSC FREQ. Some parameters are bipolar, meaning they have no effect in middle position, rightmost is max and leftmost is <u>negative</u> maximum for the value. Examples: FINE TUNE, VCF ENV AMNT or the POLYMOD sources OSC2 and ENV. To have <u>no</u> effect of the VCF ENV the ENV AMOUNT dial has to be in middle position. Bipolar parameter are easily identified by a little vertical line on 12 o'clock position

Shift parameters

To cover as many parameters from the Controller as possible, many knobs have a secondary function. They can be identified by the small letters (like 'noise level') while regular parameters are printed in capitals (like 'SYNC'). To access a shift parameter simply hold the button down which is already glowing. As long as you hold the button, the shift parameter is sent to the AS-1 when turning the knob, let the button go and the regular parameter will be used again.

Example: the GLIDE knob in the red layer sets the glidetime. While pressing the red button, the knob will change the glide mode or set glide to 'off'.

Most of the shift parameters are simple switches to enable/disable modulation by lfo or polymod. In the upper right corner of the green layer you find e.g. '0 LP velo 1'. The 0 and 1 mean you can switch 'LP velo' to OFF in the left half of the knob range and ON in the right half. Some shift parameters like e.g. filter keytracking, glide modes or FX types have more possible values.

If the text around a knob are printed in CAPITALS (for ARP MODE, LFO SHAPE and KEY MODE) they are dedicated to the regular parameter. Text in small letters are dedicated to the shift parameter (GLIDE type, FX1&2 type, FX1 sync on FX PARA 1 knob).

The switch parameter having impact on polymod are surrounded by a white line for easier identification.

Connecting lines for shift parameters

In the red and green layers you will find some lines connecting shift parameters and leading to the knob's main function text. This means the 'connected' shift parameters are all related to the main parameter at the end of the line. Some details which hopefully make the concept more understandable:

- Red layer: '0 lfo 1' and '0 pmod 1' are both related to OSC1 FREQ. The '0 pmod 1' above SYNC is <u>not</u> associated to SYNC. Whereas the '0 pmod 1' above SHAPE <u>is</u> related to SHAPE and the '0 pmod 1' above PW switches polymod on/off for PW of OSC1.

- Red layer: '0 low freq 1' switches the audiorange of OSC2 to low or regular. '0 key follow 1' sets OSC2 to tracked/non-tracked. Both have impact on the frequency and are therefore connected to OSC2 FREQ.

- Red layer: '0 lfo pwm 1+2 1' switches pulsewidth modulation by lfo on and off for both oscillators. Logically it's above PW and not connected to anything.

- Green layer: 'track 0-2' above Q is connected to and therefore aimong on LP CUTOFF (or HP accordingly). The same with '0 lfo 1' above ENV AMOUNT – it switches the modulation of the LP CUTOFF by lfo on and off.

LFO AMOUNT

We found LFO AMNT to be quite important. This parameter is always available, no matter which layer you have selected.

FX1 PARA 1 shift parameter 'off   sync rate'

This shift parameter switches FX1 tempo sync OFF in leftmost position. Turning the knob clockwise will first switch FX1 sync to ON and then increase the sync rate in 11 steps from 64th up to HalfD. This parameter only makes sense when FX1 type is set to bbd-delay.

Parameter related notes

- OSC 1&2 FREQ: these parameters range from 0-60. Therefore the max. value is reached before the knob is in rightmost position leaving some unused space.

- LP CUTOFF: this parameter ranges from 0-164. Therefore the max. value is reached before the knob is in rightmost position leaving some unused space.

- PW can reach values around it's min and max position which – while SHAPE being set to SQUARE – will result in disappearing sound

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