Gotharman's
AnaX

Analog Expander for Little deFormer and future products

User Manual

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__Introduction__

Thank you very much for purchasing/consider to purchase a Gotharman's AnaX.

The AnaX makes it possible to interface your Little deFormer with other gear, in other ways than MIDI and audio can provide. You can now modulate almost any parameter in Little deFormer, using an analogue source, trigger Little deFormers samplings with non-MIDI gear, trigger non-MIDI gear with Little deFormer's buttons and sequencer, modulate and control non-MIDI gear from the Little deFormer, or get 2 extra audio outputs.

Connecting AnaX and Little deFormer

For connecting AnaX to your Little deFormer, you will need the 180 cm long cable, that was supplied together with AnaX.

If you should need a longer cable, or if your cable one day gets lost, you can use a 1:1, 9-pin SUB-D cable. Just notice, that like on the picture, pin 5 of the male connector must be cutted. This is because, on some Little deFormers, pin 5 on the expansion connector are connected to its audio path, and if this pin on the cable are connected, it will create a lot of noise on the audio.

Connecting
-Make sure that your Little deFormer is updated with at least update 385. You can check this by entering the "FILTER" section, and tweak the "Type" parameter. If it is possible to select the filter types "lpf2" and "shp", your Little deFormer has the right update. If not, you must update your Little deFormer first, and then follow the next steps.

-Turn off your Little deFormer.
-Connect the cable male connector to the expansion connector on Little deFormer.
-Connect the cable female connector to the expansion connector on AnaX.
-If you got the Eurorack model, please notice, that it does NOT need to be connected to the eurorack powerbus. It gets its power from the Little deFormer.

-Turn on your Little deFormer.

-It should now automaticly have detected AnaX. You can check this by pushing the "Edit" button one time, to enter the edit group select screen, and then push and hold the "Inc" button, to scroll through the edit groups. The last selectable edit group should now say: "ANALOG EXPANSION". Push the "Edit" button one more time, to enter the parameters for AnaX.

Connections

Trigger Inputs/Outputs:
The 8 connectors on the left side marked Tr1 to Tr8, are for triggers/gates. These can be assigned to be either inputs or outputs. On the right of each trigger connection, a LED is placed. An "on" trigger are indicated by that the trigger LED is lit, an "off" trigger is indicated by that the LED is unlit.

When assigned as inputs, they accept voltage/trigger sources in the range from –15 volts to +15 volts. The trigger point are around 3 volt, so voltages higher than 3 volt will turn the trigger on, and voltages below 3 volt will turn the trigger off.

It is possible to trigger any of Little deFormers samplings, to control the Freeze function, and to clock or start/stop the internal sequencer. More functions will be added in future updates.

When assigned as outputs, they will put out a voltage of zero volts, when the trigger is off, and +5 volts, when the trigger is on.

Triggering of any sampling, can be assigned to output a trigger, plus Freeze on/off indication, sequencer started/stopped indication, and sequencer clock. More functions will be added in future updates.

CV inputs:
The 4 connectors on the right side marked Cv1 to Cv4, are the CV inputs. By applying a voltage source to these, it is possible to modulate almost any parameter in the Little deFormer with an external source. The knobs to the left of the CV inputs, adjusts the modulation amount.

The CV inputs are shown as CV1 to CV4 in the Little deFormer "MODULATION" section.

They accept voltages in the range from −15 to +15 volts, but the active range goes from −5 to +5 volts.

CV outputs:
The 2 connectors on the lower right side marked Cv Out 1 and Cv Out 2, are the CV outputs. These output voltages between 0 and 5 volts. The resolution is 12 bit.

They can output sequencer controller track 1 to 4 and audio bus 1 to 4. It is possible to quantize these to 1V/oct. It is also possible to select if you want one or both of these outputs to be activated. When both are activated, the output sample frequency is 10 KHz, when only one is activated, it is 20 KHz. When audio is selected as output, it is possible to adjust the sample frequency down to 1 KHz.

More functions will be added to these in future updates.

Only for the banana jack version:

Ground:
Right between the Cv Out 1 and Cv Out 2 marks, you will find a black banana jack. Connect this to ground of the gear you are using with AnaX

Parameters

When AnaX are connected to your Little deFormer, a new edit group: "ANALOG EXPANSION" will appear. Under this group, you will find the following parameters. All parameter values are stored within each preset.

Trigger 1 to 8 inp/outp – Values: inp, out. Select for each trigger, if it should act as an input or an output.

Trigger 1 to 8 source/destination – Values: smp1, smp2, smp3, smp4, smp5, smp6, smp7, smp8, smp9, sm10, sm11, sm12, sm13, sm14, sm15, sm16, frez, clk (sequencer clock), s/s (sequencer start/stop), c/s (sequencer continue/stop), rst (sequencer reset). Select what you would like to be the destination/source for each trigger input/output.

Cvo1, Cvo2 – Values: Seq1, Seq2, Seq3, Seq4, Bus1, Bus2, Bus3, Bus4, LFO3, LFO4, LFO5, LFO6, LFO7, LFO8, LFO9, LFO10, Rnd1, Rnd2, Rnd3, Rnd4, Rnd5, Rnd6, Rnd7, Rnd8, Rnd9, Rn10, Rn11, Rn12, Rn13, Rn14, Rn15, Rn16. Select the output source for each of the CV outputs.

Rate – Values: 0 to 255. Adjust the sample rate of the CV outputs. 0 = 20Khz/10KHz, 255 = 1KHz.

#CV0 – Values: 2, 1. Select if you would like to use 1 or both of the CV outputs. When both are used, the maximum output sample frequency is 10 KHz, when only 1 is used, it is 20 KHz.

Nqa1, Nqa2 – Values: Off, On. Note quantization of CV out 1 and 2. When switched to On for a CV output, its output is voltage quantized to 1V/oct.

CV inputs 1 to 4 is present in the "MODULATION" section as CV1 to CV4. These can be routed to modulate any parameter, in the same way as any other modulation source.

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