miniOdytron Notes

The miniOdytron takes the audio engine of the Odytron and combines it with the interface of the miniAtmegatron. It allows for a large number of the Odytron features to be accessed, whilst keeping nearly all functions and controls mapped to the miniAtmegatron labelling. This means that there is no need for an overlay (as is the case with the Atmegatron).

The Odytron audio engine is duophonic and models a classic analogue synth in 8-bit digital. To find out more about it, see the Odytron Manual: http://soulsbysynths.com/atmegatron-downloads/

Functions

Waveform Select

	Osc1 Wave/Amplitude	Osc2 Wave/Amplitude	FX Wave/Amplitude
0	Saw / Full	Saw / Full	Off
1	Square / Full	Saw / Full	Off
2	Saw / Full	Square / Full	Off
3	Square / Full	Square / Full	Off
4	Saw / Full	Off	Off
5	Off	Saw / Full	Off
6	Off	Square / Full	Off
7	Square / Full	Off	Off
8	Off	Off	Noise / Full
9	Square / Half	Saw / Half	Noise / Full
10	Saw / Full	Square / Full	Noise / Half
11	Square / Full	Square / Full	Noise / Full
12	Off	Off	Ring Mod / Full
13	Square / Half	Saw / Half	Ring Mod / Full
14	Saw / Full	Square / Full	Ring Mod / Half
15	Square / Full	Square / Full	Ring Mod / Full

Filter Type

	Filter Type
0,3,6,9,12,15	Off
1,4,7,10,13	Soft, less resonant filter
2,5,8,11,14	Harsh, more resonant filter

Filter / Pitch Envelope and Amplitude Envelope

Same functionality as miniAtmegatron

LFO Waveform Select

All modulatable parameters have 2 choices for modulation shape. There are 4 parameters, so every permutation is available here.

	Osc1 Freq Mod Shape	Osc2 Freq Mod Shape	Osc2 PWM Source	Filter FM Shape
0	Square	Square	Envelope	Sine
1	Sine	Square	Envelope	Sine
2	Square	Sine	Envelope	Sine
3	Sine	Sine	Envelope	Sine
4	Square	Square	LFO	Sine
5	Sine	Square	LFO	Sine
6	Square	Sine	LFO	Sine
7	Sine	Sine	LFO	Sine
8	Square	Square	Envelope	S&H
9	Sine	Square	Envelope	S&H
10	Square	Sine	Envelope	S&H
11	Sine	Sine	Envelope	S&H
12	Square	Square	LFO	S&H
13	Sine	Square	LFO	S&H
14	Square	Sine	LFO	S&H
15	Sine	Sine	LFO	S&H

LFO Rate

The same as the miniAtmegatron, although the Odytron engine doesn't lock to MIDI clock.

Wavecrusher / Portamento

There is no wavecrusher on the miniAtmegatron, so this only controls Portamento, with 0 as fastest value (ie off) and 15 as the slowest value.

Pattern Select

The same functionality as the miniAtmegatron, although new sequences have been provided.

Digital Controls

All controls are identical to the miniAtmegatron, apart from the following:

Amplitude LFO

This adjusts the amplitude envelope gain offset. When at the full value, the sound is always on regardless of the state of the amplitude envelope. When at minimum value, the sound is only heard when the amplitude envelope is triggered.

Distortion Level / Phase LFO

These now control the frequency offsets of Oscillators 1 and 2 respectively. One has a maximum offset of +1 octave and the other has a maximum offset of –1 octave.

Pulse Width LFO

This is the same as the mini, but please bear in mind that the Pulse Width may be controlled by the envelope rather than the LFO, depending on the value of LFO Waveform Select.

MIDI Implementation Chart

Manufacturer: Soulsby Synthesizers   Model: miniOdytron   Version: 1.0   Date: 28/4/17

Functions	Transmitted	Recognised	Remarks
Basic Channel			
Default	X	1-16	
Changed	X	1-16	
Mode			
Default	X	Mode 2	
Messages	X	Mode 2	
Note Number	X	0-127	There is a limit on maximum output frequency.
Velocity			
Note ON	X	V=1-127	
Note OFF	X	V=0-127	
After Touch			
Key	X	X	
Channel	X	X	
Pitch Bender	X	O	7 bit resolution
Control Change			
1	X	O	Pitch LFO
5	X	O	Portamento
16	X	O	Filter Envelope
17	X	O	Osc 1 offset
32	X	O	Waveform comination preset
33	X	O	Filter Type
34	X	O	Filter/Pitch Env Preset
35	X	O	Amp Env Preset
36	X	O	Sequencer Preset
71	X	O	Filter Resonance
74	X	O	Filter Cutoff
77	X	O	Pitch LFO
78	X	O	Modulation Preset
79	X	O	LFO Rate
91	X	O	Pulse Width LFO
92	X	O	Amplitude Gain Offset
93	X	O	Filter LFO
94	X	O	Pitch Envelope
95	X	O	Osc 2 offset
Program Change	X	X	
System Exclusive	X	X	
System Common			
Song Position	X	X	
Song Sel	X	X	
Tune	X	X	
System Real Time			
Clock	X	O	
Commands	X	X	
Aux Messages			
Local On/Off	X	X	
All Notes Off	X	X	
Active Sense	X	O	
Reset	X	O	
Notes			