



























Bank I-a

I-a Precision Adder  Has knob recorder Parameters 0: Z smooth or integers	I-b Four Quadrant Multiplier  Has knob recorder Parameters 0: Z smooth or integers	I-c Full-wave Rectifier 	I-d Minimum Maximum 
Z Offset	Z Scale	Z Mode 	Z Gate
X Input	X Input	X Input	X Input
Y Input	Y Input	Y Input	Y Input
A $X + Y + Z$	A $X * Y * Z$	A $\frac{\text{abs}(X + Y)}{\text{abs}(X)}$	A $\min(X, Y)$
B $X - Y - Z$	B $-X * Y * Z$	B $\frac{\text{abs}(X - Y)}{\text{abs}(Y)}$	B $\max(X, Y)$
2-a Linear/Exponential Converter 	2-b Quantizer  Parameters 0: Attenuation X 1: Transpose mode 2: Key	2-c Comparator 	2-d Dual Waveshaper  Has knob recorder
Z Tune	Z Scale & Mode 	Z Hysteresis	Z Gain
X Exp In	X Input	X Input	X Input
Y Linear In	Y Transpose Trigger In	Y Input	Y Input
A Linear Out	A Quantized	A $X > Y$	A Folded X
B Exp Out	B Trigger	B $X < Y$	B Shaped Y









Bank I-a

3-a Sample and Hold  Press Z to trigger	3-b Slew Rate Limiter 	3-c Pitch & Envelope Tracker 	3-d Clockable Delay/Echo  Has tap tempo
Z Slew rate	Z Slew rate	Z Slew rate	Z Feedback
X Input	X Input } summed	X Audio In	X Audio In
Y Trigger	Y Input	Y Offset A	Y Clock
A Sampled X	A Linear slew	A V/Octave	A Dry+delay
B Noise	B Log slew	B Envelope	B Delay only
4-a LFO  0: Attenuation A 1: Attenuation B 2: Offset A 3: Offset B	4-b Clockable LFO  Has tap tempo Parameters 0: Attenuation A & B	4-c VCO with Linear FM  Parameters 0: Octave shift 1: Attenuation A 2: Attenuation B	4-d VCO with waveshaping  0: Octave shift 1: Attenuation A 2: Attenuation B 3: Y offset
Z Tune	Z Multiplier	Z Tune	Z Tune
X Hz/V In	X Clock	X V/Octave	X V/Octave
Y Waveshape	Y Waveshape	Y Linear FM	Y Waveshape
A Saw/Sin/Tri	A Saw/Sin/Tri	A Sine	A Saw/Tri/Saw
B Square	B Square	B Saw	B Square









Bank I-b

<p>I-a Precision Adder </p> <p>Has knob recorder Parameters 0: Z divisor</p>	<p>I-b Voltage Controlled Delay Line </p> <p>Parameters 0: Y offset</p>	<p>I-c Clockable Ping Pong </p> <p>Has tap tempo Parameters 0: Output Mode</p>	<p>I-d Clockable Ping Pong </p> <p>Has tap tempo Parameters 0: Feedback</p>
Z Offset	Z Feedback	Z Feedback	Z Input Pan
X Input	X Audio In	X Audio In	X Audio In
Y Input	Y Delay Time	Y Clock	Y Clock
A $X + Y + Z$	A Delay only	A Left	A Left
B $X - Y - Z$	B Dry+delay	B Right	B Right
<p>2-a Resonator </p> <p>Push Z for 'strike' Parameters 0: Y offset</p>	<p>2-b Vocoder </p> <p>Parameters 0: Filter bank</p>	<p>2-c Phaser </p> <p>Parameters 0: Y offset 1: Number of stages</p>	<p>2-d Bit Crusher </p> <p>Parameters 0: Y offset 1: Reduction mode 2: Mangling mode</p>
Z Gain	Z Decay	Z Feedback	Z Bit depth
X Audio In	X Modulator	X Audio In	X Input
Y V/Octave	Y Carrier	Y Sweep	Y Sample rate
A Audio Out	A Audio Out	A Dry+phase	A Output
B Envelope	B Envelope	B Phase only	B Comparator









Bank I-b

3-a 	3-b  Tape Delay Parameters 0: Tape length	3-c  Waveform Animator 0: LFO depth 1: Y offset 2: LFO rate 3: Scale	3-d State  Variable Filter Parameters 0: Filter resonance
	Z Feedback	Z Separation	Z Filter Type
	X Audio In	X Audio In	X Audio In
	Y Tape speed	Y Threshold	Y V/Octave
	A Dry+delay	A Audio out	A LP/BP/HP
	B Delay only	B Square out	B HP/BP/LP
4-a  LP/HP Filter	4-b  LP/BP Filter	4-c  BP/HP Filter	4-d  BP/Notch Filter
Z Resonance	Z Resonance	Z Resonance	Z Resonance
X Audio In	X Audio In	X Audio In	X Audio In
Y V/Octave	Y V/Octave	Y V/Octave	Y V/Octave
A Low pass	A Low pass	A Band pass	A Band pass
B High pass	B Band pass	B High pass	B Notch









Bank I-c

<p>I-a AR Envelope</p>  <p>0: Trigger Mode 1: Z Mode 2: Out A Attenuverter 3: Out B Attenuverter</p>	<p>I-b AR Envelope (w/ push)</p>  <p>Press Z to trigger Parameters 0: Trigger Mode</p>	<p>I-c AR Envelope & VCA</p>  <p>0: Trigger Mode 1: Z Mode 2: Out A Attenuverter 3: Out B Attenuverter</p>	<p>I-d AR Envelope & VCA</p>  <p>Press Z to trigger Parameters 0: Trigger Mode</p>
Z Times	Z Times	Z Times	Z Times
X Trigger	X Trigger	X Trigger	X Trigger
Y Trigger	Y Trigger	Y VCA In	Y VCA In
A Env Out	A Env Out	A Env Out	A Env Out
B Env Out	B Env Out	B VCA Out	B VCA Out
<p>2-a Dual AR Envelope</p>  <p>0: Trigger Mode 1: Z Mode 2: Out A Attenuverter 3: Out B Attenuverter</p>	<p>2-b Dual AR Envelope</p>  <p>Press Z to trigger Parameters 0: Trigger Mode</p>	<p>2-c Euro to Buchla Converter</p>  <p>Parameters 0: Octave shift</p>	<p>2-d Buchla to Euro Converter</p>  <p>Parameters 0: Octave shift</p>
Z Times	Z Times	Z Tune	Z Tune
X Trigger A	X Trigger A	X IV/Oct	X 1.2V/Oct
Y Trigger B	Y Trigger B	Y Gate	Y Gate/trigger
A Env Out A	A Env Out A	A 1.2V/Oct	A IV/Oct
B Env Out B	B Env Out B	B Gate/trigger	B Trigger









Bank I-c

3-a  Clockable AD (mute) Has tap tempo Parameters 0: Output Attenuverter	3-b  Clockable AD (gate) Has tap tempo Parameters 0: Output Attenuverter	3-c  Clockable AD (trig) Has tap tempo Parameters 0: Output Attenuverter	3-d  Clockable AD & VCA Has tap tempo Parameters 0: Output Attenuverter
Z Shape	Z Shape	Z Shape	Z Shape
X Clock	X Clock	X Clock	X Clock
Y Mute	Y Gate	Y Trigger	Y VCA In
A Env Out	A Env Out	A Env Out	A Env Out
B Env Out	B Env Out	B Env Out	B VCA Out
4-a Shift  Register CVs 0: Direction 1: Length 2: Slew rate 3: Output attenuator	4-b Shift  Register Quantized 0: Direction 1: Length 2: Scale 3: Output attenuator	4-c Shift  Register Triggers Press Z to modify seq Parameters 0: Length	4-d Shift  Register Dual Trigs Parameters 0: Length A 1: Length B
Z Randomness	Z Randomness	Z Randomness	Z Randomness
X Clock	X Clock	X Clock	X Clock
Y Modify	Y Modify	Y Modify	Y Modify
A Unipolar	A Quantized	A Trigger	A Trigger A
B Bipolar	B Trigger	B Inverse	B Trigger B









Bank I-d

I-a ES-1 Emulation		I-b ES-2 Emulation		I-c		I-d	
Z Trim	Z Trim						
X Input 1	X Input 1						
Y Input 2	Y Input 2						
A Output 1	A Output 1						
B Output 2	B Output 2						
2-a Dual Quantizer (Z scale)		2-b Dual Quantizer		2-c Dual Delayed Pulse Gen		2-d Noise	
0: X Attenuation 1: Y Attenuation 2: X Transpose 3: Y Transpose	0: X Attenuation 1: Y Attenuation 2: X Scale 3: Y Scale	0: Z Mode 1: Range 2: Delay 3: Length	0: Type A 1: Type B 2: Attenuation A 3: Attenuation B				
Z Scale	Z Trigger	Z Control	Z Blend				
X Input A	X Input A	X Trigger A	X VCA 1				
Y Input B	Y Input B	Y Trigger B	Y VCA 2				
A Quantized X	A Quantized X	A Output X	A Output 1				
B Quantized Y	B Quantized Y	B Output Y	B Output 2				









Bank I-d

<p>3-a Crossfade/ Pan</p>  <p>Has knob recorder Parameters 0: Crossfade/pan law</p>	<p>3-b Dual Sample and Hold</p>  <p>Parameters 0: Sample or Track</p>	<p>3-c</p> 	<p>3-d</p> 
<p>Z Fade/pan</p>	<p>Z Gate</p>		
<p>X Input 1</p>	<p>X Input A</p>		
<p>Y Input 2</p>	<p>Y Input B</p>		
<p>A Left Out</p>	<p>A Output X</p>		
<p>B Right Out</p>	<p>B Output Y</p>		
<p>4-a Dual Euclidean Patterns</p>  <p>0: Steps 1: Pulses 1 2: Rotation 3: Pulse length</p>	<p>4-b</p> 	<p>4-c</p> 	<p>4-d</p> 
<p>Z Pulses 2</p>			
<p>X Clock</p>			
<p>Y Reset</p>			
<p>A Output 1</p>			
<p>B Output 2</p>			









Bank 2-a

I-a Audio Playback 	I-b 	I-c Audio Playback V/Oct  Parameters 0: Octave shift	I-d Audio Playback Z Speed  Parameters 0: Sample selection
Z Select		Z Select	Z Speed
X Retrigger		X Retrigger	X Retrigger
Y Start Pos		Y V/Oct	Y Start Pos
A Left Out		A Left Out	A Left Out
B Right Out		B Right Out	B Right Out
3-a MIDI Playback (Clocked) 	3-b 	3-c MIDI Playback (Free)  Parameters 0: MIDI File selection	3-d Audio Playback End CV  Parameters 0: Sample selection
Z Select		Z Speed	Z Trigger /End Pos
X Clock		X V/Oct	X End Pos /Trigger
Y Retrigger		Y Retrigger	Y Start Pos
A CV Out		A CV Out	A Left Out
B Gate Out		B Gate Out	B Right Out









Bank 2-b

I-a Clocked Audio Playback		I-b		I-c		I-d	
Z Select							
X Retrigger							
Y Clock							
A Left Out							
B Right Out							
3-a Audio Recorder		3-b		3-c		3-d	
Z Record							
X Input L							
Y Input R							
A Output L							
B Output R							

Bank 2-c

<p>I-a Wavetable VCO</p>  <p>Parameters 0: Wavetable 1: Octave shift 2: Y offset</p> <p>Z Tune</p> <p>X V/Octave</p> <p>Y Wave</p> <p>A Wave Out</p> <p>B Sub Out</p>	<p>I-b</p> 	<p>I-c</p> 	<p>I-d</p> 
<p>3-a</p> 	<p>3-b</p> 	<p>3-c</p> 	<p>3-d</p> 

Bank 3-a

<p>I-a</p>  <p>Stereo Reverb</p> <p>0: Size 1: Feedback 2: Character 3: Lowpass filter</p>	<p>I-b Mono- to-Stereo</p>  <p>Reverb</p> <p>0: Size 1: Feedback 2: Character 3: Lowpass filter</p>	<p>I-c</p>  <p>Dual Reverb</p> <p>0: Size 1: Feedback 2: Character 3: Lowpass filter</p>	<p>I-d</p> 
Z Wet/dry	Z Wet/dry	Z Wet/dry	
X Left In	X Input	X Input A	
Y Right In	Y Feedback	Y Input B	
A Left Out	A Left Out	A Output A	
B Right Out	B Right Out	B Output B	
<p>2-a</p>  <p>Stereo Chorus</p> <p>0: LFO depth 1: Y offset 2: Feedback 3: Lowpass filter</p>	<p>2-b</p>  <p>Mono Chorus</p> <p>0: LFO depth 1: Y offset 2: Feedback 3: Lowpass filter</p>	<p>2-c</p> 	<p>2-d</p> 
Z Wet/dry	Z Wet/dry		
X Input	X Input		
Y LFO rate	Y LFO rate		
A Left Out	A Blend		
B Right Out	B Chorus		

Expert Sleepers disting mk3 Quick Reference Guide

For firmware v3.10

X, **Y** and **Z** are **Inputs**.

A and **B** are **Outputs**.

Changing Algorithm

Either:

- Push 'S' and hold in while turning, or
- Use the menu:
 - Press 'S' twice
 - Turn to select algorithm
 - Press to accept

Changing Bank

- Press 'S' (to enter the menu)
- Turn to select '2' (change bank)
- Press to accept
- Turn to select bank
- Press to accept

Parameters

Turn 'S' to modify the currently selected parameter.

Press 'Z' to cycle between parameters (if the current algorithm has more than one parameter).

Tap Tempo

If available – press 'Z'. The time between two presses defines the delay/LFO/etc. time.

Knob Recorder

If available – push 'Z' and hold in while turning. Release to begin playback. Turn 'Z' to stop playback and regain manual control.

Menus

Press 'Z' to cancel menu mode.