



























## Bank I-a

|                                                                                                                                                                     |                                                                                                                                                                              |                                                                                                           |                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| I-a Precision Adder <br>Has knob recorder<br>Parameters<br>0: Z smooth or integers | I-b Four Quadrant Multiplier <br>Has knob recorder<br>Parameters<br>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 $\begin{matrix} \text{abs}(X + Y) \\ \text{abs}(X) \end{matrix}$                                        | A $\min(X, Y)$                                                                                                             |
| B $X - Y - Z$                                                                                                                                                       | B $-X * Y * Z$                                                                                                                                                               | B $\begin{matrix} \text{abs}(X - Y) \\ \text{abs}(Y) \end{matrix}$                                        | B $\max(X, Y)$                                                                                                             |
| 2-a Linear/Exponential Converter                                                   | 2-b Quantizer                                                                               | 2-c Comparator           | 2-d Dual Waveshaper <br>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 $\begin{matrix} \text{Transpose} \\ \text{Trigger In} \end{matrix}$                                                                                                        | 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<br>Sample and Hold<br><br>Press Z to trigger                                  | 3-b Slew Rate Limiter<br>                                                    | 3-c Pitch & Envelope Tracker<br>                                                                    | 3-d Clockable Delay/Echo<br><br>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<br><br>0: Attenuation A<br>1: Attenuation B<br>2: Offset A<br>3: Offset B | 4-b Clockable LFO<br><br>Has tap tempo<br>Parameters<br>0: Attenuation A & B | 4-c VCO with Linear FM<br><br>Parameters<br>0: Octave shift<br>1: Attenuation A<br>2: Attenuation B | 4-d VCO with waveshaping<br><br>Parameters<br>0: Octave shift<br>1: Attenuation A<br>2: Attenuation B |
| 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 Voltage Controlled Delay Line </p> <p>Parameters<br/>0: Y offset</p> | <p>I-b </p> | <p>I-c Clockable Ping Pong </p> <p>Has tap tempo<br/>Parameters<br/>0: Output Mode</p> | <p>I-d Clockable Ping Pong </p> <p>Has tap tempo<br/>Parameters<br/>0: Feedback</p> |
| Z Feedback                                                                                                                                                   |                                                                                              | Z Feedback                                                                                                                                                              | Z Input Pan                                                                                                                                                          |
| X Audio In                                                                                                                                                   |                                                                                              | X Audio In                                                                                                                                                              | X Audio In                                                                                                                                                           |
| Y Delay Time                                                                                                                                                 |                                                                                              | Y Clock                                                                                                                                                                 | Y Clock                                                                                                                                                              |
| A Delay only                                                                                                                                                 |                                                                                              | A Left                                                                                                                                                                  | A Left                                                                                                                                                               |
| B Dry+delay                                                                                                                                                  |                                                                                              | B Right                                                                                                                                                                 | B Right                                                                                                                                                              |
| <p>2-a Resonator </p> <p>Push Z for 'strike'</p>                            | <p>2-b </p> | <p>2-c Phaser </p> <p>Parameters<br/>0: Y offset<br/>1: Number of stages</p>           | <p>2-d </p>                                                                         |
| Z Gain                                                                                                                                                       |                                                                                              | Z Feedback                                                                                                                                                              |                                                                                                                                                                      |
| X Audio In                                                                                                                                                   |                                                                                              | X Audio In                                                                                                                                                              |                                                                                                                                                                      |
| Y V/Octave                                                                                                                                                   |                                                                                              | Y Sweep                                                                                                                                                                 |                                                                                                                                                                      |
| A Audio Out                                                                                                                                                  |                                                                                              | A Dry+phase                                                                                                                                                             |                                                                                                                                                                      |
| B Envelope                                                                                                                                                   |                                                                                              | B Phase only                                                                                                                                                            |                                                                                                                                                                      |









## Bank I-b

|                                                                                                                   |                                                                                                                                                                                                                                                                                    |                                                                                                                   |                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>3-a</p>                       | <p>3-b<br/>Tape Delay</p>  <p>Parameters<br/>0: Tape length</p> <p><b>Z</b> Feedback</p> <p><b>X</b> Audio In</p> <p><b>Y</b> Tape speed</p> <p><b>A</b> Dry+delay</p> <p><b>B</b> Delay only</p> | <p>3-c</p>                       | <p>3-d State<br/>Variable<br/>Filter</p>  <p>Parameters<br/>0: Filter resonance</p> <p><b>Z</b> Filter Type</p> <p><b>X</b> Audio In</p> <p><b>Y</b> V/Octave</p> <p><b>A</b> LP/BP/HP</p> <p><b>B</b> HP/BP/LP</p> |
| <p>4-a<br/>LP/HP<br/>Filter</p>  | <p>4-b<br/>LP/BP<br/>Filter</p>                                                                                                                                                                   | <p>4-c<br/>BP/HP<br/>Filter</p>  | <p>4-d<br/>BP/Notch<br/>Filter</p>                                                                                                                                                                                  |
| <b>Z</b> Resonance                                                                                                | <b>Z</b> Resonance                                                                                                                                                                                                                                                                 | <b>Z</b> Resonance                                                                                                | <b>Z</b> Resonance                                                                                                                                                                                                                                                                                   |
| <b>X</b> Audio In                                                                                                 | <b>X</b> Audio In                                                                                                                                                                                                                                                                  | <b>X</b> Audio In                                                                                                 | <b>X</b> Audio In                                                                                                                                                                                                                                                                                    |
| <b>Y</b> V/Octave                                                                                                 | <b>Y</b> V/Octave                                                                                                                                                                                                                                                                  | <b>Y</b> V/Octave                                                                                                 | <b>Y</b> V/Octave                                                                                                                                                                                                                                                                                    |
| <b>A</b> Low pass                                                                                                 | <b>A</b> Low pass                                                                                                                                                                                                                                                                  | <b>A</b> Band pass                                                                                                | <b>A</b> Band pass                                                                                                                                                                                                                                                                                   |
| <b>B</b> High pass                                                                                                | <b>B</b> Band pass                                                                                                                                                                                                                                                                 | <b>B</b> High pass                                                                                                | <b>B</b> Notch                                                                                                                                                                                                                                                                                       |

Bank I-c

|                                                                                                                                                                                                                |                                                                                                                                                                                         |                                                                                                                                                                                                                     |                                                                                                                                                                                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>I-a AR<br/>Envelope</p>  <p>0: Trigger Mode<br/>1: Z Mode<br/>2: Out A Attenuverter<br/>3: Out B Attenuverter</p>          | <p>I-b AR<br/>Envelope<br/>(w/ push)</p>  <p>Press Z to trigger<br/>Parameters<br/>0: Trigger Mode</p> | <p>I-c AR<br/>Envelope<br/>&amp; VCA</p>  <p>0: Trigger Mode<br/>1: Z Mode<br/>2: Out A Attenuverter<br/>3: Out B Attenuverter</p> | <p>I-d AR<br/>Envelope<br/>&amp; VCA</p>  <p>Press Z to trigger<br/>Parameters<br/>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<br/>Dual AR<br/>Envelope</p>  <p>0: Trigger Mode<br/>1: Z Mode<br/>2: Out A Attenuverter<br/>3: Out B Attenuverter</p> | <p>2-b<br/>Dual AR<br/>Envelope</p>  <p>Press Z to trigger<br/>Parameters<br/>0: Trigger Mode</p>      | <p>2-c</p>                                                                                                                         | <p>2-d</p>                                                                                             |
| Z Times                                                                                                                                                                                                        | Z Times                                                                                                                                                                                 |                                                                                                                                                                                                                     |                                                                                                                                                                                         |
| X Trigger A                                                                                                                                                                                                    | X Trigger A                                                                                                                                                                             |                                                                                                                                                                                                                     |                                                                                                                                                                                         |
| Y Trigger B                                                                                                                                                                                                    | Y Trigger B                                                                                                                                                                             |                                                                                                                                                                                                                     |                                                                                                                                                                                         |
| A Env Out A                                                                                                                                                                                                    | A Env Out A                                                                                                                                                                             |                                                                                                                                                                                                                     |                                                                                                                                                                                         |
| B Env Out B                                                                                                                                                                                                    | B Env Out B                                                                                                                                                                             |                                                                                                                                                                                                                     |                                                                                                                                                                                         |

## Bank I-c

|                                                                                                                                                                                         |                                                                                                                                                                                           |                                                                                                                                                                              |                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3-a <br>Clockable<br>AD (mute)<br><br>Has tap tempo<br>Parameters<br>0: Output Attenuverter            | 3-b <br>Clockable<br>AD (gate)<br><br>Has tap tempo<br>Parameters<br>0: Output Attenuverter              | 3-c <br>Clockable<br>AD (trig)<br><br>Has tap tempo<br>Parameters<br>0: Output Attenuverter | 3-d <br>Clockable<br>AD & VCA<br><br>Has tap tempo<br>Parameters<br>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 <br>Register<br>CVs<br><br>0: Direction<br>1: Length<br>2: Slew rate<br>3: Output attenuator | 4-b Shift <br>Register<br>Quantized<br><br>0: Direction<br>1: Length<br>2: Scale<br>3: Output attenuator | 4-c Shift <br>Register<br>Triggers<br><br>Press Z to modify seq<br>Parameters<br>0: Length  | 4-d Shift <br>Register<br>Dual Trigs<br><br>Parameters<br>0: Length A<br>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                                                                                                                                                                 |

# Expert Sleepers disting mk3 Quick Reference Guide

## For firmware v3.2

**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.