expert sleepers disting Mrk 4

6-6-20

A1 Precision CV Adder

P0 Z OFFSET MODE
0=OCTAVE SHIFT ON
1=OCTAVE SHIFT OFF
P1 ADDER MODE
0: SUM & DIFFERENCE
1: ADD Z & MINUS Z
2: BOTH ADD Z

Z Offset ±10 Volts
X Input
Y Input
X+Y+Z Sum | X+Z Add Z | X+Z Add Z
X-Y-Z Diff. | Y-Z Sub Z | Y+Z Add Z

A2 Four Quadrant Modulator

P0 Z SCALE (1/10 to 10 X)
0=INTEGER STEPS
1=SMOOTH NO STEPS

Z Scale
X Input
Y Input
X*Y*SCALE Output
-X*Y*SCALE Output

RING MODULATOR

A3 Full Rectifier

Z Z MODE
-0= INDEPENDENT
0= X & Y COMBINED

Z Mode
X Input
Y Input
abs(X) | abs(X+Y) Sum
abs(Y) | abs(X-Y) Difference

A4 Minimum Maximum

GATE HI: MIN/MAX VALUE
GATE LO: HOLD

X=0

Z Gate
Gate Low: Hold
X Input (0= Halfwave Rectifier)
Y Input (0= Halfwave Rectifier)
min(X,Y) minimum out
max(X,Y) maximum out

GATE HI: 2.5V GATE LOW: -1.5V

A5 Linear to Exponential Converter

P0 A INVERT GATE ON/OFF
P1 B INVERT GATE ON/OFF

LINEAR EXP.
Z TUNE FROM NEAR 0 TO 2kHz

Z Hz/V Scale Tunning
X Exponential In
Y Linear In
A Linear Out
B Exponential Out

0V IN= C3. YAMAHA = 1.1kH/V

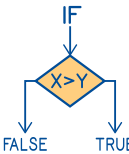
A6 Quantizer

IN:ROOT OUT:NOTE

P0 X INPUT ATTENUATION
P1 TRANSPOSE MODE
P2 KEY
P3 OFFSET
P4 MIDI GATE ON-OFF

Z Scale Select
X Voltage Input
Y Trigger Transpose
A Quantized Out
B Gate Out Note Change

A7 Comparator



Z Hysteresis
X Input
Y Input
If X>Y then Gate Out
If X<Y then Gate Out

GATE ON = +5V (GATE OFF =0V)

A8 Dual Waveshaper

Z Gain (Pos&Neg)
X Folder Input
Y Triangle Input
A Folder Output
B Sine Output /Mild Distortion

B CAN BE USED AS DISTORTION

B1 Sample & Hold

P0 0=SAMPLE AND HOLD.
GATE ON: HOLDS X VALUE
1=TRACK & HOLD.
GATE ON: LETS X THRU
GATE OFF: HOLDS X
P1 TIMING OFFSET
P2 0 1 2 3
P3 NOISE ADDED TO X

Z Slew Rate
X Sample Input
Y Gate In
A Hold X
B Noise

GATE FIRES ABOVE 1 VOLT

B2 Slew Rate Limiter

P0 UP SLEW
P1 DOWN SLEW

LINEAR LOG

Z Slew Rate
X Input
Y Input
A Linear Slew
B Logarithmic Slew

B3 Pitch Tracker & Envelope Follower

DOESN'T DETECT UNDER 27 Hz.
BANDPASS FILTER PRE-DISTING AUDIO INPUT CAN BE USED FOR BETTER TRACKING.

Z Envelope Rate
X Audio Input
Y Pitch Modulator
A 1v/Octave Out
B Envelope Out

0 VOLTS = C3 (130.81 Hz)

B4 Clockable Delay / Echo

P0 DELAY TIME MULTIPLIER
P1 OUTPUT MODE
0= A:MIX B:DELAY
1= A:MIX B:MIX
2= A:DELAY B:DELAY
◄CLOCK►
◄TIME►

Z Feedback
X Audio Input
Y Clock Input
A Mix/Mix/Delay
B Delay/Mix/Delay

DELAY TIME: .053ms to 1700ms

B5 LFO

P0 LFO A OUTPUT ATTENUATION
P1 LFO B OUTPUT ATTENUATION
P2 LFO A OFFSET
P3 LFO B OFFSET

+ 8V
- 8V

Z Tune
X Rate 1Hz/Volt Input
Y ±5 Volts Waveshape/PWM
-5V 0V +5V
-5V 0V +5V

- VOLT ON RATE INVERTS LFO

B6 Clockable LFO

P0 LFO A OUTPUT ATTENUVERTER
P1 LFO B OUTPUT ATTENUVERTER
P2 Y WAVESHAPE
◄CLOCK►
◄CYCLE►
+8V
-8V

Z (1 to 16) Multiply/Divide
X Clock Input
Y ±5 Volts Waveshape/PWM
-5V 0V +5V
-5V 0V +5V

- VOLT ON Z DIVIDES CLOCK

B7 VCO with Linear FM IN

P0 OCTAVE SHIFT
P1 VCO A ATENNUATION
P2 VCO B ATENNUATION
P3 VCO A WAVEFORM
P4 VCO B WAVEFORM

Y MODULATOR
X CARRIER
-6 +6

Z Tune ±½ Octave
X Carrier Pitch 1v/Octave Input
Mod. Pitch Ratio FM In100Hz/V
0 1 2 3 4
0 1 2 3 4

0 VOLTS = C3 (130.81 Hz,#48)

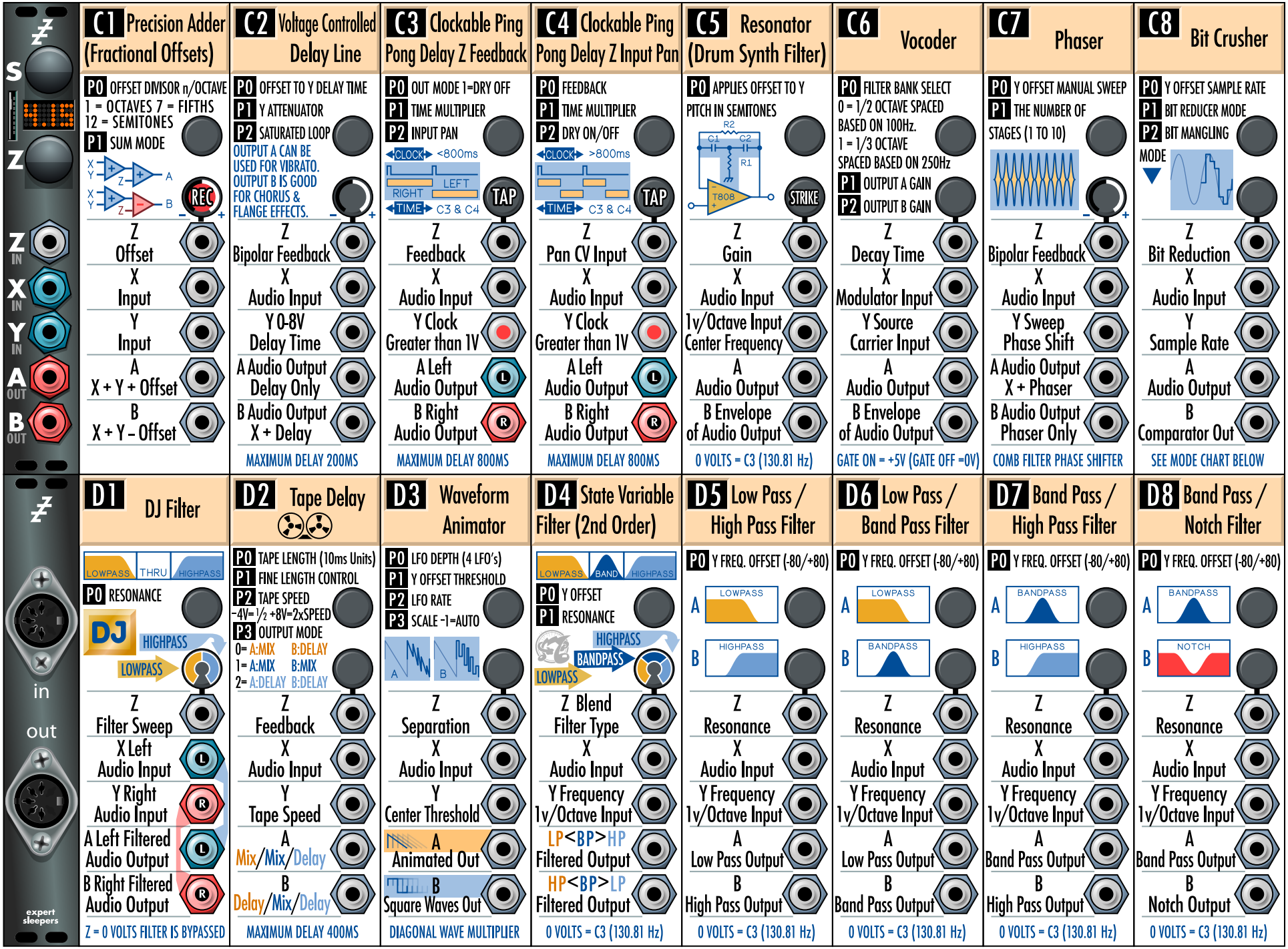
B8 VCO with Waveshaping IN

P0 OCTAVE SHIFT
P1 VCO A ATENNUATION
P2 VCO B ATENNUATION
P3 Y WAVESHAPE
P4 WAVEFORM SELECT
P5 TRANSPOSE
P6 Z FINE TUNE/SYNC

-6 +6

Z >1v = Sync Tune ±½ Octave
X Pitch 1v/Octave Input
Y ±5 Volts Waveshape/PWM
0 1 2
0 1 2

0 VOLTS = C3 (130.81 Hz,#48)


C1 Precision Adder (Fractional Offsets)
P0 OFFSET DIVISOR n/OCTAVE
1 = OCTAVES 7 = FIFTHS
12 = SEMITONES
P1 SUM MODE
REC
Z Offset
X Input
Y Input
A X + Y + Offset
B X + Y – Offset
C2 Voltage Controlled Delay Line
P0 OFFSET TO Y DELAY TIME
P1 Y ATTENUATOR
P2 SATURATED LOOP
OUTPUT A CAN BE USED FOR VIBRATO. OUTPUT B IS GOOD FOR CHORUS & FLANGE EFFECTS.
Z Bipolar Feedback
X Audio Input
Y 0-8V Delay Time
A Audio Output Delay Only
B Audio Output X + Delay
MAXIMUM DELAY 200MS
C3 Clockable Ping Pong Delay Z Feedback
P0 OUT MODE 1=DRY OFF
P1 TIME MULTIPLIER
P2 INPUT PAN
CLOCK <800ms
RIGHT LEFT
TIME C3 & C4
TAP
Z Feedback
X Audio Input
Y Clock Greater than 1V
A Left Audio Output
B Right Audio Output
MAXIMUM DELAY 800MS
C4 Clockable Ping Pong Delay Z Input Pan
P0 FEEDBACK
P1 TIME MULTIPLIER
P2 DRY ON/OFF
CLOCK >800ms
TIME C3 & C4
TAP
Z Pan CV Input
X Audio Input
Y Clock Greater than 1V
A Left Audio Output
B Right Audio Output
MAXIMUM DELAY 800MS
C5 Resonator (Drum Synth Filter)
P0 APPLIES OFFSET TO Y PITCH IN SEMITONES
R2
C1 C2
R1
T808
STRIKE
Z Gain
X Audio Input
1v/Octave Input Center Frequency
A Audio Output
B Envelope of Audio Output
0 VOLTS = C3 (130.81 Hz)
C6 Vocoder
P0 FILTER BANK SELECT
0 = 1/2 OCTAVE SPACED BASED ON 100Hz.
1 = 1/3 OCTAVE SPACED BASED ON 250Hz
P1 OUTPUT A GAIN
P2 OUTPUT B GAIN
Z Decay Time
X Modulator Input
Y Source Carrier Input
A Audio Output
B Envelope of Audio Output
GATE ON = +5V (GATE OFF =0V)
C7 Phaser
P0 Y OFFSET MANUAL SWEEP
P1 THE NUMBER OF STAGES (1 TO 10)
Z Bipolar Feedback
X Audio Input
Y Sweep Phase Shift
A Audio Output X + Phaser
B Audio Output Phaser Only
COMB FILTER PHASE SHIFTER
C8 Bit Crusher
P0 Y OFFSET SAMPLE RATE
P1 BIT REDUCER MODE
P2 BIT MANGLING
MODE
Z Bit Reduction
X Audio Input
Y Sample Rate
A Audio Output
B Comparator Out
SEE MODE CHART BELOW
S
Z
Z IN
X IN
Y IN
A OUT
B OUT
D1 DJ Filter
LOWPASS THRU HIGHPASS
P0 RESONANCE
DJ
HIGHPASS
LOWPASS
Z Filter Sweep
X Left Audio Input
Y Right Audio Input
A Left Filtered Audio Output
B Right Filtered Audio Output
Z = 0 VOLTS FILTER IS BYPASSED
D2 Tape Delay
P0 TAPE LENGTH (10ms Units)
P1 FINE LENGTH CONTROL
P2 TAPE SPEED
-4V=½ +8V=2xSPEED
P3 OUTPUT MODE
0= A:MIX B:DELAY
1= A:MIX B:MIX
2= A:DELAY B:DELAY
Z Feedback
X Audio Input
Y Tape Speed
A Mix/Mix/Delay
B Delay/Mix/Delay
MAXIMUM DELAY 400MS
D3 Waveform Animator
P0 LFO DEPTH (4 LFO's)
P1 Y OFFSET THRESHOLD
P2 LFO RATE
P3 SCALE -1=AUTO
A
B
Z Separation
X Audio Input
Y Center Threshold
A Animated Out
B Square Waves Out
DIAGONAL WAVE MULTIPLIER
D4 State Variable Filter (2nd Order)
LOWPASS BAND HIGHPASS
P0 Y OFFSET
P1 RESONANCE
HIGHPASS
BANDPASS
LOWPASS
Z Blend Filter Type
X Audio Input
Y Frequency 1v/Octave Input
LP<BP>HP Filtered Output
HP<BP>LP Filtered Output
0 VOLTS = C3 (130.81 Hz)
D5 Low Pass / High Pass Filter
P0 Y FREQ. OFFSET (-80/+80)
A LOWPASS
B HIGHPASS
Z Resonance
X Audio Input
Y Frequency 1v/Octave Input
A Low Pass Output
B High Pass Output
0 VOLTS = C3 (130.81 Hz)
D6 Low Pass / Band Pass Filter
P0 Y FREQ. OFFSET (-80/+80)
A LOWPASS
B BANDPASS
Z Resonance
X Audio Input
Y Frequency 1v/Octave Input
A Low Pass Output
B Band Pass Output
0 VOLTS = C3 (130.81 Hz)
D7 Band Pass / High Pass Filter
P0 Y FREQ. OFFSET (-80/+80)
A BANDPASS
B HIGHPASS
Z Resonance
X Audio Input
Y Frequency 1v/Octave Input
A Band Pass Output
B High Pass Output
0 VOLTS = C3 (130.81 Hz)
D8 Band Pass / Notch Filter
P0 Y FREQ. OFFSET (-80/+80)
A BANDPASS
B NOTCH
Z Resonance
X Audio Input
Y Frequency 1v/Octave Input
A Band Pass Output
B Notch Output
0 VOLTS = C3 (130.81 Hz)
in
out
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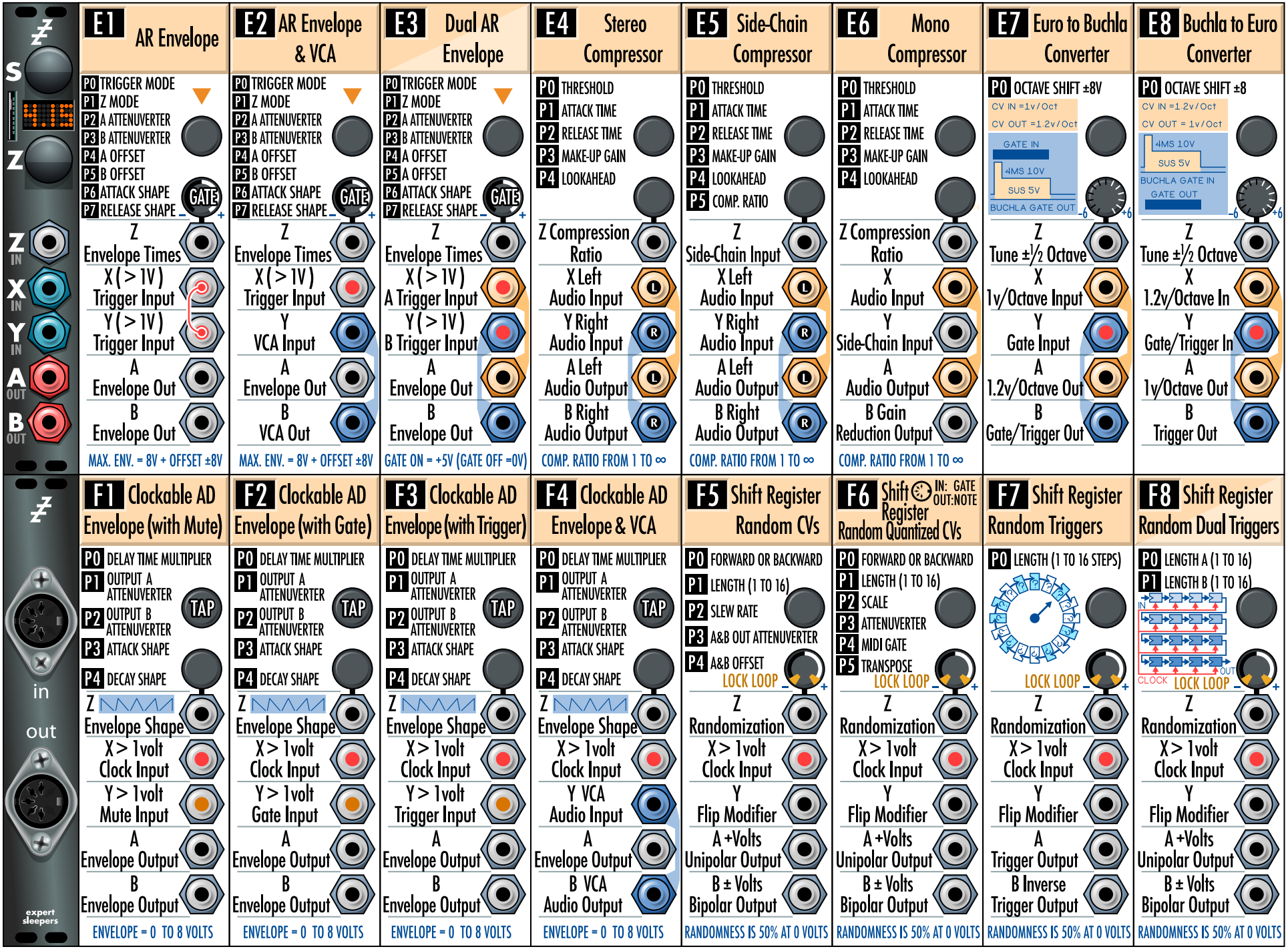
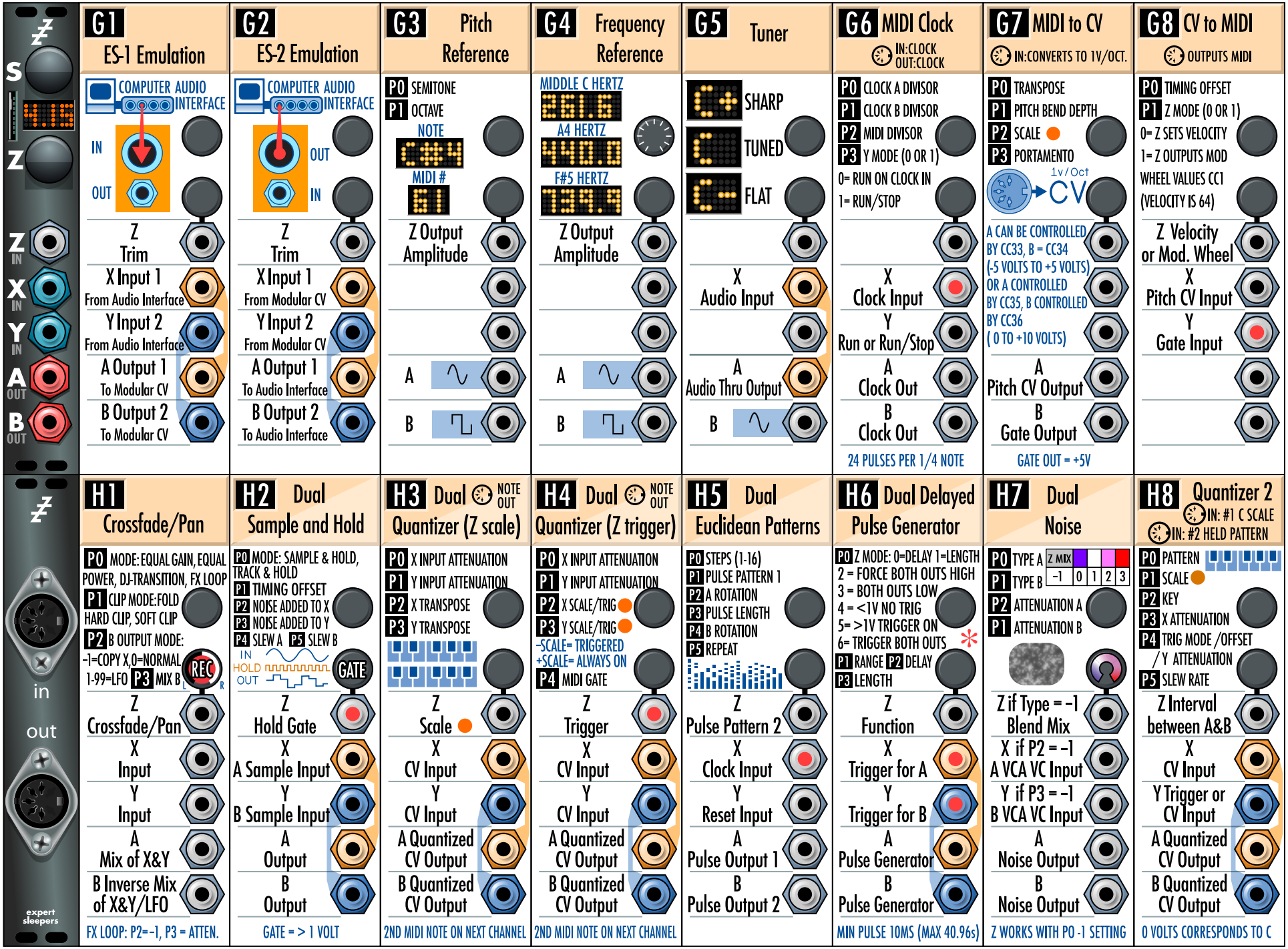

S
Z
Z IN
X IN
Y IN
A OUT
B OUT
in
out
expert sleepers
E1 AR Envelope
P0 TRIGGER MODE
P1 Z MODE
P2 A ATTENUVERTER
P3 B ATTENUVERTER
P4 A OFFSET
P5 B OFFSET
P6 ATTACK SHAPE
P7 RELEASE SHAPE
GATE
Z Envelope Times
X (> 1V) Trigger Input
Y (> 1V) Trigger Input
A Envelope Out
B Envelope Out
MAX. ENV. = 8V + OFFSET ±8V
E2 AR Envelope & VCA
P0 TRIGGER MODE
P1 Z MODE
P2 A ATTENUVERTER
P3 B ATTENUVERTER
P4 A OFFSET
P5 B OFFSET
P6 ATTACK SHAPE
P7 RELEASE SHAPE
GATE
Z Envelope Times
X (> 1V) Trigger Input
Y VCA Input
A Envelope Out
B VCA Out
MAX. ENV. = 8V + OFFSET ±8V
E3 Dual AR Envelope
P0 TRIGGER MODE
P1 Z MODE
P2 A ATTENUVERTER
P3 B ATTENUVERTER
P4 A OFFSET
P5 A OFFSET
P6 ATTACK SHAPE
P7 RELEASE SHAPE
GATE
Z Envelope Times
X (> 1V) A Trigger Input
Y (> 1V) B Trigger Input
A Envelope Out
B Envelope Out
GATE ON = +5V (GATE OFF =0V)
E4 Stereo Compressor
P0 THRESHOLD
P1 ATTACK TIME
P2 RELEASE TIME
P3 MAKE-UP GAIN
P4 LOOKAHEAD
Z Compression Ratio
X Left Audio Input
Y Right Audio Input
A Left Audio Output
B Right Audio Output
COMP. RATIO FROM 1 TO ∞
E5 Side-Chain Compressor
P0 THRESHOLD
P1 ATTACK TIME
P2 RELEASE TIME
P3 MAKE-UP GAIN
P4 LOOKAHEAD
P5 COMP. RATIO
Z Side-Chain Input
X Left Audio Input
Y Right Audio Input
A Left Audio Output
B Right Audio Output
COMP. RATIO FROM 1 TO ∞
E6 Mono Compressor
P0 THRESHOLD
P1 ATTACK TIME
P2 RELEASE TIME
P3 MAKE-UP GAIN
P4 LOOKAHEAD
Z Compression Ratio
X Audio Input
Y Side-Chain Input
A Audio Output
B Gain Reduction Output
COMP. RATIO FROM 1 TO ∞
E7 Euro to Buchla Converter
P0 OCTAVE SHIFT ±8V
CV IN =1v/Oct
CV OUT =1.2v/Oct
GATE IN
4MS 10V
SUS 5V
BUCHLA GATE OUT
–6
+6
Z Tune ±½ Octave
X 1v/Octave Input
Y Gate Input
A 1.2v/Octave Out
B Gate/Trigger Out
E8 Buchla to Euro Converter
P0 OCTAVE SHIFT ±8
CV IN =1.2v/Oct
CV OUT = 1v/Oct
4MS 10V
SUS 5V
BUCHLA GATE IN
GATE OUT
–6
+6
Z Tune ±½ Octave
X 1.2v/Octave In
Y Gate/Trigger In
A 1v/Octave Out
B Trigger Out
F1 Clockable AD Envelope (with Mute)
P0 DELAY TIME MULTIPLIER
P1 OUTPUT A ATTENUVERTER
P2 OUTPUT B ATTENUVERTER
P3 ATTACK SHAPE
P4 DECAY SHAPE
TAP
Z Envelope Shape
X > 1volt Clock Input
Y > 1volt Mute Input
A Envelope Output
B Envelope Output
ENVELOPE = 0 TO 8 VOLTS
F2 Clockable AD Envelope (with Gate)
P0 DELAY TIME MULTIPLIER
P1 OUTPUT A ATTENUVERTER
P2 OUTPUT B ATTENUVERTER
P3 ATTACK SHAPE
P4 DECAY SHAPE
TAP
Z Envelope Shape
X > 1volt Clock Input
Y > 1volt Gate Input
A Envelope Output
B Envelope Output
ENVELOPE = 0 TO 8 VOLTS
F3 Clockable AD Envelope (with Trigger)
P0 DELAY TIME MULTIPLIER
P1 OUTPUT A ATTENUVERTER
P2 OUTPUT B ATTENUVERTER
P3 ATTACK SHAPE
P4 DECAY SHAPE
TAP
Z Envelope Shape
X > 1volt Clock Input
Y > 1volt Trigger Input
A Envelope Output
B Envelope Output
ENVELOPE = 0 TO 8 VOLTS
F4 Clockable AD Envelope & VCA
P0 DELAY TIME MULTIPLIER
P1 OUTPUT A ATTENUVERTER
P2 OUTPUT B ATTENUVERTER
P3 ATTACK SHAPE
P4 DECAY SHAPE
TAP
Z Envelope Shape
X > 1volt Clock Input
Y VCA Audio Input
A Envelope Output
B VCA Audio Output
ENVELOPE = 0 TO 8 VOLTS
F5 Shift Register Random CVs
P0 FORWARD OR BACKWARD
P1 LENGTH (1 TO 16)
P2 SLEW RATE
P3 A&B OUT ATTENUVERTER
P4 A&B OFFSET
LOCK LOOP
Z Randomization
X > 1volt Clock Input
Y Flip Modifier
A +Volts Unipolar Output
B ± Volts Bipolar Output
RANDOMNESS IS 50% AT 0 VOLTS
F6 Shift Register Random Quantized CVs
IN: GATE
OUT:NOTE
P0 FORWARD OR BACKWARD
P1 LENGTH (1 TO 16)
P2 SCALE
P3 ATTENUVERTER
P4 MIDI GATE
P5 TRANSPOSE
LOCK LOOP
Z Randomization
X > 1volt Clock Input
Y Flip Modifier
A +Volts Unipolar Output
B ± Volts Bipolar Output
RANDOMNESS IS 50% AT 0 VOLTS
F7 Shift Register Random Triggers
P0 LENGTH (1 TO 16 STEPS)
LOCK LOOP
Z Randomization
X > 1volt Clock Input
Y Flip Modifier
A Trigger Output
B Inverse Trigger Output
RANDOMNESS IS 50% AT 0 VOLTS
F8 Shift Register Random Dual Triggers
P0 LENGTH A (1 TO 16)
P1 LENGTH B (1 TO 16)
IN
CLOCK
OUT
LOCK LOOP
Z Randomization
X > 1volt Clock Input
Y Flip Modifier
A +Volts Unipolar Output
B ± Volts Bipolar Output
RANDOMNESS IS 50% AT 0 VOLTS


G1
ES-1 Emulation
COMPUTER AUDIO INTERFACE
IN
OUT
Z Trim
X Input 1
From Audio Interface
Y Input 2
From Audio Interface
A Output 1
To Modular CV
B Output 2
To Modular CV
G2
ES-2 Emulation
COMPUTER AUDIO INTERFACE
OUT
IN
Z Trim
X Input 1
From Modular CV
Y Input 2
From Modular CV
A Output 1
To Audio Interface
B Output 2
To Audio Interface
G3
Pitch Reference
P0 SEMITONE
P1 OCTAVE
NOTE
C#4
MIDI #
61
Z Output Amplitude
A
B
G4
Frequency Reference
MIDDLE C HERTZ
261.6
A4 HERTZ
440.0
F#5 HERTZ
739.9
Z Output Amplitude
A
B
G5
Tuner
SHARP
TUNED
FLAT
X
Audio Input
A
Audio Thru Output
B
G6
MIDI Clock
IN:CLOCK
OUT:CLOCK
P0 CLOCK A DIVISOR
P1 CLOCK B DIVISOR
P2 MIDI DIVISOR
P3 Y MODE (0 OR 1)
0= RUN ON CLOCK IN
1= RUN/STOP
X
Clock Input
Y
Run or Run/Stop
A
Clock Out
B
Clock Out
24 PULSES PER 1/4 NOTE
G7
MIDI to CV
IN:CONVERTS TO 1V/OCT.
P0 TRANSPOSE
P1 PITCH BEND DEPTH
P2 SCALE
P3 PORTAMENTO
1v/Oct
CV
A CAN BE CONTROLLED BY CC33, B = CC34
(-5 VOLTS TO +5 VOLTS)
OR A CONTROLLED BY CC35, B CONTROLLED BY CC36
(0 TO +10 VOLTS)
A
Pitch CV Output
B
Gate Output
GATE OUT = +5V
G8
CV to MIDI
OUTPUTS MIDI
P0 TIMING OFFSET
P1 Z MODE (0 OR 1)
0= Z SETS VELOCITY
1= Z OUTPUTS MOD WHEEL VALUES CC1 (VELOCITY IS 64)
Z Velocity or Mod. Wheel
X
Pitch CV Input
Y
Gate Input
S
Z
Z IN
X IN
Y IN
A OUT
B OUT
in
out
expert sleepers
H1
Crossfade/Pan
P0 MODE: EQUAL GAIN, EQUAL POWER, DJ-TRANSITION, FX LOOP
P1 CLIP MODE:FOLD HARD CLIP, SOFT CLIP
P2 B OUTPUT MODE:
-1=COPY X,0=NORMAL
1-99=LFO P3 MIX B
REC
Z
Crossfade/Pan
X
Input
Y
Input
A
Mix of X&Y
B Inverse Mix of X&Y/LFO
FX LOOP: P2=-1, P3 = ATTEN.
H2
Dual Sample and Hold
P0 MODE: SAMPLE & HOLD, TRACK & HOLD
P1 TIMING OFFSET
P2 NOISE ADDED TO X
P3 NOISE ADDED TO Y
P4 SLEW A P5 SLEW B
IN
HOLD
OUT
GATE
Z
Hold Gate
X
A Sample Input
Y
B Sample Input
A
Output
B
Output
GATE = > 1 VOLT
H3
Dual Quantizer (Z scale)
NOTE OUT
P0 X INPUT ATTENUATION
P1 Y INPUT ATTENUATION
P2 X TRANSPOSE
P3 Y TRANSPOSE
Z
Scale
X
CV Input
Y
CV Input
A Quantized CV Output
B Quantized CV Output
2ND MIDI NOTE ON NEXT CHANNEL
H4
Dual Quantizer (Z trigger)
NOTE OUT
P0 X INPUT ATTENUATION
P1 Y INPUT ATTENUATION
P2 X SCALE/TRIG
P3 Y SCALE/TRIG
-SCALE= TRIGGERED
+SCALE= ALWAYS ON
P4 MIDI GATE
Z
Trigger
X
CV Input
Y
CV Input
A Quantized CV Output
B Quantized CV Output
2ND MIDI NOTE ON NEXT CHANNEL
H5
Dual Euclidean Patterns
P0 STEPS (1-16)
P1 PULSE PATTERN 1
P2 A ROTATION
P3 PULSE LENGTH
P4 B ROTATION
P5 REPEAT
Z
Pulse Pattern 2
X
Clock Input
Y
Reset Input
A
Pulse Output 1
B
Pulse Output 2
H6
Dual Delayed Pulse Generator
P0 Z MODE: 0=DELAY 1=LENGTH
2 = FORCE BOTH OUTS HIGH
3 = BOTH OUTS LOW
4 = <1V NO TRIG
5= >1V TRIGGER ON
6= TRIGGER BOTH OUTS
P1 RANGE P2 DELAY
P3 LENGTH
Z
Function
X
Trigger for A
Y
Trigger for B
A
Pulse Generator
B
Pulse Generator
MIN PULSE 10MS (MAX 40.96s)
H7
Dual Noise
P0 TYPE A
P1 TYPE B
Z MIX
-1 0 1 2 3
P2 ATTENUATION A
P1 ATTENUATION B
Z if Type = -1 Blend Mix
X if P2 = -1 A VCA VC Input
Y if P3 = -1 B VCA VC Input
A
Noise Output
B
Noise Output
Z WORKS WITH P0 -1 SETTING
H8
Quantizer 2
IN: #1 C SCALE
IN: #2 HELD PATTERN
P0 PATTERN
P1 SCALE
P2 KEY
P3 X ATTENUATION
P4 TRIG MODE /OFFSET / Y ATTENUATION
P5 SLEW RATE
Z Interval between A&B
X
CV Input
Y Trigger or CV Input
A Quantized CV Output
B Quantized CV Output
0 VOLTS CORRESPONDS TO C

Audio and Midi Play List Info: http://youtube.com/watch?v=vaRF-YQtkFM

I1 Audio Playback

IN: NOTE ON/OFF

P0 MEMORY CARD FOLDER
P1 ENVELOPE TIME

Z Sample Select
X CV IN Retrigger
Y CV IN Start Position
A Left Audio Output
B Right Audio Output

X: END OF FILE LENGTH = 8V

I2 Clocked Audio Playback

IN: NOTE ON/OFF

P0 MEMORY CARD FOLDER
P1 ENVELOPE TIME
P2 Z FUNCTION

Z Sample Select
X CV IN Retrigger
Y Clock Input
A Left Audio Output
B Right Audio Output

SAMPLE IS FIT BETWEEN CLOCKS

I3 Audio Playback with 1Volt/Octave

INPUT

P0 MEMORY CARD FOLDER
P1 OCTAVE SHIFT
P2 ENVELOPE TIME
P3 MIDI MODE:
-1 & 0 ARE MONO
POLY ASSIGN 1-4 WITH MULTIPLE DISTINGS
P4 PITCH BEND DEPTH

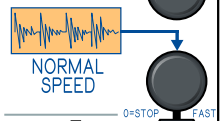
Z Sample Select
X CV IN Retrigger
Y 1V/Oct CV Pitch Input
A Left Audio Output
B Right Audio Output

(CC#21)0=LOW,1-4=ROUND ROBIN

I4 Audio Playback with Z Speed

IN: NOTE ON/OFF

P0 MEMORY CARD FOLDER
P1 SAMPLE SELECT
P2 ENVELOPE TIME



Z Playback Speed
X CV IN Retrigger
Y CV IN Start Position
A Left Audio Output
B Right Audio Output

Z: 0=NORMAL SPEED NEG=SLOW

I5 Audio Playback with Reverse

IN: NOTE ON/OFF

P0 MEMORY CARD FOLDER
P1 Y SAMPLE OFFSET
P2 ENVELOPE TIME

PROCESSING TIME REQUIRED
NEGATIVE VALUES WILL REVERSE SAMPLE

Z Playback Speed
X CV IN Retrigger
Y Sample Select
A Left Audio Output
B Right Audio Output

UP TO 50 SAMPLES (NOT 100)

I6 Audio Playback with Scrub

P0 MEMORY CARD FOLDER
P1 SPEED LIMIT
P2 SLEW LIMIT
P3 Y OFFSET

PROCESSING TIME REQUIRED. DON'T TURN OFF DISTING...

Z Sample Select
Y Playback Position
A Left Audio Output
B Right Audio Output

DO NOT REMOVE CARD

I7 Dual Audio Playback

IN: NOTE ON/OFF

P0 MEMORY CARD FOLDER
P1 PANNING MODE
0 = A: MONO LEFT
B: MONO RIGHT
1 = A&B: STEREO
P2 ENVELOPE TIME

Z Sample Select
X Trigger for A
Y Trigger for B
A Left Audio Output
B Right Audio Output

MIDI NOTE 48 =A (MIDI 49 =B)

I8 Dual Audio Playback with Z Speed

IN: NOTE ON/OFF

P0 MEMORY CARD FOLDER
P1 A SAMPLE SELECT
P2 B SAMPLE SELECT
P3 PANNING MODE
P4 SAMPLE SELECT Z
0=BOTH 1=A SAMPLE
2=B SAMPLE 3=NONE
P5 ENVELOPE TIME

NORMAL

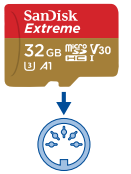
Z Playback Speed
X Trigger for A
Y Trigger for B
A Left Audio Output
B Right Audio Output

MIDI NOTE 48 =A (MIDI 49 =B)

J1 Midi File Playback (Clocked)

OUTPUT

P0 MIDI FILE SELECT



Z Midi File Select If P0 = -1
X Clock Input
Y Retrigger CV Input
A Pitch CV Output
B Gate Output

UNALTERED MIDI FILE PLAYBACK

J2 Multisample 2 Audio Playback

IN

P0 MEMORY CARD FOLDER
P1 OCTAVE SHIFT
P2 ENVELOPE TIME
P3 MIDI MODE
P4 PITCH BEND AMT.
P5 PANNING MODE

Z Tune ±½ Octaves
X Retrigger CV Input
Y 1v/Octave Pitch CV Input
A Left Audio Output
B Right Audio Output

(CC#21)0=LOW,1-4=ROUND ROBIN

J3 Midi Playback (free running)

OUTPUT

P0 MIDI FILE SELECT

Z Playback Speed
X 1v/Octave CV Speed
Y Retrigger CV Input
A Pitch CV Output
B Gate Output

X:2 VOLTS DOUBLES ½ HALVES IT

J4 Audio Playback with End

IN: NOTE ON/OFF

P0 MEMORY CARD FOLDER
P1 SAMPLE SELECT
P2 ENVELOPE TIME

Z = RETRIGGER
X = RETRIGGER

Z End Position or Retrigger CV
X Retrigger or End Position CV
Y Start Position CV
A Left Audio Output
C Right Audio Output

J5 Audio Recorder

Z > 1 VOLT = RECORD
Z < ½ VOLT = STOP

Z Record/Stop Gate
X Left Audio Input
Y Right Audio Input
A Left Audio Output
B Right Audio Output

DO NOT REMOVE CARD

J6 Multisample Audio Playback

IN

P0 MEMORY CARD FOLDER
P1 OCTAVE SHIFT
P2 ENVELOPE TIME
P3 MIDI MODE
-1 & 0 ARE MONO
POLY ASSIGN 1-4 WITH MULTIPLE DISTINGS

Z Tune ±½ Octaves
X Retrigger CV Input
Y 1v/Octave Pitch CV Input
A Left Audio Output
B Right Audio Output

(CC#21)0=LOW,1-4=ROUND ROBIN

J7 Mono Audio Recorder

Z > 1 VOLT = RECORD
Z < ½ VOLT = STOP

Z Record/Stop Gate
X Mono Audio Input
A Mono Audio Output

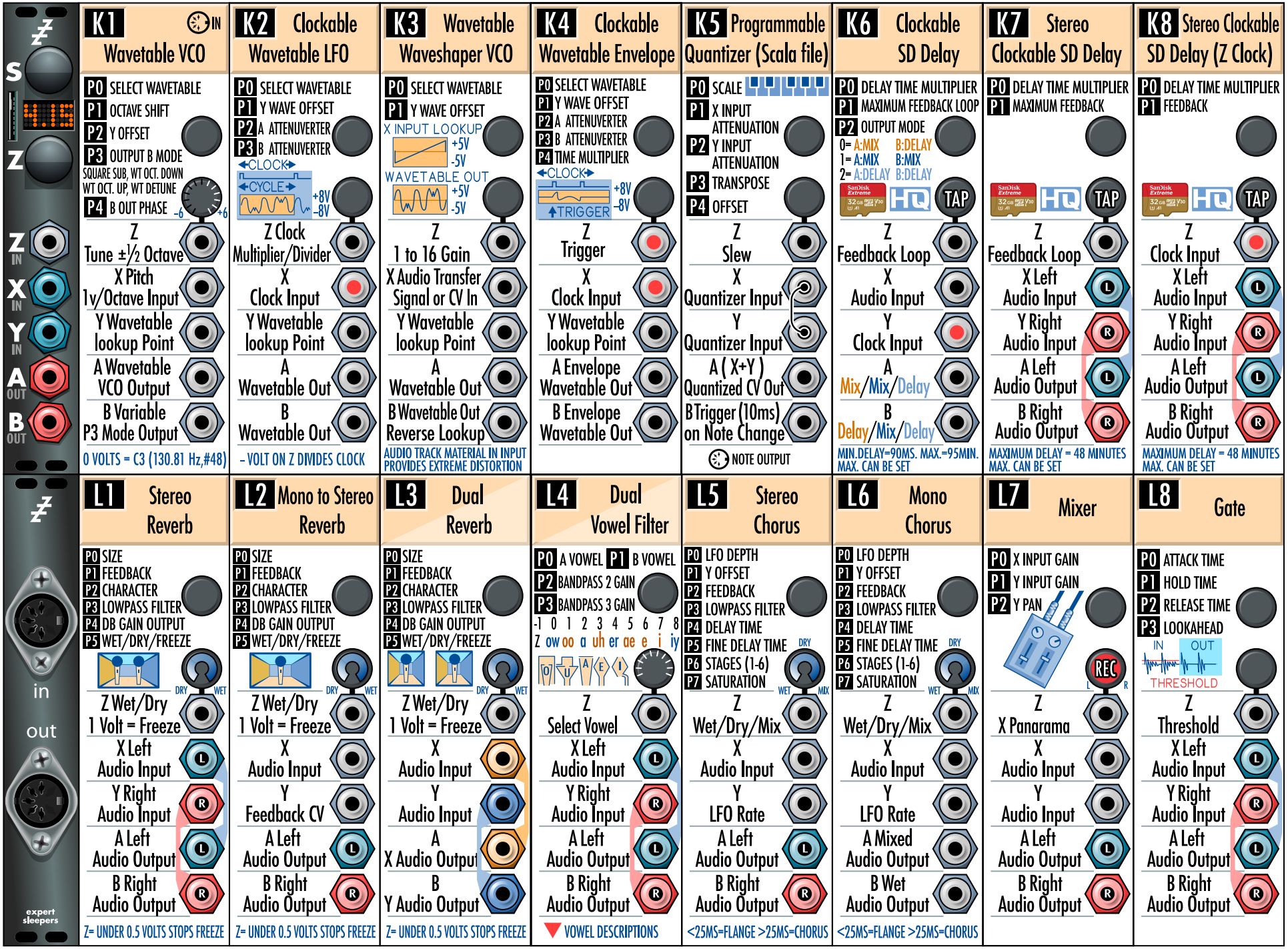
DO NOT REMOVE CARD

J8 Audio Playback with Crossfade

P0 MEMORY CARD FOLDER
P1 OCTAVE SHIFT
P2 CROSSFADE TIME
P3 0= GATE ON/OFF
1= PLAYS CONTINUOUSLY
2= FIT BETWEEN CLOCKS

Z Sample Select
X Gate/Clock CV
Y 1v/Octave Pitch CV Input
A Left Audio Output
B Right Audio Output

GATE ON = +5V (GATE OFF =0V)


K1 Wavetable VCO
IN
P0 SELECT WAVETABLE
P1 OCTAVE SHIFT
P2 Y OFFSET
P3 OUTPUT B MODE
SQUARE SUB, WT OCT. DOWN
WT OCT. UP, WT DETUNE
P4 B OUT PHASE
-6
+6
Z
Tune ±½ Octave
X Pitch
1v/Octave Input
Y Wavetable
lookup Point
A Wavetable
VCO Output
B Variable
P3 Mode Output
0 VOLTS = C3 (130.81 Hz,#48)
K2 Clockable
Wavetable LFO
P0 SELECT WAVETABLE
P1 Y WAVE OFFSET
P2 A ATTENUVERTER
P3 B ATTENUVERTER
CLOCK
CYCLE
+8V
-8V
Z Clock
Multiplier/Divider
X
Clock Input
Y Wavetable
lookup Point
A
Wavetable Out
B
Wavetable Out
- VOLT ON Z DIVIDES CLOCK
K3 Wavetable
Waveshaper VCO
P0 SELECT WAVETABLE
P1 Y WAVE OFFSET
X INPUT LOOKUP
+5V
-5V
WAVETABLE OUT
+5V
-5V
Z
1 to 16 Gain
X Audio Transfer
Signal or CV In
Y Wavetable
lookup Point
A
Wavetable Out
B Wavetable Out
Reverse Lookup
AUDIO TRACK MATERIAL IN INPUT
PROVIDES EXTREME DISTORTION
K4 Clockable
Wavetable Envelope
P0 SELECT WAVETABLE
P1 Y WAVE OFFSET
P2 A ATTENUVERTER
P3 B ATTENUVERTER
P4 TIME MULTIPLIER
CLOCK
TRIGGER
+8V
-8V
Z
Trigger
X
Clock Input
Y Wavetable
lookup Point
A Envelope
Wavetable Out
B Envelope
Wavetable Out
K5 Programmable
Quantizer (Scala file)
P0 SCALE
P1 X INPUT
ATTENUATION
P2 Y INPUT
ATTENUATION
P3 TRANSPOSE
P4 OFFSET
Z
Slew
X
Quantizer Input
Y
Quantizer Input
A (X+Y)
Quantized CV Out
B Trigger (10ms)
on Note Change
NOTE OUTPUT
K6 Clockable
SD Delay
P0 DELAY TIME MULTIPLIER
P1 MAXIMUM FEEDBACK LOOP
P2 OUTPUT MODE
0= A:MIX B:DELAY
1= A:MIX B:MIX
2= A:DELAY B:DELAY
HQ
TAP
Z
Feedback Loop
X
Audio Input
Y
Clock Input
A
Mix/Mix/Delay
B
Delay/Mix/Delay
MIN.DELAY=90MS. MAX.=95MIN.
MAX. CAN BE SET
K7 Stereo
Clockable SD Delay
P0 DELAY TIME MULTIPLIER
P1 MAXIMUM FEEDBACK
HQ
TAP
Z
Feedback Loop
X Left
Audio Input
Y Right
Audio Input
A Left
Audio Output
B Right
Audio Output
MAXIMUM DELAY = 48 MINUTES
MAX. CAN BE SET
K8 Stereo Clockable
SD Delay (Z Clock)
P0 DELAY TIME MULTIPLIER
P1 FEEDBACK
HQ
TAP
Z
Clock Input
X Left
Audio Input
Y Right
Audio Input
A Left
Audio Output
B Right
Audio Output
MAXIMUM DELAY = 48 MINUTES
MAX. CAN BE SET
S
Z
Z IN
X IN
Y IN
A OUT
B OUT
L1 Stereo
Reverb
P0 SIZE
P1 FEEDBACK
P2 CHARACTER
P3 LOWPASS FILTER
P4 DB GAIN OUTPUT
P5 WET/DRY/FREEZE
DRY
WET
Z Wet/Dry
1 Volt = Freeze
X Left
Audio Input
Y Right
Audio Input
A Left
Audio Output
B Right
Audio Output
Z= UNDER 0.5 VOLTS STOPS FREEZE
L2 Mono to Stereo
Reverb
P0 SIZE
P1 FEEDBACK
P2 CHARACTER
P3 LOWPASS FILTER
P4 DB GAIN OUTPUT
P5 WET/DRY/FREEZE
DRY
WET
Z Wet/Dry
1 Volt = Freeze
X
Audio Input
Y
Feedback CV
A Left
Audio Output
B Right
Audio Output
Z= UNDER 0.5 VOLTS STOPS FREEZE
L3 Dual
Reverb
P0 SIZE
P1 FEEDBACK
P2 CHARACTER
P3 LOWPASS FILTER
P4 DB GAIN OUTPUT
P5 WET/DRY/FREEZE
DRY
WET
Z Wet/Dry
1 Volt = Freeze
X
Audio Input
Y
Audio Input
A
X Audio Output
B
Y Audio Output
Z= UNDER 0.5 VOLTS STOPS FREEZE
L4 Dual
Vowel Filter
P0 A VOWEL
P1 B VOWEL
P2 BANDPASS 2 GAIN
P3 BANDPASS 3 GAIN
-1 0 1 2 3 4 5 6 7 8
Z ow oo a uh er ae e i iy
Z
Select Vowel
X Left
Audio Input
Y Right
Audio Input
A Left
Audio Output
B Right
Audio Output
VOWEL DESCRIPTIONS
L5 Stereo
Chorus
P0 LFO DEPTH
P1 Y OFFSET
P2 FEEDBACK
P3 LOWPASS FILTER
P4 DELAY TIME
P5 FINE DELAY TIME
P6 STAGES (1-6)
P7 SATURATION
DRY
WET
MIX
Z
Wet/Dry/Mix
X
Audio Input
Y
LFO Rate
A Left
Audio Output
B Right
Audio Output
<25MS=FLANGE >25MS=CHORUS
L6 Mono
Chorus
P0 LFO DEPTH
P1 Y OFFSET
P2 FEEDBACK
P3 LOWPASS FILTER
P4 DELAY TIME
P5 FINE DELAY TIME
P6 STAGES (1-6)
P7 SATURATION
DRY
WET
MIX
Z
Wet/Dry/Mix
X
Audio Input
Y
LFO Rate
A Mixed
Audio Output
B Wet
Audio Output
<25MS=FLANGE >25MS=CHORUS
L7 Mixer
P0 X INPUT GAIN
P1 Y INPUT GAIN
P2 Y PAN
REC
L
R
Z
X Panarama
X
Audio Input
Y
Audio Input
A Left
Audio Output
B Right
Audio Output
L8 Gate
P0 ATTACK TIME
P1 HOLD TIME
P2 RELEASE TIME
P3 LOOKAHEAD
IN
OUT
THRESHOLD
Z
Threshold
X Left
Audio Input
Y Right
Audio Input
A Left
Audio Output
B Right
Audio Output
in
out
expert
sleepers

M1 Delayed LFO

- P0 A LFO TYPE
- P1 B LFO TYPE
- P2 LFO RATE RANGE
- P3 RAMP TIME RANGE
- P4 ATTENUVERTER A
- P5 ATTENUVERTER B
- Z: LFO Rate CV In
- X: Trigger Input
- Y: Ramp Time
- A: LFO Output
- B: LFO Output

M2 Scaled LFO

- P0 A LFO TYPE
- P1 B LFO TYPE
- P2 LFO RATE RANGE
- P3 MODE: MIN/MAX, SCALE/OFFSET
- P4 X OFFSET
- P5 Y OFFSET
- Z: LFO Rate CV In
- X: Min. or Offset
- Y: Max. or Scale
- A: LFO Output
- B: LFO Output

M3 Logic

- P0 B OUTPUT LOGIC TYPE
- P1 X IN THRESHOLD
- P2 Y IN THRESHOLD
- P3 X IN HYSTERESIS
- P4 Y IN HYSTERESIS
- Z: A Out Logic Type
- X: Logic Input
- Y: Logic Input
- A: Logic Output
- B: Logic Output

GATE IN & OUT:ON=+5V OFF =0

M4 Half-Wave Rectifier

- P0 MODE
  - 0: A= POS X + NEG Y, B= NEG X + POS Y
  - 1: A = POS X + POS Y, B = NEG X + NEG Y
  - 2: A = POS X – POS Y, B = NEG X – NEG Y
  - 3: A = POS X, B = POS Y
- Z: Threshold
- X: Input
- Y: Input
- A: Output
- B: Output

GATE IN & OUT:ON=+5V OFF =0

M5 Stereo Filter

- P0 LOW, BAND, HIGHPASS
- P1 RESONANCE
- Z: Frequency CV In
- X Left Audio Input
- Y Right Audio Input
- A Left Audio Output
- B Right Audio Output

M6 Stereo Tape Delay

- P0 TAPE LENGTH (10ms Units)
- P1 FINE LENGTH CONTROL
- P2 FEEDBACK
- P3 OUTPUT MODE
  - 0= A&B:MIX
  - 1= A&B:DELAY
- Z: Tape Speed CV In
- X Left Audio Input
- Y Right Audio Input
- A Left Mix/Delay Out
- B Right Mix/Delay Out

MAXIMUM DELAY 250MS

M7 Granular Pitch Shifter

- P0 GRAIN LENGTH
- P1 WINDOW TYPE
- P2 DELAY
- P3 FEEDBACK
- P4 Y SEMITONE OFFSET
- P5 FINE (CENTS)
- Z: Wet/Dry Mix
- X Audio Input
- Y Bi-Polar Pitch 1v/Octave Input
- A Mix Audio Output
- B Pitch Shifted Audio Output

MAXIMUM DELAY 400MS

N1 Switch

- P0 MODE 0=SWITCH 1=TRIG.
- P1 HYSTERESIS FOR SWITCH
- P2 CROSSFADE IN MS.
- Z: CV or TRIGGER
- X: Audio or CV In
- Y: Audio or CV In
- A Output X/Y
- B Output Y/X

INPUTS & OUTPUTS DC-COUPLED

N5 Pulsar VCO

- P0 SELECT WAVETABLE SET
- P1 SELECT WAVE
- P2 WINDOW (0 1 2 3)
- P3 Y MODE
  - 0= X&Y SEPARATE 1= X&Y LINKED
- P4 MASKING 0=Z TUNNING
  - 1=STOCHASTIC MASK
  - 2-99=BURST MASKING
- P5 OCTAVE
- Z: Tune/Masking
- X Fundamental 1v/Octave Input
- Y Formant 1v/Octave Input
- A Positive Mask VCO Output
- B Negative Mask VCO Output

0 VOLTS = C3 (130.81 Hz,#48)

M1 LFO Types

0 ONLY THE RAMP
1 RAMPED TRIANGLE
2 RAMPED SINE
3 RAMPED SQUARE
4 TRIANGLE
5 SINE
6 SQUARE

M2 LFO Types

0 TRIANGLE
1 SINE
2 SQUARE
3 RISING RAMP
4 FALLING RAMP

M3 Logic Types

-2 FOLLOW
-1 INVERSE
0 AND
1 OR
2 XOR
3 NAND
4 NOR
5 XNOR

RECTIFIER MODE 0

IN X, IN Y → OUT A; IN X, IN Y → OUT B

RECTIFIER MODE 1

IN X, IN Y → OUT A; IN X, IN Y → OUT B

RECTIFIER MODE 2

IN X, IN Y → OUT A; IN X, IN Y → OUT B

RECTIFIER MODE 3

IN X → OUT A; IN Y → OUT B

N8 Clockable SD Ping Pong Delay

- P0 DELAY TIME MULTIPLIER
- P1 MAXIMUM FEEDBACK LOOP
- P2 OUTPUT MODE
- P3 INPUT PAN
  - 0= A:MIX B:MIX
  - 1= A:DELAY ONLY B:DELAY ONLY
- Z: Feedback Loop
- X Audio Input
- Y Clock Input
- A Left Output Mix/Delay Only
- B Right Output Mix/Delay Only

LONGEST DELAY = 48 MINUTES

VIDEO HYPERLINKS

Clicking on Algorithm Titles will launch Expert Sleepers Videos.

- Firmware Upgrade Guide http://youtube.com/watch?v=X_suo6bYBgM
- Encoder & Menu System http://youtube.com/watch?v=pS3p1QsTIwk
- Selecting Algorithms http://youtube.com/watch?v=o-FcmdBuGuw
- Settings http://youtube.com/watch?v=2-CXf07ge_I
- Disting's Help Menu http://youtube.com/watch?v=W4pkxkqMob0
- Parameters http://youtube.com/watch?v=3sNxNhcq5nA
- Knob Recorder http://youtube.com/watch?v=c-x57d5hWZw
- Tap Tempo http://youtube.com/watch?v=lmRAvSC3I2s
- Presets http://youtube.com/watch?v=ALoETplJtzk
- Select Buss http://youtube.com/watch?v=clgizd9fTSQ
- Audio Playlist Format http://youtube.com/watch?v=pY5vSRZVpz8

MIDI CONTROLS

CC1 IN Set Parameter 0
CC2 IN Set Parameter 1
CC3 IN Set Parameter 2
CC4 IN Set Parameter 3
CC5 IN Set Parameter 4
CC6 IN Set Parameter 5
CC7 IN Set Parameter 6
CC8 IN Set Parameter 7

CC18 MIDI Continuous Controllers

P0 CC#1
P1 CC#2
P2 CC#3
P3 CC#4
P4 CC#5
P5 CC#6
P6 CC#7
P7 CC#8

CC17

Program Change Selects Algorithm or Loads Preset

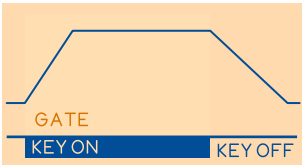
CC17 IN Z Knob
C18 IN Algorithm
Program Change IN Selects Algorithm or Loads Preset.

Envelope Parameters

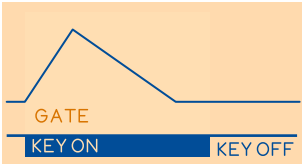
E1 E2 E3

P0 ENV. TRIGGER MODE

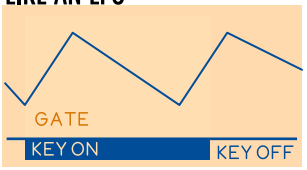
SUSTAIN: ASR ENVELOPE WILL SUSTAIN WITH GATE HIGH



AUTO: ENVELOPE WILL COMPLETE FULL CYCLE

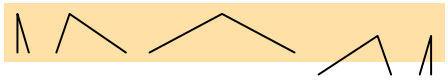


LOOP: ENVELOPE LOOPS LIKE AN LFO

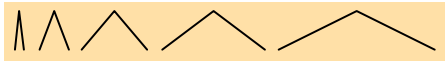


P1 SHAPE MODE

Variable shaped Envelopes



Attack & Release times are the Same



P2 ENV. A ATTRNUVERTER

Envelope A Output Attenuverter (bipolar with positive and negative attenuation)

P3 ENV. B ATTRNUVERTER

Envelope B Output Attenuverter (bipolar)

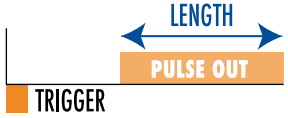
Pulse Modes

H6

P0 Z MODE

PULSE Z MODE: 0 DELAY

PULSE Z MODE: 1 LENGTH



PULSE Z MODE: 2 OVERIDE
Z Gate will make Outs High

PULSE Z MODE: 3 OFF GATE
Z Gate will stop Outputs

PULSE Z MODE: 4 ON GATE
Z Gate will enable Outputs

PULSE Z MODE: 5 + Z GATE
Z Gate will add to Outputs

playlist-wavetable.txt contains

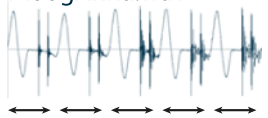
```
disting playlist v1
MoogAnnaSwp.wav
-wavelength=1024
Blofeld_Jupiter.wave
-wavelength=128
ES_Trumpet
```

The ES_Trumpet folder has 12 separate wav files for each cycle and a test file called "playlist.txt" contains...

```
disting playlist v1
Trumpet_01.wav
Trumpet_02.wav
Trumpet_03.wav
Trumpet_04.wav
Trumpet_05.wav
Trumpet_06.wav
```

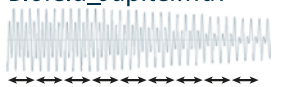
All wav files need to be 16 bit mono and any sample rate.

MoogAnna.wav



Sample Length is 1024 Samples for one cycle (This file has 16 cycles)

Blofeld_Jupiter.wav



Cycle Length is 128 Samples (This file has 64 cycles)

MULTI-SAMPLE PLAYLIST

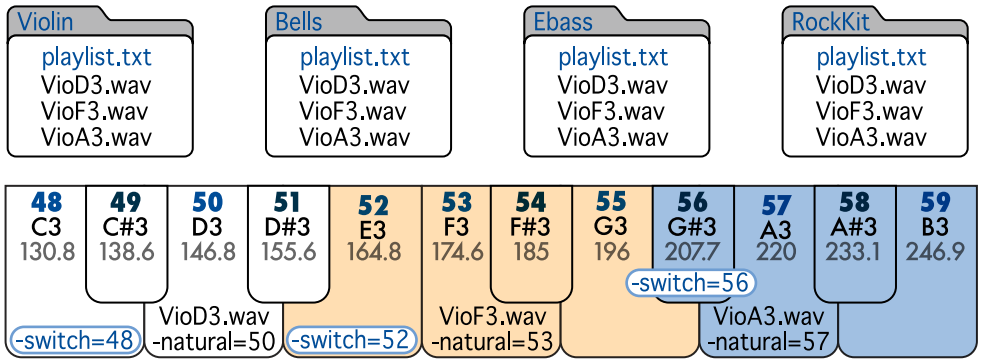
playlist-multi.txt (filename)

```
disting playlist v1
bells
violin
Ebass
RockKit
```

MULTI-SAMPLE FOLDER PLAYLIST

playlist.txt (filename)

```
disting playlist v1
-loop=0 (One-Shot)
-loop=1 (Loop)
-retriggerOnSampleChange=0
Sample.wav
-swtich=48
(Lowest Note of Sample)
-natural=50 (Pitch of Sample)
```



MIDI NUMBER, NOTE & FREQUENCY CHART with General Midi Drums

12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
C0	C#0	D0	D#0	E0	F0	F#0	G0	G#0	A0	A#0	B0	C1	C#1	D1	D#4	E1	F1	F#1	G1	G#1	A1	A#1	B1
16.4Hz	17.3Hz	18.4Hz	19.4Hz	20.6Hz	21.8Hz	23.1Hz	24.5Hz	26Hz	27.5Hz	29.1Hz	30.9Hz	32.7Hz	34.6Hz	36.7Hz	38.9Hz	41.2Hz	43.7Hz	46.2Hz	49Hz	51.9Hz	55Hz	58.3Hz	61.7Hz
																							Real Kick

36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
C2	C#2	D2	D#2	E2	F2	F#2	G2	G#2	A2	A#4	B2	C3	C#3	D3	D#3	E3	F3	F#3	G3	G#3	A3	A#3	B3
65.4Hz	69.3Hz	73.4Hz	77.8Hz	82.4Hz	87.3Hz	92.5Hz	98Hz	103.8Hz	110Hz	116.5Hz	123.5Hz	130.8	138.6	146.8	155.6	164.8	174.6	185	196	207.7	220	233.1	246.9
	Side Stick		Hand Clap			Closed H-Hat		Pedal Hi-Hat		Open Hi-Hat			Crash Cymbal		Ride Cymbal			Tambourine		More Cowbell		Vibraslap	
Kick Drum 1	Real Snare		Synth Snare		Low Floor Tom		High Floor Tom		Low Tom		Low Mid Tom	High Mid Tom		High Tom		China Cymbal	Ride Bell Cymbal		Splash Cymbal		Crash Cymbal 2		Ride Cymbal 2

60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
C4	C#4	D4	D#4	E4	F4	F#4	G4	G#4	A4	A#4	B4	C5	C#5	D5	D#5	E5	F5	F#5	G5	G#5	A5	A#5	B5
261.6	277.2	293.7	311.1	329.6	49.2	370	392	415.3	440	466.2	493.9	523.3	554.4	587.3	622.3	659.3	698.5	740	784	830.6	880	932.3	987.8
	Low Bongo		Open High Conga			Low Timbale		Low Agogo		Maracas			Short Guiro		Claves			Mute Cuica		Mute Triangle			
High Bongo	Mute High Conga		Low Conga		High Timbale		High Agogo		Cabasa	Short Whistle		Long Whistle		Long Guiro	High Wood Block		Low Wood Block		Open Cuica		Open Triangle		

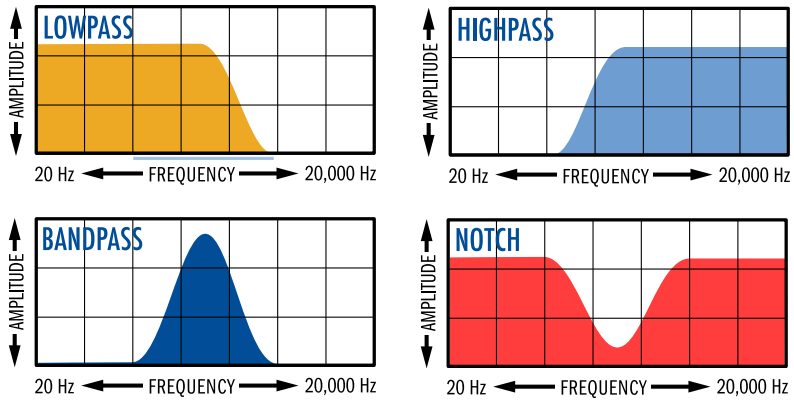
84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107
C6	C#6	D6	D#6	E6	F6	F#6	G6	G#6	A6	A#6	B6	C7	C#7	D7	D#7	E7	F7	F#7	G7	G#7	A7	A#7	B7
1046.5	1108.7	1174.7	1244.5	1318.5	1396.9	1480	1568	1661.2	1760	1864.7	1975.5	2093	2217.5	2349.3	2489	2637	2793.8	2960	3136	3322.4	3520	3729.3	3951.1

108
C8
4186

A6 F6 G7 H8 ● Scales in C for Quant.and Shift Register Quant. Modes

0	Chromatic	Chromatic	
1	Major	Major Scale	
2	Minor	Minor Scale	
3	Triad	Major Triad	
4	3b+5	Minor Triad	
5	Fifth	Root +5th	
6	Triad+6	Major Triad +6th	
7	3b+5+6	Minor Triad +6th	
8	Triad+7	Major Triad +7th	
9	3b+5+7	Minor Triad +7th	
10	5+6	Root +5th +6th	
11	5+7	Root +5th +7th	
12	Pent	Pentatonic Major	
13	Minor Pent	Pentatonic Minor	
14	Nat Minor	Natural Minor Scale	
15	Harm Minor	Harmonic Minor Scale	

D4 D5 D6 D7 D8



B4 Clockable Delay/Echo

Parameter 0 values

-15 _ 1/64	-3 _ 3/8
-14 _ 1/48	-2 _ 1/2
-13 _ 1/32	-1 _ 3/4
-12 _ 1/24	0 _ x1
-11 _ 1/16	1 _ x1.5
-10 _ 1/12	2 _ x2
-9 _ 1/8	3 _ x3
-8 _ 1/6	4 _ x4
-7 _ 3/16	5 _ x5
-6 _ 1/4	6 _ x6
-5 _ 5/16	7 _ x8
-4 _ 1/3	8 _ x16

✻G6 Clock Output for MIDI Clock

Parameter 0 and 1 values

-2 _ Run/stop	5 _ 1/6
-1 _ Reset pulse	6 _ 1/4
0 _ 1/32	7 _ 1/3
1 _ 1/24	8 _ 1/2
2 _ 1/16	9 _ 1/1
3 _ 1/12	10 _ 2/1
4 _ 1/8	11 _ 3/1
	12 _ 4/1

G6 MIDI Output Clock

Parameter 2 values

0 _ 1/96	8 _ 1/4
1 _ 1/48	9 _ 1/3
2 _ 1/32	10 _ 1/2
3 _ 1/24	11 _ 1/1
4 _ 1/16	
5 _ 1/12	
6 _ 1/8	
7 _ 1/6	

SAMPLE PLAYLIST

playlist.txt

loop=0 (One-Shot)
loop=1 (Loop)
fadeOut=0
(1000 milliseconds=1 sec.)
fadeIn=0 (milliseconds)
gap=ms (Fade in & out)
retriggerOnSampleChange
(0=Off 1=On)
fixedPitch=0 (use CV)
fixedPitch=1 (normal)
fixedPitch=0.5 (half)
ramp=4 (Volts of B ramp)
triggers=8 (# of B trigs)
clocks (# of clocked playback)
wavelength (# of samples in single cycle waveform)
natural (File's natural Midi #)
switch (Switch Point Midi #)
playToCompletion (Dont trigger until sample completes)
useStartOnSampleChange (Preserve playback position or not)

MIDI PLAYLIST

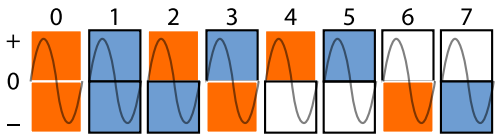
midi-playlist.txt

loop=0 (One-Shot)
loop=1 (Loop)
zeroVNote=48 (Midi note number on 0 volts)
bendRange=2(semitones)
cc1offset=0
(CC#1 Volt Offset)
cc1scale=5
(CC#1 Volt Range)
cc2offset=0
(CC#2 Volt Offset)
cc2scale=5
(CC#2 Volt Range)

C8 ▼ Bit Crusher Parameters

Type I = Discontinuous Bit Reduction stages
Type II = Smooth transition between stages

Parameter 0 Type Chart



Parameter 1 Mange Mode Chart

0	1	2	3	4	5	6	7
NONE	BIT SWAP 1	BIT SWAP 2	BIT SWAP 3	BIT RO-TATE	XOR 1	XOR 2	XOR 3

SCALA SUPPORT

"scl" Folder in root
"kbm" Folder in root
logTables_16_20.bin File in root
playlist-scales.txt File in root
disting playlist v1
-kbm=example.kbm
equal.scl
pyth_7a.scl

FAVORITES

Favourites.txt file in root
disting favorites v2
A1
B3
C1
A2
J8
D5... (up to 16 favorites)

L4 ▼ Vowel Descriptions

P.0: Vowel A P.1: Vowel B

-1	Z	Sweep	4	er	bird
0	ow	bought	5	ae	bat
1	oo	boot	6	e	bet
2	a	hot	7	i	bit
3	uh	but	8	iy	beet

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