Drone Bank: dr0 through dr9							
Patch	Description	Freq	Mod	Fist	Clock	Quantum	
dr0	3 x Square wave drones with resonant feedback delay	Pitch of OSC 1	Pitch of OSC2	Delay Length	Clock signal = OSC 3	OFF - low feedback ON - High feedback	
dr I	Triangle and Square with resonant feedback delay, offset and wavefolding	Pitch of Triangle OSC 1	Pitch of Triangle OSC 2	Wavefold Speed/rate of offset	Clock signal = OSC 3	ON - Distortion	
dr2	Ramp and Square with resonant feedback delay, offset and wavefolding	Pitch of Ramp OSC 1	Pitch of Ramp OSC 2	Wavefold Speed/rate of offset	Clock signal = OSC 3	ON - Distortion	
dr∃	AM Square wave drones with feedback	Pitch of OSC 1	Pitch of OSC 2	AM Rate (OSC 1)	Clock signal = OSC 3	ON - Wavefolding	
dr4	Dual Noise Drone (Low frequency)	Pitch of Noise 1	Pitch of Noise 2	AM Rate of noise 2	Clock signal gates Noise 1 (AM)	ON - distortion and folding	
dr5	Dual Noise Drone (High frequency)	Pitch of Noise 1	Pitch of Noise 2	AM Rate of noise 2	Clock signal gates Noise 1 (AM)	ON - distortion and folding	
dr6	Stretch Drone 1 + feedback	Pitch of OSC 1	Pitch of OSC 2	Pitch Stretch	Clock signal =	ON - Disables	
dr7	Stretch Drone 2 + feedback			Amount	OSC 3	ext clock signal and	
dr8	Stretch Drone 3 + feedback					makes OSC 3 pitch relative to OSC 1 - Fist selects ratio	
dr9	Ramp + Triangle + Square Drone with delay	Pitch of Ramp OSC	Pitch of Triangle OSC	Select mix between Ramp and Triangle OSCs	When Clock = HIGH, Ramp and Triangle mix ratio is inverted	ON - XOR distortion	

Rotating/Animated Wave shaper:  $\neg A0$  through  $\neg A9$  +

rbO through rb9

Patch	Description	Freq	Mod	Fist	Clock	Quantum
-AO-9	A wavetable sound	Pitch of	Wave shape	Rotation	Clock	ON -
	is feedthrough a	OSC 1	function	factor of	signal =	Distortion
rb0-9	wave shaping table		select (32	selected	SUB OSC	
, 00 7	that can be		different	wave		OFF - No
	rotated with		shapes	shape		Distortion
	feedback delay		available)	table		
	added.					
	Clock input					
	provides a square					
	wave sub					
	oscillator.					

To get started with these banks of patches, turn MOD to the lowest (furthest counter clock wise) most position. This will select a linear ramp wave shape. Next turn FIST to the lowest (furthest counter clockwise) most position.

Lastly, turn CLK RATE to the lowest setting (further most counter clockwise), which will disable the square wave sub-oscillator.

With these settings, a pure wavetable oscillator can be heard and the pitch can be altered with  $FREQ\ knob$ .

Now slowly rotate the FIST knob which will rotate the wave shape table by an amount relative to its position.

Next, change the position of the MOD knob to select a different wave shaping table, then repeat slow rotation of the FIST knob to hear a slightly different sound as the wave shaper is rotated.

Bank rA0 through rA9 contains sine waves with multiple sub-harmonics.

Bank rb0 through rb9 contains single duty waveforms that are suited for producing bass sounds.

Single Glitch: PEO through PE9 + bEO through bE9 +

ACO through ACS + ECO through ECS

Ci.	iiougii					
Patch	Description	Freq	Mod	Fist	Clock	Quantum
PC0-9	A wavetable	Pitch of	Selects the	Selects	Clock	ON - external
1, 50 7	sound fed	OSC 1	glitch (32	the	signal	clock input
600-9	through a		different	wet/dry	= SUB	disabled and
	glitch		glitches	mix of	OSC	clock rate knob
ACO-9	algorithm		available)	the		controls the
	with feedback			glitch		frequency of the
ECO-9	delay. Clock			sound.		square wave sub
	provides a					oscillator
	square wave					relative to the
	sub-					pitch of OSC 1
	oscillator					OFF - clock rate
						directly drives
						the sub
						oscillator

To get started with these banks of patches, turn both the MOD and FIST knobs to their middle most position (12 o'clock).

Now slowly rotate the FIST knob across its full range to hear the wet/dry mix change from full glitch (most clock wise position) to no glitch (most counter clock wise position).

Bank PCO through PC9 contains sine waves with multiple sub-harmonics.

Bank  $b \Box 0$  through  $b \Box 9$  contains single duty waveforms that are suited for producing bass sounds.

Bank AEO through AEO contains single duty standard waveforms (ramp, triangle, single etc).

Bank  $\mathcal{ECO}$  through  $\mathcal{ECO}$  contains single duty standard waveforms of more exotic shapes.

Alias VCO: PRO through PRS + bRO through bRS +

AAO through AA9 + EAO through EA9

Patch	Description	Freq	Mod	Fist	Clock	Quantum
PAO-9	A wavetable	Pitch of	Selects the	PWM -	Clock	OFF - Delay
ב טויין	oscillator	OSC 1	wave shaper	centre	signal	disabled
680-9	with wave		(16	position	= SUB	
	shaping, PWM		available)	is 50%	OSC	ON - Delay
AAO- 9	and feedback			duty		enabled
	delay. Clock			cycle.		
EAO-9	provides a					
	square wave					
	sub-					
	oscillator					

To get started with these banks of patches, place the FIST knob in the middle position (12 o'clock) and the MOD knob in its lowest (most clockwise position). Slowly move the FIST knob to hear PWM. Now move the MOD knob to select different wave shapers that add different distortions to the sounds.

Bank PAO through PAS contains sine waves with multiple sub-harmonics.

Bank 600 through 600 contains single duty waveforms that are suited for producing bass sounds.

Bank AA0 through AA9 contains single duty standard waveforms (ramp, triangle, single etc).

Bank EAO through EAO contains single duty standard waveforms of more exotic shapes.

Double Glitch: Pd0 through Pd9 + bd0 through bd9 +

AdO through Ad9 + EdO through Ed9

Patch Description Freq Mod Fist Clock Quantum  PdO-9 Dual glitches with with bdO-9 feedback delay. Clock AdO-9 provides a square wave sub-oscillator Select clock Select the mix balance between coscillator Select signal selects mix balance between the 2 glitches.  Clock Quantum  Select clock the mix signal selects mix balance between no glitch and full glitch.  ON - FIST select mix balance between 2		iiougii •••••		04911 <b></b>			
bd0-9 with with osc 1 osc 2 the mix balance between no glitch and full glitch.  bd0-9 sub- oscillator osc 1 osc 2 the mix balance between the 2 glitches.  contact the mix balance between no glitch and full glitch.  contact the mix balance signal selects mix balance between no glitch and full glitch.  contact the mix balance signal selects mix balance between no glitch and full glitch.  contact the mix balance signal selects mix balance between no glitch and full glitch.	Patch	Description	Freq	Mod	Fist	Clock	Quantum
glitches and also modifies glitch parameters.	Pd0-9 6d0-9 8d0-9	Dual glitches with with feedback delay. Clock provides a square wave sub-	Pitch of		the mix balance between the 2	signal = SUB	OFF - FIST selects mix balance between no glitch and full glitch.  ON - FIST select mix balance between 2 glitches and also modifies glitch

Bank Pd0 through Pd9 contains sine waves with multiple sub-harmonics.

Bank  $bd\bar{0}$  through  $bd\bar{9}$  contains single duty waveforms that are suited for producing bass sounds.

Bank AdO through AdO contains single duty standard waveforms (ramp, triangle, singe etc).

Bank Ed0 through Ed9 contains single duty standard waveforms of more exotic shapes.