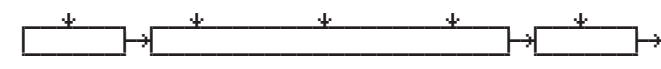


Chapter 3

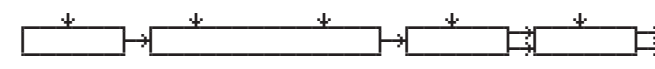
DSP Algorithms

Algorithm 1



PITCH	HIFREQ STIMULATOR	AMP
	PARAMETRIC EQ	
	STEEP RESONANT BASS	
	4POLE LOPASS W/SEP	
	4POLE HIPASS W/SEP	
	TWIN PEAKS BANDPASS	
	DOUBLE NOTCH W/SEP	
	NONE	

Algorithm 2



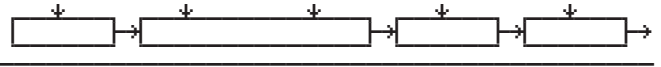
PITCH	2PARAM SHAPER	PANNER	AMP
	2POLE LOWPASS		
	BANDPASS FILT		
	NOTCH FILTER		
	2POLE ALLPASS		
	PARA BASS		
	PARA TREBLE		
	PARA MID		
	NONE		

Algorithm 3



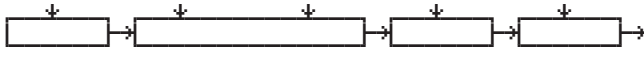
- | | | | |
|-------|---------------|-------|-------|
| PITCH | 2PARAM SHAPER | AMP U | AMP L |
| | 2POLE LOWPASS | BAL | AMP |
| | BANDPASS FILT | | |
| | NOTCH FILTER | | |
| | 2POLE ALLPASS | | |
| | NONE | | |

Algorithm 4



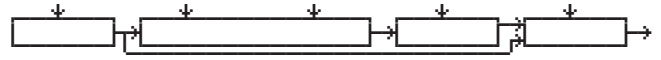
- | | | | |
|-------|---------------|--------|-----|
| PITCH | 2PARAM SHAPER | LPCLIP | AMP |
| | 2POLE LOWPASS | SINE+ | |
| | BANDPASS FILT | NOISE+ | |
| | NOTCH FILTER | LOPASS | |
| | 2POLE ALLPASS | HIPASS | |
| | PARA BASS | ALPASS | |
| | PARA TREBLE | GAIN | |
| | PARA MID | SHAPER | |
| | NONE | DIST | |
| | | SW+SHP | |
| | | SAW+ | |
| | | SW+DST | |
| | | NONE | |

Algorithm 5



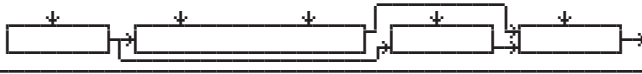
- | | | | |
|-------|---------------|--------|-----|
| PITCH | 2PARAM SHAPER | LP2RES | AMP |
| | 2POLE LOWPASS | SHAPE2 | |
| | BANDPASS FILT | BAND2 | |
| | NOTCH FILTER | NOTCH2 | |
| | 2POLE ALLPASS | LOPAS2 | |
| | PARA BASS | HIPAS2 | |
| | PARA TREBLE | LPGATE | |
| | PARA MID | NONE | |
| | NONE | | |

Algorithm 6



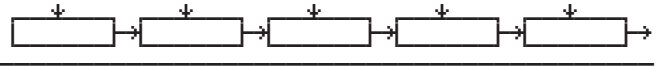
- | | | | |
|-------|---------------|--------|-------|
| PITCH | 2PARAM SHAPER | LPCLIP | x AMP |
| | 2POLE LOWPASS | SINE+ | + AMP |
| | BANDPASS FILT | NOISE+ | ! AMP |
| | NOTCH FILTER | LOPASS | |
| | 2POLE ALLPASS | HIPASS | |
| | NONE | ALPASS | |
| | | GAIN | |
| | | SHAPER | |
| | | DIST | |
| | | SW+SHP | |
| | | SAW+ | |
| | | SW+DST | |
| | | NONE | |

Algorithm 7



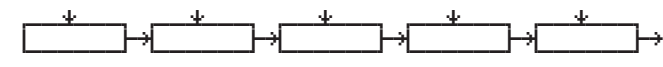
PITCH	2PARAM SHAPER	LPCLIP	x AMP
	2POLE LOWPASS	SINE+	+ AMP
	BANDPASS FILT	NOISE+	! AMP
	NOTCH FILTER	LOPASS	
	2POLE ALLPASS	HIPASS	
	NONE	ALPASS	
		GAIN	
		SHAPER	
		DIST	
		SINE	
		LF SIN	
		SW+SHP	
		SAW+	
		SW+DST	
		NONE	

Algorithm 8



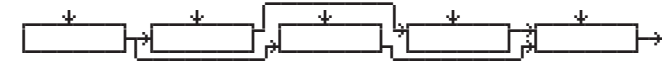
PITCH	LOPASS	LOPASS	LPCLIP	AMP
	HIPASS	HIPASS	SINE+	
	ALPASS	ALPASS	NOISE+	
	GAIN	GAIN	LOPASS	
	SHAPER	SHAPER	HIPASS	
	DIST	DIST	ALPASS	
	PWM	SW+SHP	GAIN	
	SINE	SAW+	SHAPER	
	LF SIN	WRAP	DIST	
	SW+SHP	NONE	SW+SHP	
	SAW+		SAW+	
	SAW		SW+DST	
	LF SAW		NONE	
	SQUARE			
	LF SQR			
	WRAP			
	NONE			

Algorithm 9



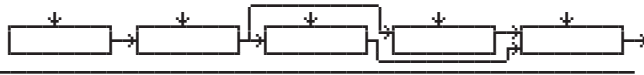
PITCH	LOPASS	LOPASS	LP2RES	AMP
	HIPASS	HIPASS	SHAPE2	
	ALPASS	ALPASS	BAND2	
	GAIN	GAIN	NOTCH2	
	SHAPER	SHAPER	LOPAS2	
	DIST	DIST	HIPAS2	
	PWM	SW+SHP	LPGATE	
	SINE	SAW+	NONE	
	LF SIN	WRAP		
	SW+SHP	NONE		
	SAW+			
	SAW			
	LF SAW			
	SQUARE			
	LF SQR			
	WRAP			
	NONE			

Algorithm 10



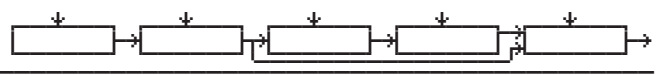
PITCH	LOPASS	LOPASS	LPCLIP	x AMP
	HIPASS	HIPASS	SINE+	+ AMP
	ALPASS	ALPASS	NOISE+	! AMP
	GAIN	GAIN	LOPASS	
	SHAPER	SHAPER	HIPASS	
	DIST	DIST	ALPASS	
	PWM	SINE	GAIN	
	SINE	LF SIN	SHAPER	
	LF SIN	SW+SHP	DIST	
	SW+SHP	SAW+	SW+SHP	
	SAW+	SAW	SAW+	
	SAW	LF SAW	SW+DST	
	LF SAW	SQUARE	NONE	
	SQUARE	LF SQR		
	LF SQR	WRAP		
	WRAP	NONE		
	NONE			

Algorithm 11



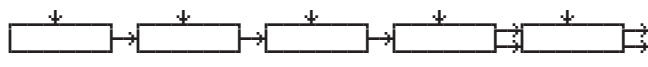
PITCH	LOPASS	LOPASS	LPCLIP	x AMP
	HIPASS	HIPASS	SINE+	+ AMP
	ALPASS	ALPASS	NOISE+	! AMP
	GAIN	GAIN	LOPASS	
	SHAPER	SHAPER	HIPASS	
	DIST	DIST	ALPASS	
	PWM	SINE	GAIN	
	SINE	LF SIN	SHAPER	
	LF SIN	SW+SHP	DIST	
	SW+SHP	SAW+	SINE	
	SAW+	SAW	LF SIN	
	SAW	LF SAW	SW+SHP	
	LF SAW	SQUARE	SAW+	
	SQUARE	LF SQR	SW+DST	
	LF SQR	WRAP	NONE	
	WRAP	NONE		
	NONE			

Algorithm 12



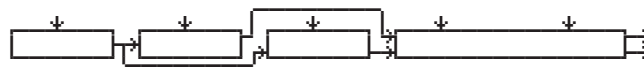
PITCH	LOPASS	LOPASS	LPCLIP	x AMP
	HIPASS	HIPASS	SINE+	+ AMP
	ALPASS	ALPASS	NOISE+	! AMP
	GAIN	GAIN	LOPASS	
	SHAPER	SHAPER	HIPASS	
	DIST	DIST	ALPASS	
	PWM	PWM	GAIN	
	SINE	SINE	SHAPER	
	LF SIN	LF SIN	DIST	
	SW+SHP	SW+SHP	SW+SHP	
	SAW+	SAW+	SAW+	
	SAW	SAW	SW+DST	
	LF SAW	LF SAW	NONE	
	SQUARE	SQUARE		
	LF SQR	LF SQR		
	WRAP	WRAP		
	NONE	NONE		

Algorithm 13



PITCH	LOPASS	LOPASS	PANNER	AMP
	HIPASS	HIPASS		
	ALPASS	ALPASS		
	GAIN	GAIN		
	SHAPER	SHAPER		
	DIST	DIST		
	PWM	SW+SHP		
	SINE	SAW+		
	LF SIN	WRAP		
	SW+SHP	NONE		
	SAW+			
	SAW			
	LF SAW			
	SQUARE			
	LF SQR			
	WRAP			
	NONE			

Algorithm 14



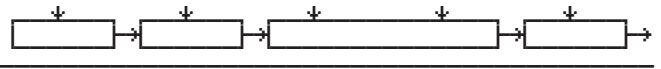
PITCH	LOPASS	LOPASS	AMP U	AMP L
	HIPASS	HIPASS	BAL	AMP
	ALPASS	ALPASS		
	GAIN	GAIN		
	SHAPER	SHAPER		
	DIST	DIST		
	SINE	SINE		
	LF SIN	LF SIN		
	SW+SHP	SW+SHP		
	SAW+	SAW+		
	SAW	SAW		
	LF SAW	LF SAW		
	SQUARE	SQUARE		
	LF SQR	LF SQR		
	WRAP	WRAP		
	NONE	NONE		

Algorithm 15



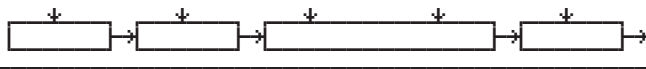
PITCH	LOPASS	LOPASS	AMP U	AMP L
	HIPASS	HIPASS	BAL	AMP
	ALPASS	ALPASS		
	GAIN	GAIN		
	SHAPER	SHAPER		
	DIST	DIST		
	PWM	SINE		
	SINE	LF SIN		
	LF SIN	SW+SHP		
	SW+SHP	SAW+		
	SAW+	SAW		
	SAW	LF SAW		
	LF SAW	SQUARE		
	SQUARE	LF SQR		
	LF SQR	WRAP		
	WRAP	NONE		
	NONE			

Algorithm 16



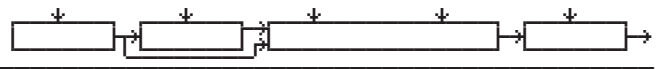
PITCH	LOPASS	PARA BASS	AMP
	HIPASS	PARA TREBLE	
	ALPASS	NONE	
	GAIN		
	SHAPER		
	DIST		
	SINE		
	LF SIN		
	SW+SHP		
	SAW+		
	SAW		
	LF SAW		
	SQUARE		
	LF SQR		
	WRAP		
	NONE		

Algorithm 17



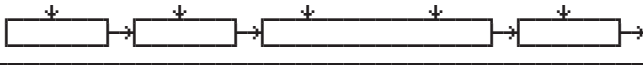
- | | | | |
|-------|--------|---------------|-----|
| PITCH | LOPASS | SHAPE MOD OSC | AMP |
| | HIPASS | AMP MOD OSC | |
| | ALPASS | NONE | |
| | GAIN | | |
| | SHAPER | | |
| | DIST | | |
| | PWM | | |
| | SINE | | |
| | LF SIN | | |
| | SW+SHP | | |
| | SAW+ | | |
| | SAW | | |
| | LF SAW | | |
| | SQUARE | | |
| | LF SQR | | |
| | WRAP | | |
| | NONE | | |

Algorithm 18



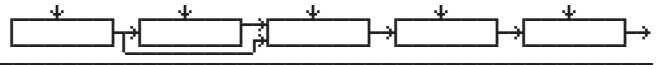
- | | | | |
|-------|--------|----------------|-----|
| PITCH | LOPASS | x SHAPEMOD OSC | AMP |
| | HIPASS | + SHAPEMOD OSC | |
| | ALPASS | NONE | |
| | GAIN | | |
| | SHAPER | | |
| | DIST | | |
| | SINE | | |
| | LF SIN | | |
| | SW+SHP | | |
| | SAW+ | | |
| | SAW | | |
| | LF SAW | | |
| | SQUARE | | |
| | LF SQR | | |
| | WRAP | | |
| | NONE | | |

Algorithm 19



- | | | | |
|-------|--------|---------------|-----|
| PITCH | LOPAS2 | SHAPE MOD OSC | AMP |
| | NONE | NONE | |

Algorithm 20



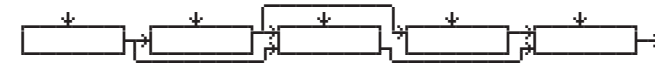
- | | | | | |
|-------|--------|--------|--------|-----|
| PITCH | LOPASS | x GAIN | LPCLIP | AMP |
| | HIPASS | + GAIN | SINE+ | |
| | ALPASS | XFADE | NOISE+ | |
| | GAIN | AMPMOD | LOPASS | |
| | SHAPER | NONE | HIPASS | |
| | DIST | | ALPASS | |
| | SINE | | GAIN | |
| | LF SIN | | SHAPER | |
| | SW+SHP | | DIST | |
| | SAW+ | | SW+SHP | |
| | SAW | | SAW+ | |
| | LF SAW | | SW+DST | |
| | SQUARE | | NONE | |
| | LF SQR | | | |
| | WRAP | | | |
| | NONE | | | |

Algorithm 21



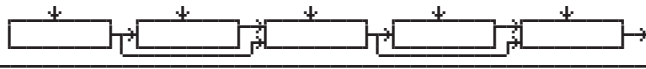
PITCH	LOPASS	x GAIN	LP2RES	AMP
	HIPASS	+ GAIN	SHAPE2	
	ALPASS	XFADE	BAND2	
	GAIN	AMPMOD	NOTCH2	
	SHAPER	NONE	LOPAS2	
	DIST		HIPAS2	
	SINE		LPGATE	
	LF SIN		NONE	
	SW+SHP			
	SAW+			
	SAW			
	LF SAW			
	SQUARE			
	LF SQR			
	WRAP			
	NONE			

Algorithm 22



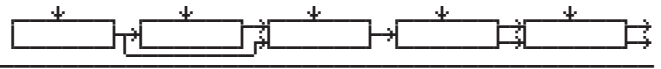
PITCH	LOPASS	x GAIN	LPCLIP	x AMP
	HIPASS	+ GAIN	SINE+	+ AMP
	ALPASS	XFADE	NOISE+	! AMP
	GAIN	AMPMOD	LOPASS	
	SHAPER	NONE	HIPASS	
	DIST		ALPASS	
	SINE		GAIN	
	LF SIN		SHAPER	
	SW+SHP		DIST	
	SAW+		SINE	
	SAW		LF SIN	
	LF SAW		SW+SHP	
	SQUARE		SAW+	
	LF SQR		SW+DST	
	WRAP		NONE	
	NONE			

Algorithm 23



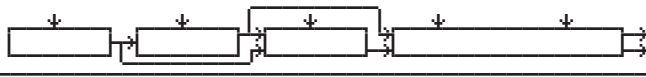
PITCH	LOPASS	x GAIN	LPCLIP	x AMP
	HIPASS	+ GAIN	SINE+	+ AMP
	ALPASS	XFADE	NOISE+	! AMP
	GAIN	AMPMOD	LOPASS	
	SHAPER	NONE	HIPASS	
	DIST		ALPASS	
	SINE		GAIN	
	LF SIN		SHAPER	
	SW+SHP		DIST	
	SAW+		SINE	
	SAW		LF SIN	
	LF SAW		SW+SHP	
	SQUARE		SAW+	
	LF SQR		SW+DST	
	WRAP		NONE	
	NONE			

Algorithm 24



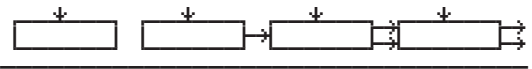
PITCH	LOPASS	x GAIN	PANNER	AMP
	HIPASS	+ GAIN		
	ALPASS	XFADE		
	GAIN	AMPMOD		
	SHAPER	NONE		
	DIST			
	SINE			
	LF SIN			
	SW+SHP			
	SAW+			
	SAW			
	LF SAW			
	SQUARE			
	LF SQR			
	WRAP			
	NONE			

Algorithm 25



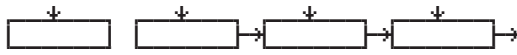
- | | | | | |
|-------|--------|--------|-------|-------|
| PITCH | LOPASS | x GAIN | AMP U | AMP L |
| | HIPASS | + GAIN | BAL | AMP |
| | ALPASS | XFADE | | |
| | GAIN | AMPMOD | | |
| | SHAPER | NONE | | |
| | DIST | | | |
| | SINE | | | |
| | LF SIN | | | |
| | SW+SHP | | | |
| | SAW+ | | | |
| | SAW | | | |
| | LF SAW | | | |
| | SQUARE | | | |
| | LF SQR | | | |
| | WRAP | | | |
| | NONE | | | |

Algorithm 26



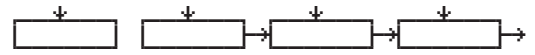
- | | | | |
|--------|--------|--------|-----|
| SYNC M | SYNC S | PANNER | AMP |
|--------|--------|--------|-----|

Algorithm 27



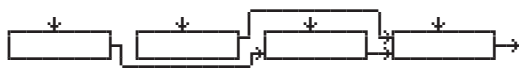
-
- | | | | |
|--------|--------|--------|-----|
| SYNC M | SYNC S | LPCLIP | AMP |
| | | SINE+ | |
| | | NOISE+ | |
| | | LOPASS | |
| | | HIPASS | |
| | | ALPASS | |
| | | GAIN | |
| | | SHAPER | |
| | | DIST | |
| | | SINE | |
| | | LF SIN | |
| | | SW+SHP | |
| | | SAW+ | |
| | | SW+DST | |
| | | NONE | |

Algorithm 28



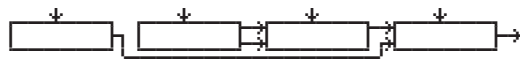
-
- | | | | |
|--------|--------|--------|-----|
| SYNC M | SYNC S | LP2RES | AMP |
| | | SHAPE2 | |
| | | BAND2 | |
| | | NOTCH2 | |
| | | LOPAS2 | |
| | | HIPAS2 | |
| | | LPGATE | |
| | | NONE | |

Algorithm 29



- | | | | |
|--------|--------|--------|-------|
| SYNC M | SYNC S | LPCLIP | x AMP |
| | | SINE+ | + AMP |
| | | NOISE+ | ! AMP |
| | | LOPASS | |
| | | HIPASS | |
| | | ALPASS | |
| | | GAIN | |
| | | SHAPER | |
| | | DIST | |
| | | SINE | |
| | | LF SIN | |
| | | SW+SHP | |
| | | SAW+ | |
| | | SW+DST | |
| | | NONE | |

Algorithm 30



- | | | | |
|--------|--------|--------|-------|
| SYNC M | SYNC S | LPCLIP | x AMP |
| | | SINE+ | + AMP |
| | | NOISE+ | ! AMP |
| | | LOPASS | |
| | | HIPASS | |
| | | ALPASS | |
| | | GAIN | |
| | | SHAPER | |
| | | DIST | |
| | | SINE | |
| | | LF SIN | |
| | | SW+SHP | |
| | | SAW+ | |
| | | SW+DST | |
| | | NONE | |

Algorithm 31



- | | | | |
|--------|--------|-------|-------|
| SYNC M | SYNC S | AMP U | AMP L |
| | | BAL | AMP |

