



ARPEGGIATOR

Active Range Tempo Clock: Mode

on off hold 102 103 105 106

1 48/midi 104

up down alternating random Assign up Assign down Assign alternating

PORTAMENTO

Portamento Mode

127 62

0 X normal legato

PITCHBEND

Pitchbend scale intensity of the pitchbend

24 63

0

MIDI

GLOBAL

Mastertune 430...450

Reference pitch is A⁴ (MIDI note A3)
The preset value is 440 Hz.

Control X 0 - 127

Parameters suitable for:
Cutoff Mod Source
Pitch Mod Source
Mod Unit 1...4 Source

OSC1

Semitone Tune Shape Pulsewidth

48 31 127 =50% D01

-48 -32 34 35

PLS pulse (square with variable pulsewidth)
SAT sawtooth
TRI triangle

OSC2

Semitone Tune Shape Pulsewidth

48 31 127 =50% D02

-48 -32 34 35

PLS pulse (square with variable pulsewidth)
SAT sawtooth
TRI triangle

CRS cross mod 38

XOR combination of the square waveshapes of Oscillators 2 and 3

OSC2 OSC3 CROSS

OSC3

Semitone Tune Shape Pulsewidth

48 31 127 =50% D03

-48 -32 34 35

PLS pulse (square)
SAT sawtooth
TRI triangle

OSC2 slave OSC3 master sync cross modulation

VCO

MIX

Osc1 Osc2 Osc3 Noise (pink)

127 127 127 127 D06 D07 D08 D09

0 0 0 0 45 46 47 48

one oscillator, the signal is overdriven somewhere in the volume value range of 40.
more than one oscillator, a volume value of approx. 30 is the overdrive threshold for each oscillator

MIXER

Depth 100%

Key pressed Key released

Attack Decay Sustain Release Time

ENV1

Attack Decay Sustain Release Keytrack Trigger

127 127 127 127 63 29

0 0 0 0 -63 28

ENV2

Attack Decay Sustain Release Keytrack Trigger

127 127 127 127 63 31

0 0 0 0 -63 30

VCF

Cutoff Keytrack Env1 Sens Velo Sens Cutoff Mod Source Resonance

127 63 63 63 63 127 D10 D11

0 -63 -63 -63 -63 0 56

50 51 52 53 55 54

0 Off
1 LFO1
2 LFO1*Modw.
3 LFO1*Aftert.
4 LFO2
5 LFO2*Env1
6 Envelope 1
7 Envelope 2
8 Velocity
9 Keytrack
10 Pitch follow
11 Pitchbend
12 Modwheel
13 Aftertouch
14 Breath Ctr.
15 Control X

MODULATIONS

Select Source (Sxx) Amount Destination (Dxx)

1 108 110
2 111 113
3 114 116
4 117 119

63 -63

LFO

LFO1 LFO2

Speed Shape Speed Delay

127 127 127 127 D14

0 0 0 0 24 25 26 27

sine triangle sawtooth pulse sample & hold triangle sync sawtooth sync pulse sync

PITCH

Pitch mod Source

63 61 D00

-63 60

0 Off
1 LFO1
2 LFO1*Modw.
3 LFO1*Aftert.
4 LFO2
5 LFO2*Env1
6 Envelope 1
7 Envelope 2
8 Velocity
9 Keytrack
10 Pitch follow
11 Pitchbend
12 Modwheel
13 Aftertouch
14 Breath Ctr.
15 Control X

MOD

Select Source (Sxx)

1 108
2 111
3 114
4 117

0 Modulation off
1 LFO 1 signal
2 LFO 1 signal multiplied by the Modulation Wheel value (MIDI Controller 1)
3 LFO 1 signal multiplied by the MID Aftertouch value
4 LFO 2 signal
5 LFO 2 signal multiplied by Envelope 1
6 Envelope 1 signal
7 Envelope 2 signal
8 Velocity = MIDI Note Velocity
9 Keytrack = MIDI Note Number
10 Pitch Follow, same as Keytrack, but with portamento and pitchbend
11 MIDI Pitchbend signal
12 MIDI Modulation Wheel (Controller 1)
13 MIDI Aftertouch
14 MIDI Breath Control (Controller 2)
15 Control X, freely assignable MIDI Controller

VCA

Volume (program) Velo Sens Pan

127 63 63 D12 D13

0 -63 -63 57 58 10

VOLUME

Volume (main)

127 07

MIDI CC

S12 01 0-127 Mod Wheel
S14 02 0-127 Breath Control
05 03 0-127 Portamento Time
64 04 0-127 Sustain Switch
121 05 0 Reset All Control
123 06 0 All Notes Off

Legend

midi signal
internal signal
audio signal
61 midi # CC
Sxx /Dxx source / destination