dafm synth
genesis ym2612 and ym3438

KASSER SYNTHS
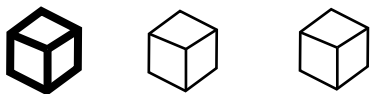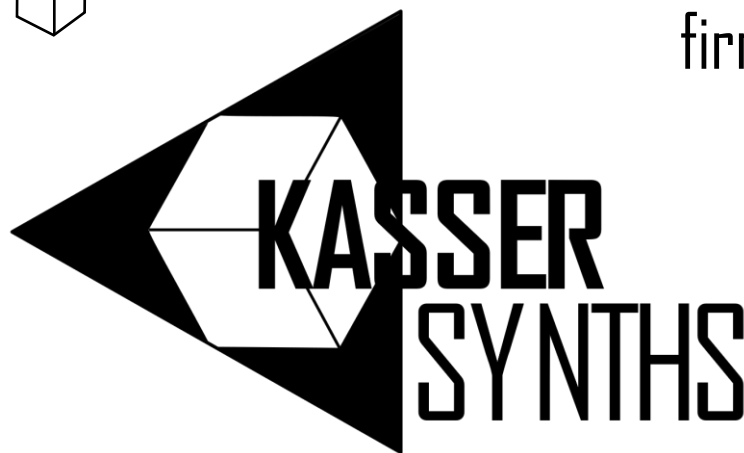
THANKS for joining the **DAFM Synth** WAVE

on / off - volume

power in
(usb 5v)

midi in
(din 5 connector)

audio out
(3.5 mm jack)

operator 1
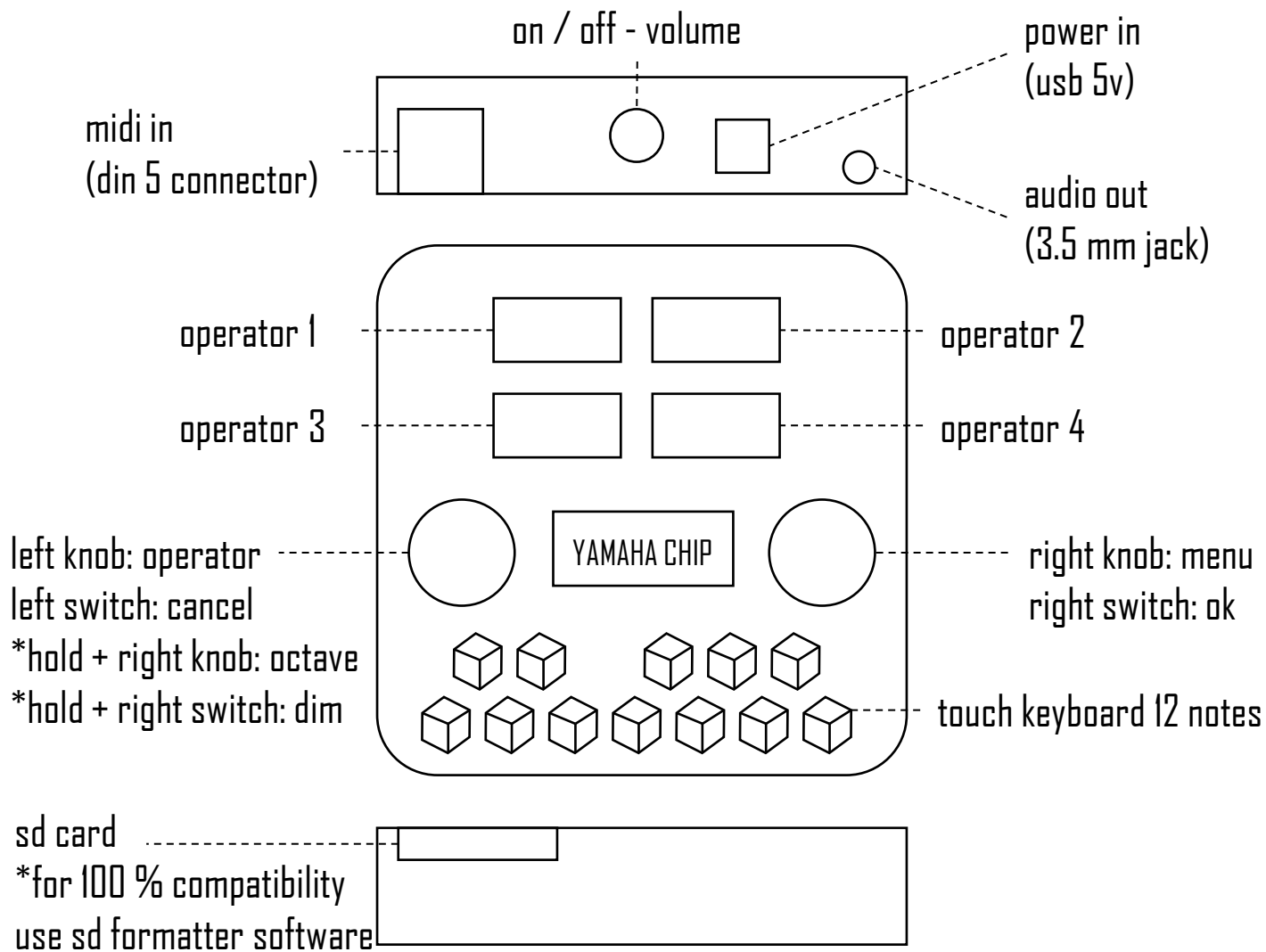
operator 2

operator 3

operator 4

left knob: operator

YAMAHA CHIP

right knob: menu

left switch: cancel

right switch: ok

*hold + right knob: octave

*hold + right switch: dim

touch keyboard 12 notes

sd card
*for 100 % compatibility
use sd formatter software

menu 1 feedback, algorithm & velocity control

1.1 feedback <u>left knob</u>

degree of modulation of operator 1 to itself

1.1 algorithm <u>right knob</u>

modulators are the operators that modulate the carriers carriers are the operators you can hear

1.2 velocity <u>right knob</u>

on/off midi velocity controlled operators

menu 2 frequency ratio

2.1 frequency multiplier <u>left knob</u>

operator's frequency multiplier

2.1 frequency fine detune <u>right knob</u>

fine detune of selected frequency multiplier

*different frequency ratios between carrier and its modulator will produce different overtones

menu 3 adsr envelope

3.1 attack rate <u>left knob</u>

3.1 total level <u>right knob</u>

3.2 decay rate <u>left knob</u>

3.2 secondary total level <u>right knob</u>

3.3 secondary decay rate <u>left knob</u>

3.3 release rate <u>right knob</u>

3.4 rate or key scaling <u>right knob</u>

menu 4 low frequency oscillator (lfo)

4.1 lfo on/off <u>left knob</u>

global for 4 operators

4.1 lfo frequency <u>right knob</u>

global for 4 operators

4.2 frequency modulation sensitivity <u>right knob</u>

global for 4 operators

4.3 amplitude modulation on/off <u>left knob</u>

for every individual operator

4.3 amplitude modulation sensitivity <u>right knob</u>

global for 4 operators

menu 5 ssg envelope generator

5.1 ssg eg mode on/off <u>left knob</u>

5.2 ssg eg type <u>right knob</u>

*ssg eg mode will loop the adsr envelope in the corresponding operator from attack rate to secondary decay rate (both included)

menu 6 fm patches and midi channels

6.1 edit <u>midi ch/bank 0</u> preset selection <u>left knob</u>

6.2 save preset in midi ch selection <u>left knob</u>

*number: midi channel   number : midi bank 0 preset

*midi channel 1 has 6 voice polyphony
midi channels 2 – 6 are monophonic

*number on top shows the preset that is being edited

6.3 load six presets from sd card to midi channels

*presets need to be named as patch0x.dmp (x from 1 to 6)

6.4 save all six presets from midi ch to sd card

*presets need to be renamed from patch0x.DMP to patch0x.dmp (x from 1 to 6) to load correctly on Deflemask software

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midi cc implementation chart

global control

parameter	cc	data range
lfo on/off	74	2
lfo frequency	1	8

channel voice control

parameter	cc	data range
pitch bend amount	81	12
fm algorithm	14	8
fm feedback	15	8
stereo configuration	77	4
amplitude modulation sensitivity	76	4
frequency modulation sensitivity	75	8

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operator control

parameter	cc	data range
total level op1	16	128
total level op2	17	128
total level op3	18	128
total level op4	19	128
freq multiplier op1	20	16
freq multiplier op2	21	16
freq multiplier op3	22	16
freq multiplier op4	23	16
detune op1	24	7
detune op2	25	7
detune op3	26	7
detune op4	27	7
rate or key scaling op1	39	4
rate or key scaling op2	40	4
rate or key scaling op3	41	4
rate or key scaling op4	42	4

operator control

parameter	cc	data range
attack rate op1	43	32
attack rate op2	44	32
attack rate op3	45	32
attack rate op4	46	32
decay rate op1	47	32
decay rate op2	48	32
decay rate op3	49	32
decay rate op4	50	32
secondary decay rate op1	51	16
secondary decay rate op2	52	16
secondary decay rate op3	53	16
secondary decay rate op4	54	16
secondary total level op1	55	16
secondary total level op2	56	16
secondary total level op3	57	16
secondary total level op4	58	16

midi cc implementation chart

operator control

parameter	cc	data range
release rate op1	**59**	16
release rate op2	**60**	16
release rate op3	**61**	16
release rate op4	**62**	16
amplitude modulation on/off op1	**70**	2
amplitude modulation on/off op2	**71**	2
amplitude modulation on/off op3	**72**	2
amplitude modulation on/off op4	**73**	2

operator control

parameter	cc	data range
ssg eg mode on/off op1	**106**	2
ssg eg mode on/off op2	**107**	2
ssg eg mode on/off op3	**108**	2
ssg eg mode on/off op4	**109**	2
ssg eg type op1	**110**	8
ssg eg type op2	**111**	8
ssg eg type op3	**112**	8
ssg eg type op4	**113**	8

midi bank 0 presets

videogame	preset
sonic the hedgehog – green hill zone	**0** : bass **1** : melody (CCACBCBG)
sonic the hedgehog 2 - chemical plant zone	**2** : horn **3** : guitar
sonic the hedgehog 3 – ice cap city	**4** : percussive ice pipe **5** : bass; **6** : synth
streets of rage – keep the groovin'	**7** : piano **8** : brass
streets of rage 2 – go straight	**9** : bass **10** : organ; **11** : horn
streets of rage 2 – dreamer	**12** : bass; **13** : hihat; **14** : piano; **15** : dist piano
toe jam & earl, panic on funkotron - theme song	**16** : funk bass **17** : pluck bass
toe jam & earl, panic on funkotron - mellow groove	**18** : overdrive guitar **19** : wow

videogame	preset
ecco the dolphin – opening theme	**20** : pad **21** : percussion
time trax – title screen, credits	**22** : pad; **23** : bass **24** : dist guitar; **25** : tom **26** : snare; **27** : hihat
thunderforce iv – lighting strikes again	**28** : overdrive guitar **29** : tom
thunderforce iv – metal squad	**30** : piano
chakan: the forever man – intro theme	**31** : pad 1; **32** : pad 2; **33** : pad 3
dafm synth – original presets	**34** : bass; **35** : organ pad; **36** : guitar; **37** : brass **38** : snare; **39** : tom

midi bank 1 presets

- bank 1 corresponds to the sd card
- presets have to be saved in the sd card as instrxxx.dmp where xxx goes from 000 to 127
- program change midi messages can load these presets in the midi channel selected
- presets value range is from 0 to 127

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