

dafm synth

ARCADE ym2151



user quick guide

firmware v 1.98



check QR for full user manual

THANKS for joining the **DAFM Synth WAVE**

on / off - volume

midi in
(din 5 connector)

power in
(usb 5v)

audio out
(3.5 mm jack)

operator 1

operator 2

operator 3

operator 4

left knob: operator

left switch: cancel

*hold + right knob: octave

*hold + right switch: dim

*hold + touch 1 to 8: load
preset from midi ch 1 to 8

right knob: menu

right switch: ok

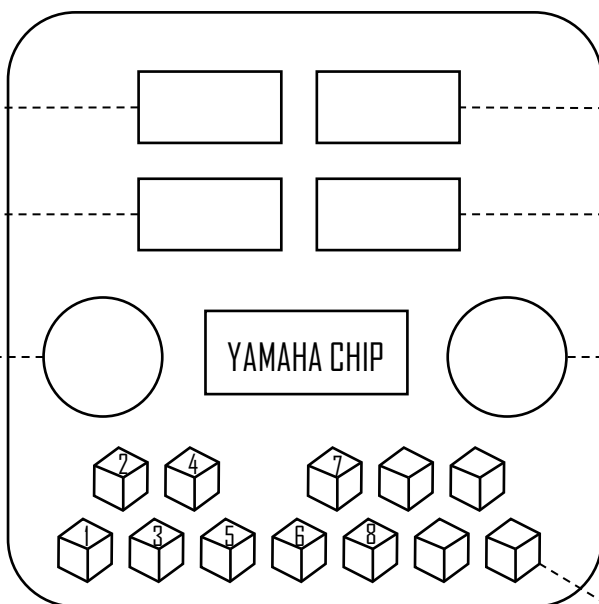
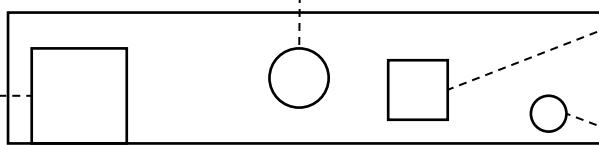
*hold + touch 1 to 8: save
preset to midi ch 1 to 8

touch keyboard 12 notes

sd card

*for 100 % compatibility
use sd formatter software

multitimbral
8 notes polyphony



menu 1 feedback, algorithm & velocity control

1.1 feedback left knob

degree of modulation of operator 1 to itself

1.1 algorithm right knob

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

1.2 velocity right knob

on/off midi velocity controlled operators

menu 3 adsr envelope

3.1 attack rate left knob

3.1 total level right knob

3.2 decay rate left knob

3.2 secondary total level right knob

3.3 secondary decay rate left knob

3.3 release rate right knob

3.4 rate or key scaling right knob

menu 5 low frequency oscillator (lfo)

5.1 phase modulation depth right knob

5.2 amplitude modulation depth right knob

5.3 phase and amplitude modulation waveform right knob

these submenus are selected with the left knob



menu 2 frequency ratio

2.1 frequency multiplier right knob

operator's frequency multiplier

2.2 frequency fine detune left knob

fine detune of selected frequency multiplier

2.2 frequency coarse detune 2 right knob

coarse detune of selected frequency multiplier

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

menu 4 low frequency oscillator (lfo)

4.1 lfo frequency left knob

global for 4 operators

4.1 frequency modulation sensitivity right knob

global for 4 operators

4.2 amplitude modulation on/off left knob

for every individual operator

4.2 amplitude modulation sensitivity right knob

global for 4 operators

menu 6 fm patches and midi channels

6.1 edit midi ch/bank 0 preset selection left knob

6.2 save preset in midi ch selection left knob

*number: midi channel **number**: midi bank 0 preset

*number on top shows the preset that is being edited

6.3 load 8 presets from sd card to midi channels

*presets need to be named as patch0x.dmp (x from 1 to 8)

6.4 save all 8 presets from midi channels to sd card

*presets need to be renamed from patch0x.DMP to patch0x.dmp (x from 1 to 8) to load correctly on deflemask software

midi cc implementation chart

global control

parameter	cc	data range
lfo frequency	1	8
phase modulation depth	28	64
amplitude modulation depth	29	64
lfo waveform	30	4
noise enable (ch 8)	78	2
noise frequency (ch 8)	79	32

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

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 (fine) op1	24	7
detune (fine) op2	25	7
detune (fine) op3	26	7
detune (fine) op4	27	7
detune 2 (coarse) op1	82	4
detune 2 (coarse) op2	83	4
detune 2 (coarse) op3	84	4
detune 2 (coarse) op4	85	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 opl	59	16
release rate op2	60	16
release rate op3	61	16
release rate op4	62	16
amplitude modulation on/off opl	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
rate or key scaling opl	39	4
rate or key scaling op2	40	4
rate or key scaling op3	41	4
rate or key scaling op4	42	4



midi bank 0 and bank 1 presets

videogame preset

street fighter 2	0: bright piano (ken) 1: lead (ryu) 2: eorgan (guile) 3: horn (guile) 4: epiano (credit) 5: lead (title)
space harrier	6: epiano (theme) 7: epiano 2 8: bass
afterburner 2	9: ebass (final take off) 10: wood percussion (afterburner) 11: distorted bass (redout)
ghouls'n ghosts	12: eorgan (credit) 13: organ (stage 1) 14: percussion 15: mistery piano
final fight	16: bass (opening) 17: synth lead 18: organ 19: bass (round 1) 20: horn 21: synth guitar
outrun	22: synth (magical shower) 23: synth (passing breeze) 24: epiano 25: epiano 2 26: epiano 3 (splash wave) 27: ekalimba (splash wave) 28: epiano 4 29: epiano 5
r-type	30: eguitar 1 (start 1st stage) 31: eguitar 2 32: string
shinobi	33: epiano 1 (bgm) 34: epiano 2 35: synth
double dragon	36: eguitar (industrial area) 37: horn 38: drum 1 39: drum 2 40: drum 3 41: bass (opening)

videogame preset

golden axe	42: synthbass (deathadder) 43: drum 1 (wilderness) 44: synthbass 2 (deathadder) 45: drum 2 46: drum 3 (wilderness)
altered beast	47: drum 1 (round 1) 48: drum 2 49: drum 3 50: epiano 51: kalimba 52: bass 53: metal 54: klang
marble madness	55: pad (level1) 56: kalimba 57: percussion (level2) 58: string 1 59: bass 60: string 2
forgotten worlds	61: epiano (round 1) 62: horn
fantasy zone 2	63: drum 1 (10years) 64: drum 2 65: synth 66: percussion 1 (cholacorai) 67: percussion 2 68: drum 3 (gumbatight) 69: eguitar
ninja spirit	70: pad 1 (round 1) 71: pad 2 72: pad 3
midi channels	73 (1): bass (street fighter 2 - ryu) 74 (2): bass (outrun - magical shower) 75 (3): epiano (outrun - last wave) 76 (4): lead synth (afterburner 2 - afterburner) 77 (5): drone (final fight- round 1) 78 (6): percussion (ghouls'n ghosts - stage 1) 79 (7): tom (spaceharrier - theme) 80 (8): snare (spaceharrier - theme)

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

