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MCV876 Firmware V3.0x Sysex message decription
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All values are in hexadecimal !



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PARAMETERS ADRESSES
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The MCV876 firmware V3.0x use 17 parameters from adress 23 up to 33.


MIDI_CAN        equ     23      ; MIDI Channel ( 0..0F )
NOTE_REF        equ     24      ; lowest playable note  ( ref note 0..FF)

CTRL_REF0       equ     25      ; controler assigned to the DAC0  ( value 0..FF )
CTRL_REF1       equ     26      ; idem DAC1
CTRL_REF2       equ     27      ; idem DAC2
CTRL_REF3       equ     28      ; idem DAC3

MCGT_REF0       equ     29      ;  controleur number  assigned to the gate0  ( mode controler only
) (
MCGT_REF1       equ     2A      ; idem gate 1    value range 0..FF
MCGT_REF2       equ     2B      ; idem gate 2
MCGT_REF3       equ     2C      ; idem gate 3

MCGT_THD        equ     2D      ; GATE Threshold  ( mode controler) ( 0..FF )

PASCLK          equ     2E      ; MIDI Clock divider value ( 0..FF )
TRIGTIME        equ     2F      ; Trigger time duration ( 0..FF)


MCV_CFG0        equ     30      ; Config BYTE 0
; bit 0 = CVGate0/ ctrl
; bit 1 = CVGate1/ ctrl
; bit 2 = CVGate2/ ctrl
; bit 3 = CVGate3/ ctrl
; bit 4 =
; bit 5 = mode 2 or 4 chan/voices  ( multi/poly)
; bit 6 = mode mono/multican
; bit 7 = mode mono/Poly



MCV_CFG1        equ     31      ; Config BYTE 1

; bit 0 = Gate0 reTrigg mode /  trig ctrl
; bit 1 = Gate1 reTrigg mode /  trig ctrl
; bit 2 = Gate2 reTrigg mode /  trig ctrl
; bit 3 = Gate3 reTrigg mode /  trig ctrl
; bit 4 = Gate4 Trigg mode
; bit 5 =
; bit 6 =
; bit 7 =


DAC_CFG1        equ     32   ; Config BYTE 2

; bit 0 = velo1/ctrl DAC0
; bit 1 = Velo1/ctrl DAC1
; bit 2 = Velo2/ctrl DAC2  only used in poly 2 mode
; bit 3 = Velo2/ctrl DAC3
; bit 4 = Pitch Bend DAC0  no PB in poly mode
; bit 5 = Pitch Bend DAC1
; bit 6 = Pitch Bend DAC2
; bit 7 = Pitch Bend DAC3
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DAC_CFG2        equ     33    ; Config BYTE 3

; bit 0 = cal CV0
; bit 1 = cal CV1
; bit 2 = cal CV2
; bit 3 = cal CV3
; bit 4 =
; bit 5 =
; bit 6 =
; bit 7 =
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SYSEX message construction

MCV876 firmware V3.03 sysex messages are composed as follow:

- F0 = begin sysex
- 70 = ID constructor (arbitrary = 0x70)
- 7D = ID model (arbitrary = 0x7D = MCV876)
- 0x = the MIDI channel x is the channel number from 0 to F
- yy = the parameter adress
- ww = Data LSB (format 0000 aaaa)
- zz = DATA MSB (format 0000 bbbb)
- F7 = EOX (end of exclusive msg...)

with :

data MSB byte and data LSB are internaly combined by the MCV876 interface to compose a 8 bit number as this : 0000aaaa + (0000bbbb * 16) = bbbbaaaa   = the config byte ...

examples:

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all message on midi channel 1 :

+5V mode is a nibble flag at the adress H33 constructed as this : 0000 xywz with x=bit for DAC 0 , y for DAC1, W for DAC2 and Z for DAC3

+5V mode for only DAC0 set ON = F0 70 7d 00 33 00 01 F7
+5V mode for only DAC1 set ON = F0 70 7d 00 33 00 02 F7
+5V mode for only DAC2 set ON = F0 70 7d 00 33 00 04 F7
+5V mode for only DAC3 set ON = F0 70 7d 00 33 00 08 F7

+5V mode for ALL DAC set OFF = F0 70 7d 00 33 00 00 F7
+5V mode for ALL DAC set ON = F0 70 7d 00 33 00 0F F7

Swich mode and controlers on/OFF is a config byte at adrss

Switch to Mono mode (all DAC controlers OFF)   = F0 70 7d 00 30 00 00 F7
Switch to Multi2 mode (all DAC controlers OFF) = F0 70 7d 00 30 04 00 F7
Switch to Multi4 mode (all DAC controlers OFF) = F0 70 7d 00 30 06 00 F7

Switch to Multi2 with controler activated on DAC1 and DAC3 = F0 70 7d 00 30 04 0A F7

Activate picth bend on DAC 1 and velo on DAC3= F0 70 7d 00 32 0A 08 F7
Switch to Mono mode with controler active on DAC 2 = F0 70 7d 00 30 00 04 F7

The write to flash command (WTF)

To force the MCV876 to write all parameters in RAM memory (17 bytes) to the flash EPROm a special sysex command is used :

Adress = 14
LSB = 07
MSB = 0b

example: WTF send on channel 1 = F0 70 7D 00 14 07 0B F7

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