

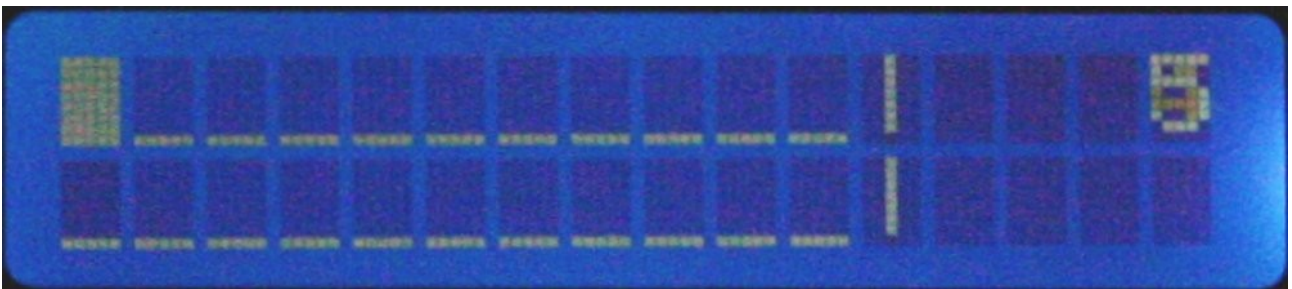
MegaDrum Setup/Configuration

by Dmitri Skachkov

MegaDrum configuration can be controlled either via MIDI Sysex or manually via Left, Right, Up and Down keys.

1. Manual configuration

To manually configure MegaDrum, press any of Left, Right, Up or Down keys once. First time you enter Menu you'll get to the first menu screen: Copyright Info. Any other time you enter the menu you'll get to the last accessed screen. Menu will revert to the VU meter if you don't press any key for more then 10 seconds:



First top block shows HiHat pedal position

First bottom block - Kick VU meter.

2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th, 10th and 11th blocks are VU meters for HiHat, Snare, Ride Cymbal, Crash Cymbal, Tom1, Tom2, Tom3, Tom4, Aux1 and Aux2 channels respectively. Top blocks of these are VU meters for Central (Head, Bow) sensors and bottom blocks are VU meters for Rim/Edge sensors.

The last 4 top and bottom blocks are for additional info like MIDI activity, Sysex received and etc.

The table below shows MegaDrum menu screens. You can navigate through the menu with Left and Right keys. You can change menu items values with Up and Down keys.

<pre><MegaDrum.info > (c)D. Skachkov</pre>	Copyright info. Initial screen is shown on powering up and on the first menu entrance.
<pre><AutoLoad Conf > No</pre>	AutoLoad Config. No – loads default configuration on powering up Yes – loads last saved/loaded configuration/drum map on powering up
<pre><MIDI Speed > 31250</pre>	MIDI Speed. 31250 – for MIDI over MIDI ports 38400 – for MIDI over USB port

<pre><Save Config > No</pre>	<p>Save config. No – don't save config (skip). 1..4 – select a memory slot to save the current config to. Press the Right key to save the current config to a selected memory slot.</p>
<pre><Save Config > 1</pre>	
<pre><Load Config > No</pre>	<p>Load config. No – don't load config (skip). 1..4 - select a memory slot to load a config from. Press the Right key to load a config from a selected memory slot.</p>
<pre><Save DrumMap > No</pre>	<p>Save Drum Map. No – don't save drum map (skip). 1..15 – select a memory slot to save the current drum map to. Press the Right key to save the current drum map to a selected memory slot.</p>
<pre><Load DrumMap > No</pre>	<p>Load Drum Map No – don't load drum map (skip). 1..4 - select memory slot to load a drum map from. Press the Right key to load a drum map from a selected memory slot.</p>
<pre><SysEx ChainID > 0</pre>	<p>SysEx ChainID Choose a Chain ID for SysEx control from a PC. MegaDrum modules chained over MIDI require this ID to be unique for every module in the chain.</p>
<pre><Send ConfSysex></pre>	<p>Send Configuration via MIDI Sysex. Press Up or Down to send the current config via MIDI Sysex</p>
<pre><NoteOff Delay > 200</pre>	<p>Note Off delay. 'Note Off' delay in milliseconds.</p>
<pre><Latency > 40</pre>	<p>Latency. From 10 to 100 (1 to 10ms) Scan time for registered signals on all inputs. Measured in 1/10th of ms.</p>
<pre><Big VU Meter > No</pre>	<p>Big VU Meter If set to yes, MegaDrum will show a big horizontal VU meter with two bars: one for signals on all inputs and one for HiHat pedal position</p>
<pre><Quick Access > No</pre>	<p>Quick Access If set to yes and if HiHat pedal is fully pressed down, MegaDrum will use drum pads for quick access to a pad hit in the menu. Also can be used to quickly load next/previous drum map by pressing keys UP/DOWN while HiHat pedal is full pressed down.</p>

<pre><Set All Chnnls> No</pre>	Set All Chnnls Set MIDI channel for all inputs
<pre><Set All Curves> No</pre>	Set All Curves Set a velocity curve for all inputs.
<pre><Set All Cross > No</pre>	Set All Cross Set crosstalk suppression level for all inputs.
<pre><Set All Thres > No</pre>	Set All Thres Set threshold level for all inputs.
<pre><Set All Retrs > No</pre>	Set All Retrs Set retrigger delay for all inputs.
<pre><Set All MinScn> No</pre>	Set All MinScn Set minimum scan time for all inputs.
<pre><Set All DynLvl> No</pre>	Set All DynLvl Set Dynamic Threshold Level for all channels
<pre><Set All DynTim> No</pre>	Set All DynTim Set Dynamic Threshold Decay Time for all channels
<pre><HiHat Pedal > Type: F.Contr</pre>	Type of HiHat pedal controller. Choose either Foot Controller(F.Contr) or Potentiometer(Pot).
<pre><HiHat Pedal > Type: Pot</pre>	
<pre><HiHat Pedal > CC Value: 4</pre>	Control Change value for HiHat pedal.
<pre><HiHat Pedal > AltIn: No</pre>	If set to Yes, MegaDrum will use an alternative input. It can be used for HiHat pedal with high impedance.
<pre><HiHat Pedal > LevelsAuto: Yes</pre>	HiHat pedal autolevels. Yes – auto adjust High and Low levels for HiHat pedal. No – don't do auto adjust.
<pre><HiHat Pedal > LowLevel: 16</pre>	HiHat pedal Low level (fully pressed)
<pre><HiHat Pedal > HiLevel: 815</pre>	HiHat pedal High level (fully depressed)

<pre><HiHat Pedal > BowH0: G1 44</pre>	<p>HiHat Bow sensor note when the HiHat pedal is half open (half closed).</p>
<pre><HiHat Pedal > EdgH0: A-1 22</pre>	<p>HiHat Edge sensor note when the HiHat pedal is half open (half closed).</p>
<pre><HiHat Pedal > BowCL: F1 42</pre>	<p>HiHat Bow sensor note when the HiHat pedal is fully closed.</p>
<pre><HiHat Pedal > EdgCL: A-1 22</pre>	<p>HiHat Edge sensor note when the HiHat pedal is fully closed.</p>
<pre><HiHat Pedal > Chick: F1 42</pre>	<p>HiHat pedal 'chick' note.</p>
<pre><HiHat Pedal > Splsh: A1 46</pre>	<p>HiHat pedal 'splash' note.</p>
<pre><Ch04: SnareH > Note: D1 38</pre>	<p>Drum sensor Head(Bow)/Rim(Edge) note.</p>
<pre><Ch04: SnareH > Channel: 10</pre>	<p>Drum sensor Head(Bow)/Rim(Edge) MIDI channel.</p>
<pre><Ch04: SnareH > Curve: Log2</pre>	<p>Drum sensor Head(Bow)/Rim(Edge) velocity curve: Linear, Log1, Log2, Exp1, Exp2, S1, S2, Strong1, Strong2, Max.</p>
<pre><Ch04: SnareH > ComprLvL: 0</pre>	<p>Drum sensor Head(Bow)/Rim(Edge) compression level for MIDI signal.</p>
<pre><Ch04: SnareH > LvLShift: 0</pre>	<p>Drum sensor Head(Bow)/Rim(Edge) MIDI signal level shift.</p>
<pre><Ch04: SnareH > Xtalk: 0</pre>	<p>Xtalk. From 0 to 3 Crosstalk suppression level for the input. 0 means crosstalk suppression is disabled for the input</p>
<pre><Ch04: SnareH > XtalkGrp: 0</pre>	<p>XtalkGrp. From 0 to 3 Crosstalk suppression group.</p>
<pre><Ch04: SnareH > Threshold: 15</pre>	<p>Drum sensor Head(Bow)/Rim(Edge) threshold level.</p>
<pre><Ch04: SnareH > Gain 8</pre>	<p>Drum sensor Head(Bow)/Rim(Edge) input gain.</p>

<Ch04: SnareH > HiLvlAuto: Yes	Drum sensor Head(Bow)/Rim(Edge) high level auto adjust.
<Ch04: SnareH > HighLevel: 567	Drum sensor Head(Bow)/Rim(Edge) high level.
<Ch04: SnareH > Retrigger: 8	Drum sensor Head(Bow)/Rim(Edge) retrigger delay.
<Ch04: SnareH > MinScan: 20	MinScan. Minimum scan time for the input. Measured/shown in 1/10 th of millisecond. Can be set between 1 and 100 (0.1 - 10ms)
<Ch04: SnareH > DynLevel: 0	DynLevel. Dynamic Threshold Level
<Ch04: SnareH > DynTime: 8	DynTime. Dynamic Threshold Decay Time. Values are 8, 16, 32 and 64 milliseconds.
<Ch04: SnareH > Dual Head: Yes	Drum sensor Head(Bow) Dual Head. Yes – Dual Head drum pad (piezo/piezo or piezo/switch)
<Ch04: SnareH > Type: Switch	No – Central and Edge channels are separate and can be used as individual pads. 3Way - Head input is for piezo bow, Edge input is for switch bell and next Edge input is for switch edge. Drum sensor Rim(Edge) Type. Piezo – piezo sensor Switch – switch sensor. Can only be set for a dual heads and only for those with piezo/switch sensors.
<Ch05: SnareR > BNote: D1 38	Note for 3 rd zone on Yamaha style cymbals/pads. Available only on Rim/Edge channels.
<Ch05: SnareR > BThreshold: 18	Switch threshold level for 3 rd zone on Yamaha style cymbals/pads. Available only on Rim/Edge channels.

All other Drum channels (Kick, HiHat and etc) are configured similarly to the Snare channel example shown in the table.

2. Useful tips

- If you built a MegaDrum module without an LCD and want to set MIDI speed to 38400 (for AVR-CDC or FT232 USB MIDI I/O), hold a “DOWN” key while powering the module up and release it after a few seconds.

- If you messed up MegaDrum settings so that it became unresponsive and want to load default settings, hold a “RIGHT” key while powering the module up and it will load defaults. You can now make changes to the settings and save them.
- In the menu, with 'Quick Access' set to Yes, you can quickly jump to a pad you want to make changes to by pressing HiHat pedal down and hitting a pad you want to jump to.
- To jump to the beginning of the menu press keys “LEFT” and “UP” simultaneously or turn the 'Left/Right' rotary encoder counterclockwise while pressing the key 'LEFT'
- To jump to the end of the menu press keys “DOWN” and “RIGHT” simultaneously or turn the 'Left/Right' rotary encoder clockwise while pressing the key 'LEFT'
- To exit the menu right away, quickly press and release HiHat pedal.
- To enter a bootloader to update firmware (if you have a bootloader programmed into your MegaDrum), hold a “LEFT” key while powering the module up.
- You can change the LCD contrast pressing keys UP/DOWN or rotating the 'Up/Down' rotary encoder while in the copyright page of the menu 'Megadrum.info, © D.Skachkov'

3. Configuration via MIDI SysEx (to be updated).

MegaDrum can send and receive SysEx messages to control it's operation. First, you can send a current MegaDrum configuration dump to a PC to save it externally. It can be done manually via menu (see [Menu layout table](#)) or it can be requested from a PC via SysEx. Secondly, you can send a SysEx with a configuration dump, previously received from MegaDrum (and possibly edited) , from a PC to MegaDrum. And finally, for now, you can request from a PC to save a current configuration into internal memory. Below are the descriptions and formats of SysEx messages MegaDrum can send or receive.

MegaDrum can send:

Miscellaneous configuration data	
F0 70 03 01 01 04 02 08 F7	- Miscellaneous configuration data where:
F0 and F7	- Sysex envelope bytes (mark start and stop of a sysex message)
70	- MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex
03	- MegaDrum Chain ID
01	- MegaDrum Sysex type. 01 means a 'miscellaneous' config sysex
01 04	- data
01 04	→ 14 - 'note off' delay. 1 equals 10ms. In this example 0x14 → 20 → 200ms
02 08	- data
02 08	→ 28 - latency. 1 equals 100us. In this example 0x28 → 40 → 4000us → 4ms

HiHat pedal configuration data	
F0 70 03 02 00 03 00 04 0C 08 00 00 07 0F 00 03 02 0A 02 0A 02 0A 02 0A 02 0A 02 0E F7	- HiHat pedal configuration data where:
F0 and F7	- Sysex envelope bytes (mark start and stop of a sysex message)
70	- MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex.
03	- MegaDrum Chain ID.

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02 - MegaDrum Sysex type. 02 means a HiHat pedal config sysex
00 03 00 05 00 04 0C 08 00 00 07 0F 00 03 02 0C 01 06 02 0A 01 06 02 0A 02 0E -
data
00 03 → 03 → 00000011
bit 0 - pedal type: 0 - potentiometer, 1 - foot controller
bit 1 - pedal levels: 0 - manual, 1 - auto
bit 2 - AltIn for pedal: 0 - No, 1 - Yes
bit 3 - not used
bits 4..7 - curve number
0 - Linear
1 - Log1
2 - Log2
3 - Log3
4 - Log4
5 - Exp1
6 - Exp2
7 - S1
8 - S2
9 - Strong1
10 - Strong2
00 05 → 05 - Chick delay in milliseconds
00 04 → 04 - pedal CC value
0C 08 00 00 → 00C8 - pedal low level (fully pressed)
0F 08 00 03 → 03F8 - pedal high level (fully depressed)
02 0C → 2C - HiHat bow half open note
01 06 → 16 - HiHat edge half open note
02 0A → 2A - HiHat bow closed note
01 06 → 16 - HiHat edge closed note
02 0A → 2a - HiHat chick note
02 0E → 2E - HiHat splash note

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Pad configuration data

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F0 70 03 03 01 02 0E 09 00 01 04 00 08 0F 00 00 03 01 04 00 02 00 00 00 00 F7 -
pad configuration data where:
F0 and F7 - Sysex envelope bytes (mark start and stop of a sysex message)
70 - MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex.
03 - MegaDrum Chain ID.
03 - MegaDrum Sysex type. 03 means a pad config sysex
01 - Pad number between 01 and 1F (32 inputs version) or between 01
and 15 (22 inputs version)
02 0E 09 00 01 04 00 08 0F 00 00 03 01 04 00 02 00 00 00 00 - data
02 0E → 2E - note number
09 00 → 90 - channel and curve.
9 - MIDI channel (0..9 corresponds to channels 1..10)
0 - curve number (0..9)
0 - Linear
1 - Log1
2 - Log2
3 - Log3
4 - Log4
5 - Exp1
6 - Exp2
7 - S1
8 - S2
9 - Strong1
10 - Strong2
11 - Max
01 04 → 14 - pad level threshold
00 08 → 08 - pad retrigger
0F 00 00 03 → 03F0 - max pad level.
01 04 → 14 - MinScan

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00 02 → 02 → 00000010 - pad type
bit 0 - pad type: 0 - piezo, 1 - switch (only used on rim/edge
inputs)
bit 1 - max pad level type: 0 - manual, 1 - auto
bit 2 - dual head: 0 - no, 1 - yes (only used on head/bow inputs)
bit 3 - 3way head: 0 - no, 1 - yes (only used on head/bow inputs)
bits 4-7 - gain level (bit7 bit6 bit5 bit4)
    0000 - 0
    0001 - 1
    0010 - 2
    0011 - 3
    0100 - 4
    0101 - 5
    0110 - 6
    0111 - 7
    1000 - 8
00 00 → 00 → 00000000
bits 0,1 - crosstalk suppression level
bits 2,3 - dynamic threshold decay time
    00 - 8ms
    01 - 16ms
    10 - 32ms
    11 - 64ms
bits 4-6 - dynamic threshold level
bit 7 - not used
00 00 → 00 → 00000000 - compression level and level shift
bits 0-2 - compression level.
bits 3-5 - level shift
    000 - 0
    001 - 8
    010 - 16
    011 - 24
    100 - 32
    101 - 40
    110 - 48
    111 - 56
bits 6,7 - crosstalk group

```

3rd zone pad configuration data

F0 70 03 04 00 02 0E 01 04 F7 - pad configuration data where:

F0 and **F7** - Sysex envelope bytes (mark start and stop of a sysex message)
70 - MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex.
03 - MegaDrum Chain ID.
04 - MegaDrum Sysex type. 04 means a config sysex for 3rd zone
00 - 3rd zone number between 00 and 0e (32 inputs version) or between 00 and 09 (22 inputs version). 00 corresponds to HiHat, 01 - Snare and so on.
02 0E 01 04 - data
 02 0E → 2E - 3rd zone note number (BNote)
 01 04 → 14 - 3rd zone switch level threshold (BThreshold)

MegaDrum can receive:

Request for miscellaneous configuration data

F0 70 03 01 F7 - request for miscellaneous configuration data where:

F0 and **F7** - Sysex envelope bytes (mark start and stop of a sysex message)
70 - MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex
03 - MegaDrum Chain ID
01 - MegaDrum Sysex type. 01 means a 'miscellaneous' config sysex

Request for HiHat pedal configuration data

F0 70 03 02 F7 - request for HiHat pedal configuration data where:

F0 and **F7** - Sysex envelope bytes (mark start and stop of a sysex message)
70 - MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex.
03 - MegaDrum Chain ID.
02 - MegaDrum Sysex type. 02 means a HiHat pedal config sysex

Request for pad configuration data

F0 70 03 03 01 F7 - request for pad configuration data where:

F0 and **F7** - Sysex envelope bytes (mark start and stop of a sysex message)
70 - MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex.
03 - MegaDrum Chain ID.
03 - MegaDrum Sysex type. 03 means a pad config sysex
01 - Pad number between 01 and 1F (32 inputs version) or between 01 and 15 (22 inputs version)

Request for 3rd zone pad configuration data

F0 70 03 04 00 F7 - pad configuration data where:

F0 and **F7** - Sysex envelope bytes (mark start and stop of a sysex message)
70 - MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex.
03 - MegaDrum Chain ID.
04 - MegaDrum Sysex type. 04 means a config sysex for 3rd zone
00 - 3rd zone number between 00 and 0e (32 inputs version) or between 00 and 09 (22 inputs version). 00 corresponds to HiHat, 01 - Snare and so on.

Request to save all configuration data in EEPROM

F0 70 03 7F F7 - request to save all configuration data in EEPROM where:

F0 and **F7** - Sysex envelope bytes (mark start and stop of a sysex message)
70 - MegaDrum Sysex ID. Signifies that it is a MegaDrum Sysex.
03 - MegaDrum Chain ID.
7F - MegaDrum Sysex type. 7F means a request to save all configuration data in EEPROM

Old type Sysex configuration. **Deprecated and not up to date!!!**

- 22 inputs new version SysEx configuration dump

```
Offset (h) 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000 F0 7F 03 02 04 09 01 01 04 00 08 04 00 00 00 01
00000010 04 00 02 06 0A 00 00 02 0E 09 01 01 04 00 08 04
00000020 00 00 00 01 04 00 02 06 0A 00 00 01 0A 09 01 01
00000030 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 02
00000040 06 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
00000050 0A 00 00 02 05 09 01 01 04 00 08 0D 0C 00 02 01
00000060 04 00 02 06 0A 00 00 03 05 09 01 01 04 00 08 04
00000070 00 00 00 01 04 00 02 06 0A 00 00 03 03 09 01 01
00000080 04 00 08 06 04 00 00 01 04 00 02 06 0A 00 00 03
00000090 01 09 01 01 04 00 08 0F 0B 00 02 01 04 00 02 06
000000A0 0A 00 00 03 01 09 01 01 04 00 08 04 00 00 00 01
000000B0 04 00 02 06 0A 00 00 03 00 09 01 01 04 00 08 04
000000C0 00 00 00 01 04 00 02 06 0A 00 00 03 00 09 01 01
000000D0 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 02
000000E0 0D 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
000000F0 0A 00 00 02 0D 09 01 01 04 00 08 04 00 00 00 01
00000100 04 00 02 06 0A 00 00 02 09 09 01 01 04 00 08 04
00000110 00 00 00 01 04 00 02 06 0A 00 00 02 09 09 01 01
00000120 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 02
00000130 0B 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
00000140 0A 00 00 02 0B 09 01 01 04 00 08 04 00 00 00 01
00000150 04 00 02 06 0A 00 00 03 09 09 01 01 04 00 08 04
00000160 00 00 00 01 04 00 02 06 0A 00 00 03 0A 09 01 01
00000170 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 03
00000180 0E 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
00000190 0A 00 00 03 0F 09 01 01 04 00 08 04 00 00 00 01
000001A0 04 00 02 06 0A 00 00 00 03 00 04 0C 08 00 00 07
000001B0 0F 00 03 02 0A 02 0A 02 0A 02 0A 02 0A 02 0E 01
000001C0 04 F7
```

- 32 inputs version SysEx configuration dump

```
Offset (h) 00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F

00000000 F0 7F 01 02 04 09 00 01 04 00 08 04 00 00 00 01
00000010 04 00 02 06 0A 00 00 02 0E 09 00 01 04 00 08 04
00000020 00 00 00 01 04 00 02 06 0A 00 00 01 0A 09 01 01
00000030 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 02
00000040 06 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
00000050 0A 00 00 02 05 09 01 01 04 00 08 02 04 00 02 01
00000060 04 00 02 06 0A 00 00 03 05 09 01 01 04 00 08 04
00000070 00 00 00 01 04 00 02 06 0A 00 00 03 03 09 01 01
00000080 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 03
00000090 01 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
000000A0 0A 00 00 03 01 09 01 01 04 00 08 04 00 00 00 01
000000B0 04 00 02 06 0A 00 00 03 00 09 01 01 04 00 08 0A
000000C0 0F 00 01 01 04 00 02 06 0A 00 00 03 00 09 01 01
000000D0 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 02
000000E0 0D 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
000000F0 0A 00 00 02 0D 09 01 01 04 00 08 04 00 00 00 01
00000100 04 00 02 06 0A 00 00 02 09 09 01 01 04 00 08 04
00000110 00 00 00 01 04 00 02 06 0A 00 00 02 09 09 01 01
00000120 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 02
00000130 0B 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
00000140 0A 00 00 02 0B 09 01 01 04 00 08 04 00 00 00 01
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00000150 04 00 02 06 0A 00 00 03 09 09 01 01 04 00 08 04
00000160 00 00 00 01 04 00 02 06 0A 00 00 03 0A 09 01 01
00000170 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 03
00000180 0E 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
00000190 0A 00 00 03 0F 09 01 01 04 00 08 04 00 00 00 01
000001A0 04 00 02 06 0A 00 00 03 0F 09 01 01 04 00 08 04
000001B0 00 00 00 01 04 00 02 06 0A 00 00 03 0F 09 01 01
000001C0 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 03
000001D0 0F 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
000001E0 0A 00 00 03 0F 09 01 01 04 00 08 04 00 00 00 01
000001F0 04 00 02 06 0A 00 00 03 0F 09 01 01 04 00 08 04
00000200 00 00 00 01 04 00 02 06 0A 00 00 03 0F 09 01 01
00000210 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 03
00000220 0F 09 01 01 04 00 08 04 00 00 00 01 04 00 02 06
00000230 0A 00 00 03 0F 09 01 01 04 00 08 04 00 00 00 01
00000240 04 00 02 06 0A 00 00 00 00 09 01 01 04 00 08 04
00000250 00 00 00 01 04 00 02 06 0A 00 00 00 00 09 01 01
00000260 04 00 08 04 00 00 00 01 04 00 02 06 0A 00 00 00
00000270 03 00 04 0C 08 00 00 07 0F 00 03 02 0A 02 0A 02
00000280 0A 02 0A 02 0A 02 0E 01 04 F7

```

Every configuration byte inside the SysEx message is split into two bytes because bytes inside SysEx messages cannot be greater than 127. Most significant nibble (half byte) goes first followed by least significant nibble. For values which consist of two bytes least significant byte goes first followed by most significant byte. Below is a description of the SysEx configuration dump bytes.

F0 7f - SysEx configuration dump message start identifier.

03 - MegaDrum Chain ID. Can be between 00 and 7F. Used to uniquely identify MegaDrum modules connected in a chain.

02 04 09 00 01 04 00 08 0F 00 00 03 01 04 00 02 00 00 00 00 and
02 0E 09 00 01 04 00 08 0F 00 00 03 01 04 00 02 00 00 00 00 - per input/pad configuration block

- pad configs are in the following order:

- Kick
- HiHat Bow/Edge
- Snare Head/Rim
- Ride Bow/Edge
- Crash Bow/Edge
- Tom1 Head/Rim
- Tom2 Head/Rim
- Tom3 Head/Rim
- Tom4 Head/Rim
- Aux1 Head/Rim
- Aux2 Head/Rim (only MegaDrum32)
- Aux3 Head/Rim (only 32 inputs version)
- Aux4 Head/Rim (only 32 inputs version)
- Aux5 Head/Rim (only 32 inputs version)
- Aux6 Head/Rim (only 32 inputs version)
- Aux7 Head/Rim (only 32 inputs version)

values description:

02 0E → 2E - note number

09 00 → 90 - channel and curve.

9 - MIDI channel (0..9 corresponds to channels 1..10)

0 - curve number (0..9)

0 - Linear

1 - Log1

2 - Log2

3 - Log3

4 - Log4

5 - Exp1

6 - Exp2

```

        7 - S1
        8 - S2
        9 - Strong1
       10 - Strong2
       11 - Max
01 04 → 14 - pad level threshold
00 08 → 08 - pad retrigger
0F 00 00 03 → 03F0 - max pad level.
01 04 → 14 - MinScan
00 02 → 02 → 00000010 - pad type
    bit 0 - pad type: 0 - piezo, 1 - switch (only used on rim/edge
inputs)
    bit 1 - max pad level type: 0 - manual, 1 - auto
    bit 2 - dual head: 0 - no, 1 - yes (only used on head/bow inputs)
    bit 3 - 3way head: 0 - no, 1 - yes (only used on head/bow inputs)
    bits 4-7 - gain level (bit7 bit6 bit5 bit4)
        1111 - 0
        1010 - 1
        0101 - 2
        1011 - 3
        0000 - 4
        0111 - 5
        0001 - 6
        0010 - 7
        0011 - 8
00 00 → 00 → 00000000
    bits 0,1 - crosstalk suppression level
    bits 2,3 - dynamic threshold decay time
        00 - 8ms
        01 - 16ms
        10 - 32ms
        11 - 64ms
    bits 4-6 - dynamic threshold level
    bit 7 - not used
00 00 → 00 → 00000000 - compression level and level shift
    bits 0-2 - compression level.
    bits 3-5 - level shift
        000 - 0
        001 - 8
        010 - 16
        011 - 24
        100 - 32
        101 - 40
        110 - 48
        111 - 56
    bits 6,7 - crosstalk group

```

00 03 00 04 01 00 00 00 0f 08 00 03 02 0c 01 06 02 0a 01 06 02 0a 02 0e - pedal config.

values description:

```

00 03 → 03 → 00000011
    bit 0 - pedal type: 0 - potentiometer, 1 - foot controller
    bit 1 - pedal levels: 0 - manual, 1 - auto
    bits 2..7 - not used
00 04 → 04 - pedal CC value
01 00 00 00 → 0010 - pedal low level (fully pressed)
0f 08 00 03 → 03f8 - pedal high level (fully depressed)
02 0c → 2c - HiHat bow half open note
01 06 → 16 - HiHat edge half open note
02 0a → 2a - HiHat bow closed note
01 06 → 16 - HiHat edge closed note
02 0a → 2a - HiHat chick note
02 0e → 2e - HiHat splash note
01 04 → 14 - note off delay

```

0x7f - SysEx message end identifier.

MegaDrum can receive:

SysEx function	byte format
SysEx configuration dump	see SysEx configuration dump format
SysEx request to send configuration dump	F0 7E XX where XX is Chain ID
SysEx request to save a current configuration	F0 7D XX where XX is Chain ID