ADA *MP-2*

System exclusive specification v1.1

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1 Conventions

Values appearing in this specification in bold black mono type face are shown in **hexadecimal**.
Byte values are displayed on 7bits (**00** to **7F**, then **0100** to **017F**, etc...)
Examples: **02**, **20**, **0123**
Note: as explained in section 3, third value of the example will be noted as **42 01 23**.

Values appearing in standard font are the decimal representation.
Examples (same intrinsic values as in example above): 2, 32, 163

2 Message generic format

F0 SOX: Start Of eXclusive
0D ADA: Manufacturer ID
00 CHN: channel number **00**-**0F** (correspond to value 1-16 as set in global settings)
?? MID: message id (see section 5)
?? DAT: zero or more 'data word' (see section 3)
...
?? CHK: checksum (see section 4)
F7 EOX: End Of eXclusive

3 Data format

Reading 'data word' format:
If value between **00** and **3F**: direct data
If value = **41**: data is the following byte
If value = **42**: data is the two following bytes, MSB then LSB
If value = **7F**: special case for program#, designate edit buffer

Writing 'data word' format:
If value between **00** and **3F**: write data byte
If value between **40** and **7F**: **41** then data byte
If value between **0100**-**7F7F**: **42** then 7 bits MSB byte then 7 bits LSB byte
If value is edit buffer #: **7F**

4 Checksum

The sum of all bytes including checksum between **F0** and **F7** (not included) should give a value where 7 lower bits are zero. In other words, the equation is:

(ADA + CHN + mID + DAT1 + DAT2 + ... + checksum) and **7F** = 0

or

checksum= (**80** - ((ADA + CHN + mID + DAT1 + DAT2 + ...) and **7F**)) and **7F**

5 Message IDs

Table below gives layout example. The response part noted [ID] appears only if a response is expected.

ID	**Name**	Description
	[Data 1]	Description
	[Data 2]	Description
		Message example
[ID]	**Response**	Description
	[Data 1]	Description
	[Data 2]	Description
		Response example

01	**Reset!**	Resets command (side effect: switches to user bank)
		F0 0D 00 01 72 F7
02	**Test!**	Runs diagnostic command
	Test#	Test number **00-03**
		F0 0D 00 02 01 70 F7
03	**Result?**	Requests diagnostic result of the last ran test
		F0 0D 00 03 70 F7
00 03	**Result**	Diagnostic result
	Code	**00** = no error, > **00** = error code
		F0 0D 00 00 03 42 01 00 2D F7 error 128
04	**Channel!**	Changes Midi channel
	Channel	{**00-0F**}={channel 1-16}
		F0 0D 00 04 01 6E F7 change from channel #1 to #2
00 04	**Channel**	
	Channel	{**00-0F**}={channel 1-16}
		F0 0D 00* 00 04 01 6E F7 set to channel 2. (*) message header is formed with channel number before change…
05	**Offline!**	Changes Midi channel to 'Off'
		F0 0D 00 05 6E F7 Note: channel must be set back manually because the MP-2 will not be able to receive any further midi message…
06	**Values!**	Set some parameter values for one program
	Prog#	{ **00-3F**, **4140-417F**, **7F 7F** }={ 1-64, 65-128, edit buffer }
	Count	Number of values { **01-42010C** }={1-140}
	Address	Address of first value { **00-42010B** }={0-139}
		F0 0D 00 06 00 02 00 30 31 0A F7 change two first letters of program name with characters '0' and '1'.
00 06	**Result**	
	Code	0=no error, >0=error code
		F0 0D 00 00 06 00 6D F7 no error
07	**Values?**	Request some parameter values for one program
	Prog#	{ **00-3F**, **4140-417F**, **7F 7F** }={ 1-64, 65-128, edit buffer }
	Count	Number of values { **01-42010C** }={1-140}
	Address	Address of first value { **00-42010B** }={0-139}
		F0 0D 00 07 00 01 00 6B F7 program #1, 1 value starting at address 0 (first letter of program #1 name).
00 07	**Values**	Send some parameter values for one program
	Prog#	{ **00-3F**, **4140-417F**, **7F** }={ 1-64, 65-128, edit buffer }
	Count	Number of values { **01-42010C** }={1-140}
	Count time	Data word
		F0 0D 00 00 07 00 01 20 4B F7 : first letter is a space
08	**Program?**	Request program data (note: response is message ID 09)
	Format	{ **03** }={ ? }
	Prog#	{ **00-3F**, **4140-417F**, **7F** }={ 1-64, 65-128, edit buffer }
		F0 0D 00 08 03 41 7F 28 F7 : request prog #128
		F0 0D 00 08 03 7F 69 F7 : request edit buffer
09	**Program!**	Send program data (same message both ways)
	Format	{ **03** }={ ? }
	Prog#	{ **00-3F**, **4140-417F**, **7F** }={ 1-64, 65-128, edit buffer }
	Data	140 data words (see map in section 6)
0A	**All?**	Request all data (note: response is message ID 0B)
	Format	{ **03** }={ ? }
		F0 0D 00 0A 03 66 F7
0B	**All!**	Send all data (same message both ways)
	Format	{ **03** }={ ? }
	Map	128 words for program change table (map)
	?	? words
	CC#	Tuning mute controller # { **00-3F**, **4140-417F** }={ 1-127 }
	CC#	Pedal controller # { **00-3F**, **4140-417F** }={ 1-127 }
	CC#	Stereo volume controller # { **00-3F**, **4140-417F**, **421000** }={ 1-127, INT }
	128 time	140 data words (see map in section 6)

Note: MP-2 replies to Program request (08) with program # above 128 (like **420100**) but I don't know what kind of data it is. Does not look like preset data… what else? Firmware data? Garbage?

6 Program data map

idx		type	description
0	**0**	16 chars	**Name** characters 1 to 16 {**20**…**417B**}={space,...,z}
…			
16	**10**	item	**Tube voicing** {**00**...**09**}
17	**11**	%	**Drive level** {**00**...**41 64**} = {0...100}
18	**12**	%	**Overdrive level** {**00**...**41 64**} = {0...100}
19	**13**	%	**Master level** {**00**...**41 64**} = {0...100}
20	**14**	bool	**Compression** {**00**,**01**} = {off, on}
21	**15**	%	**Treshold level** {**00**...**41 64**} = {0...100}
22	**16**	%	**Gain level** {**00**...**41 64**} = {0...100}
23	**17**	item	**Ratio** {**00**...**08**}
24	**18**	item	**Eq Low** {**00**...**0C**} = {-12,-10,-8,-6,-4,-2,0,2,4,6,8,10,12}
25	**19**	item	**Eq Mid** {**00**...**0C**} = {-12,-10,-8,-6,-4,-2,0,2,4,6,8,10,12}
26	**1A**	item	**Eq High** {**00**...**0C**} = {-12,-10,-8,-6,-4,-2,0,2,4,6,8,10,12}
27	**1B**	item	**Eq Pres** {**00**...**0C**} = {-12,-10,-8,-6,-4,-2,0,2,4,6,8,10,12}
28	**1C**	9 items	**Eq** 100,170,280,470,800,1.3,2.2,3.8,6.3 {**00**...**0C**} = {-12,-10,-8,-6,-4,-2,0,2,4,6,8,10,12}
…			
37	**25**	bool	**Noise gate** {**00**,**01**} = {off,on}
38	**26**	item	**Mode** {**00**,**01**} = {fader,gate}
39	**27**	%	**Gate Treshold** {**00**...**41 64**} = {0...100}
40	**28**	%	**Fader Treshold** {**00**...**41 64**} = {0...100}
41	**29**	bool	**Tremolo** {**00**,**01**} = {off,on}
42	**2A**	%	**LFO depth** {**00**...**41 64**} = {0...100%}
43	**2B**	Hz/10	**LFO freq** {**00**...**41 64**} = {0.0...10.0Hz}
44	**2C**	item	**LFO waveform** {**00**...**02**} = {sin,tri,surf}
45	**2D**	bool	**Wah filter** {**00**,**01**} = {off,on}
46	**2E**	item	**Mode** {**00**...**02**} = {pedal,trigger,auto}
47	**2F**	%	**Pedal amount** (in pedal mode) / Start point (in trigger mode) / ignored (in auto mode)
48	**30**	%	**Trigger sensitivity** {**00**...**41 64**} = {0...100}
49	**31**	%	**Trigger delay** {**00**...**41 64**} = {0...100}
50	**32**	%	**LFO depth** {**00**...**41 64**} = {0...100%}
51	**33**	Hz/10	**LFO freq** {**00**...**41 64**} = {0.0...10.0Hz}
52	**34**	%	**LFO End point**
53	**35**	item	**LFO waveform** {**00**,**01**} = {sin,tri}
54	**36**	bool	**Chorus** {**00**,**01**} = {off,on}
55	**37**	%	**LFO depth** {**00**...**41 64**} = {0...100%}
56	**38**	Hz/10	**LFO freq** {**00**...**41 64**} = {0.0...10.0Hz}
57	**39**	bool	**Effect loop** {**00**,**01**} = {off,on}
58	**3A**	%	**Mix A** {**00**...**41 64**} = {0...100% wet}
59	**3B**	%	**Mix B** {**00**...**41 64**} = {0...100% wet}
60	**3C**	16 items	**Slot** 1 to 16 **CC#** { **00**…**41 7F**, **42 01 00** } = {0...127,off}
…			
76	**4C**	16 items	**Slot** 1 to 16 **destination** {**00**...**24**}
…			
92	**5C**	16 items	**Slot** 1 to 16 **direction** {**00**,**01**} = {forward,reverse}
…			
108	**6C**	16 8bits	**Slot** 1 to 16 **min** {**00**...**42 01 7F**} = {0...100%} note: values 0-255 are mapped to 0-100%.
…			
124	**7C**	16 8bits	**Slot** 1 to 16 **max** {**00**...**42 01 7F**} = {0...100%} note: values 0-255 are mapped to 0-100%.
…			

		Tube voicing			**Ratio**			18	12 **N-R status**

0	0	crystal clean
1	1	spanky clean
2	2	fat clean
3	3	vintage brown
4	4	warm vintage
5	5	dynamic vintage
6	6	warm hi gain
7	7	dynamic hi gain
8	8	ultimate hi gain
9	9	fat hi gain

0	0	1.5
1	1	2
2	2	3
3	3	4
4	4	6
5	5	8
6	6	10
7	7	15
8	8	30

0	0	unassigned
1	1	drive
2	2	od
3	3	master
4	4	comp status
5	5	tone low
6	6	tone mid
7	7	tone hi
8	8	tone pres
9	9	band 1
10	A	band 2
11	B	band 3
12	C	band 4
13	D	band 5
14	E	band 6
15	F	band 7
16	10	band 8
17	11	band 9

19	13	gate treshold
20	14	fader treshold
21	15	tremolo status
22	16	tremolo depth
23	17	tremolo rate
24	18	wah pedal
25	19	wah sensitivity
26	1A	wah start pt.
27	1B	wah delay
28	1C	wah depth
29	1D	wah rate
30	1E	wah end pt.
31	1F	chorus depth
32	20	chorus rate
33	21	loop A mx
34	22	loop B mix
35	23	FX send mute