

# Comparison of MIDI standards

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This table provides summary of comparison of various MIDI enhancement standards by various parameters.

	<b>MT-32</b>	<b>GM</b>	<b>GS</b>	<b>XG level 1</b>	<b>XG level 2</b>	<b>XG level 3</b>	<b>GM level 2</b>
Entry date	1987	1991	1991	1994	1997	1998	1999
Organization	Roland	MMA	Roland	Yamaha			MMA
<b>Minimum equipment requirements</b>							
Simultaneous voices	8 or more (up to 32 partials)	24	24	32	64	128	32
Simultaneous melodic voices	N/A	16	16	N/A XG synths have no separate limits on melodic / percussion sounds			16
Simultaneous percussion voices		8	8				16
MIDI channels allocation	8 channels, 1 rhythm channel	16 channels, #10 is fixed for percussion	16 channels, one channel can be set to play drum kits	16 channels, every channel can play drum kits with bank set to 16256	32 channels, 2 ports, drums as in XG level 1	64 channels, 4 ports, drums as in XG level 1	16 channels, #10 and #11 are used for percussion
Channel recommendations				#1: melody; #2: melody (duet); #3: bass; #4: pad; #5: riff; #10: drums <sup>[1]</sup>			
<b>Sounds banks available</b>							
Melodic instruments	128	128	226	480			256
Drum kits	1	1	8 + 1 SFX kit	9 + 2 SFX kits			9
Drum sounds per kit	30	47	61	72			61
<b>Controls available</b>							
Special CC <sup>[2]</sup>	2 <sup>[3]</sup>	6 (MT32+4)					6 (GM)
Parametric effect CC <sup>[4]</sup>	4 <sup>[3]</sup>	5	26 (GM+11)				12 (GM+7)
RPNs	0 <sup>[3]</sup>	5 <sup>[5]</sup>					6 (GM+1) <sup>[5]</sup>
SysEx messages		2					14

## References

- ↑ TheWhippinpost article on MIDI XG STANDARD (<http://www.thewhippinpost.co.uk/midi/xg/xg-midi.htm>)
- ↑ Special CCs are CCs that don't correspond to the parameter of any particular effect. Most usually they represent special one-shot control commands for the device (these ones are usually represented by a button on a console), or used internally for bank selection, RPN or data entry, etc.
- ↑ <sup>*a b c*</sup> youngmonkey Roland MT-32 MIDI/SYSEX reference ([http://www.youngmonkey.ca/nose/audio\\_tech/synth/Roland-MT32.html](http://www.youngmonkey.ca/nose/audio_tech/synth/Roland-MT32.html))

4. ^ Parametric CCs (also known as *continuous controller*) correspond to the parameter of some particular effect (i.e. depth, strength, delay of effect, etc). Such CCs are usually represented by a rotating knob or fader in mixers.
5. ^ *a b* MMA MIDI Message Tables: Table 3a: Registered Parameter Numbers (<http://www.midi.org/about-midi/table3.shtml#Table3aRPNs>)
  - Yamaha Corporation (1996). “Yamaha XG format specifications, v1.26” (PDF). Archived from the original on 2006-09-26. [http://web.archive.org/web/20060926124939/http://www.yamaha.co.uk/xg/reading/pdf/xg\\_spec.pdf](http://web.archive.org/web/20060926124939/http://www.yamaha.co.uk/xg/reading/pdf/xg_spec.pdf). Retrieved on 2008-04-23.
  - Yamaha Corporation (1999-02-02). “Recommendations for producing XG song data, v2.00” (PDF). Archived from the original on 2006-09-26. <http://web.archive.org/web/20060926122423/http://www.yamaha.co.uk/eurohome/library/midi/xgformat.pdf>. Retrieved on 2008-04-23.
  - Roland Sound Cards (<http://www.borg.com/~jglatt/tutr/roland.htm>) , an extensive guide to various models and their capabilities
  - GM modules for the masses ([http://emusician.com/mag/emusic\\_gm\\_modules\\_masses/index.html](http://emusician.com/mag/emusic_gm_modules_masses/index.html)) , a comparison article

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