

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	X	1-16	
	Changed	X	1-16	
Mode	Default	X	X	
	Messages	X	X	
	Altered	X	X	
Note Number		X	0-127 ¹	
	True Voice	X	0-127 ¹	
Velocity	Note On	X	0 ¹	
	Note Off	X	0 ¹	
Aftertouch	Key's	X	X	
	Ch's	X	0	
Pitch Bend		X	0 ¹	
Control Change	00	X	0 ^{1,3}	Bank select
	01	X	0 ¹	Modulation
	05	X	0 ¹	Portamento time
	06	X	0 ¹	Data entry
	07	X	0 ¹	Volume
	10	X	0 ¹	Pan
	11	X	0 ¹	Expression
	64	X	0 ¹	Sustain
	65	X	0 ¹	Portamento On/Off
	66	X	0 ¹	Sostenuto
	67	X	0 ¹	Soft pedal
	71	X	0 ¹	TVF Resonance modify
	72	X	0 ¹	Env release time modify
	73	X	0 ¹	Env attack time modify
	74	X	0 ¹	TVF cutoff freq modify
	75	X	0 ¹	Env decay time modify
	76	X	0 ¹	Vibrato rate modify
	77	X	0 ¹	Vibrato depth modify
	78	X	0 ¹	Vibrato delay modify
	84	X	0 ¹	Portamento control
	91	X	0 ¹	Reverb send level
	93	X	0 ¹	Chorus send level
	98	X	0 ¹	NRPN low
	99	X	0 ¹	NRPN high
	100	X	0 ¹	RPN low
	101	X	0 ¹	RPN high
	112	X	0 ¹	GM volume
120	X	0 ¹	All sound off	
121	X	0 ¹	Reset all controllers	
123	X	0 ¹	All notes off	
126	X	0 ¹	Mono on	

	127	X	O ¹	Poly on
Program Change		X	O ²	
	True Number	X	0-127 ²	
System Exclusive		X	O ⁴	
System Common	Song Pos	X	X	
	Song Sel	X	X	
	Tune	X	X	
System Real Time	Clock	X	X	
	Commands	X	X	
Aux Messages	Local On/Off	X	X	
	All Notes Off	X	O	
	Active Sensing	X	X	
	System Reset	X	X	

Notes:

¹ for keyboard port, messages on channels 1-12 works on all program parts, messages on channel 13 works on organ part and messages on channels 14-16 works on individual program parts.

² for keyboard port, messages on channel 1 change program number, messages on channels 14-16 change individual program parts.

³ accepted banks are:

INTERNAL DRUMSET: 0,4
INTERNAL INSTRUMENT : 0,4,1,10,11,72,73,74,75
SBK DRUMSET: 32,33,34,35,36,37,38
SBK INSTRUMENT: 95,96,97,98,120,121,122

All other banks will be redirected to bank 0.

⁴ only for gm port.

MIDI Message	HEX Code	Description	Compatibility
RPN 0000H	BnH 65H 00H 64H 00H 06H vv	Pitch bend sensitivity in semitones (default=2)	MIDI/GM
RPN 0001H	BnH 65H 00H 64H 01H 06H vv	Fine tuning in cents (vv=00 -100, vv=40H 0, vv=7FH +100)	MIDI
RPN 0002H	BnH 65H 00H 64H 02H 06H vv	Coarse tuning in half-tones (vv=00 -64, vv=40H 0, vv=7FH +64)	MIDI
NRPN 0108H	BnH 63H 01H 62H 08H 06H vv	Vibrate rate modify (vv=40H -> no modif)	GS
NRPN 0109H	BnH 63H 01H 62H 09H 06H vv	Vibrate depth modify (vv=40H -> no modif)	GS
NRPN 010AH	BnH 63H 01H 62H 0AH 06H vv	Vibrate delay modify (vv=40H -> no modif)	GS
NRPN 0120H	BnH 63H 01H 62H 20H 06H vv	TVF cutoff freq modify(vv=40H -> no modif)	GS
NRPN 0121H	BnH 63H 01H 62H 21H 06H vv	TVF resonance modify (vv=40H -> no modif)	GS
NRPN 0163H	BnH 63H 01H 62H 63H 06H vv	Env. attack time modify(vv=40H ->no modif)	GS
NRPN 0164H	BnH 63H 01H 62H 64H 06H vv	Env. decay time modify(vv=40H -> no modif)	GS
NRPN 0166H	BnH 63H 01H 62H 66H 06H vv	Env. release time modif(vv=40H ->no modif)	GS
NRPN 18rrH	BnH 63H 18H 62H rr 06H vv	Pitch coarse of drum instr. note rr in semitones (vv=40H -> no modif) (note 6)	GS
NRPN 19rrH	BnH 63H 19H 62H rr 06H vv	Pitch fine of drum instr. note rr (vv=0H-> no modif to vv=7FH-> +1/2 tone) (see note 6)	
NRPN 1ArrH	BnH 63H 1AH 62H rr 06H vv	Level of drum instrument note rr (vv=00 to 7FH) (note 6)	GS
NRPN 1CrrH	BnH 63H 1CH 62H rr 06H vv	Pan of drum instrument note rr (40H = middle) (note 6)	GS
NRPN 1DrrH	BnH 63H 1DH 62H rr 06H vv	Reverb send level of drum instrument note rr (vv=00 to 7FH) (note 6)	GS
NRPN 1ErrH	BnH 63H 1EH 62H rr 06H vv	Chorus send level of drum instrument note rr (vv=00 to 7FH) (note 6)	GS
NRPN 1FrrH	BnH 63H 1FH 62H rr 06H vv	Delay send level of drum instrument note rr (vv=00 to 7FH) (note 6)	
NRPN 20rrH	BnH 63H 20H 62H rr 06H vv	Filter Cut-Freq. of drum instrument note rr (vv=00 to 7FH)	
NRPN 21rrH	BnH 63H 21H 62H rr 06H vv	Filter Q of drum instrument note rr (vv=00 to 7FH)	
Standard Sysex	F0H 7EH 7FH 09H 01H F7H	General MIDI reset (note 4)	GM
Standard Sysex	F0H 7FH 7FH 04H 01H 00H ll F7H	Master volume (ll=0 to 127, default 127) (note 4). Not reset by GS reset	GM
SYSEX	F0H 41H 00H 42H 12H 40H	Master tune (default dd= 00H 04H 00H 00H) -	GS

	00H 00H dd dd dd dd xx F7H	100.0 to +100.0 cents. Nibblized data should be used (always four bytes). For example, to tune to +100.0 cents, sent data should be 00H 07H 0EH 08H (note 4)	
SYSEX	F0H 41H 00H 42H 12H 40H 00H 04H vv xx F7H	Master volume (default vv=7FH) (note 4) Not reset by GS reset.	GS
SYSEX	F0H 41H 00H 42H 12H 40H 00H 05H vv xx F7H	Master key-shift (default vv=40H, no transpose) (note 4)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 00H 06H vv xx F7H	Master pan (default vv=40H, center) (note 4)	
SYSEX	F0H 41H 00H 42H 12H 40H 00H 7FH 00H xx F7H	GS reset (note 4)	GS
SYSEX	F0H 41H 00H 42H 12H 40 01H 10H vv1 vv2 vv3 vv4 vv5 vv6 vv7 vv8 vv9 vv10 vv11 vv12 vv13 vv14 vv15 vv16 xx F7h	Voice reserve : vv1= Part 10 (Default vv=2) vv2 to vv10 = Part 1 to 9 (Default vv=2) vv11 to vv16= Part 11 to 16 (Default vv=0) (note 4)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 30H vv xx F7H	Reverb type (vv=0 to 7), default = 04H 00H : Room1 01H : Room2 02H : Room3 03H : Hall1 04H : Hall2 05H : Plate 06H : Delay 07H : Pan delay (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 31H vv xx F7H	Reverb character, default 04H (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 32H vv xx F7H	Reverb Pre-LPF, 0 to 7, default 0 (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 33H vv xx F7H	Reverb master level, default = 64 (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 34H vv xx F7H	Reverb time (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 35H vv xx F7H	Reverb delay feedback. Only if reverb number=6 or 7 (delays) (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 37H vv xx F7H	Reverb pre delay time (vv=0 to 7Fh = 0ms to 127ms). Only if reverb number=0 to 5 (reverbs)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 38H vv xx F7H	Chorus type (vv=0 to 7), default = 02H Chorus2 00H : Chorus1 01H : Chorus4 02H : Chorus3 03H : 04H : Feedback 05H : Flanger 06H : Short delay 07H : FB delay (note 5)	GS

SYSEX	F0H 41H 00H 42H 12H 40H 01H 39H vv xx F7H	Chorus Pre-LPF, 0 to 7, default = 0 (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 3AH vv xx F7H	Chorus master level, default = 64 (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 3BH vv xx F7H	Chorus feedback (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 3CH vv xx F7H	Chorus delay (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 3DH vv xx F7H	Chorus rate (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 3EH vv xx F7H	Chorus depth (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 01H 3FH vv xx F7H	Chorus send level to reverb, default=0 (note 5)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 1pH 02H nn xx F7H	MIDI channel to part assign, p is part (0 to 15), nn is MIDI channel (0 to 15, 16=OFF). This SYSEX allows to assign several parts to a single MIDI channel or to mute a part. Default assignment : <u>part</u> <u>MIDI channel</u> 0 9 (DRUMS) 1-9 0-8 10-15 10-15 (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 1pH 15H vv xx F7H	Part to rhythm allocation, p is part (0 to 15), vv is 00 (sound part) or 01 (rhythm part). This SYSEX allows a part to play sound or drumset. There is no limitation of the number of parts playing drumset. Default assignment : part 0 plays drums (default MIDI channel 9) all other parts play sound. (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 1pH 40H v1 v2 ... v12 xx F7H	Scale tuning, p is part (0 to 15), v1 to v12 are 12 semi-tones tuning values (C, C#, D, ... A#, B), in the range -64 (00H) 0 (40H) +63(7FH) cents. This SYSEX allows non chromatic tuning of the musical scale on a given part. Default v1, v2, ... ,v12 = 40H, 40H,...,40H (chromatic tuning). Scale tuning has no effect if the part is assigned to a rhythm channel or if the sound played is not of chromatic type. (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 1pH 1AH vv xx F7H	Velocity slope from 00H to 7FH (default = 40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 1pH 1BH vv xx F7H	Velocity offset from 00H to 7FH (default = 40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 00H vv xx F7H	Mod pitch control (-24,+24 semitone) (default = 40H) (note 3)	GS

SYSEX	F0H 41H 00H 42H 12H 40H 2pH 01H vv xx F7H	Mod filter cutoff control (default = 40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 02H vv xx F7H	Mod amplitude control (-100%+100%) (default=40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 03H vv xx F7H	Mod LFO rate control (default = 40H). n is don't care. Rate is common on all channels (note 7)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 04H vv xx F7H	Mod LFO pitch depth (0-600 cents) (default=0AH) (note 3) (note 7)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 05H vv xx F7H	Mod LFO filter depth (default = 0H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 06H vv xx F7H	Mod LFO amplitude depth (0-100%) (default = 0H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 10H vv xx F7H	Bend pitch control (-24,+24 semitone) (default = 42H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 11H vv xx F7H	Bend filter cutoff control (default = 40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 12H vv xx F7H	Bend amplitude control (-100%+100%) (default=40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 14H vv xx F7H	Bend LFO pitch depth (0-600 cents) (default=00H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 15H vv xx F7H	Bend LFO filter depth (default = 0H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 16H vv xx F7H	Bend LFO amplitude depth (0-100%) (default = 0H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 20H vv xx F7H	CAF pitch control (-24,+24 semitone) (default = 40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 21H vv xx F7H	CAF filter cutoff control (default = 40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 22H	CAF amplitude control (-100%+100%) (default=40H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 24H vv xx F7H	CAF LFO pitch depth (0-600 cents) (default=00H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 25H vv xx F7H	CAF LFO filter depth (default = 0H) (note 3)	GS
SYSEX	F0H 41H 00H 42H 12H 40H 2pH 26H vv xx F7H	CAF LFO amplitude depth (0-100%) (default = 0H) (note 3)	GS

Notes :

1. NRPN sending method : CTRL#99=high byte, CTRL#98=low byte, CTRL#6=vv. Example :
NRPN 0108h = 40h -> CTRL#99=1, CTRL#98=8, CTRL#6=64.
2. x or xx means « don't care »
3. Cross system exclusive :
Address can be 040h xxh xxh or 050h xxh xxh
If adresse=040h xxh xxh : system exclusive applies to midi port 1 (midi channels 0-Fh)
if received on midi port1 , applies to midi port 2 (midi channels 10-1Fh) if received on
midi port 2.
If adresse=050h xxh xxh, cross system exclusive : applies to port 2 if received on
port1, applies to port 1 if received on port2

4. Non cross system exclusive applying only on receiving port :
System exclusive applies to midi port 1 (midi channels 0-Fh) if received on midi port1.
System exclusive applied to midi port 2 (midi channels 10-1Fh) if received on midi port2.
5. Non cross system exclusive applying on both ports :
System exclusive will be applied to all midi channels (0-1Fh). Can be received on port 1 or port 2 indifferently.
This is the case for all system exclusive concerning reverb and chorus because reverb and chorus are the same for both ports 1 and 2.
6. Drumset edit Nrpn : 4 different drumset edit tables are implemented :
 - 1 for midi port 1 channel 10
 - 1 for midi port 2 channel 10
 - 1 for midi port 1 channels 1-9 or 11-16 : for all these channels, edit table is the same
 - 1 for midi port 2 channels 1-9 or 11-16 : for all these channels, edit table is the same