

# AVANT GRAND

## NU1XA

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# Effect Type List

## Reverb Block

Reverb types that can be selected by Voice Menu.

Effect Name	MSB	LSB
Off	0	0
Recital Hall	1	24
Concert Hall	1	4
Chamber	2	24
Cathedral	1	5
Club	3	24
Plate	4	24

## Chorus Block

Chorus types that can be selected by Voice Menu.

Effect Name	MSB	LSB
Off	0	0
Chorus	65	8
Celeste	66	8
Flanger	67	1

## DSP Block

Effect type that can be selected by Voice Menu.

Effect Name	MSB	LSB
Off	64	0
DelayLCR	5	16
DelayLR	6	0
Echo	7	0
CrossDelay	8	0
Symphonic	68	16
Rotary	69	32
Tremolo	70	18
VibeRotor	119	0
AutoPan	71	21
Phaser	72	16
AutoWah	78	16
Distortion	97	33

# Effect Parameter List

Parameters marked with a ● in the "Control" column can be controlled from an AC1 (assignable controller 1) etc.

## REVERB

### Recital Hall, Concert Hall, Chamber, Cathedral, Club, Plate

No.	Parameter	Display	Value	See Table	Control
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

## DSP

### DelayLCR

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay Time	0.1ms – 1.6383s	1 – 16383		
2	Rch Delay Time	0.1ms – 1.6383s	1 – 16383		
3	Cch Delay Time	0.1ms – 1.6383s	1 – 16383		
4	Feedback Delay Time	0.1ms – 1.6383s	1 – 16383		
5	Feedback Level	-63 – 0 – +63	1 – 127		
6	Cch Level	0 – 127	0 – 127		
7	Feedback High Damp	0.1 – 1.0	1 – 10		
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
15	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		

## CHORUS

### Chorus, Celeste

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Feedback Level	-63 – 0 – +63	1 – 127		
4	Delay Offset	0.0ms – 50.0ms	0 – 127	Table #2	
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
8	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		●
11	EQ Mid Frequency	100Hz – 10kHz	14 – 54	Table #3	
12	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 76		
13	EQ Mid Width	0.1 – 12.0	1 – 120		
14					
15	Input Mode	Mono, Stereo	0 – 1		
16					

### DelayLR

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay Time	0.1ms – 1.6383s	1 – 16383		
2	Rch Delay Time	0.1ms – 1.6383s	1 – 16383		
3	Feedback Delay 1 Time	0.1ms – 1.6383s	1 – 16383		
4	Feedback Delay 2 Time	0.1ms – 1.6383s	1 – 16383		
5	Feedback Level	-63 – 0 – +63	1 – 127		
6	Feedback High Damp	0.1 – 1.0	1 – 10		
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
15	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		

## Flanger

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Feedback Level	-63 – 0 – +63	1 – 127		
4	Delay Offset	0.0ms – 50.0ms	0 – 127	Table #2	
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
8	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		●
11	EQ Mid Frequency	100Hz – 10kHz	14 – 54	Table #3	
12	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 76		
13	EQ Mid Width	0.1 – 12.0	1 – 120		
14	LFO Phase Difference	-180deg – 0deg – +180deg (resolution=3deg.)	4 – 124		
15					
16					

## Echo

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay 1 Time	0.1ms – 1.4860s	1 – 14860		
2	Lch Feedback Level	-63 – 0 – +63	1 – 127		
3	Rch Delay 1 Time	0.1ms – 1.4860s	1 – 14860		
4	Rch Feedback Level	-63 – 0 – +63	1 – 127		
5	Feedback High Damp	0.1 – 1.0	1 – 10		
6	Lch Delay 2 Time	0.1ms – 1.4860s	1 – 14860		
7	Rch Delay 2 Time	0.1ms – 1.4860s	1 – 14860		
8	Delay 2 Level	0 – 127	0 – 127		
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
15	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		

**CrossDelay**

No.	Parameter	Display	Value	See Table	Control
1	L->R Delay Time	0.1ms – 1.4860s	1 – 14860		
2	R->L Delay Time	0.1ms – 1.4860s	1 – 14860		
3	Feedback Level	-63 – 0 – +63	1 – 127		
4	Input Select	L, R, L&R	0 – 2		
5	Feedback High Damp	0.1 – 1.0	1 – 10		
6					
7					
8					
9					
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		●
11					
12					
13	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
14	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
15	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
16	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		

**Tremolo**

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Cutoff Frequency Offset	0 – 127	0 – 127		●
4	Resonance	1.0 – 12.0	10 – 120		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
8	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		
11	Drive	0 – 127	0 – 127		
12	Dist EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
13	Dist EQ Mid Gain	-12dB – 0dB – +12dB	52 – 76		
14	LPF Cutoff Frequency	1.0kHz – 18kHz, Thru	34 – 60	Table #3	
15	Output Level	0 – 127	0 – 127		
16					

**Symphonic**

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Delay Offset	0.0ms – 50.0ms	0 – 127	Table #2	
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
8	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		●
11	EQ Mid Frequency	100Hz – 10kHz	14 – 54	Table #3	
12	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 76		
13	EQ Mid Width	0.1 – 12.0	1 – 120		
14					
15					
16					

**VibeRotor**

No.	Parameter	Display	Value	See Table	Control
1	Rotor Speed	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	AM Depth	0 – 127	0 – 127		
3	PM Depth	0 – 127	0 – 127		
4					
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
8	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		
11	EQ Mid Frequency	100Hz – 10kHz	14 – 54	Table #3	
12	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 76		
13	EQ Mid Width	0.1 – 12.0	1 – 120		
14	LFO Phase Difference (resolution=3deg.)	-180deg – 0deg – +180deg	4 – 124		
15	Input Mode	Mono, Stereo	0 – 1		
16	Rotor SW	Off, On	0 – 1		●

**Rotary**

No.	Parameter	Display	Value	See Table	Control
1	Speed Control	Slow, Fast	0 – 1		●
2	Drive	0.0 – 10.0	0 – 100		
3	Tone	0.0 – 10.0	0 – 100		
4	Low/High Balance	L63>H – L=H – L<H63	1 – 127		
5	Output Level	0 – 127	0 – 127		
6	Mic L-R Angle	0deg, 90deg, 120deg, 180deg	0 – 3		
7	Input Level	-6.0dB – 0.0dB – +6.0dB	52 – 76		
8	Modulation Intensity	0 – 63	0 – 63		
9					
10					
11	Slow-Fast Time of Horn	x0.21 – x1.00 – x2.00	14 – 127	Table #4	
12	Fast-Slow Time of Horn	x0.21 – x1.00 – x2.00	14 – 127	Table #4	
13	Woofers Speed Slow	0.0rpm – 88.3rpm	0 – 127	Table #5	
14	Horn Speed Slow	0.0rpm – 89.6rpm	0 – 127	Table #6	
15	Woofers Speed Fast	189.3rpm – 736.8rpm	1 – 127	Table #7	
16	Horn Speed Fast	209.4rpm – 817.6rpm	1 – 127	Table #8	

**AutoPan**

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	●
2	L/R Depth	0 – 127	0 – 127		
3	F/R Depth	0 – 127	0 – 127		
4	Pan Direction	L<->R, L->R, L<-R, Lturn, Rturn, L/R	0 – 5		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
8	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		
10					
11	EQ Mid Frequency	100Hz – 10kHz	14 – 54	Table #3	
12	EQ Mid Gain	-12dB – 0dB – +12dB	52 – 76		
13	EQ Mid Width	0.1 – 12.0	1 – 120		
14					
15					
16					

**Phaser**

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Phase Shift Offset	0 – 127	0 – 127		
4	Feedback Level	-63 – 0 – +63	1 – 127		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
8	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		●
11	Stage	4 – 22	4 – 22		
12	Diffusion	Mono, Stereo	0 – 1		
13					
14					
15					
16					

**AutoWah**

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00Hz – 39.7Hz	0 – 127	Table #1	
2	LFO Depth	0 – 127	0 – 127		
3	Cutoff Frequency Offset	0 – 127	0 – 127		●
4	Resonance	1.0 – 12.0	10 – 120		
5					
6	EQ Low Frequency	32Hz – 2.0kHz	4 – 40	Table #3	
7	EQ Low Gain	-12dB – 0dB – +12dB	52 – 76		
8	EQ High Frequency	500Hz – 16kHz	28 – 58	Table #3	
9	EQ High Gain	-12dB – 0dB – +12dB	52 – 76		
10	Dry/Wet	D63>W – D=W – D<W63	1 – 127		
11	Drive	0 – 127	0 – 127		
12					
13					
14					
15					
16					

**Distortion**

No.	Parameter	Display	Value	See Table	Control
1	Mode	Bright, Top Boost	0 – 1		
2	Normal	0.0 – 10.0	0 – 100		
3	Brilliant	0.0 – 10.0	0 – 100		
4	Bass	0.0 – 10.0	0 – 100		
5					
6	Treble	0.0 – 10.0	0 – 100		
7	Cut	0.0 – 10.0	0 – 100		
8					
9	Output	0 – 127	0 – 127		●
10					
11	Speaker Type	Off, BS 4x12, AC 2x12, AC 1x12, AC 4x10, BC 2x12, AM 4x12, YC 4x12, JC 2x12, OC 2x12, OC 1x8	0 – 10		
12	Speaker Air	0 – 2	0 – 2		
13	Mic Position	Center, Edge	0 – 1		
14					
15					
16					

# Effect Data Assign Table

**Table #1**  
LFO Frequency [Hz]

Data	Value	Data	Value
0	0.00	64	2.69
1	0.04	65	2.78
2	0.08	66	2.86
3	0.13	67	2.94
4	0.17	68	3.03
5	0.21	69	3.11
6	0.25	70	3.20
7	0.29	71	3.28
8	0.34	72	3.37
9	0.38	73	3.45
10	0.42	74	3.53
11	0.46	75	3.62
12	0.51	76	3.70
13	0.55	77	3.87
14	0.59	78	4.04
15	0.63	79	4.21
16	0.67	80	4.37
17	0.72	81	4.54
18	0.76	82	4.71
19	0.80	83	4.88
20	0.84	84	5.05
21	0.88	85	5.22
22	0.93	86	5.38
23	0.97	87	5.55
24	1.01	88	5.72
25	1.05	89	6.06
26	1.09	90	6.39
27	1.14	91	6.73
28	1.18	92	7.07
29	1.22	93	7.40
30	1.26	94	7.74
31	1.30	95	8.08
32	1.35	96	8.41
33	1.39	97	8.75
34	1.43	98	9.08
35	1.47	99	9.42
36	1.51	100	9.76
37	1.56	101	10.1
38	1.60	102	10.8
39	1.64	103	11.4
40	1.68	104	12.1
41	1.72	105	12.8
42	1.77	106	13.5
43	1.81	107	14.1
44	1.85	108	14.8
45	1.89	109	15.5
46	1.94	110	16.2
47	1.98	111	16.8
48	2.02	112	17.5
49	2.06	113	18.2
50	2.10	114	19.5
51	2.15	115	20.9
52	2.19	116	22.2
53	2.23	117	23.6
54	2.27	118	24.9
55	2.31	119	26.2
56	2.36	120	27.6
57	2.40	121	28.9
58	2.44	122	30.3
59	2.48	123	31.6
60	2.52	124	33.0
61	2.57	125	34.3
62	2.61	126	37.0
63	2.65	127	39.7

**Table #2**  
Modulation Delay Offset [ms]

Data	Value	Data	Value
0	0.0	64	6.4
1	0.1	65	6.5
2	0.2	66	6.6
3	0.3	67	6.7
4	0.4	68	6.8
5	0.5	69	6.9
6	0.6	70	7.0
7	0.7	71	7.1
8	0.8	72	7.2
9	0.9	73	7.3
10	1.0	74	7.4
11	1.1	75	7.5
12	1.2	76	7.6
13	1.3	77	7.7
14	1.4	78	7.8
15	1.5	79	7.9
16	1.6	80	8.0
17	1.7	81	8.1
18	1.8	82	8.2
19	1.9	83	8.3
20	2.0	84	8.4
21	2.1	85	8.5
22	2.2	86	8.6
23	2.3	87	8.7
24	2.4	88	8.8
25	2.5	89	8.9
26	2.6	90	9.0
27	2.7	91	9.1
28	2.8	92	9.2
29	2.9	93	9.3
30	3.0	94	9.4
31	3.1	95	9.5
32	3.2	96	9.6
33	3.3	97	9.7
34	3.4	98	9.8
35	3.5	99	9.9
36	3.6	100	10.0
37	3.7	101	11.1
38	3.8	102	12.2
39	3.9	103	13.3
40	4.0	104	14.4
41	4.1	105	15.5
42	4.2	106	17.1
43	4.3	107	18.6
44	4.4	108	20.2
45	4.5	109	21.8
46	4.6	110	23.3
47	4.7	111	24.9
48	4.8	112	26.5
49	4.9	113	28.0
50	5.0	114	29.6
51	5.1	115	31.2
52	5.2	116	32.8
53	5.3	117	34.3
54	5.4	118	35.9
55	5.5	119	37.5
56	5.6	120	39.0
57	5.7	121	40.6
58	5.8	122	42.2
59	5.9	123	43.7
60	6.0	124	45.3
61	6.1	125	46.9
62	6.2	126	48.4
63	6.3	127	50.0

**Table #3**  
EQ Frequency [Hz]

Data	Value	Data	Value
0	THRU (20)	31	700
		32	800
1	22	33	900
2	25	34	1.0k
3	28	35	1.1k
4	32	36	1.2k
5	36	37	1.4k
6	40	38	1.6k
7	45	39	1.8k
8	50	40	2.0k
9	56	41	2.2k
10	63	42	2.5k
11	70	43	2.8k
12	80	44	3.2k
13	90	45	3.6k
14	100	46	4.0k
15	110	47	4.5k
16	125	48	5.0k
17	140	49	5.6k
18	160	50	6.3k
19	180	51	7.0k
20	200	52	8.0k
21	225	53	9.0k
22	250	54	10k
23	280	55	11k
24	315	56	12k
25	355	57	14k
26	400	58	16k
27	450	59	18k
28	500	60	THRU (20k)
29	560		
30	630		

**Table #4**  
Real Rotary Windup/down Accel

Data	Value	Data	Value
14	0.21	71	1.11
15	0.22	72	1.13
16	0.24	73	1.14
17	0.25	74	1.16
18	0.27	75	1.17
19	0.29	76	1.19
20	0.30	77	1.21
21	0.32	78	1.22
22	0.33	79	1.24
23	0.35	80	1.25
24	0.37	81	1.27
25	0.38	82	1.29
26	0.40	83	1.30
27	0.41	84	1.32
28	0.43	85	1.33
29	0.44	86	1.35
30	0.46	87	1.37
31	0.48	88	1.38
32	0.49	89	1.40
33	0.51	90	1.41
34	0.52	91	1.43
35	0.54	92	1.44
36	0.56	93	1.46
37	0.57	94	1.48
38	0.59	95	1.49
39	0.60	96	1.51
40	0.62	97	1.52
41	0.63	98	1.54
42	0.65	99	1.56
43	0.67	100	1.57
44	0.68	101	1.59
45	0.70	102	1.60
46	0.71	103	1.62
47	0.73	104	1.63
48	0.75	105	1.65
49	0.76	106	1.67
50	0.78	107	1.68
51	0.79	108	1.70
52	0.81	109	1.71
53	0.83	110	1.73
54	0.84	111	1.75
55	0.86	112	1.76
56	0.87	113	1.78
57	0.89	114	1.79
58	0.90	115	1.81
59	0.92	116	1.83
60	0.94	117	1.84
61	0.95	118	1.86
62	0.97	119	1.87
63	0.98	120	1.89
64	1.00	121	1.90
65	1.02	122	1.92
66	1.03	123	1.94
67	1.05	124	1.95
68	1.06	125	1.97
69	1.08	126	1.98
70	1.10	127	2.00

**Table #5**  
Real Rotary Woofer Speed  
Slow [rpm]

Data	Value	Data	Value
0	0.0	64	44.8
1	22.7	65	45.4
2	23.0	66	46.1
3	23.3	67	46.7
4	23.7	68	47.3
5	24.0	69	47.9
6	24.3	70	48.6
7	24.6	71	49.2
8	24.9	72	49.8
9	25.2	73	50.5
10	25.5	74	51.1
11	25.9	75	51.7
12	26.2	76	52.4
13	26.5	77	53.0
14	26.8	78	53.6
15	27.1	79	54.3
16	27.4	80	54.9
17	27.8	81	55.5
18	28.1	82	56.1
19	28.4	83	56.8
20	28.7	84	57.4
21	29.0	85	58.0
22	29.3	86	58.7
23	29.7	87	59.3
24	30.0	88	59.9
25	30.3	89	60.6
26	30.6	90	61.2
27	30.9	91	61.8
28	31.2	92	62.5
29	31.5	93	63.1
30	31.9	94	63.7
31	32.2	95	64.3
32	32.5	96	65.0
33	32.8	97	65.6
34	33.1	98	66.2
35	33.4	99	66.9
36	33.8	100	67.5
37	34.1	101	68.1
38	34.4	102	68.8
39	34.7	103	69.4
40	35.0	104	70.0
41	35.3	105	70.7
42	35.6	106	71.3
43	36.0	107	71.9
44	36.3	108	72.5
45	36.6	109	73.2
46	36.9	110	73.8
47	37.2	111	74.4
48	37.5	112	75.1
49	37.9	113	75.7
50	38.2	114	76.3
51	38.5	115	77.0
52	38.8	116	77.6
53	39.1	117	78.2
54	39.4	118	78.9
55	39.7	119	79.5
56	40.1	120	80.1
57	40.4	121	80.7
58	41.0	122	82.0
59	41.6	123	83.3
60	42.3	124	84.5
61	42.9	125	85.8
62	43.5	126	87.1
63	44.2	127	88.3

**Table #6**  
Real Rotary Horn Speed  
Slow [rpm]

Data	Value	Data	Value
0	0.0	64	45.4
1	23.0	65	46.1
2	23.3	66	46.7
3	23.7	67	47.3
4	24.0	68	47.9
5	24.3	69	48.6
6	24.6	70	49.2
7	24.9	71	49.8
8	25.2	72	50.5
9	25.5	73	51.1
10	25.9	74	51.7
11	26.2	75	52.4
12	26.5	76	53.0
13	26.8	77	53.6
14	27.1	78	54.3
15	27.4	79	54.9
16	27.8	80	55.5
17	28.1	81	56.1
18	28.4	82	56.8
19	28.7	83	57.4
20	29.0	84	58.0
21	29.3	85	58.7
22	29.7	86	59.3
23	30.0	87	59.9
24	30.3	88	60.6
25	30.6	89	61.2
26	30.9	90	61.8
27	31.2	91	62.5
28	31.5	92	63.1
29	31.9	93	63.7
30	32.2	94	64.3
31	32.5	95	65.0
32	32.8	96	65.6
33	33.1	97	66.2
34	33.4	98	66.9
35	33.8	99	67.5
36	34.1	100	68.1
37	34.4	101	68.8
38	34.7	102	69.4
39	35.0	103	70.0
40	35.3	104	70.7
41	35.6	105	71.3
42	36.0	106	71.9
43	36.3	107	72.5
44	36.6	108	73.2
45	36.9	109	73.8
46	37.2	110	74.4
47	37.5	111	75.1
48	37.9	112	75.7
49	38.2	113	76.3
50	38.5	114	77.0
51	38.8	115	77.6
52	39.1	116	78.2
53	39.4	117	78.9
54	39.7	118	79.5
55	40.1	119	80.1
56	40.4	120	80.7
57	41.0	121	82.0
58	41.6	122	83.3
59	42.3	123	84.5
60	42.9	124	85.8
61	43.5	125	87.1
62	44.2	126	88.3
63	44.8	127	89.6

**Table #7**  
Real Rotary Woofer Speed  
Fast [rpm]

Data	Value	Data	Value
1	189.3	65	378.5
2	191.8	66	383.6
3	194.3	67	388.6
4	196.8	68	393.7
5	199.4	69	398.7
6	201.9	70	403.7
7	204.4	71	408.8
8	206.9	72	413.8
9	209.4	73	418.9
10	212.0	74	423.9
11	214.5	75	429.0
12	217.0	76	434.0
13	219.5	77	439.1
14	222.1	78	444.1
15	224.6	79	449.2
16	227.1	80	454.2
17	229.6	81	459.3
18	232.2	82	464.3
19	234.7	83	469.4
20	237.2	84	474.4
21	239.7	85	479.5
22	242.2	86	484.5
23	244.8	87	489.5
24	247.3	88	494.6
25	249.8	89	499.6
26	252.3	90	504.7
27	254.9	91	509.7
28	257.4	92	514.8
29	259.9	93	519.8
30	262.4	94	524.9
31	265.0	95	529.9
32	267.5	96	535.0
33	270.0	97	540.0
34	272.5	98	545.1
35	275.1	99	550.1
36	277.6	100	555.2
37	280.1	101	560.2
38	282.6	102	565.2
39	285.1	103	570.3
40	287.7	104	575.3
41	290.2	105	580.4
42	292.7	106	585.4
43	295.2	107	590.5
44	297.8	108	595.5
45	300.3	109	600.6
46	302.8	110	605.6
47	305.3	111	610.7
48	307.9	112	615.7
49	310.4	113	620.8
50	312.9	114	625.8
51	315.4	115	630.9
52	318.0	116	635.9
53	320.5	117	640.9
54	323.0	118	646.0
55	328.0	119	656.1
56	333.1	120	666.2
57	338.1	121	676.3
58	343.2	122	686.4
59	348.2	123	696.5
60	353.3	124	706.6
61	358.3	125	716.7
62	363.4	126	726.7
63	368.4	127	736.8
64	373.5		

**Table #8**  
Real Rotary Horn Speed Fast  
[rpm]

Data	Value	Data	Value
1	209.4	65	418.9
2	212.0	66	423.9
3	214.5	67	429.0
4	217.0	68	434.0
5	219.5	69	439.1
6	222.1	70	444.1
7	224.6	71	449.2
8	227.1	72	454.2
9	229.6	73	459.3
10	232.2	74	464.3
11	234.7	75	469.4
12	237.2	76	474.4
13	239.7	77	479.5
14	242.2	78	484.5
15	244.8	79	489.5
16	247.3	80	494.6
17	249.8	81	499.6
18	252.3	82	504.7
19	254.9	83	509.7
20	257.4	84	514.8
21	259.9	85	519.8
22	262.4	86	524.9
23	265.0	87	529.9
24	267.5	88	535.0
25	270.0	89	540.0
26	272.5	90	545.1
27	275.1	91	550.1
28	277.6	92	555.2
29	280.1	93	560.2
30	282.6	94	565.2
31	285.1	95	570.3
32	287.7	96	575.3
33	290.2	97	580.4
34	292.7	98	585.4
35	295.2	99	590.5
36	297.8	100	595.5
37	300.3	101	600.6
38	302.8	102	605.6
39	305.3	103	610.7
40	307.9	104	615.7
41	310.4	105	620.8
42	312.9	106	625.8
43	315.4	107	630.9
44	318.0	108	635.9
45	320.5	109	640.9
46	323.0	110	646.0
47	328.0	111	656.1
48	333.1	112	666.2
49	338.1	113	676.3
50	343.2	114	686.4
51	348.2	115	696.5
52	353.3	116	706.6
53	358.3	117	716.7
54	363.4	118	726.7
55	368.4	119	736.8
56	373.5	120	746.9
57	378.5	121	757.0
58	383.6	122	767.1
59	388.6	123	777.2
60	393.7	124	787.3
61	398.7	125	797.4
62	403.7	126	807.5
63	408.8	127	817.6
64	413.8		

# MIDI Data Format

Many MIDI messages listed in the MIDI Data Format are expressed in decimal numbers, binary numbers and hexadecimal numbers. Hexadecimal numbers may include the letter "H" as a suffix. Also, "n" can freely be defined as any whole number. To enter data/values, refer to the table below.

Decimal	Hexadecimal	Binary	Decimal	Hexadecimal	Binary	Decimal	Hexadecimal	Binary	Decimal	Hexadecimal	Binary
0	00	0000 0000	32	20	0010 0000	64	40	0100 0000	96	60	0110 0000
1	01	0000 0001	33	21	0010 0001	65	41	0100 0001	97	61	0110 0001
2	02	0000 0010	34	22	0010 0010	66	42	0100 0010	98	62	0110 0010
3	03	0000 0011	35	23	0010 0011	67	43	0100 0011	99	63	0110 0011
4	04	0000 0100	36	24	0010 0100	68	44	0100 0100	100	64	0110 0100
5	05	0000 0101	37	25	0010 0101	69	45	0100 0101	101	65	0110 0101
6	06	0000 0110	38	26	0010 0110	70	46	0100 0110	102	66	0110 0110
7	07	0000 0111	39	27	0010 0111	71	47	0100 0111	103	67	0110 0111
8	08	0000 1000	40	28	0010 1000	72	48	0100 1000	104	68	0110 1000
9	09	0000 1001	41	29	0010 1001	73	49	0100 1001	105	69	0110 1001
10	0A	0000 1010	42	2A	0010 1010	74	4A	0100 1010	106	6A	0110 1010
11	0B	0000 1011	43	2B	0010 1011	75	4B	0100 1011	107	6B	0110 1011
12	0C	0000 1100	44	2C	0010 1100	76	4C	0100 1100	108	6C	0110 1100
13	0D	0000 1101	45	2D	0010 1101	77	4D	0100 1101	109	6D	0110 1101
14	0E	0000 1110	46	2E	0010 1110	78	4E	0100 1110	110	6E	0110 1110
15	0F	0000 1111	47	2F	0010 1111	79	4F	0100 1111	111	6F	0110 1111
16	10	0001 0000	48	30	0011 0000	80	50	0101 0000	112	70	0111 0000
17	11	0001 0001	49	31	0011 0001	81	51	0101 0001	113	71	0111 0001
18	12	0001 0010	50	32	0011 0010	82	52	0101 0010	114	72	0111 0010
19	13	0001 0011	51	33	0011 0011	83	53	0101 0011	115	73	0111 0011
20	14	0001 0100	52	34	0011 0100	84	54	0101 0100	116	74	0111 0100
21	15	0001 0101	53	35	0011 0101	85	55	0101 0101	117	75	0111 0101
22	16	0001 0110	54	36	0011 0110	86	56	0101 0110	118	76	0111 0110
23	17	0001 0111	55	37	0011 0111	87	57	0101 0111	119	77	0111 0111
24	18	0001 1000	56	38	0011 1000	88	58	0101 1000	120	78	0111 1000
25	19	0001 1001	57	39	0011 1001	89	59	0101 1001	121	79	0111 1001
26	1A	0001 1010	58	3A	0011 1010	90	5A	0101 1010	122	7A	0111 1010
27	1B	0001 1011	59	3B	0011 1011	91	5B	0101 1011	123	7B	0111 1011
28	1C	0001 1100	60	3C	0011 1100	92	5C	0101 1100	124	7C	0111 1100
29	1D	0001 1101	61	3D	0011 1101	93	5D	0101 1101	125	7D	0111 1101
30	1E	0001 1110	62	3E	0011 1110	94	5E	0101 1110	126	7E	0111 1110
31	1F	0001 1111	63	3F	0011 1111	95	5F	0101 1111	127	7F	0111 1111

- Except the table above, for example 144-159 (decimal)/9nH/1001 0000-1001 1111 (binary) denotes the Note On Message for each channel (1-16). 176-191/BnH/1011 0000-1011 1111 denotes the Control Change Message for each channel (1-16). 192-207/CnH/1100 0000-1100 1111 denotes the Program Change Message for each channel (1-16). 240/FOH/1111 0000 denotes the start of a System Exclusive Message. 247/F7H/1111 0111 denotes the end of a System Exclusive Message.
- aaH (hexidecimal)/0aaaaaaa (binary) denotes the data address. The address contains High, Mid, and Low.
- bbH/0bbbbbbb denotes the byte count.
- ccH/0ccccccc denotes the check sum.
- ddH/0ddddddd denotes the data/value.

## ■ Preset Voice List

Program change numbers are often specified as numbers "0 – 127." Since this list uses a "1 – 128" numbering system, in such cases it is necessary to subtract 1 from the transmitted program change numbers to select the appropriate sound: e.g. to select No. 2 in the list below, transmit program change number 1.

Voice Group	Voice Name	Bank MSB	Bank LSB	Program Change (1-128)
PIANO	CFX Grand	108	0	1
	Binaural CFX Grand	108	100	1
	Bösendorfer	108	6	1
	Binaural Bösendorfer	108	101	1
	Studio Grand	108	1	3
	Ballad Grand	108	2	1
	Pop Grand	108	1	2
Upright Piano	108	5	3	
FORTE-PIANO	Scarlatti Piano	108	90	4
	Mozart Piano	108	91	4
	Beethoven Piano	108	92	4
	Chopin Piano	108	93	4
E.PIANO	Stage E.Piano	108	0	5
	DX E.Piano	108	0	6
	Vintage EP	108	1	5
	Soft EP	108	2	5
LAYER	Piano + Strings	108	23	1
	Piano + Pad	108	24	1
	Piano + DX EP	108	25	3
ORGAN	Organ GrandJeu	108	4	20
	Organ Principal	108	1	20
	Organ Tutti	108	0	20
	Jazz Organ	108	0	17
OTHERS	Harpsichord 8'	108	0	7
	Harpsi. 8'+4'	108	1	7
	Celesta	108	0	9
	Vibraphone	108	0	12
	Marimba	108	0	13
	Harp	108	0	47
	Strings	108	0	49



## MIDI CHANNEL MESSAGE (1)

Application Range	MIDI, Internal Sequencer
Model	NU1XA

MIDI Events	Status byte		1st Data byte		2nd Data byte		MIDI Formats	MIDI Reception			MIDI Transmission	
	Status	Data (Hex)	Parameter	Data (Hex)	Parameter	Song		R, L	Keyboard (All manually played parts)	Panel	Song	
Key Off	8nH (n: Channel Number)	kk	Key no. (0-127)	vv	Velocity (64)	[GM1] [GM2]	○	○	○	○	○	○
Key On	9nH (n: Channel Number)	kk	Key no. (0-127)	vv	Key On: vv=1-127 Key Off: vv=0	[GM1] [GM2]	○	○	○	○	○	○
Control Change	BnH	0 (00H)	Bank Select MSB	0 (00H) 64 (40H) 118 (76H) 119 (77H) 120 (78H) 121 (79H) 126 (7EH) 127 (7FH)	Normal SFX Voice GS Rhythm GS Normal GM2 Rhythm GM2 Normal SFX kit Drum kit	[GM2]	○	○	×	(*)	○	○
		1 (01H)	Modulation	0-127 (00H...7FH)	Data	[GM1] [GM2]	○	○	○	×	○	○
		5 (05H)	Portamento Time	0-127 (00H...7FH)	Data	[GM2]	○	○	○	×	○	○
		6 (06H)	Data Entry MSB	0-127 (00H...7FH)	Data	[GM2]	○	○	○	×	○	○
		7 (07H)	Main Volume	0-127 (00H...7FH)	Data	[GM1] [GM2]	○	○	○	○	○	○
		10 (0AH)	Panpot	0-127 (00H...7FH)	L64...C...R63	[GM1] [GM2]	○	○	○	○	○	○
		11 (0BH)	Expression	0-127 (00H...7FH)	Data	[GM1] [GM2]	○	○	○	×	○	○
		19 (13H)	Key Acceleration	0-127 (00H...7FH)	Key Acceleration (0-127)		○	○	○	○	○	○
		32 (20H)	Bank Select LSB	0-127 (00H...7FH)	Data	[GM2]	○	○	×	(*)	○	○
		38 (26H)	Data Entry LSB	0-127 (00H...7FH)	Data	[GM2]	○	○	○	×	○	○
		64 (40H)	Sustain (Damper)	0-127 (00H...7FH)	Data	[GM1] [GM2]	○	○	○	○	○	○
		65 (41H)	Portamento	0-127 (00H...7FH)	0...63, 64...127 (OFF, ON)	[GM2]	○	○	○	×	○	○
		66 (42H)	Sostenuto	0-127 (00H...7FH)	0...63, 64...127 (OFF, ON)	[GM2]	○	○	○	○	○	○
		67 (43H)	Soft Pedal	0-127 (00H...7FH)	0...63, 64...127 (OFF, ON)	[GM2]	○	○	○	○	○	○
		71 (47H)	Harmonic Content	0-127 (00H...7FH)	-64...0...+63	[GM2]	○	○	○	○	○	○
		72 (48H)	Release Time	0-127 (00H...7FH)	-64...0...+63	[GM2]	○	○	○	×	○	○
		73 (49H)	Attack Time	0-127 (00H...7FH)	-64...0...+63	[GM2]	○	○	○	×	○	○
		74 (4AH)	Brightness	0-127 (00H...7FH)	-64...0...+63	[GM2]	○	○	○	○	○	○
		75 (4BH)	Decay Time	0-127 (00H...7FH)	-64...0...+63	[GM2]	○	○	○	×	○	○
		76 (4CH)	Vibrate Rate	0-127 (00H...7FH)	-64...0...+63	[GM2]	○	○	○	×	○	○
		77 (4DH)	Vibrate Depth	0-127 (00H...7FH)	-64...0...+63	[GM2]	○	○	○	×	○	○
		78 (4EH)	Vibrate Delay	0-127 (00H...7FH)	-64...0...+63	[GM2]	○	○	○	×	○	○
		84 (54H)	Portamento Control	0-127 (00H...7FH)	Key no. (0-127)		○	○	×	×	○	○
		88 (58H)	Expand Velocity	0-127 (00H...7FH)	Velocity (0-127)		○	○	○	○	○	○
		91 (5BH)	Effect1 Depth (Reverb Send Level)	0-127 (00H...7FH)	Data	[GM2]	○	○	○	○	○	○
		93 (5DH)	Effect3 Depth (Chorus Send Level)	0-127 (00H...7FH)	Data	[GM2]	○	○	○	○	○	○
		94 (5EH)	Effect4 Depth (Variation Send Level)	0-127 (00H...7FH)	Data		○	○	○	×	○	○
		96 (60H)	RPN Increment	-	-	The data byte is ignored.	○	○	×	×	○	○
		97 (61H)	RPN Decrement	-	-	The data byte is ignored.	○	○	×	×	○	○
		98 (62H)	NRPNS LSB	0-127 (00H...7FH)	Data		○	×	×	×	○	○
		99 (63H)	NRPNS MSB	0-127 (00H...7FH)	Data		○	×	×	×	○	○
		100 (64H)	RPN LSB	0-127 (00H...7FH)	Data	[GM2]	○	○	○	○	○	○
101 (65H)	RPN MSB	0-127 (00H...7FH)	Data	[GM2]	○	○	○	○	○	○		
Mode Message	BnH (n: Channel Number)	120 (78H)	All Sound Off	0 (00H)	Data	[GM2]	○	○	○	×	○	○
		121 (79H)	Reset All Controllers	0 (00H)	Data	[GM1] [GM2]	○	×	×	×	○	○
		122 (7AH)	Local Control	0 (00H) 127 (7FH)	OFF ON				○	×	×	○
		123 (7BH)	All Note Off	0 (00H)	Data	[GM1] [GM2]	○	○	○	×	○	○
		124 (7CH)	Omni Off	0 (00H)	Data	[GM2]	○	×	×	×	○	○
		125 (7DH)	Omni On	0 (00H)	Data	[GM2]	○	×	×	×	○	○
		126 (7EH)	Mono	0-16 (00H...10H)	Data	[GM2]	○	×	×	×	○	○
		127 (7FH)	Poly	0 (00H)	Data	[GM2]	○	×	×	×	○	○
Program Change	CnH (n: Channel Number)	pp (00H...7FH)	Voice number (0-127)	-	-	[GM1] [GM2]	○	○	×	(*)	○	○
Channel After Touch	DnH (n: Channel Number)	vv (00H...7FH)	Data	-	-	[GM1] [GM2]	○	×	×	×	○	○
Polyphonic After Touch	AnH (n: Channel Number)	kk (00H...7FH)	Key no. (0-127)	vv (00H...7FH)	Data		○	○	○	○	○	○
Pitch Bend Change	EnH (n: Channel Number)	cc (00H...7FH)	LSB	dd (00H...7FH)	MSB	[GM1] [GM2]	○	○	○	○	○	○
Realtime Message	FBH MIDI Clock	-	-	-	-			×			○	
	FAH Start	-	-	-	-			○			○	
	FBH Continue	-	-	-	-			×			×	
	FCH Stop	-	-	-	-			○			○	
	FEH Active Sens	-	-	-	-	[GM2]		○			○	
FFH System Reset	-	-	-	-	-			×			×	

\*1 Ignored when Bank Select MSB/LSB/Program Change are received in Keyboard mode.

## MIDI CHANNEL MESSAGE (2)

<b>Application Range</b>	MIDI, Internal Sequencer
<b>Model</b>	NU1XA

### Parameters controlled by NRPN (Non-Registered Parameter Numbers)

NRPN		Data Entry		Parameter	Data Range	MIDI Formats	MIDI Reception			MIDI Transmission	
MSB	LSB	MSB	LSB				Song	R, L	Keyboard (All manually played parts)	Panel	Song
01H	08H	mmH	-	Vibrato Rate	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	09H	mmH	-	Vibrato Depth	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	0AH	mmH	-	Vibrato Delay	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	20H	mmH	-	Low Pass Filter Cutoff Frequency	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	21H	mmH	-	Low Pass Filter Resonance	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	30H	mmH	-	EQ BASS	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	31H	mmH	-	EQ TREBLE	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	34H	mmH	-	EQ BASS Frequency	mm: 04H-28H (32...2.0k [Hz])		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	35H	mmH	-	EQ TREBLE Frequency	mm: 1CH-3AH (500...16.0k [Hz])		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	63H	mmH	-	EG Attack Time	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	64H	mmH	-	EG Decay Time	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
01H	66H	mmH	-	EG Release	mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14H	rrH	mmH	-	Drum Low Pass Filter Cutoff Frequency	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
15H	rrH	mmH	-	Drum Low Pass Filter Resonance	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
16H	rrH	mmH	-	Drum EG Attack Rate	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17H	rrH	mmH	-	Drum EG Decay Rate	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
18H	rrH	mmH	-	Drum Pitch Coarse	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
19H	rrH	mmH	-	Drum Pitch Fine	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1AH	rrH	mmH	-	Drum Level	rr: drum instrument note number mm: 00H-7FH (0...127)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1CH	rrH	mmH	-	Drum Pan	rr: drum instrument note number mm: 00H, 01H-40H-7FH (RND, L63...C...R63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1DH	rrH	mmH	-	Drum Reverb Send Level	rr: drum instrument note number mm: 00H-7FH (0...127)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1EH	rrH	mmH	-	Drum Chorus Send Level	rr: drum instrument note number mm: 00H-7FH (0...127)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1FH	rrH	mmH	-	Drum Variation Send Level	rr: drum instrument note number mm: 00H-7FH (0...127)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
24H	rrH	mmH	-	Drum HPF Cutoff Frequency	rr: drum instrument note number mm: 00H-40H-7FH (-64...0...+63)		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
30H	rrH	mmH	-	Drum EQ Bass Gain	rr: drum instrument note number mm: 00H-7FH (0...127)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
31H	rrH	mmH	-	Drum EQ Treble Gain	rr: drum instrument note number mm: 00H-7FH (0...127)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
34H	rrH	mmH	-	Drum EQ Bass Frequency	rr: drum instrument note number mm: 04H-28H (32...2.0k [Hz])		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
35H	rrH	mmH	-	Drum EQ Treble Frequency	rr: drum instrument note number mm: 1CH-3AH (500...16.0k [Hz])		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
40H	rrH	mmH	-	Drum VELOCITY PITCH SENS.	rr: drum instrument note number mm: 00H-0FH (0...15)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
41H	rrH	mmH	-	Drum VELOCITY LPF CUTOFF SENS.	rr: drum instrument note number mm: 00H-0FH (0...15)		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

NRPN MSB: 14H-1FH (for drums) message is accepted as long as the channel is set with a drum voice.  
Data Entry LSB: Ignored.

### Parameters controlled by RPN (Registered Parameter Numbers)

NRPN		Data Entry		Parameter	Data Range	MIDI Formats	MIDI Reception (respond/ignored)			MIDI Transmission (generated data)	
MSB	LSB	MSB	LSB				Song	R, L	Keyboard (All manually played parts)	Panel	Song
00H	00H	mmH	-	Pitch Bend Sensitivity	mm: 00H-18H (0...+24 [semitones])	[GM1] [GM2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00H	01H	mmH	llH	Fine Tune	mm ll: 00H 00H -100 [cent] ... mm ll: 40H 00H 0 [cent] ... mm ll: 7FH 7FH 100 [cent]	[GM1] [GM2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
00H	02H	mmH	-	Coarse Tune	mm: 28H-40H-58H (-24...0...+24 [semitones])	[GM1] [GM2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
00H	05H	mmH	llH	Modulation Sensitivity	mm: Specified in semitone steps ll: Specified in 100/128 cent steps	[GM2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7FH	7FH	-	-	Null	-	[GM2]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## MIDI PARAMETER CHANGE TABLE

Application Range	MIDI, Internal Sequencer
Model	NU1XA

\* Not received when Receive Parameter SysEx is set to off.

\* Not transmitted when Transmit Parameter SysEx is set to off.

### MIDI Parameter Change Table (XG SYSTEM)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission		
								Song	R, L	Keyboard	Panel	Song	
00	00	00	4	00-0F 00-0F 00-0F	MASTER TUNE	-102.4...0...+102.3 [cent] 1st bit3-0→bit15-12 2nd bit3-0→bit11-8 3rd bit3-0→bit7-4 4th bit3-0→bit3-0	*Panel setting value		○		×	○	
		04	1	00-7F	MASTER VOLUME	0...127	7F	○	×	×	×	×	○
		05	1	00-7F	MASTER ATTENUATOR	0...127	00	×	×	×	×	×	×
		06	1	28-58	TRANSPOSE	-24...0...+24 [semitones]	40	○	×	×	×	×	○
		7D	1	N	DRUM SETUP RESET	N: Drum setup number	-	○	×	×	×	×	○
		7E	1	00	XG SYSTEM ON	00=XG system ON	-	○	×	×	×	×	○
		7F	1	00	ALL PARAMETER RESET	00=ON	-	○	×	×	×	×	×

TOTAL SIZE 07

### MIDI Parameter Change Table (SYSTEM INFORMATION)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R, L	Keyboard	Panel	Song
01	00	00	E	20-7F ... 0D	Model Name 1 ... Model Name 14	32...127 (ASCII CHARACTER) ... 32...127 (ASCII CHARACTER)		-	-	-	×	×
		0E	1		NOT USED							
		0F	1		NOT USED							

TOTAL SIZE 10

Transmitted in response to Dump Request. Not received.

### MIDI Parameter Change Table (EFFECT1)

Address (H)			Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission	
								Song	R, L	Keyboard	Panel	Song
02	01	00	2	00-7F 00-7F	REVERB TYPE MSB REVERB TYPE LSB	Refer to Effect Type List	01 (=HALL1) 00		○		○	○
		02	1	00-7F	REVERB PARAMETER 1	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		03	1	00-7F	REVERB PARAMETER 2	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		04	1	00-7F	REVERB PARAMETER 3	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		05	1	00-7F	REVERB PARAMETER 4	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		06	1	00-7F	REVERB PARAMETER 5	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		07	1	00-7F	REVERB PARAMETER 6	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		08	1	00-7F	REVERB PARAMETER 7	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		09	1	00-7F	REVERB PARAMETER 8	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		0A	1	00-7F	REVERB PARAMETER 9	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		0B	1	00-7F	REVERB PARAMETER 10	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		0C	1	00-7F	REVERB RETURN	-∞dB...0dB...+6dB (0...64...127)	40		○		×	○
		0D	1	01-7F	REVERB PAN	L63...C...R63	40		○		×	○

TOTAL SIZE 0E

02	01	10	1	00-7F	REVERB PARAMETER 11	Refer to Effect Type List	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		11	1	00-7F	REVERB PARAMETER 12	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		12	1	00-7F	REVERB PARAMETER 13	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		13	1	00-7F	REVERB PARAMETER 14	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		14	1	00-7F	REVERB PARAMETER 15	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○
		15	1	00-7F	REVERB PARAMETER 16	*	Depends on Reverb Type		○ (Depends on Reverb Type)		×	○

TOTAL SIZE 06

Address (H)		Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission			
							Song	R, L	Keyboard	Panel	Song		
02	01	20	2	00-7F 00-7F	CHORUS TYPE MSB CHORUS TYPE LSB	Refer to Effect Type List	41 (=CHORUS1) 00						
		22	1	00-7F	CHORUS PARAMETER 1	*	Depends on Chorus Type						
		23	1	00-7F	CHORUS PARAMETER 2	*	Depends on Chorus Type						
		24	1	00-7F	CHORUS PARAMETER 3	*	Depends on Chorus Type						
		25	1	00-7F	CHORUS PARAMETER 4	*	Depends on Chorus Type						
		26	1	00-7F	CHORUS PARAMETER 5	*	Depends on Chorus Type						
		27	1	00-7F	CHORUS PARAMETER 6	*	Depends on Chorus Type						
		28	1	00-7F	CHORUS PARAMETER 7	*	Depends on Chorus Type						
		29	1	00-7F	CHORUS PARAMETER 8	*	Depends on Chorus Type						
		2A	1	00-7F	CHORUS PARAMETER 9	*	Depends on Chorus Type						
		2B	1	00-7F	CHORUS PARAMETER 10	*	Depends on Chorus Type						
		2C	1	00-7F	CHORUS RETURN	--odB...0dB...+6dB (0...64...127)	40						
		2D	1	01-7F	CHORUS PAN	L63...C...R63	40						
		2E	1	00-7F	SEND CHORUS TO REVERB	--odB...0dB...+6dB (0...64...127)	00						

TOTAL SIZE 0F

02	01	30	1	00-7F	CHORUS PARAMETER 11	Refer to Effect Type List	Depends on Chorus Type						
		31	1	00-7F	CHORUS PARAMETER 12	*	Depends on Chorus Type						
		32	1	00-7F	CHORUS PARAMETER 13	*	Depends on Chorus Type						
		33	1	00-7F	CHORUS PARAMETER 14	*	Depends on Chorus Type						
		34	1	00-7F	CHORUS PARAMETER 15	*	Depends on Chorus Type						
		35	1	00-7F	CHORUS PARAMETER 16	*	Depends on Chorus Type						

TOTAL SIZE 06

Address (H)		Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission			
							Song	R, L	Keyboard	Panel	Song		
02	01	40	2	00-7F 00-7F	VARIATION TYPE MSB VARIATION TYPE LSB	Refer to Effect Type List	05 (=DELAY L, C, R) 00						
		42	2	00-7F 00-7F	VARIATION PARAMETER 1 MSB VARIATION PARAMETER 1 LSB	*	Depends on Variation Type						
		44	2	00-7F 00-7F	VARIATION PARAMETER 2 MSB VARIATION PARAMETER 2 LSB	*	Depends on Variation Type						
		46	2	00-7F 00-7F	VARIATION PARAMETER 3 MSB VARIATION PARAMETER 3 LSB	*	Depends on Variation Type						
		48	2	00-7F 00-7F	VARIATION PARAMETER 4 MSB VARIATION PARAMETER 4 LSB	*	Depends on Variation Type						
		4A	2	00-7F 00-7F	VARIATION PARAMETER 5 MSB VARIATION PARAMETER 5 LSB	*	Depends on Variation Type						
		4C	2	00-7F 00-7F	VARIATION PARAMETER 6 MSB VARIATION PARAMETER 6 LSB	*	Depends on Variation Type						
		4E	2	00-7F 00-7F	VARIATION PARAMETER 7 MSB VARIATION PARAMETER 7 LSB	*	Depends on Variation Type						
		50	2	00-7F 00-7F	VARIATION PARAMETER 8 MSB VARIATION PARAMETER 8 LSB	*	Depends on Variation Type						
		52	2	00-7F 00-7F	VARIATION PARAMETER 9 MSB VARIATION PARAMETER 9 LSB	*	Depends on Variation Type						
		54	2	00-7F 00-7F	VARIATION PARAMETER 10 MSB VARIATION PARAMETER 10 LSB	*	Depends on Variation Type						
		56	1	00-7F	VARIATION RETURN	--odB...0dB...+6dB (0...64...127)	40						
		57	1	01-7F	VARIATION PAN	L63...C...R63	40						
		58	1	00-7F	SEND VARIATION TO REVERB	--odB...0dB...+6dB (0...64...127)	00						
		59	1	00-7F	SEND VARIATION TO CHORUS	--odB...0dB...+6dB (0...64...127)	00						
		5A	1	00-01	VARIATION CONNECTION	INSERTION, SYSTEM	00						
		5B	1	00-7F	VARIATION PART NUMBER	Reception: Part1...16 (0...15) Transmission: Part1...16 (0...15) AD (64) OFF (127)	7F						
		5C	1	00-7F	MW VARIATION CONTROL DEPTH	-64...0...+63	40						
		5D	1	00-7F	BEND VARIATION CONTROL DEPTH	-64...0...+63	40						
		5E	1	00-7F	CAT VARIATION CONTROL DEPTH	-64...0...+63	40						
		5F	1	00-7F	AC1 VARIATION CONTROL DEPTH	-64...0...+63	40						
		60	1	00-7F	AC2 VARIATION CONTROL DEPTH	-64...0...+63	40						

TOTAL SIZE 21

02	01	70	1	00-7F	VARIATION PARAMETER 11	Refer to Effect Type List	Depends on Variation Type						
		71	1	00-7F	VARIATION PARAMETER 12	*	Depends on Variation Type						
		72	1	00-7F	VARIATION PARAMETER 13	*	Depends on Variation Type						
		73	1	00-7F	VARIATION PARAMETER 14	*	Depends on Variation Type						
		74	1	00-7F	VARIATION PARAMETER 15	*	Depends on Variation Type						
		75	1	00-7F	VARIATION PARAMETER 16	*	Depends on Variation Type						

TOTAL SIZE 06

## MIDI Parameter Change Table (MULTI EQ)

\*The MULTI EQ Parameter cannot be reset to its factory setting with XG SYSTEM ON.

Address (H)		Size (H)	Data (H)	Parameter	Description	MIDI Reception			MIDI Transmission	
						Song	R, L	Keyboard	Panel	Song
02	40	00	1	00-04	EQ TYPE	flat, jazz, pops, rock, classic		×	×	×
		01	1	34-4C	EQ GAIN1	-12...0...+12 [dB]		×	×	×
		02	1	04-28	EQ FREQUENCY1	32...2.0k [Hz]		×	×	×
		03	1	01-78	EQ Q1	0.1...12.0		×	×	×
		04	1	00-01	EQ SHAPE1	shelving, peaking		×	×	×
		05	1	34-4C	EQ GAIN2	-12...0...+12 [dB]		×	×	×
		06	1	0E-36	EQ FREQUENCY2	100...10.0k [Hz]		×	×	×
		07	1	01-78	EQ Q2	0.1...12.0		×	×	×
		08	1		NOT USED			-	-	-
		09	1	34-4C	EQ GAIN3	-12...0...+12 [dB]		×	×	×
		0A	1	0E-36	EQ FREQUENCY3	100...10.0k [Hz]		×	×	×
		0B	1	01-78	EQ Q3	0.1...12.0		×	×	×
		0C	1		NOT USED			-	-	-
		0D	1	34-4C	EQ GAIN4	-12...0...+12 [dB]		×	×	×
		0E	1	0E-36	EQ FREQUENCY4	100...10.0k [Hz]		×	×	×
		0F	1	01-78	EQ Q4	0.1...12.0		×	×	×
		10	1		NOT USED			-	-	-
		11	1	34-4C	EQ GAIN5	-12...0...+12 [dB]		×	×	×
		12	1	1C-3A	EQ FREQUENCY5	0.5k...16.0k [Hz]		×	×	×
		13	1	01-78	EQ Q5	0.1...12.0		×	×	×
		14	1	00-01	EQ SHAPE5	shelving, peaking		×	×	×

TOTAL SIZE 15

## MIDI Parameter Change Table (EFFECT2)

\*The EFFECT2 Parameter cannot be reset to its factory setting with XG SYSTEM ON.

Address (H)		Size (H)	Data (H)	Parameter	Description	MIDI Reception			MIDI Transmission	
						Song	R, L	Keyboard	Panel	Song
03	n	00	2	00-7F 00-7F	INSERTION EFFECT TYPE MSB INSERTION EFFECT TYPE LSB	Refer to Effect Type List		○	○	○
		02	1	00-7F	INSERTION EFFECT PARAMETER 1	*		○ (Depends on Insertion Type)	○	○
		03	1	00-7F	INSERTION EFFECT PARAMETER 2	*		○ (Depends on Insertion Type)	○	○
		04	1	00-7F	INSERTION EFFECT PARAMETER 3	*		○ (Depends on Insertion Type)	○	○
		05	1	00-7F	INSERTION EFFECT PARAMETER 4	*		○ (Depends on Insertion Type)	○	○
		06	1	00-7F	INSERTION EFFECT PARAMETER 5	*		○ (Depends on Insertion Type)	○	○
		07	1	00-7F	INSERTION EFFECT PARAMETER 6	*		○ (Depends on Insertion Type)	○	○
		08	1	00-7F	INSERTION EFFECT PARAMETER 7	*		○ (Depends on Insertion Type)	○	○
		09	1	00-7F	INSERTION EFFECT PARAMETER 8	*		○ (Depends on Insertion Type)	○	○
		0A	1	00-7F	INSERTION EFFECT PARAMETER 9	*		○ (Depends on Insertion Type)	○	○
		0B	1	00-7F	INSERTION EFFECT PARAMETER 10	*		○ (Depends on Insertion Type)	○	○
		0C	1	00-7F	INSERTION EFFECT PART NUMBER	Reception: Part1...16 (0...15) Transmission: Part1...16 (0...15) AD (64) OFF (127)		○	○	○
		0D	1	00-7F	MW INSERTION CONTROL DEPTH	-64...0...+63		○	×	○
		0E	1	00-7F	BEND INSERTION CONTROL DEPTH	-64...0...+63		○	×	○
		0F	1	00-7F	CAT INSERTION CONTROL DEPTH	-64...0...+63		○	×	○
		10	1	00-7F	AC1 INSERTION CONTROL DEPTH	-64...0...+63		○	○	○
		11	1	00-7F	AC2 INSERTION CONTROL DEPTH	-64...0...+63		○	×	○

TOTAL SIZE 12

		20	1	00-7F	INSERTION EFFECT PARAMETER 11	Refer to Effect Type List		○ (Depends on Insertion Type)	○	○
		21	1	00-7F	INSERTION EFFECT PARAMETER 12	*		○ (Depends on Insertion Type)	○	○
		22	1	00-7F	INSERTION EFFECT PARAMETER 13	*		○ (Depends on Insertion Type)	○	○
		23	1	00-7F	INSERTION EFFECT PARAMETER 14	*		○ (Depends on Insertion Type)	○	○
		24	1	00-7F	INSERTION EFFECT PARAMETER 15	*		○ (Depends on Insertion Type)	○	○
		25	1	00-7F	INSERTION EFFECT PARAMETER 16	*		○ (Depends on Insertion Type)	○	○

TOTAL SIZE 6

		30	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 1 MSB INSERTION EFFECT PARAMETER 1 LSB	Refer to Effect Type List		○ (Depends on Insertion Type)	×	○
		32	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 2 MSB INSERTION EFFECT PARAMETER 2 LSB	*		○ (Depends on Insertion Type)	×	○
		34	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 3 MSB INSERTION EFFECT PARAMETER 3 LSB	*		○ (Depends on Insertion Type)	×	○
		36	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 4 MSB INSERTION EFFECT PARAMETER 4 LSB	*		○ (Depends on Insertion Type)	×	○
		38	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 5 MSB INSERTION EFFECT PARAMETER 5 LSB	*		○ (Depends on Insertion Type)	×	○
		3A	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 6 MSB INSERTION EFFECT PARAMETER 6 LSB	*		○ (Depends on Insertion Type)	×	○
		3C	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 7 MSB INSERTION EFFECT PARAMETER 7 LSB	*		○ (Depends on Insertion Type)	×	○
		3E	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 8 MSB INSERTION EFFECT PARAMETER 8 LSB	*		○ (Depends on Insertion Type)	×	○

		40	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 9 MSB INSERTION EFFECT PARAMETER 9 LSB	Refer to Effect Type List *		○ (Depends on Insertion Type)	×	○
		42	2	00-7F 00-7F	INSERTION EFFECT PARAMETER 10 MSB INSERTION EFFECT PARAMETER 10 LSB	*		○ (Depends on Insertion Type)	○	○

TOTAL SIZE 14

The second byte of the address is considered as an Insertion effect number.  
n: insertion effect number

The Insertion Effect No. range is from 0 to 1. Values outside the range are handled as unknown and ignored.

For effect types that do not require MSB, the Parameters for Address 02-0B will be received and the Parameters for Address 30-42 will not be received.

For effect types that require MSB, the Parameters for Address 30-42 will be received and the Parameters for Address 02-0B will not be received.

When Bulk Dumps that include Effect Type data are transmitted, the Parameters for Address 02-0B will always be transmitted. But, effects that require MSB, when the bulk dump is received the Parameters for Address 02-0B will not be received.

### MIDI Parameter Change Table (MULTI PART)

Address (H)	Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission			
						Song	R, L	Keyboard	Panel	Song		
0B	nn	00	1	00-20	NOT USED		×	×	×	×	×	
		01	1	00-7F	BANK SELECT MSB	0...127	part 10=7F, other parts=00	○	○	×	×	○
		02	1	00-7F	BANK SELECT LSB	0...127	00	○	○	×	×	○
		03	1	00-7F	PROGRAM NUMBER	1...128	00	○	○	×	×	○
		04	1	00-0F 7F	Rcv CHANNEL	1...16, OFF	Part No.	○	×	×	×	○
		05	1	00-01	MONO/POLY MODE	MONO, POLY	01	○	×	×	×	○
		06	1	00-02	SAME NOTE NUMBER KEY ON ASSIGN	SINGLE, MULTI, INST (for Drum)	01	○	×	×	×	○
		07	1	00-03	PART MODE	NORMAL, DRUM, DRUMS1...2	part 10=02, other parts=00	○	×	×	○	○
		08	1	28-58	NOTE SHIFT	-24...0...+24 [semitones]	40	○	○	×	×	○
		09	2	00-0F 00-0F	DETUNE	-12.8...0...+12.7 [Hz] 1st bit3-0 → bit7-4 2nd bit3-0 → bit3-0	08 00	○	○	×	×	○
		0B	1	00-7F	VOLUME	0...127	64	○	○	×	×	○
		0C	1	00-7F	VELOCITY SENSE DEPTH	0...127	40	○	○	×	○	○
		0D	1	00-7F	VELOCITY SENSE OFFSET	0...127	40	○	○	×	○	○
		0E	1	00-7F	PAN	RND, L63...C...R63	40	○	○	×	×	○
		0F	1	00-7F	NOTE LIMIT LOW	C-2...G8	00	○	○	×	×	○
		10	1	00-7F	NOTE LIMIT HIGH	C-2...G8	7F	○	○	×	×	○
		11	1	00-7F	DRY LEVEL	0...127	7F	○	○	×	×	○
		12	1	00-7F	CHORUS SEND	0...127	00	○	○	×	×	○
		13	1	00-7F	REVERB SEND	0...127	28	○	○	×	×	○
		14	1	00-7F	VARIATION SEND	0...127	00	○	○	×	×	○
		15	1	00-7F	VIBRATO RATE	-64...0...+63	40	○	○	×	×	○
		16	1	00-7F	VIBRATO DEPTH	-64...0...+63	40	○	○	×	×	○
		17	1	00-7F	VIBRATO DELAY	-64...0...+63	40	○	○	×	×	○
		18	1	00-7F	FILTER CUTOFF FREQUENCY	-64...0...+63	40	○	○	×	×	○
		19	1	00-7F	FILTER RESONANCE	-64...0...+63	40	○	○	×	×	○
		1A	1	00-7F	EG ATTACK TIME	-64...0...+63	40	○	○	×	×	○
		1B	1	00-7F	EG DECAY TIME	-64...0...+63	40	○	○	×	×	○
		1C	1	00-7F	EG RELEASE TIME	-64...0...+63	40	○	○	×	×	○
		1D	1	28-58	MW PITCH CONTROL	-24...0...+24 [semitones]	40	○	○	×	×	○
		1E	1	00-7F	MW LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	○	×	×	○
		1F	1	00-7F	MW AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	○	×	×	○
		20	1	00-7F	MW LFO PMOD DEPTH	0...127	0A	○	○	×	×	○
		21	1	00-7F	MW LFO FMOD DEPTH	0...127	00	○	○	×	×	○
		22	1	00-7F	MW LFO AMOD DEPTH	0...127	00	○	○	×	×	○
		23	1	28-58	BEND PITCH CONTROL	-24...0...+24 [semitones]	42	○	○	×	×	○
		24	1	00-7F	BEND LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	○	×	×	○
		25	1	00-7F	BEND AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	○	×	×	○
		26	1	00-7F	BEND LFO PMOD DEPTH	0...127	00	○	○	×	×	○
		27	1	00-7F	BEND LFO FMOD DEPTH	0...127	00	○	○	×	×	○
		28	1	00-7F	BEND LFO AMOD DEPTH	0...127	00	○	○	×	×	○

TOTAL SIZE 29

		30	1	00-01	Rcv PITCH BEND	OFF, ON	01	○	×	×	×	○
		31	1	00-01	Rcv CH AFTER TOUCH (CAT)	OFF, ON	01	○	×	×	×	○
		32	1	00-01	Rcv PROGRAM CHANGE	OFF, ON	01	○	×	×	×	○
		33	1	00-01	Rcv CONTROL CHANGE	OFF, ON	01	○	×	×	×	○
		34	1	00-01	Rcv POLY AFTER TOUCH (PAT)	OFF, ON	01	○	×	×	×	○
		35	1	00-01	Rcv NOTE MESSAGE	OFF, ON	01	○	×	×	×	○
		36	1	00-01	Rcv RPN	OFF, ON	01	○	×	×	×	○
		37	1	00-01	Rcv NRPN	OFF, ON	XG mode=01, GM mode=00	○	×	×	×	○
		38	1	00-01	Rcv MODULATION	OFF, ON	01	○	×	×	×	○
		39	1	00-01	Rcv VOLUME	OFF, ON	01	○	×	×	×	○
		3A	1	00-01	Rcv PAN	OFF, ON	01	○	×	×	×	○
		3B	1	00-01	Rcv EXPRESSION	OFF, ON	01	○	×	×	×	○
		3C	1	00-01	Rcv HOLD1	OFF, ON	01	○	×	×	×	○
		3D	1	00-01	Rcv PORTAMENTO	OFF, ON	01	○	×	×	×	○
		3E	1	00-01	Rcv SOSTENUTO	OFF, ON	01	○	×	×	×	○
		3F	1	00-01	Rcv SOFT PEDAL	OFF, ON	01	○	×	×	×	○
		40	1	00-01	Rcv BANK SELECT	OFF, ON	01	○	×	×	×	○
		41	1	00-7F	SCALE TUNING C	-63...0...+63 [cent]	40	○	○	×	○	○
		42	1	00-7F	SCALE TUNING C#	-63...0...+63 [cent]	40	○	○	×	○	○
		43	1	00-7F	SCALE TUNING D	-63...0...+63 [cent]	40	○	○	×	○	○
		44	1	00-7F	SCALE TUNING D#	-63...0...+63 [cent]	40	○	○	×	○	○
		45	1	00-7F	SCALE TUNING E	-63...0...+63 [cent]	40	○	○	×	○	○
		46	1	00-7F	SCALE TUNING F	-63...0...+63 [cent]	40	○	○	×	○	○
		47	1	00-7F	SCALE TUNING F#	-63...0...+63 [cent]	40	○	○	×	○	○
		48	1	00-7F	SCALE TUNING G	-63...0...+63 [cent]	40	○	○	×	○	○
		49	1	00-7F	SCALE TUNING G#	-63...0...+63 [cent]	40	○	○	×	○	○
		4A	1	00-7F	SCALE TUNING A	-63...0...+63 [cent]	40	○	○	×	○	○
		4B	1	00-7F	SCALE TUNING A#	-63...0...+63 [cent]	40	○	○	×	○	○
		4C	1	00-7F	SCALE TUNING B	-63...0...+63 [cent]	40	○	○	×	○	○
		4D	1	28-58	CAT PITCH CONTROL	-24...0...+24 [semitones]	40	○	×	×	×	○
		4E	1	00-7F	CAT LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	×	×	×	○

		4F	1	00-7F	CAT AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		50	1	00-7F	CAT LFO PMOD DEPTH	0...127	00	○	×	×	×	○
		51	1	00-7F	CAT LFO FMOD DEPTH	0...127	00	○	×	×	×	○
		52	1	00-7F	CAT LFO AMOD DEPTH	0...127	00	○	×	×	×	○
		53	1	28-58	PAT PITCH CONTROL	-24...0...+24 [semitones]	40	○	×	×	×	○
		54	1	00-7F	PAT LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	×	×	×	○
		55	1	00-7F	PAT AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		56	1	00-7F	PAT LFO PMOD DEPTH	0...127	00	○	×	×	×	○
		57	1	00-7F	PAT LFO FMOD DEPTH	0...127	00	○	×	×	×	○
		58	1	00-7F	PAT LFO AMOD DEPTH	0...127	00	○	×	×	×	○
		59	1	00-5F	AC1 CONTROLLER NUMBER	0...95	10	○	○	×	○	○
		5A	1	28-58	AC1 PITCH CONTROL	-24...0...+24 [semitones]	40	○	×	×	×	○
		5B	1	00-7F	AC1 LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	×	×	×	○
		5C	1	00-7F	AC1 AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		5D	1	00-7F	AC1 LFO PMOD DEPTH	0...127	00	○	×	×	×	○
		5E	1	00-7F	AC1 LFO FMOD DEPTH	0...127	00	○	×	×	×	○
		5F	1	00-7F	AC1 LFO AMOD DEPTH	0...127	00	○	×	×	×	○
		60	1	00-5F	AC2 CONTROLLER NUMBER	0...95	11	○	×	×	×	○
		61	1	28-58	AC2 PITCH CONTROL	-24...0...+24 [semitones]	40	○	×	×	×	○
		62	1	00-7F	AC2 LOW PASS FILTER CONTROL	-9600...0...+9450 [cent]	40	○	×	×	×	○
		63	1	00-7F	AC2 AMPLITUDE CONTROL	-100...0...+100 [%]	40	○	×	×	×	○
		64	1	00-7F	AC2 LFO PMOD DEPTH	0...127	00	○	×	×	×	○
		65	1	00-7F	AC2 LFO FMOD DEPTH	0...127	00	○	×	×	×	○
		66	1	00-7F	AC2 LFO AMOD DEPTH	0...127	00	○	×	×	×	○
		67	1	00-01	PORTAMENTO SWITCH	OFF, ON	00	○	○	×	×	○
		68	1	00-7F	PORTAMENTO TIME	0...127	00	○	○	×	×	○
		69	1	00-7F	PITCH EG INITIAL LEVEL	-64...0...+63	40	○	×	×	×	○
		6A	1	00-7F	PITCH EG ATTACK TIME	-64...0...+63	40	○	×	×	×	○
		6B	1	00-7F	PITCH EG RELEASE LEVEL	-64...0...+63	40	○	×	×	×	○
		6C	1	00-7F	PITCH EG RELEASE TIME	-64...0...+63	40	○	×	×	×	○
		6D	1	01-7F	VELOCITY LIMIT LOW	1...127	01	○	×	×	×	○
		6E	1	01-7F	VELOCITY LIMIT HIGH	1...127	7F	○	×	×	×	○

TOTAL SIZE 3F

		70	1		NOT USED		-	-	-	-	-	-
		71	1		NOT USED		-	-	-	-	-	-
		72	1	00-7F	EQ BASS GAIN	-12dB...+12dB	40	○	×	×	×	○
		73	1	00-7F	EQ TREBLE GAIN	-12dB...+12dB	40	○	×	×	×	○

TOTAL SIZE 04

		74	1		NOT USED		-	-	-	-	-	-
		75	1		NOT USED		-	-	-	-	-	-
		76	1	04-28	EQ BASS FREQUENCY	32...2.0k [Hz]	0C	○	×	×	×	○
		77	1	1C-3A	EQ TREBLE FREQUENCY	500...16.0k [Hz]	36	○	×	×	×	○
		78	1		NOT USED		-	-	-	-	-	-
		79	1		NOT USED		-	-	-	-	-	-
		7A	1		NOT USED		-	-	-	-	-	-
		7B	1		NOT USED		-	-	-	-	-	-
		7C	1		NOT USED		-	-	-	-	-	-
		7D	1		NOT USED		-	-	-	-	-	-
		7E	1		NOT USED		-	-	-	-	-	-
		7F	1		NOT USED		-	-	-	-	-	-

TOTAL SIZE 0C

0A	nn	40	1	00-7F	MW OFFSET LEVEL CONTROL	-100 - 100 [%]	40	○	×	×	×	○
		41	1	00-7F	BEND OFFSET LEVEL CONTROL	-100 - 100 [%]	40	○	×	×	×	○
		42	1	00-7F	CAT OFFSET LEVEL CONTROL	-100 - 100 [%]	40	○	×	×	×	○
		43	1	00-7F	PAT OFFSET LEVEL CONTROL	-100 - 100 [%]	40	○	×	×	×	○
		44	1	00-7F	AC1 OFFSET LEVEL CONTROL	-100 - 100 [%]	40	○	×	×	×	○
		45	1	00-7F	AC2 OFFSET LEVEL CONTROL	-100 - 100 [%]	40	○	×	×	×	○

TOTAL SIZE 06

nn = PART NUMBER

If there is a Drum Voice assigned to the part, the following parameters are ineffective.

- BANK SELECT LSB
- PORTAMENTO
- MONO/POLY
- SCALE TUNING
- POLY AFTER TOUCH
- PITCH EG

## MIDI Parameter Change Table (DRUM SETUP)

Address (H)		Size (H)	Data (H)	Parameter	Description	XG Default (H)	MIDI Reception			MIDI Transmission		
3n	rr						Song	R, L	Keyboard	Panel	Song	
		00	1	00-7F	PITCH COARSE	-64...0...+63	40	○	×	×	×	○
		01	1	00-7F	PITCH FINE	-64...0...+63 [cent]	40	○	×	×	×	○
		02	1	00-7F	LEVEL	0...127	Depends on the note	○	×	×	×	○
		03	1	00-7F	ALTERNATE GROUP	OFF; 1...127	Depends on the note	○	×	×	×	○
		04	1	00-7F	PAN	RND, L63...C...R63	Depends on the note	○	×	×	×	○
		05	1	00-7F	REVERB SEND	0...127	Depends on the note	○	×	×	×	○
		06	1	00-7F	CHORUS SEND	0...127	Depends on the note	○	×	×	×	○
		07	1	00-7F	VARIATION SEND	0...127	7F	○	×	×	×	○
		08	1	00-01	KEY ASSIGN	SINGLE, MULTI	00	○	×	×	×	○
		09	1	00-01	Rcv NOTE OFF	OFF, ON	Depends on the note	○	×	×	×	○
		0A	1	00-01	Rcv NOTE ON	OFF, ON	01	○	×	×	×	○
		0B	1	00-7F	LOW PASS FILTER CUTOFF FREQUENCY	-64...0...+63	40	○	×	×	×	○
		0C	1	00-7F	LOW PASS FILTER RESONANCE	-64...0...+63	40	○	×	×	×	○
		0D	1	00-7F	EG ATTACK RATE	-64...0...+63	40	○	×	×	×	○
		0E	1	00-7F	EG DECAY1 RATE	-64...0...+63	40	○	×	×	×	○
		0F	1	00-7F	EG DECAY2 RATE	-64...0...+63	40	○	×	×	×	○

TOTAL SIZE 10

		20	1	00-7F	EQ BASS GAIN	-12dB...+12dB	40	×	×	×	×	○
		21	1	00-7F	EQ TREBLE GAIN	-12dB...+12dB	40	×	×	×	×	○
		22	1		NOT USED		-	-	-	-	-	-
		23	1		NOT USED		-	-	-	-	-	-
		24	1	04-28	EQ BASS FREQUENCY	32...2.0k [Hz]	0C	×	×	×	×	○
		25	1	1C-3A	EQ TREBLE FREQUENCY	500...16.0k [Hz]	36	×	×	×	×	○
		26	1		NOT USED		-	-	-	-	-	-
		27	1		NOT USED		-	-	-	-	-	-
		28	1		NOT USED		-	-	-	-	-	-
		29	1		NOT USED		-	-	-	-	-	-
		2A	1		NOT USED		-	-	-	-	-	-
		2B	1		NOT USED		-	-	-	-	-	-
		2C	1		NOT USED		-	-	-	-	-	-
		2D	1		NOT USED		-	-	-	-	-	-

TOTAL SIZE 0E

n: Drum Setup Number (0-1)  
rr: note number (0D-5B)

In the following cases, the Clavinova will initialize all Drum Setups.  
XG SYSTEM ON received  
GM SYSTEM ON received  
GM LEVEL 2 SYSTEM ON received  
GS RESET received  
DRUM SETUP RESET received (only when in XG mode)

## NOTICE

When a part to which a Drum Setup is assigned receives a program change, the assigned Drum Setup will be initialized.  
If the same Drum Setup is assigned to two or more parts, changes in Drum Setup parameters (including program changes) will apply to all parts to which it is assigned.



## System Exclusive Messages (2)

<b>Application Range</b>	MIDI, Internal Sequencer
<b>Model</b>	NU1XA

\* Not received when Receive Parameter System Exclusive is set to off.  
 \* Not transmitted when Transmit Parameter System Exclusive is set to off.

### System Exclusive Messages (XG)

MIDI Event	Data Format	MIDI Reception			MIDI Transmission	
		Song	R, L	Keyboard	Panel	Song
XG Parameter Change	F0 43 1n 4C hh mm ll dd ... F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0001nnnn 1n = Device Number n=always 0 (when transmit), n=0-F (when receive) 01001100 4C = Model ID 0hhhhhhh hh = Address High 0mmmmmmm mm = Address Mid 01111111 ll = Address Low 0ddddddd dd = Data .... 11110111 F7 = End of Exclusive	○ *Refer to Parameter Change Table	○		○ *Refer to Parameter Change Table	
XG Bulk Dump	F0 43 0n 4C aa bb hh mm ll dd ... dd cc F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0000nnnn 0n = Device Number n=always 0 (when transmit), n=0-F (when receive) 01001100 4C = Model ID 0aaaaaaa aa = Byte Count MSB 0bbbbbbb bb = Byte Count LSB 0hhhhhhh hh = Address High 0mmmmmmm mm = Address Mid 01111111 ll = Address Low 0ddddddd dd = Data : 0ddddddd dd = Data 0ccccc cc = Checksum 11110111 F7 = End of Exclusive	○ *Refer to Parameter Change Table	○		○ *Refer to Parameter Change Table	
XG Parameter Request	F0 43 3n 4C hh mm ll F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0011nnnn 3n = Device Number n=always 0 (when transmit), n=0-F (when receive) 01001100 4C = Model ID 0hhhhhhh hh = Address High 0mmmmmmm mm = Address Mid 01111111 ll = Address Low 11110111 F7 = End of Exclusive	○ *Refer to Parameter Change Table. (However, the request for address "0A nn 4v" will be ignored.)	×	×		×
XG Dump Request	F0 43 2n 4C hh mm ll F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0010nnnn 2n = Device Number n=always 0 (when transmit), n=0-F (when receive) 01001100 4C = Model ID 0hhhhhhh hh = Address High 0mmmmmmm mm = Address Mid 01111111 ll = Address Low 11110111 F7 = End of Exclusive	○ *Refer to Parameter Change Table. (However, the request for address "0A nn 40" will be ignored.)	×	×		×

### System Exclusive Messages (Others)

MIDI Event	Data Format	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
		Song	R, L	Keyboard	Panel	Song
MIDI Master Tuning	F0 43 1n 27 30 00 00 0m 0l cc F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 0001nnnn 1n n= always 0 (when transmit), n=0-F (when receive) 00100111 27 = Model ID of TG100 00110000 30 = Address High 00000000 00 = Address Mid 00000000 00 = Address Low 0000mmmm 0m = Master Tune MSB 00001111 0l = Master Tune LSB 0ccccc cc = don't care 11110111 F7 = End of Exclusive	○			×	×

### System Exclusive Messages (Preset Voice)

MIDI Event	Data Format	MIDI Reception (effective or not for each part)			MIDI Transmission (generated data)	
		Song	R, L	Keyboard	Panel	Song
Key Off Sampling Depth	F0 43 73 01 50 11 0n 04 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Clavinova ID 00000001 01 = Model ID (Clavinova common ID) 01010000 50 = Sub-ID 00010001 11 = Sub-ID 0000nnnn 0n = Channel (00-0F) 00000100 04 = Sub-ID (Key Off Sampling Depth) 0ddddddd dd = Depth (00-50) 11110111 F7 = End of Exclusive	○	○	×	○	○
Soft Pedal Depth	F0 43 73 01 50 11 0n 05 dd F7 11110000 F0 = Exclusive status 01000011 43 = YAMAHA ID 01110011 73 = Clavinova ID 00000001 01 = Model ID (Clavinova common ID) 01010000 50 = Sub-ID 00010001 11 = Sub-ID 0000nnnn 0n = Channel (00-0F) 00000101 05 = Sub-ID (Soft Pedal Depth) 0ddddddd dd = Depth (00-7F) 11110111 F7 = End of Exclusive	○	○	×	○	○

\*For each Depth value, the reset value is 40H = voice parameter.

