

# *CP1*

## STAGE PIANO

### Data List

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# Performance List

Bank	Number	Performance Name	Part	Piano Type	Modulation	Power Amp	Reverb	Description
PRE A	001	CF Grand	1	CF 3Band	D Chorus	VCM Compressor 376	Rich Hall	A natural piano sound sampled from the CFIIIS and well suited to a wide range of playing situations and practically every style of music.
			2	DXEP 2	Small Phaser	Clean Amp		
PRE A	002	S6 Grand	1	S6 2Band	Small Phaser	VCM Compressor 376	Rich Room	A woody, warm piano sound sampled from the S6B and ideal for intricate melodies.
			2	Dyno	D Chorus	Clean Amp		
PRE A	003	CF Rock	1	CF 2Band	D Chorus	VCM Compressor 376	Rich Room	A bright, clear piano sound perfect for playing rock and pop.
			2	DXEP 2	Small Phaser	Clean Amp		
PRE A	004	S6 Lounge	1	S6 3Band	Small Phaser	VCM Compressor 376	Rich Plate	A beautiful, sustained S6B sound producing a rich ambiance even when very few notes are played.
			2	DXEP 2	Small Phaser	Clean Amp		
PRE A	005	Lush Piano	1	CF 3Band	Small Phaser	Clean Amp	Rich Hall	Allowing the richness of the CFIIIS to shine, this piano sound is highly effective when used in ballads and solo performances.
			2	73Rd I	Chorus	VCM Compressor 376		
PRE A	006	CF Chorus	1	CF 3Band	Chorus	VCM Compressor 376	Rich Hall	A piano sound with chorus added to better suit playing backing for singers or playing as part of an ensemble.
			2	DXEP 2	Small Phaser	Clean Amp		
PRE A	007	CF Comp	1	CF 3Band	Chorus	VCM Compressor 376	Rich Room	A rock-type piano sound with compression applied to realize a level of power rivaling that of the electric guitar.
			2	CP80	Chorus	Clean Amp		
PRE A	008	TheOldPno	1	CF 3Band	Pedal Wah	VCM Compressor 376	Room1	A nostalgic-sounding piano ideal for use in genres such as honky tonk and ragtime.
			2	S6 3Band	Pedal Wah	VCM Compressor 376		
PRE A	009	CP80Studio	1	CP80	D Chorus	Clean Amp	Stage2	A faithful recreation of the sound of a studio-recorded CP80.
			2	DXEP 1	Small Phaser	Clean Amp		
PRE A	010	CP80 Live	1	CP88	D Chorus	Clean Amp	Stage1	A CP80 sound of the type frequently heard in live situations.
			2	DXEP 2	Small Phaser	Clean Amp		
PRE A	011	CP80Chorus	1	CP80	D Chorus	Clean Amp	Rich Room	A CP80 sound with chorus applied to better suit longer, sparser tones.
			2	DXEP 2	Small Phaser	Clean Amp		
PRE A	012	CP Blend	1	CF 3Band	Small Phaser	Clean Amp	Rich Plate	A totally new, chorus-type piano sound with a unique character that sets it apart from both grand pianos and the CP80.
			2	CP88	816Chorus	Clean Amp		
PRE A	013	DXEP 1	1	DXEP 1	816Chorus	VCM Compressor 376	Stage2	An stunning recreation of the Fulltime voice of the DX7 II, so enriched by the 816Chorus that you could be forgiven for thinking that you are actually playing a TX816.
			2	CF 3Band	Symphonic	Clean Amp		
PRE A	014	DXEP 2	1	DXEP 2	D Chorus	Clean Amp	Stage2	A rich sound similar to DXEP 1 but having a more refined tone.
			2	CF 3Band	Symphonic	Clean Amp		
PRE A	015	DXEP 3	1	DXEP 3	816Chorus	Clean Amp	Rich Room	A DX electric piano sound with characteristic metal attack allowing it to stand out within an ensemble.
			2	CF 3Band	Symphonic	Clean Amp		
PRE A	016	DXEP 4	1	DXEP 4	816Chorus	Clean Amp	Rich Room	A next-generation DX electric piano sound with a well balanced attack for versatility in many different playing situations.
			2	CF 3Band	Symphonic	Clean Amp		
PRE B	001	Case 71	1	71Rd I	MAX100	Power Amp 71Rd I	Rich Plate	A recreation of the oldest of Rd I piano sounds with the distinctive warmth of felt hammers.
			2	75Rd I	MAX100	Power Amp 71Rd I		
PRE B	002	Case 73	1	73Rd I	Small Phaser	Power Amp 73Rd I	Rich Plate	The classic full sound of the 1973 Rd I electric piano.
			2	75Rd I	D Chorus	Clean Amp		
PRE B	003	Case 75	1	75Rd I	Small Phaser	Power Amp 75Rd I	Rich Plate	A stunning recreation of the clear, well-balanced, vintage sound of later-stage Rd I pianos.
			2	CP80	Touch Wah	Clean Amp		
PRE B	004	Case 78	1	78Rd II	MAX90	Power Amp 78Rd II	Rich Plate	A bright, dynamic electric piano sound characteristic of the Rd II.
			2	75Rd I	Flanger	Power Amp 78Rd II		
PRE B	005	71 Tremolo	1	71Rd I	MAX90	Power Amp 71Rd I	Rich Plate	A 71Rd I piano sound with tremolo and a relatively high level of amplifier drive giving rise to exquisite distortion as the tone is modulated.
			2	CP88	Touch Wah	VCM Compressor 376		
PRE B	006	Simple 73	1	73Rd I	Chorus	VCM Compressor 376	Rich Plate	The sound of a compressed 73Rd I electric piano, output as a line signal without passing through the speakers.
			2	69Wr	D Chorus	VCM Compressor 376		
PRE B	007	Phase 75	1	75Rd I	MAX90	Clean Amp	Rich Plate	One of the most recognizable and widely used sounds of the Rd series, achieved by using a phaser in combination with the 75Rd I.
			2	CP80	MAX100	Power Amp 78Rd II		
PRE B	008	Chorus 78	1	78Rd II	D Chorus	Power Amp 75Rd I	Rich Plate	A bright piano sound combining the 78Rd II and the chorus effect that suits it so well.
			2	DXEP 4	816Chorus	Clean Amp		
PRE B	009	Dyno Live	1	Dyno	D Chorus	VCM Compressor 376	Rich Plate	The clear, metallic sound produced by the classic combination of Rd II piano and Dyno amp.
			2	DXEP 4	Symphonic	Clean Amp		
PRE B	010	DynoChorus	1	Dyno	Symphonic	Power Amp 78Rd II	Rich Room	A Dyno-type electric piano sound and the type of chorus effect with which it is so well matched.
			2	CF 3Band	Small Phaser	Clean Amp		
PRE B	011	West Coast	1	78Rd II	Flanger	Clean Amp	Rich Plate	A classic sound put to great use in the West Coast pop of the eighties.
			2	Dyno	Symphonic	VCM Compressor 376		
PRE B	012	Dist Drive	1	73Rd I	D Chorus	Power Amp 75Rd I	Rich Plate	A thick Rd I sound with distinctive amplifier-driven distortion.
			2	75Rd I	Small Phaser	Power Amp 73Rd I		
PRE B	013	Groove 69	1	69Wr	816Chorus	Power Amp 75Rd I	Rich Plate	This early-type Wr piano sound is perfectly suited to R&B and other funky performances, and in addition, its pick-up settings can be changed to great effect.
			2	75Rd I	D Chorus	Power Amp 69Wr		

Bank	Number	Performance Name	Part	Piano Type	Modulation	Power Amp	Reverb	Description
PRE B	014	Loud 6x9s	1	77Wr	MAX90	Power Amp 77Wr	Woody Room	A latter-type Wr electric piano sound featuring amplifier-driven distortion for extra loudness.
			2	73Rd I	Small Phaser	Power Amp 77Wr		
PRE B	015	Fat Wurli	1	69Wr	D Chorus	VCM Compressor 376	Rich Room	A thick, heavy electric piano sound with fast attack produced using a compressor.
			2	DXEP 2	Symphonic	Clean Amp		
PRE B	016	77 Tremolo	1	77Wr	816Chorus	Power Amp 77Wr	Woody Room	Featuring a tremolo effect, this latter-type Wr electric piano sound is thicker, richer, and more powerful than those produced by earlier models.
			2	CF 3Band	Small Phaser	Clean Amp		
PRE C	001	APmeetsDX	1	CF 3Band	D Chorus	Clean Amp	Rich Plate	A layered sound recreating the popular, perfectly-matched combination of CF11S acoustic piano and DX electric piano.
			2	DXEP 1	Symphonic	Power Amp 78Rd II		
PRE C	002	ChimeStack	1	S6 3Band	D Chorus	Clean Amp	Rich Plate	A rich sound achieved by combining the woody tones of the S6 3Band and the metallic attack of the DXEP3 so as to perfectly complement each other.
			2	DXEP 3	Symphonic	VCM Compressor 376		
PRE C	003	CPDXHybrid	1	CP88	816Chorus	VCM Compressor 376	Rich Plate	This thick tone blends the warmth of the CP80 with the electric piano sound of the DX.
			2	DXEP 4	Chorus	Power Amp 69Wr		
PRE C	004	Ultra Warm	1	CF 3Band	Small Phaser	Clean Amp	Rich Plate	With the Attack Timbre (AtkTimbr) parameter of a DXEP3 part set to "Soft2" so that it bridges the gaps behind a CF 3Band part, this layered sound can be played in much the same way as a pad.
			2	DXEP 3	816Chorus	Power Amp 73Rd I		
PRE C	005	MyCF&Dyno	1	CF 3Band	D Chorus	Clean Amp	Rich Plate	A sound recreating the combination of electric and acoustic pianos adopted as standard for ballads, pop, and many other genres prior to the arrival of the DX electric piano.
			2	Dyno	Symphonic	Power Amp 78Rd II		
PRE C	006	CP Backed	1	CP80	Symphonic	VCM Compressor 376	Rich Room	A CP80 sound with emphasized attack and Dyno-type nuances.
			2	Dyno	Symphonic	Power Amp 78Rd II		
PRE C	007	CF75 AsOne	1	75Rd I	Small Phaser	VCM Compressor 376	Rich Plate	A layered tone combining a CF11S acoustic piano and a 75Rd I electric piano featuring a phaser effect to effortlessly reproduce the famous sound of the seventies and eighties that, at the time, could only be achieved through overdubbing.
			2	CF 3Band	D Chorus	VCM Compressor 376		
PRE C	008	Film Blend	1	S6 3Band	Symphonic	VCM Compressor 376	Rich Plate	A grand, dreamlike layered sound reminiscent of movie soundtracks.
			2	78Rd II	D Chorus	Power Amp 78Rd II		
PRE C	009	Bell Tines	1	Dyno	Symphonic	Power Amp 78Rd II	Woody Room	A glittering sound achieved by layering a DX electric piano over the distinctive metallic tones of a Dyno piano.
			2	DXEP 1	D Chorus	VCM Compressor 376		
PRE C	010	High Tines	1	75Rd I	Chorus	Power Amp 75Rd I	Rich Hall	Featuring a DX electric piano layered over an Rd I piano, this sound delivers tones with a wide-ranging attack feel.
			2	DXEP 1	816Chorus	VCM Compressor 376		
PRE C	011	FunkyWurli	1	77Wr	Touch Wah	Power Amp 77Wr	Rich Plate	A layered sound combining a Wr piano ideal for rhythmical, paradiddle-type playing with a DX electric piano featuring a wah effect.
			2	DXEP 3	Touch Wah	VCM Compressor 376		
PRE C	012	8va Latin	1	CF 3Band	816Chorus	VCM Compressor 376	Room2	Perfect for playing Latin-type phrases, this sound combines a pair of acoustic pianos offset by an octave with respect to each other.
			2	S6 3Band	Chorus	VCM Compressor 376		
PRE C	013	75Phase/S6	1	75Rd I	MAX90	Power Amp 75Rd I	Rich Hall	A split sound allowing grand piano solos to be played with Rd piano backing.
			2	S6 3Band	D Chorus	Clean Amp		
PRE C	014	WahLead/75	1	75Rd I	Touch Wah	Power Amp 75Rd I	Room1	This split sound features an Rd piano combined with a wah effect for playing in the same way as a synth lead.
			2	75Rd I	Touch Wah	Power Amp 78Rd II		
PRE C	015	Jazz Split	1	71Rd I	Flanger	VCM Compressor 376	Rich Plate	Another split sound, this time with a 71Rd I piano setup for playing of bass tones.
			2	CF 3Band	D Chorus	Clean Amp		
PRE C	016	What a CP!	1	CF 3Band	Small Phaser	Clean Amp	Rich Plate	Prepared specially for the demo song "What a CP!", this piano sound has <i>KbdMode</i> set to "zone" for highly effective duo performances.
			2	75Rd I	Small Phaser	Power Amp 75Rd I		

: Parts turned off by default.

## Piano Type List

No.	Type name
1	CF 3Band
2	CF 2Band
3	S6 3Band
4	S6 2Band
5	CP80
6	CP88
7	71Rd I
8	73Rd I
9	75Rd I
10	78Rd II
11	Dyno
12	69Wr
13	77Wr
14	DXEP 1
15	DXEP 2
16	DXEP 3
17	DXEP 4

## Piano Type & Pre-Amplifier Parameter List

### [1] CF 3Band, [3] S6 3Band

No.	Parameter	Range	Value
<b>Piano Type Parameters</b>			
1	Decay (Decay Time)	-16 – +16	0 – 127
2	Release (Release Time)	-16 – +16	0 – 127
3	Key-off (Key-off Noise Level)	-16 – +16	48 – 80
4	DampReso (Damper Resonance Level)	-16 – +16	48 – 80
5	Hammer (Hammer Stiffness)	Soft2, Soft1, Normal, Hard1, Hard2	62 – 66
<b>Pre-amplifier Parameters</b>			
1	Bass	-12.0dB – +12.0dB	40 – 88
2	Mid Freq	100.0Hz – 18.0kHz	32 – 122
3	Mid	-12.0dB – +12.0dB	40 – 88
4	Treble	-12.0dB – +12.0dB	40 – 88
5	Volume	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	Input Gain	-18.0dB – +4.0dB	28 – 72

### [2] CF 2Band, [4] S6 2Band

No.	Parameter	Range	Value
<b>Piano Type Parameters</b>			
1	Decay (Decay Time)	-16 – +16	0 – 127
2	Release (Release Time)	-16 – +16	0 – 127
3	Key-off (Key-off Noise Level)	-16 – +16	48 – 80
4	DampReso (Damper Resonance Level)	-16 – +16	48 – 80
5	Hammer (Hammer Stiffness)	Soft2, Soft1, Normal, Hard1, or Hard2	62 – 66
<b>Pre-amplifier Parameters</b>			
1	Peak1 Freq	63.0Hz – 2.8kHz	24 – 90
2	Peak1 Gain	-12.0dB – +12.0dB	40 – 88
3	Peak2 Freq	400.0Hz – 18.0kHz	56 – 122
4	Peak2 Gain	-12.0dB – +12.0dB	40 – 88

No.	Parameter	Range	Value
5	Volume	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	Input Gain	-18.0dB – +4.0dB	28 – 72
16	---		

### [5] CP80, [6] CP88

No.	Parameter	Range	Value
<b>Piano Type Parameters</b>			
1	Decay (Decay Time)	-16 – +16	0 – 127
2	Release (Release Time)	-16 – +16	0 – 127
3	Key-off (Key-off Noise Level)	-16 – +16	48 – 80
4	---		
5	Hammer (Hammer Stiffness)	Soft2, Soft1, Normal, Hard1, or Hard2	62 – 66
<b>Pre-amplifier Parameters</b>			
1	Bass	0 – 10.0	0 – 50
2	Middle	0 – 10.0	0 – 50
3	Treble	0 – 10.0	0 – 50
4	Brilliance	Low, Medium, High	0 – 2
5	Volume	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	Input Gain	-18.0dB – +4.0dB	28 – 72
16	---		

### [7] 71Rd I, [8] 73Rd I, [9] 75Rd I

No.	Parameter	Range	Value
<b>Piano Type Parameters</b>			
1	Decay (Decay Time)	-16 – +16	0 – 127
2	Release (Release Time)	-16 – +16	0 – 127
3	Key-off (Key-off Noise Level)	-16 – +16	48 – 80
4	StrkPos (Striking Position)	Top3 to Top1, Default, or Rear1 to Rear3	61 – 67
5	Hammer (Hammer Stiffness)	Soft2, Soft1, Normal, Hard1, or Hard2	62 – 66
<b>Pre-amplifier Parameters</b>			
1	Bass	-10.0 – +10.0	0 – 50
2	Treble	-10.0 – +10.0	0 – 50
3	Vibrato Depth	0 – 10.0	0 – 50
4	Vibrato Speed	0 – 10.0	0 – 50
5	Volume	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		

No.	Parameter	Range	Value
12	---		
13	---		
14	---		
15	Input Gain	-18.0dB – +4.0dB	28 – 72
16	---		

[10] 78Rd II

No.	Parameter	Range	Value
<b>Piano Type Parameters</b>			
1	Decay (Decay Time)	-16 – +16	0 – 127
2	Release (Release Time)	-16 – +16	0 – 127
3	Key-off (Key-off Noise Level)	-16 – +16	48 – 80
4	StrkPos (Striking Position)	Top3 to Top1, Default, or Rear1 to Rear3	61 – 67
5	Hammer (Hammer Stiffness)	Soft2, Soft1, Normal, Hard1, or Hard2	62 – 66
<b>Pre-amplifier Parameters</b>			
1	Bass	-10.0 – +10.0	0 – 50
2	Treble	-10.0 – +10.0	0 – 50
3	Vibrato Depth	0 – 10.0	0 – 50
4	Vibrato Speed	0 – 10.0	0 – 50
5	Volume	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	Input Gain	-18.0dB – +4.0dB	28 – 72
16	---		

[11] Dyno

No.	Parameter	Range	Value
<b>Piano Type Parameters</b>			
1	Decay (Decay Time)	-16 – +16	0 – 127
2	Release (Release Time)	-16 – +16	0 – 127
3	Key-off (Key-off Noise Level)	-16 – +16	48 – 80
4	StrkPos (Striking Position)	Top3 to Top1, Default, or Rear1 to Rear3	61 – 67
5	Hammer (Hammer Stiffness)	Soft2, Soft1, Normal, Hard1, or Hard2	62 – 66
<b>Pre-amplifier Parameters</b>			
1	Bass Boost	0 – 10.0	0 – 50
2	Normal	0 – 10.0	0 – 50
3	Overtone	0 – 10.0	0 – 50
4	---		
5	Volume	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	Input Gain	-18.0dB – +4.0dB	28 – 72
16	---		

[12] 69Wr, [13] 77Wr

No.	Parameter	Range	Value
<b>Piano Type Parameters</b>			
1	Decay (Decay Time)	-16 – +16	0 – 127
2	Release (Release Time)	-16 – +16	0 – 127
3	Key-off (Key-off Noise Level)	-16 – +16	48 – 80
4	StrkPos (Striking Position)	Top3 to Top1, Default, or Rear1 to Rear3	61 – 67
5	Hammer (Hammer Stiffness)	Soft2, Soft1, Normal, Hard1, or Hard2	62 – 66
<b>Pre-amplifier Parameters</b>			
1	Bass	-10.0 – +10.0	0 – 50
2	Mid Boost	0.0 – +10.0	0 – 50
3	Treble	-10.0 – +10.0	0 – 50
4	Vibrato Depth	0-10.0	0 – 50
5	Volume	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	Input Gain	-18.0dB – +4.0dB	28 – 72
16	---		

[14] DXEP 1, [15] DXEP 2, [16] DXEP 3, [17] DXEP 4

No.	Parameter	Range	Value
<b>Piano Type Parameters</b>			
1	Decay (Decay Time)	-16 – +16	0 – 127
2	Release (Release Time)	-16 – +16	0 – 127
3	Rls Tone (Release Tone)	0 – 16	64 – 80
4	AtkTimbr (Attack Timbre)	Soft2, Soft1, Normal, Hard1, or Hard2	62 – 66
5	OscDetun (Oscillator Detune)	-16 – +16	48 – 80
<b>Pre-amplifier Parameters</b>			
1	Low	-12.0dB – +12.0dB	40 – 88
2	Low Middle	-12.0dB – +12.0dB	40 – 88
3	High Middle	-12.0dB – +12.0dB	40 – 88
4	High	-12.0dB – +12.0dB	40 – 88
5	Volume	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	Input Gain	-18.0dB – +4.0dB	28 – 72
16	---		

# Modulation Effect Block

## Modulation Effect Type List

	Type name	Type (HEX)	
		MSB	LSB
1	SmallPha (Small Phaser)	20	00
2	Max90	21	00
3	Max100	22	00
4	Flanger	23	00
5	TouchWah (Touch Wah)	24	00
6	PedalWah (Pedal Wah)	25	00
7	Chorus	26	00
8	D Chorus	27	00
9	816Cho (816Chorus)	28	00
10	Sympho (Symphonic)	29	00

## Modulation Effect Parameter List

### [1] SmallPha (Small Phaser)

No.	Parameter	Range	Value	Control
1	Rate	0.092Hz – 16.270Hz (when <i>Color</i> is set to "0.") 0.06Hz – 11.07Hz (when <i>Color</i> is set to "1.")	0 – 127	●
2	Color	0, 1	0 – 1	
3	Drive	0 – 42	0 – 42	
4	---			
5	---			
6	---			
7	---			
8	---			
9	---			
10	---			
11	---			
12	---			
13	---			
13	---			
15	---			
16	---			

### [2] MAX90

No.	Parameter	Range	Value	Control
1	Speed	0.100Hz – 10.000Hz	0 – 127	●
2	Type	1, 2	0 – 1	
3	Drive	0 – 127	0 – 127	
4	---			
5	---			
6	---			
7	---			
8	---			
9	---			
10	---			
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

### [3] MAX100

No.	Parameter	Range	Value	Control
1	Speed	0.100Hz – 10.000Hz	0 – 127	●
2	Mode	1, 2, 3, 4	0 – 3	
3	---			
4	---			
5	---			
6	---			
7	---			
8	---			
9	---			
10	---			
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

### [4] Flanger

No.	Parameter	Range	Value	Control
1	Speed	0.040Hz – 10.00Hz	0 – 235	
2	Manual	0 – 127	0 – 127	
3	Depth	0 – 127	0 – 127	
4	Feedback	0 – 127	0 – 127	
5	---			
6	---			
7	Mix	0 – 127	0 – 127	●
8	---			
9	---			
10	---			
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

### [5] TouchWah (Touch Wah)

No.	Parameter	Range	Value	Control
1	Sensitivity	0 – 127	0 – 127	●
2	Bottom	0 – 127	0 – 127	
3	Top	0 – 127	0 – 127	
4	Resonance Offset	-12.0 – +12.0	40 – 88	
5	---			
6	---			
7	Drive	0.0dB – +40.0dB	0 – 80	
8	---			
9	---			
10	---			
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

[6] PedalWah (Pedal Wah)

No.	Parameter	Range	Value	Control
1	Pedal Control	0 – 127	0 – 127	●
2	Bottom	0 – 127	0 – 127	
3	Top	0 – 127	0 – 127	
4	Resonance Offset	-12.0 – +12.0	40 – 88	
5	---			
6	---			
7	Drive	0.0dB – +40.0dB	0 – 80	
8	---			
9	---			
10	---			
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

[9] 816Cho (816Chorus)

No.	Parameter	Range	Value	Control
1	Speed	0.100Hz – 10.000Hz	0 – 127	
2	Phase	0, 30, 45, 60, 90, ..., 330	0 – 15	
3	Depth	0 – 127	0 – 127	
4	Feedback	0 – 127	0 – 127	
5	---			
6	---			
7	---			
8	---			
9	---			
10	Mix	1 – 127	1 – 127	●
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

[7] Chorus

No.	Parameter	Range	Value	Control
1	Speed	0.040Hz – 10.00Hz	0 – 235	
2	---			
3	Depth	0 – 127	0 – 127	
4	---			
5	---			
6	---			
7	Mix	0 – 127	0 – 127	●
8	---			
9	---			
10	---			
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

[10] Sympho (Symphonic)

No.	Parameter	Range	Value	Control
1	Speed	0.0Hz – 39.7Hz	0 – 127	
2	Depth	0 – 127	0 – 127	
3	Delay	0.0ms – 50.0ms	0 – 127	
4	---			
5	---			
6	---			
7	---			
8	---			
9	---			
10	Mix	1 – 127	1 – 127	●
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

[8] D Chorus

No.	Parameter	Range	Value	Control
1	Type	Type1 – Type5	0 – 4	
2	---			
3	---			
4	---			
5	---			
6	---			
7	---			
8	---			
9	---			
10	---			
11	---			
12	---			
13	---			
14	---			
15	---			
16	---			

# Power-Amplifier/Compressor Block

## Power-Amplifier/Compressor Type List

	Type name	Type (HEX)	
		MSB	LSB
1	71Rd I (PowerAmp 71Rd I)	30	00
2	73Rd I (PowerAmp 73Rd I)	31	00
3	75Rd I (PowerAmp 75Rd I)	32	00
4	78Rd II (PowerAmp 78Rd II)	33	00
5	69Wr (PowerAmp 69Wr)	34	00
6	77Wr (PowerAmp 77Wr)	35	00
7	Clean (Clean Amp)	36	00
8	Comp376 (Compressor 376)	37	00

## Power-Amplifier/Compressor Parameter List

### [1] – [6] Power Amp 71Rd I / 73Rd I / 75Rd I / 78Rd II / 69Wr / 77Wr

No.	Parameter	Range	Value
1	Drive	0 – 100	0 – 100
2	Speaker Type	71Rd I / 73Rd I / 75Rd I / 78Rd II / 69Wr / 77Wr	0 – 5
3	Line Balance	L63>S – L<S63	1 – 127
4	---		
5	Output	0 – 127	0 – 127
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	---		
16	---		

### [7] Clean (Clean Amp)

No.	Parameter	Range	Value
1	Output	0 – 127	0 – 127
2	---		
3	---		
4	---		
5	---		
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	---		
16	---		

### [8] Comp376 (Compressor 376)

No.	Parameter	Range	Value
1	Drive	0 – 100	0 – 100
2	Output	0 – 127	0 – 127
3	Ratio	2, 4, 8, 12, 20	0 – 4
4	Attack	0.203ms – 50.40ms	21 – 200
5	Release	11.96ms – 544.22ms	9 – 200
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	---		
16	---		



# Reverb Block

## Reverb Type List

	Type name	Type (HEX)	
		MSB	LSB
1	RichHall (Rich Hall)	01	00
2	RichPlate (Rich Plate)	01	01
3	RichRoom (Rich Room)	01	02
4	WoodRoom (Woody Room)	01	03
5	Room1	01	04
6	Room2	01	05
7	Stage1	01	06
8	Stage2	01	07

## Reverb Parameter List

[1] RichHall (Rich Hall), [2] RichPlate (Rich Plate),  
 [3] RichRoom (Rich Room), [5] Room1, [6] Room2,  
 [7] Stage1, [8] Stage2

No.	Parameter	Range	Value
1	Reverb Time	0.3s – 10.0ms	0 – 69
2	---		
3	---		
4	HPF Cutoff Frequency	20Hz – 8.0kHz	0 – 52
5	---		
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	Feedback High Damp	0.1 – 1.0	1 – 10
15	---		
16	---		

[4] WoodRoom (Woody Room)

No.	Parameter	Range	Value
1	Reverb Time	0.3s – xy.zs	0 – 69
2	---		
3	---		
4	HPF Cutoff Frequency	20Hz – 8.0kHz	0 – 52
5	---		
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	---		
16	---		

# MIDI Data Format

Many MIDI messages listed in the MIDI Data Format section are expressed in hexadecimal or binary numbers. Hexadecimal numbers may include the letter "H" as a suffix. The letter "n" indicates a certain whole number. The chart below lists the corresponding decimal number for each hexadecimal number.

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

### Additional Notes

- For example, 144 – 159 (Decimal)/9nH/1001 0000 – 1001 1111 (Binary) indicate the note-on messages for the channels 1 through 16 respectively. 176 – 191/BnH/1011 0000 – 1011 1111 indicate the control change messages for the channels 1 through 16 respectively. 192 – 207/CnH/1100 0000 – 1100 1111 indicate the program change messages for the channels 1 through 16 respectively. 240/F0H/1111 0000 is positioned at the beginning of data to indicate a system exclusive message. 247/F7H/1111 0111 is positioned at the end of the system exclusive message.
- aaH (Hexadecimal)/0aaaaaaa (Binary) indicates the data addresses. The data address consists of High, Mid and Low.
- bbH/0bbbbbbb indicates byte counts.
- ccH/0ccccccc indicates check sums.
- ddH/0ddddddd indicates data/value.

## (1) TRANSMIT FLOW

```

MIDI <-- [SW1] -----NOTE ON/OFF          9nH
OUT |
    | +-----CONTROL CHANGE
    | | VOLUME                               BnH, 07H
    | | PAN                                 BnH, 0AH
    | | SUSTAIN SWITCH                       BnH, 40H
    | | SOSTENUTO                             BnH, 42H
    | | SOFT PEDAL                            BnH, 43H
    | | EG RELEASE TIME                       BnH, 48H
    | | EG DECAY TIME                         BnH, 4BH
    | | REVERB SEND                           BnH, 5BH
    | | ASSIGNABLE CONTROLLER                 BnH, (00H .. 5FH)
    | | FOOT VOLUME                           BnH, (07H or 0BH)
    |
    | +-- [SW7] --BANK SEL MSB                 BnH, 00H
    | | BANK SEL LSB                           BnH, 20H
    |
    | +-- [SW8] --PROGRAM CHANGE               CnH
    |
    | +-----PITCH BEND CHANGE               EnH
    |
    | +-----ACTIVE SENSING                  FEH
    |
    | +-- [SW5] -----SYSTEM EXCLUSIVE MESSAGE
    | | <BULK DUMP>
    | | F0H 43H 0nH 7FH 0CH bhH b1H ahH amH a1H ddH....ddH ccH F7H
    | |
    | | +-----<PARAMETER CHANGE>
    | | F0H 43H 1nH 7FH 0CH ahH amH a1H ddH....ddH F7H
    | |
    | | +-----SYSTEM EXCLUSIVE MESSAGE
    | | | IDENTITY REPLY
    | | | F0H 7EH 7FH 06H 02H 43H 00H 41H 3BH 06H 00H 00H 00H 7FH F7H
  
```

- [SW1] MIDI Transmit Channel and Transmit Filter  
When Keyboard Mode (KbdMode) is set to "zone", MIDI data is transmitted in line with the Transmit MIDI Switch (MIDI) settings for each zone and via the corresponding zone transmit channels. When Keyboard Mode (KbdMode) is set to "layer" or "split", MIDI data is transmitted via the Transmit Channel (TransCh).
- [SW5] MIDI Device Number  
When set to all, transmitted via 1.
- [SW7] SYSTEM Bank Select Switch
- [SW8] SYSTEM Program Change Switch

## (2) RECEIVE FLOW

```

MIDI >-- [SW10] -----NOTE OFF            8nH
    |
    | +-----NOTE ON/OFF                    9nH
    |
    | +-----CONTROL CHANGE
    | | DATA ENTRY MSB                       BnH, 06H
    | | DATA ENTRY LSB                       BnH, 26H
    | | MAIN VOLUME                           BnH, 07H
    | | PAN                                    BnH, 0AH
    | | EXPRESSION                             BnH, 0BH
    | | SUSTAIN SWITCH                         BnH, 40H
    | | SOSTENUTO                              BnH, 42H
    | | SOFT PEDAL                             BnH, 43H
    | | EG RELEASE TIME                         BnH, 48H
    | | EG DECAY TIME                          BnH, 4BH
    | | EFFECT1 DEPTH (Reverb)                 BnH, 5BH
    | | DATA ENTRY INC                         BnH, 60H
    | | DATA ENTRY DEC                         BnH, 61H
    | | ASSIGNABLE CONTROLLER                   BnH, (00H .. 5FH)
    | | RPN
    | | PITCH BEND SENS.                       BnH, 64H, 00H, 65H, 00H, 06H, mmH
    | | RPN RESET                             BnH, 64H, 7FH, 65H, 7FH
    | | ALL SOUND OFF                           BnH, 78H
    | | RESET ALL CONTROLLERS                   BnH, 79H
    | | ALL NOTE OFF                            BnH, 7BH
    | | OMNI MODE OFF                           BnH, 7CH
    | | OMNI MODE ON                           BnH, 7DH
    |
    | +-- [SW7] --BANK SEL MSB                 BnH, 00H
    | | BANK SEL LSB                           BnH, 20H
    |
    | +-- [SW8] --PROGRAM CHANGE               CnH
    |
    | +-----PITCH BEND CHANGE               EnH
    |
    | +-----ACTIVE SENSING                  FEH
    |
    | +-- [SW5] -----SYSTEM EXCLUSIVE MESSAGE
    | | <BULK DUMP>
    | | F0H 43H 0nH 7FH 0CH bhH b1H ahH amH a1H ddH....ddH ccH F7H
    | |
    | | +-----<PARAMETER CHANGE>
    | | F0H 43H 1nH 7FH 0CH ahH amH a1H ddH....ddH F7H
    | |
    | | +-----<BULK DUMP REQUEST>
    | | F0H 43H 2nH 7FH 0CH ahH amH a1H ddH....ddH F7H
    | |
    | | +-----<PARAMETER REQUEST>
    | | F0H 43H 3nH 7FH 0CH ahH amH a1H F7H
    | |
    | | +-----SYSTEM EXCLUSIVE MESSAGE
    | | | IDENTITY REQUEST
    | | | F0H 7EH 0nH 06H 01H F7H
  
```

- [SW5] MIDI Device Number  
When this is not set to off, the MIDI Master Volume can be recognized in any mode.
- [SW7] SYSTEM Bank Select Switch
- [SW8] SYSTEM Program Change Switch
- [SW10] MIDI Receive Channel  
When Keyboard Mode (KbdMode) is set to "zone", Zone 1 receives data on MIDI Channel 1; Zone 2 receives data on MIDI Channel 2.  
When Master Keyboard Mode (KbdMode) is set to "layer" or "split", MIDI data is received via the Basic Receive Channel (RecvCh).

**(3) TRANSMIT/RECEIVE DATA**

**(3-1) CHANNEL VOICE MESSAGES**

**(3-1-1) NOTE OFF**

STATUS 1000nnnn (8nH) n = 0 - 15 CHANNEL NUMBER  
 NOTE No. 0kkkkkkk k = 0 (C-2) - 127 (G8)  
 VELOCITY 0vvvvvvv v: ignored  
 Receive only

**(3-1-2) NOTE ON/OFF**

STATUS 1001nnnn (9nH) n = 0 - 15 CHANNEL NUMBER  
 NOTE NUMBER 0kkkkkkk k = 0 (C-2) - 127 (G8)  
 VELOCITY NOTE ON 0vvvvvvv (v#0) NOTE ON  
 NOTE OFF 0vvvvvvv (v=0) NOTE OFF

**(3-1-3) CONTROL CHANGE**

STATUS 1011nnnn (BnH) n = 0 - 15 CHANNEL NUMBER  
 CONTROL NUMBER 0ccccccc c = CONTROL NUMBER  
 CONTROL VALUE 0vvvvvvvv v = DATA VALUE

\*TRANSMITTED CONTROL NUMBER  
 c = 0 BANK SEL MSB ; v = 0 - 127 \*2  
 c = 32 BANK SEL LSB ; v = 0 - 127 \*2  
 c = 7 MAIN VOLUME ; v = 0 - 127  
 c = 10 PAN ; v = 0 - 127  
 c = 11 EXPRESSION ; v = 0 - 127  
 c = 64 SUSTAIN ; v = 0 - 127 \*4  
 c = 66 SOSTENUTO ; v = 0, 127  
 c = 67 SOFT PEDAL ; v = 0, 127  
 c = 91 REVERB SEND ; v = 0 - 127  
 c = 0..95 ASSIGNABLE CONTROLLERS ; v = 0 - 127 \*3

\*RECEIVED CONTROL NUMBER  
 c = 0 BANK SEL MSB ; v = 63 \*2  
 c = 32 BANK SEL LSB ; v = 61 - 69 \*2  
 c = 6 DATA ENTRY MSB ; v = 0 - 127 \*1  
 c = 38 DATA ENTRY LSB ; v = 0 - 127  
 c = 7 MAIN VOLUME ; v = 0 - 127  
 c = 10 PAN ; v = 0 - 127  
 c = 11 EXPRESSION ; v = 0 - 127  
 c = 64 SUSTAIN ; v = 0 - 127  
 c = 66 SOSTENUTO ; v = 0 - 63:OFF, 64 - 127:ON  
 c = 72 EG RELEASE TIME ; v = 0;-16 - 64:0 - 127:+16  
 c = 75 EG DECAY TIME ; v = 0;-16 - 64:0 - 127:+16  
 c = 91 EFFECT1 DEPTH ; v = 0 - 127  
 c = 96 DATA ENTRY INC ; v = 127 \*1  
 c = 97 DATA ENTRY DEC ; v = 127 \*1  
 c = 0..95 ASSIGNABLE CONTROLLER ; v = 0 - 127 \*3

\*1 Used only when a value is set using RPN.  
 \*2 Relation between BANK CHANGE and PROGRAM is as follows:

CATEGORY	MSB	LSB	PROGRAM No.
Performance Preset A	63	61	0..15 (1..16)
Preset B	63	62	0..15 (1..16)
Preset C	63	63	0..15 (1..16)
User A	63	64	0..15 (1..16)
User B	63	65	0..15 (1..16)
User C	63	66	0..15 (1..16)
External A	63	67	0..15 (1..16)
External B	63	68	0..15 (1..16)
External C	63	69	0..15 (1..16)

\*3 The default CONTROL NUMBERS of ASSIGNABLE CONTROLLER are as follows:

FOOT CONTROLLER 1 11  
 FOOT CONTROLLER 2 4  
 FOOT SWITCH 88  
 SOSTENUTO PEDAL 66  
 SOFT PEDAL 67

\*4 When the sustain pedal is set to something other than "FC3 (HalfOn)," operating the sustain pedal transmits only values of 0 (off) or 127 (on).

PAN position relatively changes according to the preset value for each voice.  
 EFFECT1 DEPTH controls reverb send level.  
 The parameters, EG DECAY TIME, EG RELEASE TIME adjust the envelopes preset for each voice.  
 Setting these values add to or subtract from the center value, 64, since it is an offset parameters.  
 Bank Select will be actually executed when the Program Change message is received.  
 Bank Select and Program Change numbers that are not supported by Yamaha will be ignored.

**(3-1-4) PROGRAM CHANGE**

STATUS 1100nnnn (CnH) n = 0 - 15 CHANNEL NUMBER  
 PROGRAM NUMBER 0ppppppp p = 0 - 127

**(3-1-5) PITCH BEND CHANGE**

STATUS 1110nnnn (EnH) n = 0 - 15 CHANNEL NUMBER  
 LSB 0vvvvvvv PITCH BEND CHANGE LSB  
 MSB 0vvvvvvv PITCH BEND CHANGE MSB  
 Transmitted with a resolution of 7 bits.

**(3-2) CHANNEL MODE MESSAGES**

STATUS 1011nnnn (BnH) n = 0 - 15 CHANNEL NUMBER  
 CONTROL NUMBER 0ccccccc c = CONTROL NUMBER  
 CONTROL VALUE 0vvvvvvvv v = DATA VALUE

**(3-2-1) ALL SOUND OFF (CONTROL NUMBER = 78H, DATA VALUE = 0)**

All the sounds currently played including the channel messages such as note-on in a certain channel are muted when receiving this message.  
 MIDI Channel messages such as Hold and Sostenuato are retained.

**(3-2-2) RESET ALL CONTROLLERS (CONTROL NUMBER = 79H, DATA VALUE = 0)**

Resets the values set for the following controllers.  
 FITCH BEND CHANGE 0 (center)  
 EXPRESSION 127 (maximum)  
 FOOT CONTROLLER 1 0 (minimum)  
 FOOT CONTROLLER 2 0 (minimum)  
 SUSTAIN SWITCH 0 (off)  
 SOSTENUTO SWITCH 0 (off)  
 SOFT SWITCH 0 (off)  
 RPN Not assigned; No change

Doesn't reset the following data:  
 PROGRAM CHANGE, BANK SELECT MSB/LSB, VOLUME, PAN  
 SUSTAIN LEVEL, RELEASE TIME, ATTACK TIME, DECAY TIME  
 EFFECT SEND LEVEL 1  
 PITCH BEND SENSITIVITY  
 ASSIGNABLE CONTROLLER

**(3-2-3) ALL NOTE OFF (CONTROL NUMBER = 7BH, DATA VALUE = 0)**

All the notes currently set to on in certain channels are muted when receiving this message. However, if Sustain or Sostenuato is on, notes will continue sounding until these are turned off.

**(3-2-4) OMNI MODE OFF (CONTROL NUMBER = 7CH, DATA VALUE = 0)**

Performs the same function as when receiving ALL NOTES OFF.  
 Sets Basic Receive Channel to "OMNI OFF" channel 1.

**(3-2-5) OMNI MODE ON (CONTROL NUMBER = 7DH, DATA VALUE = 0)**

Performs the same function as when receiving ALL NOTES OFF.  
 Sets Basic Receive Channel to "OMNI ON."

**(3-3) REGISTERED PARAMETER NUMBER**

STATUS 1011nnnn (BnH) n = 0 - 15 CHANNEL NUMBER  
 LSB 01100100 (64H)  
 RPN LSB 0ppppppp p = RPN LSB (Refer to the table as shown below.)  
 MSB 01100101 (65H)  
 RPN MSB 0qqqqqqq q = RPN MSB (Refer to the table as shown below.)  
 DATA ENTRY MSB 00000110 (06H)  
 DATA VALUE 0mmmmmmmm m = Data Value  
 DATA ENTRY LSB 00100110 (26H)  
 DATA VALUE 01111111 l = Data Value

First, designate the parameter using RPN MSB/LSB numbers. Then, set its value with data entry MSB/LSB.

RPN	D. ENTRY	PARAMETER NAME	DATA RANGE
LSB MSB MSB LSB		PITCH BEND SENSITIVITY	00H - 0CH (0 - 12 semitones)
00H 00H mmH ---		RPN numbers will be left not designated.	
7FH 7FH --- ---		RPN RESET	The internal values are not affected.

**(3-4) SYSTEM REAL TIME MESSAGES**

**(3-4-1) ACTIVE SENSING**

STATUS 11111110 (FEH)

Transmitted at every 200 msec.  
 Once this code is received, the instrument starts sensing.  
 When no status nor data is received for over approximately 350 ms, MIDI receiving buffer will be cleared, and the sounds currently played is forcibly turned off.

**(3-5) SYSTEM EXCLUSIVE MESSAGE**

**(3-5-1) UNIVERSAL NON REALTIME MESSAGE**

**(3-5-1-1) IDENTITY REQUEST (Receive only)**

FOH 7EH 0nH 06H 01H F7H  
 ("n" = Device No. However, this instrument receives under "omni.")

**(3-5-1-2) IDENTITY REPLY (Transmit only)**

FOH 7EH 7FH 06H 02H 43H 00H 41H ddH ddH 00H 00H 01H F7H

dd: Device Number Code  
 CP1: 3B 06

**(3-5-2) PARAMETER CHANGE**

**(3-5-2-1) NATIVE PARAMETER CHANGE**

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0001nnnn	1n	Device Number
01111111	7F	Model ID
00001100	0C	Model ID
0aaaaaaaa	aaaaaaaa	Address High
0aaaaaaaa	aaaaaaaa	Address Mid
0aaaaaaaa	aaaaaaaa	Address Low
0ddddd	ddddd	Data
11110111	F7	End of Exclusive

For parameters with data size of 2 or more, the appropriate number of data bytes will be transmitted.  
 See the following MIDI Data Table for Address.

## MIDI Data Format

### (3-5-4) BULK DUMP

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0000nnnn	0n	Device Number
01111111	7F	Model ID
00001100	0C	Model ID
0bbbbbbb	bbbbbb	Byte Count
0bbbbbbb	bbbbbb	Byte Count
0aaaaaaa	aaaaaa	Address High
0aaaaaaa	aaaaaa	Address Mid
0aaaaaaa	aaaaaa	Address Low
0	0	Data
0ccccccc	cccccc	Check-sum
11110111	F7	End of Exclusive

See the following MIDI Data Table for Address and Byte Count.  
The Check sum is the value that results in a value of 0 for the lower 7 bits when the Byte Count, Start Address, Data and Check sum itself are added.

### (3-5-5) DUMP REQUEST

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0010nnnn	2n	Device Number
01111111	7F	Model ID
00001100	0C	Model ID
0aaaaaaa	aaaaaa	Address High
0aaaaaaa	aaaaaa	Address Mid
0aaaaaaa	aaaaaa	Address Low
11110111	F7	End of Exclusive

See the following MIDI Data Table for Address and Byte Count.

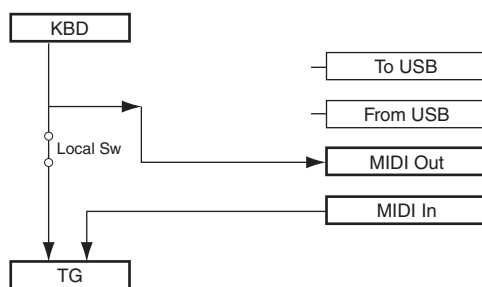
### (3-5-6) PARAMETER REQUEST

11110000	F0	Exclusive status
01000011	43	YAMAHA ID
0011nnnn	3n	Device Number
01111111	7F	Model ID
00001100	0C	Model ID
0aaaaaaa	aaaaaa	Address High
0aaaaaaa	aaaaaa	Address Mid
0aaaaaaa	aaaaaa	Address Low
11110111	F7	End of Exclusive

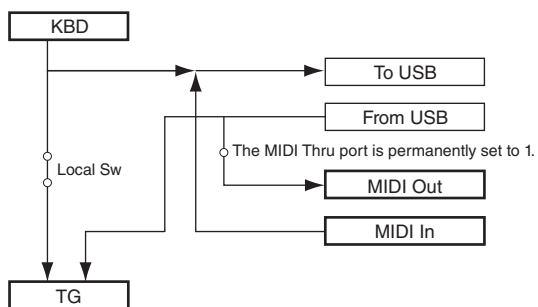
See the following MIDI Data Table for Address and Byte Count.

## (4) SYSTEM OVERVIEW (Keyboard and Tone Generator)

### MIDI IN/OUT = MIDI



### MIDI IN/OUT = USB



Although three types of note on/note off data, received via MIDI and played on the keyboard will be distinguished, the other controllers (channel messages) equally affect the entire notes. ALL SOUND OFF clears all the sounds in the specific channel(s) played by both the keyboard and the data via MIDI. ALL NOTES OFF received via MIDI clears the sounds in the specific channel(s) played via MIDI.

# MIDI Data Table

## Bank Select

### Available Bank Select/Program Change

MSB (HEX)		LSB (HEX)		Program No.	Type	Memory	Description
63	3F	61	3D	0 – 15	Performance	PRE A	When Keyboard Mode (KbdMode) is set to "layer" or "split", this MIDI data is received via the Basic Receive Channel (RecvCh). When Keyboard Mode (KbdMode) is set to "zone", this MIDI data is received via Channel 1 or 2.
		62	3E	0 – 15		PRE B	
		63	3F	0 – 15		PRE C	
		64	40	0 – 15		USR A	
		65	41	0 – 15		USR B	
		66	42	0 – 15		USR C	
		68	44	0 – 15		EXT A	
		69	45	0 – 15		EXT B	
		70	46	0 – 15		EXT C	

## Parameter Base Address

Parameter Block	Top Address			Description
	H	M	L	
	SYSTEM	00	00	
	00	20	00	Master EQ
BULK CONTROL	0E	00	00	Header
	0F	00	00	Footer
MULTIPLE BULK CONTROL	10	00	00	Header
	11	00	00	Footer
PERFORMANCE COMMON	30	00	00	Performance Common
PERFORMANCE PART	31	00	00	Part 1
	31	01	00	Part 2
	31	10	00	Pre-Amp Part 1
	31	11	00	Pre-Amp Part 2
	31	20	00	Modulation Part 1
	31	21	00	Modulation Part 2
	31	30	00	Power-Amp Part 1
	31	31	00	Power-Amp Part 2
PERFORMANCE ZONE	32	00	00	Zone 1
				:
	32	03	00	Zone 4

## Bulk Dump Block

"Top Address" indicates the top address of each block designated by bulk dump operation. "Byte Count" indicates the data size contained in each block designated by bulk dump operation.

The Block from the Bulk Header to the Bulk Footer of the Performance can be received regardless their order. They can be received even if all of them are not transmitted. They cannot be received if the irrelevant Block is included.

To execute 1 Performance bulk dump request, designate its corresponding Bulk Header address.

When the Multiple Bulk Control Footer is received, Performances will be saved to the Flash ROM.

For the information about "mm" and "nn" shown in the following list, refer to MIDI PARAMETER CHANGE TABLE (BULK CONTROL) below.

Parameter Block	Description	Byte Count		Top Address		
		Dec	Hex	H	M	L
SYSTEM	System	60	3C	00	00	00
	Master EQ (for Voice Mode)	22	16	00	20	00

Parameter Block	Description	Byte Count	Dec	Hex	H	M	L
PERFORMANCE	Bulk Header	0	00	0E	mm	nn	
COMMON	Common	68	44	30	00	00	
	Reverb	38	26	30	01	00	
	Controller (PB, FC1, FC2, FS)	30	1E	30	05	00	
	Assignable Knob	30	1E	30	06	00	
PART	Part 1	48	30	31	00	00	
	Part 2	48	30	31	01	00	
	Pre-Amp Part 1	38	26	31	10	00	
	Pre-Amp Part 2	38	26	31	11	00	
	Modulation Part 1	38	26	31	20	00	
	Modulation Part 2	38	26	31	21	00	
	Power-Amp Part 1	38	26	31	30	00	
	Power-Amp Part 2	38	26	31	31	00	
MASTER KEYBOARD ZONE	Zone 1	16	10	32	00	00	
	:	4 Blocks					
	Zone 4	16	10	32	03	00	
	Bulk Footer	0	00	0F	mm	nn	

**MIDI Data Table**

**MIDI PARAMETER CHANGE TABLE (SYSTEM)**

Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
00 00 02	4	00-0F 00-0F 00-0F 00-0F	Master Tune	-102.4 – +102.3 [cent] 1st bit 3-0 → bit 15-12 2nd bit 3-0 → bit 11-8 3rd bit 3-0 → bit 7-4 4th bit 3-0 → bit 3-0	MIDI Master Tuning
07	1	34-4C	Master Transpose	-12 – +12 (semitones)	
09	1	00-01	Local Switch	off, on	
0A	1	00-10, 7F	Basic Receive Channel	1 – 16, omni, off	
0B	1	00-0F, 7F	Keyboard Transmit Channel	1 – 16, off	
10	1	00-01	Piano Tuning Curve	flat, stretch	
12	1	00-04	Keyboard Velocity Curve	norm, soft, hard, wide, fixed	
13	1	01-7F	Keyboard Fixed Velocity	1 – 127	
19	1	00-01	MIDI Input	MIDI, USB MIDI	
20	1	00-06	Micro Tuning	Equal, PureMaj, PureMin, Pythag, MeanTn, WerckMt, KimBerger	
21	1	00-0B	Micro Tuning Root	C – B	
23	1	00-64	Sostenuto (Pedal-Center) Control Number	off, 1 – 95, 99 (PC Inc), 100 (PC Dec)	
24	1	00-64	Soft (Pedal-Left) Control Number	off, 1 – 95, 99 (PC Inc), 100 (PC Dec)	
25	1	00-08	Start Up Bank	PRE A, PRE B, PRE C, USR A, USR B, USR C, EXT A, EXT B, EXT C	
26	1	00-0F	Start Up Program Number	1 – 16	
31	1	00-64	FS Assignable Control Number	off, 1 – 95, 99 (PC Inc), 100 (PC Dec)	
39	1	00-5F	FC2 Control Number	off, 1 – 95	:
3A	1	00-5F	FC1 Control Number	off, 1 – 95	:
3B	1	00-03	Sustain Pedal Select	Sustain Pedal, FC3 (Half On), FC3 (Half Off), FC4/5	

TOTAL SIZE = 60 3C (HEX)

00 20 00	1	34-4C	EQ Gain1	-12 – +12 [dB]	0 [dB]
01	1	04-28	EQ Frequency1	32 – 2.0k [Hz]	80 [Hz]
02	1	01-78	EQ Q1	0.1 – 12.0	0.7
03	1	00-01	EQ Shape1	shelv, peak	shelv
04	1	34-4C	EQ Gain2	-12 – +12 [dB]	0 [dB]
05	1	0E-36	EQ Frequency2	100 – 10.0k [Hz]	200 [Hz]
06	1	01-78	EQ Q2	0.1 – 12.0	0.7
07	1		reserved		
08	1	34-4C	EQ Gain3	-12 – +12 [dB]	0 [dB]
09	1	0E-36	EQ Frequency3	100 – 10.0k [Hz]	500 [Hz]
0A	1	01-78	EQ Q3	0.1 – 12.0	0.7
0B	1		reserved		
0C	1	34-4C	EQ Gain4	-12 – +12 [dB]	0 [dB]
0D	1	0E-36	EQ Frequency4	100 – 10.0k [Hz]	3.2 [kHz]
0E	1	01-78	EQ Q4	0.1 – 12.0	0.7
0F	1		reserved		
10	1	34-4C	EQ Gain5	-12 – +12 [dB]	0 [dB]
11	1	1C-3A	EQ Frequency5	500 – 16.0k [Hz]	8.0 [kHz]
12	1	01-78	EQ Q5	0.1 – 12.0	0.7
13	1	00-01	EQ Shape5	shelv, peak	shelv
14	1	00-01	EQ On/Off	off, on	
15	1		reserved		

TOTAL SIZE = 22 16 (HEX)

**MIDI PARAMETER CHANGE TABLE (BULK CONTROL)**

Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
0E 3D nn	0		Bulk Header	Performance PRE A (nn = 0 – 15)	
3E nn	0			Performance PRE B (nn = 0 – 15)	
3F nn	0			Performance PRE C (nn = 0 – 15)	
40 nn	0	-		Performance USR A (nn = 0 – 15)	
41 nn	0	-		Performance USR B (nn = 0 – 15)	
42 nn	0	-		Performance USR C (nn = 0 – 15)	
43 nn	0	-		Performance EXT A (nn = 0 – 15)	
44 nn	0	-		Performance EXT B (nn = 0 – 15)	
45 nn	0	-		Performance EXT C (nn = 0 – 15)	
4F nn	0	-		Performance Edit Buffer (nn = 0)	
0F 3D nn	0	-	Bulk Footer	Performance PRE A (nn = 0 – 15)	
3E nn	0	-		Performance PRE B (nn = 0 – 15)	
3F nn	0	-		Performance PRE C (nn = 0 – 15)	
40 nn	0	-		Performance USR A (nn = 0 – 15)	
41 nn	0	-		Performance USR B (nn = 0 – 15)	
42 nn	0	-		Performance USR C (nn = 0 – 15)	
43 nn	0	-		Performance EXT A (nn = 0 – 15)	
44 nn	0	-		Performance EXT B (nn = 0 – 15)	
45 nn	0	-		Performance EXT C (nn = 0 – 15)	
4F nn	0	-		Performance Edit Buffer (nn = 0)	

### MIDI PARAMETER CHANGE TABLE (PERFORMANCE COMMON)

Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
30 00 00	1	20 - 7E	Performance Name 1	32..126 (ASCII)	
30 00 01	1	20 - 7E	Performance Name 2	32..126 (ASCII)	
30 00 02	1	20 - 7E	Performance Name 3	32..126 (ASCII)	
30 00 03	1	20 - 7E	Performance Name 4	32..126 (ASCII)	
30 00 04	1	20 - 7E	Performance Name 5	32..126 (ASCII)	
30 00 05	1	20 - 7E	Performance Name 6	32..126 (ASCII)	
30 00 06	1	20 - 7E	Performance Name 7	32..126 (ASCII)	
30 00 07	1	20 - 7E	Performance Name 8	32..126 (ASCII)	
30 00 08	1	20 - 7E	Performance Name 9	32..126 (ASCII)	
30 00 09	1	20 - 7E	Performance Name 10	32..126 (ASCII)	
30 00 0A	1		reserved		
30 00 0B	1		reserved		
30 00 0E	1	00 - 02	Master Keyboard Mode	layer, split, zone	
30 00 0F	1	00 - 7F	Master Keyboard Split Point	C -2..G8	

TOTAL SIZE = 68 44 (HEX)

30 01 00	2	00 - 7F 00 - 7F	Reverb Type MSB Reverb Type LSB	Refer to "Reverb Type List."	
30 01 02	2	00 - 7F 00 - 7F	Reverb Parameter 1 MSB Reverb Parameter 1 LSB	Refer to "Reverb Parameter List."	
30 01 04	2	00 - 7F 00 - 7F	Reverb Parameter 2 MSB Reverb Parameter 2 LSB	:	
30 01 06	2	00 - 7F 00 - 7F	Reverb Parameter 3 MSB Reverb Parameter 3 LSB	:	
30 01 08	2	00 - 7F 00 - 7F	Reverb Parameter 4 MSB Reverb Parameter 4 LSB	:	
30 01 0A	2	00 - 7F 00 - 7F	Reverb Parameter 5 MSB Reverb Parameter 5 LSB	:	
30 01 0C	2	00 - 7F 00 - 7F	Reverb Parameter 6 MSB Reverb Parameter 6 LSB	:	
30 01 0E	2	00 - 7F 00 - 7F	Reverb Parameter 7 MSB Reverb Parameter 7 LSB	:	
30 01 10	2	00 - 7F 00 - 7F	Reverb Parameter 8 MSB Reverb Parameter 8 LSB	:	
30 01 12	2	00 - 7F 00 - 7F	Reverb Parameter 9 MSB Reverb Parameter 9 LSB	:	
30 01 14	2	00 - 7F 00 - 7F	Reverb Parameter 10 MSB Reverb Parameter 10 LSB	:	
30 01 16	2	00 - 7F 00 - 7F	Reverb Parameter 11 MSB Reverb Parameter 11 LSB	:	
30 01 18	2	00 - 7F 00 - 7F	Reverb Parameter 12 MSB Reverb Parameter 12 LSB	:	
30 01 1A	2	00 - 7F 00 - 7F	Reverb Parameter 13 MSB Reverb Parameter 13 LSB	:	
30 01 1C	2	00 - 7F 00 - 7F	Reverb Parameter 14 MSB Reverb Parameter 14 LSB	:	
30 01 1E	2	00 - 7F 00 - 7F	Reverb Parameter 15 MSB Reverb Parameter 15 LSB	:	
30 01 20	2	00 - 7F 00 - 7F	Reverb Parameter 16 MSB Reverb Parameter 16 LSB	:	
30 01 24	1	00 - 01	Reverb On/Off	off, on	
30 01 25	1		Reserved		

TOTAL SIZE = 38 26 (HEX)

Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
30 05 00	2	00 - 00 00 - 01	Pitch Bend Layer 1 Destination MSB Pitch Bend Layer 1 Destination LSB	— off, ModEffect	
30 05 02	2	00 - 00 00 - 01	Pitch Bend Layer 2 Destination MSB Pitch Bend Layer 2 Destination LSB	— off, ModEffect	
30 05 04	1		reserved		
30 05 05	2	00 - 00 00 - 02	Foot Controller 1 Layer 1 Destination MSB Foot Controller 1 Layer 1 Destination LSB	— off, Volume, ModEffect	
30 05 07	2	00 - 00 00 - 02	Foot Controller 1 Layer 2 Destination MSB Foot Controller 1 Layer 2 Destination LSB	— off, Volume, ModEffect	
30 05 09	1		reserved		
30 05 0A	2	00 - 00 00 - 02	Foot Controller 2 Layer 1 Destination MSB Foot Controller 2 Layer 1 Destination LSB	— off, Volume, ModEffect	
30 05 0C	2	00 - 00 00 - 02	Foot Controller 2 Layer 2 Destination MSB Foot Controller 2 Layer 2 Destination LSB	— off, Volume, ModEffect	
30 05 0E	1		reserved		
30 05 0F	2	00 - 00 00 - 03	Foot Switch Layer 1 Destination MSB Foot Switch Layer 1 Destination LSB	— off, VibOn, BypassModEffect, BypassPowerAmp	
30 05 11	2	00 - 00 00 - 03	Foot Switch Layer 2 Destination MSB Foot Switch Layer 2 Destination LSB	— off, VibOn, BypassModEffect, BypassPowerAmp	
30 05 13	1	00 - 01	Foot Switch Mode	Momentary, Latch	
30 05 14	2	00 - 00 00 - 04	Pedal-Left Layer 1 Destination MSB Pedal-Left Layer 1 Destination LSB	— off, Soft, VibOn, BypassModEffect, BypassPowerAmp	
30 05 16	2	00 - 00 00 - 04	Pedal-Left Layer 2 Destination MSB Pedal-Left Layer 2 Destination LSB	— off, Soft, VibOn, BypassModEffect, BypassPowerAmp	
30 05 18	1	00 - 01	Pedal-Left Switch Mode	Momentary, Latch	
30 05 19	2	00 - 00 00 - 04	Pedal-Center Layer 1 Destination MSB Pedal-Center Layer 1 Destination LSB	— off, Sostenuto, VibOn, BypassModEffect, BypassPowerAmp	
30 05 1B	2	00 - 00 00 - 04	Pedal-Center Layer 2 Destination MSB Pedal-Center Layer 2 Destination LSB	— off, Sostenuto, VibOn, BypassModEffect, BypassPowerAmp	
30 05 1D	1	00 - 01	Pedal-Center Switch Mode	Momentary, Latch	

TOTAL SIZE = 30 1E (HEX)

**MIDI Data Table**

Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
30 06 00	1		reserved		
30 06 01	1	00 - 09	Knob 1 Destination MSB	off, Piano1, Pre-Amp1, ModEffect1, Power-Amp1, Piano2, Pre-Amp2, ModEffect2, Power-Amp2, Rev	
30 06 02	1	00 - 05	Knob 1 Destination LSB	Para1, Para2, Para3, Para4, Para5, Para6	
30 06 04	1		reserved		
30 06 05	1		reserved		
30 06 06	1	00 - 09	Knob 2 Destination MSB	off, Piano1, Pre-Amp1, ModEffect1, Power-Amp1, Piano2, Pre-Amp2, ModEffect2, Power-Amp2, Rev	
30 06 07	1	00 - 05	Knob 2 Destination LSB	Para1, Para2, Para3, Para4, Para5, Para6	
30 06 09	1		reserved		
30 06 0A	1		reserved		
30 06 0B	1	00 - 09	Knob 3 Destination MSB	off, Piano1, Pre-Amp1, ModEffect1, Power-Amp1, Piano2, Pre-Amp2, ModEffect2, Power-Amp2, Rev	
30 06 0C	1	00 - 05	Knob 3 Destination LSB	Para1, Para2, Para3, Para4, Para5, Para6	
30 06 0E	1		reserved		
30 06 0F	1		reserved		
30 06 10	1	00 - 09	Knob 4 Destination MSB	off, Piano1, Pre-Amp1, ModEffect1, Power-Amp1, Piano2, Pre-Amp2, ModEffect2, Power-Amp2, Rev	
30 06 11	1	00 - 05	Knob 4 Destination LSB	Para1, Para2, Para3, Para4, Para5, Para6	
30 06 13	1		reserved		
30 06 14	1		reserved		
30 06 15	1	00 - 09	Knob 5 Destination MSB	off, Piano1, Pre-Amp1, ModEffect1, Power-Amp1, Piano2, Pre-Amp2, ModEffect2, Power-Amp2, Rev	
30 06 16	1	00 - 05	Knob 5 Destination LSB	Para1, Para2, Para3, Para4, Para5, Para6	
30 06 18	1		reserved		
30 06 19	1		reserved		
30 06 1A	1	00 - 09	Knob 6 Destination MSB	off, Piano1, Pre-Amp1, ModEffect1, Power-Amp1, Piano2, Pre-Amp2, ModEffect2, Power-Amp2, Rev	
30 06 1B	1	00 - 05	Knob 6 Destination LSB	Para1, Para2, Para3, Para4, Para5, Para6	
30 06 1D	1		reserved		

TOTAL SIZE = 30 1E (HEX)

**MIDI PARAMETER CHANGE TABLE (PERFORMANCE PART)**

Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
31 0p 00	1	00 - 7F	Bank Select MSB	0 - 127	
31 0p 01	1	00 - 7F	Bank Select LSB	0 - 127	
31 0p 02	1	00 - 7F	Program Number	1 - 128	
31 0p 0B	1	00 - 7F	Velocity Sense Depth	0 - 127	
31 0p 0C	1	00 - 7F	Velocity Sense Offset	0 - 127	
31 0p 0E	1	01 - 7F	Pan	L63 - C - R63	
31 0p 0F	1	00 - 0C	Pitch Bend Range	0 - 12	
31 0p 10	2	00 - 0F 00 - 0F	Detune MSB Detune LSB	-12.8 - +12.7 [Hz] 1st bit 3-0 → bit 7-4 2nd bit 3-0 → bit 3-0	
31 0p 12	1	00 - 7F	Reverb Send	0 - 127	
31 0p 15	1	28 - 58	Note Shift	-24 - +24 [semitones]	
31 0p 22	1	00 - 01	Piano On/Off	off, on	
31 0p 23	1	00 - 7F	Decay Time	-16 - +16	
31 0p 24	1	00 - 7F	Release Time	-16 - +16	
31 0p 25	1	30 - 50	Key-off Noise Level	-16 - +16	
31 0p 26	1	30 - 50	Damper Resonance Level	-16 - +16	
31 0p 27	1	3D - 43	Striking Position	Top3, Top2, Top1, Default, Rear1, Rear2, Rear3	
31 0p 28	1	3E - 42	Attack Timbre	Soft2, Soft1, Default, Hard1, Hard2	
31 0p 29	1	3E - 42	Hammer Stiffness	Soft2, Soft1, Normal, Hard1, Hard2	
31 0p 2A	1	30 - 50	Oscillator Detune	-16 - +16	
31 0p 2B	1	40 - 50	Release Tone	0 - 16	

TOTAL SIZE = 48 30 (HEX)  
0p = Layer number  
00-01 Layer 1 - 2

Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
31 1p 02	2	00 - 7F 00 - 7F	Pre-Amp Parameter 1 MSB Pre-Amp Parameter 1 LSB	Refer to "Pre-Amplifier Parameter List."	
31 1p 04	2	00 - 7F 00 - 7F	Pre-Amp Parameter 2 MSB Pre-Amp Parameter 2 LSB	:	
31 1p 06	2	00 - 7F 00 - 7F	Pre-Amp Parameter 3 MSB Pre-Amp Parameter 3 LSB	:	
31 1p 08	2	00 - 7F 00 - 7F	Pre-Amp Parameter 4 MSB Pre-Amp Parameter 4 LSB	:	
31 1p 0A	2	00 - 7F 00 - 7F	Pre-Amp Parameter 5 MSB Pre-Amp Parameter 5 LSB	:	
31 1p 0C	2	00 - 7F 00 - 7F	Pre-Amp Parameter 6 MSB Pre-Amp Parameter 6 LSB	:	
31 1p 0E	2	00 - 7F 00 - 7F	Pre-Amp Parameter 7 MSB Pre-Amp Parameter 7 LSB	:	
31 1p 10	2	00 - 7F 00 - 7F	Pre-Amp Parameter 8 MSB Pre-Amp Parameter 8 LSB	:	
31 1p 12	2	00 - 7F 00 - 7F	Pre-Amp Parameter 9 MSB Pre-Amp Parameter 9 LSB	:	
31 1p 14	2	00 - 7F 00 - 7F	Pre-Amp Parameter 10 MSB Pre-Amp Parameter 10 LSB	:	
31 1p 16	2	00 - 7F 00 - 7F	Pre-Amp Parameter 11 MSB Pre-Amp Parameter 11 LSB	:	
31 1p 18	2	00 - 7F 00 - 7F	Pre-Amp Parameter 12 MSB Pre-Amp Parameter 12 LSB	:	
31 1p 1A	2	00 - 7F 00 - 7F	Pre-Amp Parameter 13 MSB Pre-Amp Parameter 13 LSB	:	
31 1p 1C	2	00 - 7F 00 - 7F	Pre-Amp Parameter 14 MSB Pre-Amp Parameter 14 LSB	:	
31 1p 1E	2	00 - 7F 00 - 7F	Pre-Amp Parameter 15 MSB Pre-Amp Parameter 15 LSB	:	
31 1p 20	2	00 - 7F 00 - 7F	Pre-Amp Parameter 16 MSB Pre-Amp Parameter 16 LSB	:	
31 1p 22	1		reserved		
31 1p 23	1		reserved		
31 1p 24	1	00 - 01	Pre-Amp On/Off	off, on	
31 1p 25	1		reserved		

TOTAL SIZE = 38  
1p = Layer number  
10 - 11 Layer 1 - 2



Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
31 2p 00	2	00 – 7F 00 – 7F	Modulation Type MSB Modulation Type LSB	Refer to "Modulation Effect Type List."	
31 2p 02	2	00 – 7F 00 – 7F	Modulation Parameter 1 MSB Modulation Parameter 1 LSB	Refer to "Modulation Effect Parameter List."	
31 2p 04	2	00 – 7F 00 – 7F	Modulation Parameter 2 MSB Modulation Parameter 2 LSB	:	
31 2p 06	2	00 – 7F 00 – 7F	Modulation Parameter 3 MSB Modulation Parameter 3 LSB	:	
31 2p 08	2	00 – 7F 00 – 7F	Modulation Parameter 4 MSB Modulation Parameter 4 LSB	:	
31 2p 0A	2	00 – 7F 00 – 7F	Modulation Parameter 5 MSB Modulation Parameter 5 LSB	:	
31 2p 0C	2	00 – 7F 00 – 7F	Modulation Parameter 6 MSB Modulation Parameter 6 LSB	:	
31 2p 0E	2	00 – 7F 00 – 7F	Modulation Parameter 7 MSB Modulation Parameter 7 LSB	:	
31 2p 10	2	00 – 7F 00 – 7F	Modulation Parameter 8 MSB Modulation Parameter 8 LSB	:	
31 2p 12	2	00 – 7F 00 – 7F	Modulation Parameter 9 MSB Modulation Parameter 9 LSB	:	
31 2p 14	2	00 – 7F 00 – 7F	Modulation Parameter 10 MSB Modulation Parameter 10 LSB	:	
31 2p 16	2	00 – 7F 00 – 7F	Modulation Parameter 11 MSB Modulation Parameter 11 LSB	:	
31 2p 18	2	00 – 7F 00 – 7F	Modulation Parameter 12 MSB Modulation Parameter 12 LSB	:	
31 2p 1A	2	00 – 7F 00 – 7F	Modulation Parameter 13 MSB Modulation Parameter 13 LSB	:	
31 2p 1C	2	00 – 7F 00 – 7F	Modulation Parameter 14 MSB Modulation Parameter 14 LSB	:	
31 2p 1E	2	00 – 7F 00 – 7F	Modulation Parameter 15 MSB Modulation Parameter 15 LSB	:	
31 2p 20	2	00 – 7F 00 – 7F	Modulation Parameter 16 MSB Modulation Parameter 16 LSB	:	
31 2p 22	1		reserved		
31 2p 23	1		reserved		
31 2p 24	1	00 – 01	Modulation On/Off	off, on	
31 2p 25	1		reserved		

TOTAL SIZE = 38

2p = Layer number  
20 – 21 Layer 1 – 2

Address	Size	Data Range (HEX)	Parameter Name	Description	Notes
31 3p 00	2	00 – 7F 00 – 7F	Power-Amp Type MSB Power-Amp Type LSB	Refer to "Power-Amplifier/Compressor Type List."	
31 3p 02	2	00 – 7F 00 – 7F	Power-Amp Parameter 1 MSB Power-Amp Parameter 1 LSB	Refer to "Power-Amplifier/Compressor Parameter List."	
31 3p 04	2	00 – 7F 00 – 7F	Power-Amp Parameter 2 MSB Power-Amp Parameter 2 LSB	:	
31 3p 06	2	00 – 7F 00 – 7F	Power-Amp Parameter 3 MSB Power-Amp Parameter 3 LSB	:	
31 3p 08	2	00 – 7F 00 – 7F	Power-Amp Parameter 4 MSB Power-Amp Parameter 4 LSB	:	
31 3p 0A	2	00 – 7F 00 – 7F	Power-Amp Parameter 5 MSB Power-Amp Parameter 5 LSB	:	
31 3p 0C	2	00 – 7F 00 – 7F	Power-Amp Parameter 6 MSB Power-Amp Parameter 6 LSB	:	
31 3p 0E	2	00 – 7F 00 – 7F	Power-Amp Parameter 7 MSB Power-Amp Parameter 7 LSB	:	
31 3p 10	2	00 – 7F 00 – 7F	Power-Amp Parameter 8 MSB Power-Amp Parameter 8 LSB	:	
31 3p 12	2	00 – 7F 00 – 7F	Power-Amp Parameter 9 MSB Power-Amp Parameter 9 LSB	:	
31 3p 14	2	00 – 7F 00 – 7F	Power-Amp Parameter 10 MSB Power-Amp Parameter 10 LSB	:	
31 3p 16	2	00 – 7F 00 – 7F	Power-Amp Parameter 11 MSB Power-Amp Parameter 11 LSB	:	
31 3p 18	2	00 – 7F 00 – 7F	Power-Amp Parameter 12 MSB Power-Amp Parameter 12 LSB	:	
31 3p 1A	2	00 – 7F 00 – 7F	Power-Amp Parameter 13 MSB Power-Amp Parameter 13 LSB	:	
31 3p 1C	2	00 – 7F 00 – 7F	Power-Amp Parameter 14 MSB Power-Amp Parameter 14 LSB	:	
31 3p 1E	2	00 – 7F 00 – 7F	Power-Amp Parameter 15 MSB Power-Amp Parameter 15 LSB	:	
31 3p 20	2	00 – 7F 00 – 7F	Power-Amp Parameter 16 MSB Power-Amp Parameter 16 LSB	:	
31 3p 22	1		reserved		
31 3p 23	1		reserved		
31 3p 24	1	00 – 01	Power-Amp On/Off	off, on	
31 3p 25	1		reserved		

TOTAL SIZE = 38

3p = Layer number  
30-31 Layer 1 – 2

**MIDI Data Table**

**MIDI PARAMETER CHANGE TABLE  
(MASTER KEYBOARD ZONE)**

Address			Size	Data Range (HEX)	Parameter Name	Description	Notes
32	nn	00	1	00 – 3F	Transmit Channel, MIDI/TG Switch	bit 0 – 3: Ch1..16 bit 4: MIDI off, on bit 5: TG off, on	All bits other than bit 4 are fixed at the corresponding default value.
32	nn	03	1	00 – 7F	Note Limit Low	C -2..G8	
32	nn	04	1	00 – 7F	Note Limit High	C -2..G8	
32	nn	09	1	00 – 7F	MIDI Bank MSB	0..127	
32	nn	0A	1	00 – 7F	MIDI Bank LSB	0..127	
32	nn	0B	1	00 – 7F	MIDI Program Number	1..128	
32	nn	0C	1	00 – 7F	Transmit FC1 reserved Transmit Sustain Transmit Bank Select Transmit Program Change reserved Transmit PB	bit 0: off, on FC1 bit 1: on bit 2: off, on Sustain bit 3: off, on Bank Select bit 4: off, on Program Change bit 5: on bit 6: off, on PB	bit 1 is fixed at 1  bit 5 is fixed at 1
32	nn	0D	1	00 – 7F	Transmit FC2 reserved reserved reserved reserved reserved reserved	bit 0: off, on FC2 bit 1: on bit 2: on bit 3: on bit 4: on bit 5: on bit 6: on	bit 1 is fixed at 1 bit 2 is fixed at 1 bit 3 is fixed at 1 bit 4 is fixed at 1 bit 5 is fixed at 1 bit 6 is fixed at 1

TOTAL SIZE = 16 10 (HEX)  
nn = zone number 00 – 03

Function...	Transmitted	Recognized	Remarks	
Basic Channel	Default Changed	1 - 16 1 - 16	1 - 16 1 - 16	Memorized
Mode	Default Messages Altered	3 X *****	1 1,3 X	Memorized
Note Number : True voice		0 - 127 *****	0 - 127 0 - 127	Transpose
Velocity	Note ON Note OFF	O 9nH,v=1-127 X 9nH,v=0	O 9nH,v=1-127 X	
After Touch	Key's Ch's	X X	X X	
Pitch Bend		O	O	
Control Change	0,32 7,10,11 6,38 64 66 67 72,75 91 96-97 100-101 1-31,33-95	O O X O O O X O X X O	O O O O O O O O O O O	Bank Select Data Entry Sustain Sw Sostenuto Soft Pedal Sound Controller Effect Depth RPN Inc,Dec RPN LSB,MSB Assignable Cntrl
Prog Change : True #		O 0 - 127 *****	O 0 - 15 0 - 15	
System Exclusive		O	O	
Common	: Song Pos. : Song Sel. : Tune	X X X	X X X	
System Real Time	: Clock : Commands	X X	X X	
Aux Messages	: All Sound Off : Reset All Cntrls : Local ON/OFF : All Notes OFF : Active Sense : Reset	X X X X O X	O (120,126,127) O (121) X O (123-125) O X	
Notes:				

Mode 1 : OMNI ON , POLY  
 Mode 3 : OMNI OFF, POLY

Mode 2 : OMNI ON ,MONO  
 Mode 4 : OMNI OFF,MONO

O : Yes  
 X : No

