

**YAMAHA**

*Virtual Acoustic Tone Generator*

# **VL70-m**

**List Book**



**VL**  
for XG

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## PRESET 1 VOICE LIST

### ■ Preset 1

No.	Voice Name	Recommended Note Range	Comment
001	Mad Tube	C1 - B4	An extremely aggressive sound that lies between synth lead and distortion guitar.
002	VintgLd	B-1 - C6	Multi-oscillator type synth lead.
003	SpaceZoo	***	Try moving PB, MW, and AT in various ways.
004	GuitHero	G0 - C5	A distortion guitar. Controlling the feedback with AT is particularly effective.
005	StoneHng	F0 - G6	MW produces a sustained sound.
006	Whizzer	G#0 - F#5	Long sustaining synth tone similar to bass guitar harmonics.
007	SimpleBa	C0 - C6	Straight ahead synth bass with some distortion.
008	ClavBass	C0 - E3	Bass sound with both electric/acoustic and synthesizer qualities. If you use FC (CC#4) you can get "clavinet" style overtones.
009	SuperBas	C0 - F#3	DX7 style slapped bass.
010	New Slap	C0 - D5	New type slap bass with punchy power.
011	RockPigs	C0 - E4	Organ-type synth lead sound. AT produces a neighing effect.
012	Igneous	C0 - C5	Feedbacked synth lead sound.
013	50 / 50	C0 - F5	Simple Square wave synth lead.
014	Cybastrg	C-1 - C6	Metallic driller killer sound.
015	Wynth	A-1 - G5	Filter wind synth with control from BC and velocity.
016	BuzzSaw	E-1 - C6	Play with lots of MW filter control.
017	ZubZub	B-1 - C6	Biting analog synth sound. MW controls filter.
018	Blue	G0 - D3	Fizzy synthesizer sound.
019	OsciLead	C0 - G5	Octave synth lead sound.
020	SqrLead	D#0 - C6	Nice Square lead tone. Lowering FC (CC#4) closes filter.
021	Bigger	C-1 - C6	Big analog synth sound - velocity controls filter and volume.
022	AnaSquid	G-1 - C6	Analog synth type sound with MW filter control.
023	SharpSyn	G0 - C6	Slightly mode unstable velocity sensitive sound.
024	AnaWave	C0 - E4	Analog synth type sound with MW filter control.
025	AnaWurl	C0 - C6	Velocity sensitive sound somewhat like a Vintage EP passed through a resonant filter.
026	Babalog	C0 - C6	Velocity controlled synth wind sound.
027	FngerBass	B-1 - C4	Vigorous finger bass sound.
028	Upright	B-1 - C4	Simulation of accoustic bass.
029	Fnground	A-1 - C4	Finger bass with particular sound of rear pick up.
030	Birdland	A-1 - C4	Midway between an analog synth and an electric bass sound. The high range produces harmonics.
031	FlageoBs	G0 - C4	Harmonics of a fingerd electric bass.
032	DampBass	G-1 - C3	Damped Pluck-Bass with a dry speaker sound.
033	Fretles!	E-1 - C4	Fretless bass usable for either rhythm or melody.
034	Frtles!2	B-1 - C#4	Another fretless bass, good for melody play.

## PRESET 1 VOICE LIST

No.	Voice Name	Recommended Note Range	Comment
035	ThumBass	C0 - C3	Thumped Bass.
036	RockBass	G-1 - C4	Heavy overdrive rock bass sound.
037	SmooBass	B-1 - A#3	Expressive synth bass sound with filter control by velocity and "vintage analog" character.
038	WarmBass	B-1 - C4	Warm electric Precision bass sound. Use FC (CC#4) to make sound brighter or darker.
039	YamaBass	A-1 - C4	Yamaha 5-string electric bass with brand new strings and "studio EQ".
040	Box Bass	C0 - C4	Similar to FM synth bass with filter control on MW. Uses resonator for "boxy" effect.
041	BassCab	B-1 - G#4	Slightly distorted electric bass with Resonator simulation of speaker cabinet tone.
042	FruitBas	C0 - C4	Fruity electric bass sound.
043	AcidBas!	B-1 - C5	Bass sound for acid jazz.
044	SqrBass!	B-1 - G4	Square wave synth bass.
045	PulsClav	A-1 - G5	Synth-Clavinet for funky licks.
046	MogueBas	B-1 - C#7	A classic synth bass sound.
047	BoppaBas	B-1 - C4	Synth bass with sub-octave undertone.
048	BuzzrBas	D0 - E4	FM style, bright and buzzy electronic keyboard bass. For fast tempo trance, acid, house, and techno style sequenced basslines.
049	MuteHrBs	C0 - C5	Upper register bass harmonic sound, with accentuated fingering "pop" similar to playing muted guitar style with the palm of the picking hand on the bridge.
050	TekBass	B-1 - C4	Synth bass with sub-octave undertone.
051	TranzBas	C0 - F#4	TB303 style synth bass. For fast tempo trance, acid, house, and techno style sequenced basslines.
052	Chamlion	C0 - B4	Dry Synthbass.
053	ParaSyn	A-1 - C4	Strong, up-front synth bass, ideal for 70's Jazz-Funk. If you like that sort of thing.
054	SteamBas	C0 - C#7	Use lots of PB (Embouchure) for finger slides. Gives greater tonal variety.
055	BooBass	B-1 - C5	MW controls filter and gives sharper attack.
056	WhelkBas	E-1 - C#5	Synth bass. MW controls filter as does velocity.
057	AtackSyn	G0 - B4	Synth bass sound with strong attack.
058	Q.Klav	A-1 - C#4	Deeply funky clav sound. Try with Phasing on in Chorus section, or alter low and upper mid with Equaliser in modifier section. Altering the Aural Exciter parameters will also have a big effect.
059	Sitar!	G0 - E4	Simulation of Sitar.
060	India	F#0 - C6	Sitar-type ethnic sound.
061	YamSteel	A2 - C6	Steel drum-type ethnic sound.
062	StungSt	F#0 - B5	FM style, metallic overtone synth. Can use as lead or bass .
063	Mu	***	MW brings in noise. CC#13 can be used to modify the character of the noise.
064	Waterphn	***	Mysterious percussion instrument. Attack is softened with MW. Squeakiness (embouchure) on CC#13. Violent SCRAPE sound with AT.

\* Aural Exciter® is a registered trademark and is manufactured under license from Aphex Systems, Ltd.

## PRESET 1 VOICE LIST

No.	Voice Name	Recommended Note Range	Comment
065	DinoPerc	***	Use with different combinations of MW and PB to produce complex noise percussion.
066	Formula	***	Engine-like sound effect.
067	Jurassic	***	Use PB, MW, and CC#13 to produce the cries of various dinosaurs.
068	Devil	***	A sound effect using extreme oscillation. Try moving PB, MW, and CC#13 in various ways.
069	SpcHorse	***	While applying MW, add AT to create a neighing sound.
070	Jason	***	Use the MW to turn this into a strongly noisy sound effect.
071	Suedhead	F-1 - C6	Sound effect. Make liberal use of Pitch and MWs.
072	Spanish	F-1 - E4	Spanish type acoustic guitar.
073	JazzGtr!	B-1 - A4	Electric guitar suitable mainly for jazz.
074	JazzyGtr	A-1 - C6	Velocity dynamic jazz style sustaining guitar lead.
075	L7 Pluck	B-1 - E4	A classic pluck sound.
076	WetPluck	B-1 - E4	A guitar sound that readily accepts effects such as flanging.
077	Comp Gtr	B-1 - A4	Compressed, clean electric strat guitar sound.
078	FunkyGtr	B-1 - D5	Snappy "70's style" funk guitar, for rhythm and comping.
079	Thin Gtr	B-1 - G5	Clean uncompressed electric guitar with "thin gauge" new strings, good for country, R&B, lead solos etc. Using a high velocity input results in a continuous sound.
080	Carlos	B-1 - G4	Overdrive guitar, front pick up type.
081	Destiny	C0 - C5	Distortion guitar made from a sustained sound with strong attack. CC#13 for feedback effect.
082	Gonzo	B-1 - G5	Velocity controlled. PB down controls noise effect.
083	Grunge	C0 - B6	Dirty synth lead.
084	Ossyncro	B-1 - G5	Cross modulation-type synth lead.
085	Talk Box	F#0 - E7	Voicy Lead, somehow like a guitar-Talkbox.
086	SyncLed	B-1 - E6	Sync type lead tone. Use with Exp or BC - with no pressure sound has stacatto muted tone. Increase for full tone. FC (CC#4) at full produces wide open tone. Lowering darkens timbre. Try striking at hard velocity with no BC, pitchbend up, and slowly.
087	Old Mini	A-1 - A5	A classic analog synth solo sound.
088	Fat Mini	G-1 - A5	A classic analog synth solo sound with fatter timbre.
089	Parlopho	B-1 - C5	If it was possible to mix an accordion with a trumpet it might sound like this.
090	SimpleSy	B-1 - E5	Breath controlled filter synth sound.
091	Choronic	C0 - G5	Synth brass solo sound.
092	SlitMinu	F0 - C6	AT control of Rotor Speed of FX.
093	SynHarmo	B-1 - G6	Filter changed by velocity.
094	Flaggoot	C0 - D4	Vibrato will cause sound to drop an octave except in lower range.
095	SynSkex	C0 - A#5	Analog/acoustic hybrid lead sound with resonant filter.
096	ResoSqr	A-1 - D5	Lowering FC (CC#4) opens filter.
097	WurlilD	B-1 - C6	Dark, reed electric piano style synth lead.
098	FlatLead	G#1 - G5	Analog / digital lead with thick, fat non-dynamic character.

## PRESET 1 VOICE LIST

No.	Voice Name	Recommended Note Range	Comment
099	PhilTur	B-1 - C6	Bright, resonant synth brass lead with accentuated filter dynamic range.
100	ChalPuls	B-1 - C6	Synth lead with an indefinably "acoustic" atmosphere.
101	Pluck Ld	B-1 - C6	Speedy Synthlead with Guitarlike attack.
102	Brassyn	B-1 - C6	Bright analog synthbrass.
103	AcoSynLd	A-1 - C6	Analog synth lead-type sound with an acoustic flavor.
104	Moby	G-1 - F5	A strange sound in which gradual application of AT increases the fundamental. The key lies in how you use AT.
105	Digitrn	C0 - C6	Digital wavetable style wind controller synth lead.
106	LyricOff	B-1 - C6	Pulse wave style analog wind controller synth lead.
107	Rezzawi	B-1 - G5	Bright, resonant sawtooth style analog wind controller synth lead.
108	Macro	B-1 - C6	Assignable Controller(CC#16) control of harmonic enhancer gives a variety of timbres.
109	Claribo	G#-1 - G5	AT controls brightness
110	Binaphon	C0 - C6	New acoustic model. Clarinet style voice.
111	MokoPipe	C0 - C6	Somewhere around Uilleann pipes.
112	AliBaba	B-1 - C6	Play with lots of PB. Try controlling vibrato from Pitch Wheel.
113	Persinet	B-1 - G5	Single reed new acoustic model.
114	PicoPipe	G#0 - C6	Try using lots of PB embouchure control.
115	Gertrude	C0 - C6	Ethnic wood wind sound.
116	Xynth	G-1 - C6	Woodwind guitar synth thing.
117	Duality	G-1 - C6	Synth wind instrument.
118	AltKwek	G#1 - C7	New hybrid, double reed driven cylindrical metal woodwind (oboe reed and a piccolo body).
119	Softblow	C0 - C6	Gentle sax type sound.
120	AlbaPipe	C0 - C6	Boxy sounding double reed with additional lower octave undertone.
121	Electrum	C0 - C6	Expressive brass like sound.
122	Edgeopho	B-1 - F5	Somewhere between a '30s saxophone and distorted blues harmonica. PB control of embouchure is inverted.
123	BassCla!	C0 - C6	A simulation of Bass Clarinet.
124	WX Clari	C1 - C6	Clarinet sound suitable for performance with a wind controller.
125	WX Oboe	C0 - B5	Oboe sound suitable for performance with a wind controller.
126	WX J Gtr	C0 - A4	Jazz guitar sound suitable for performance with a wind controller. Breath character simulates string muting.
127	Shakuha!	C1 - C6	A shakuhachi simulation. Moving CC#13 produces the upper (falsetto) register.
128	LipClari	F-1 - C6	LipClari Imaginary instrument simulating a trumpet mouthpiece blown through a clarinet body.

## PRESET 2 VOICE LIST

### ■ Preset 2

No.	Voice Name	Recommended Note Range	Comment
001	Vento	C0 - C6	High noise content in this flute type sound.
002	Floboe	C0 - C6	Imaginary instrument combining a flute and oboe.
003	Sintax	F0 - C5	Synthetic sax type sound.
004	Eastern	E0 - C6	In conjunction with mode shift from PB can be used for "classic" Shakuhachi sample effect.
005	Trumpet!	C0 - C6	Simulation of Trumpet.
006	SoprSax!	C0 - C6	Simulation of Soprano sax.
007	LiteAlto	E0 - C6	Light-feeling alto sax with significant noise component.
008	Trmbone!	C0 - C6	Simulation of a trombone.
009	BtlFlute	C0 - C6	Flute sound similar to a softly blown bottle.
010	Air Sax	G0 - C6	A sax-type instrument that could not exist in reality, produceable only by the VL.
011	TenrSax!	C0 - C6	Simulation of Tenor sax.
012	Coca	C1 - C6	Pan flute sort of thing. Vibrato using pressure (BC) is particularly effective.
013	JetLpBow	A-1 - C6	A subtle sound with a violin-like attack, combining a reed (oboe type) and flute-type instrument.
014	Viol Inn	C0 - C6	A new acoustic sound based on bowed string instruments. Quite usable as a violin.
015	MuteCone	G0 - C6	Muted trumpet with PB "mode" effect.
016	BrethBow	B-1 - C6	A sound somewhere between strings and a blown feel.
017	Trumpt!2	C0 - C6	Trumpet sound.
018	FluglHr!	C0 - C6	Simulation of Flugelhorn
019	Cornet	C0 - C6	Cornet sound suitable for classical music.
020	JzTrump	F#2 - C6	Trumpet sound suitable for jazz.
021	JzTrump2	G#1 - C6	Bright trumpet. PB can be used to imitate a lip slur.
022	Flumpet	D0 - C6	Resonant trumpet/flugely thing. PB controls embouchure and pitch. Legato playing creates different tone.
023	WXTrumpt	C0 - C6	Trumpet sound suitable for performance with a wind controller.
024	MuteTp!	E0 - C6	Simulation of Mute trumpet.
025	MuteTp!2	C0 - C6	Another Mute trumpet.
026	Melwbone	C0 - C6	Mellow Trombone sound.
027	NerzoBr	E0 - C6	Bright synthetic brass with PB "shake" effect.
028	Horn!	B-1 - C6	Simulation of Horn.
029	Horn!2	C0 - C6	Another Horn.
030	NuHorne	B-1 - C6	Mellow french horn with PB "shake" effect.
031	WX Horn	B-1 - C6	Horn sound suitable for performance with a wind controller.
032	Tuba!	C0 - C6	Tuba simulation.
033	NuViolin	C0 - C6	A light violin sound.
034	C Violin	C0 - C6	Violin sound suitable for classical music.

## PRESET 2 VOICE LIST

No.	Voice Name	Recommended Note Range	Comment
035	BrtVioln	C0 - C6	A bright violin sound.
036	MuteViol	C0 - C6	The sound of a violin with an attached mute.
037	BrtViola	C0 - C6	A bright viola sound, extending from cello range to violin range.
038	ViolOutt	C0 - C6	Bowed-string sound with a sliding feel to the bow.
039	Cello!	C0 - C5	Cello simulation.
040	Eleanor	C0 - C5	The sound of a cello being played in the center of the string. Becomes a wind instrument-like sound in the high register.
041	Nu Cello	B-1 - C6	Cello variation sound.
042	Contrair	A-1 - C5	String bass simulation.
043	DoublBow	A-1 - C5	A string bass that is fairly close to a wind instrument.
044	Piccolo!	C0 - C7	Simulaton of piccolo.
045	Piccol!2	C0 - C7	Another piccolo.
046	BowPicol	C0 - G6	A piccolo flute sound with a bowed string flavor.
047	C Flute	C0 - C6	Flute simulation. Editing the controller settings to increase the breath noise depth will change the nuance of the sound.
048	C Flute2	C0 - C6	Another flute simulation.
049	JazFlute	B-1 - C6	Flute sound suitable for jazz.
050	OakFlute	E0 - C6	Flute sound with hard wooden resonance.
051	BtlFlut2	C0 - C6	Flute-type bottle sound.
052	RzdeFlt	E0 - C6	Expressive resonant flutey sound.
053	Flutuen	G1 - C6	Heavily filtered, synth flute/woodwind lead.
054	Nz Flute	C0 - C6	Flute sound with large noise component.
055	WX Shaku	C1 - C6	Shakuhachi sound suitable for performance with a wind controller.
056	Pan Pipe	E0 - G5	Pan flute simulation. It is effective to edit the controller settings so that growl can be applied.
057	PanPicol	C0 - G6	Another pan flute sound with a beautiful high register.
058	Bamboo	C0 - C6	The sound of a bamboo pipe.
059	Andean	C0 - C6	The sound of a wooden or bamboo flute such as the quena.
060	Flurinet	F0 - C6	Clarinet with flute mouthpiece.
061	SoftReed	C0 - C6	A sound that mixes oboe with soprano sax, but having a unique feel possessed by neither instrument.
062	Flurmod	F0 - B5	New hybrid, woody reed flute. Keep high breath pressure and hard tonguing when playing in upper mode (with PB = max).
063	Jhopali	G0 - C5	New accordion/hurdy gurdy hybrid with unique AT controlled fifth's undertone. Play ethnic style melodies, playing with hard finger pressure to bounce off the aftertouch sensor to emphasize selected notes with the fifth undertone.
064	Baroquen	C0 - C6	A nostalgic sound combining a flute and reed instrument. Try a slow build-up of breath for refined elegance.
065	SquealAT	C0 - C6	Pipe-type synth-lead sound. Try using AT to create extreme performance effects!



## PRESET 2 VOICE LIST

No.	Voice Name	Recommended Note Range	Comment
066	NuSopSax	C0 - G5	Mellow pop/fusion style soprano sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
067	CvSopSax	A-1 - C6	Simulation of a curved body-type soprano sax.
068	SoprPipe	F0 - C6	Soprano sax sound close to a clarinet.
069	LiteSopr	E0 - C6	Light feeling sax sound in the soprano-alto range.
070	AnaSoprn	F0 - C6	Mid-way between a graceful analog synth sound and a soprano sax.
071	NuAltSax	C0 - C5	Bright pop/rock/fusion style alto sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
072	SweetAlt	F#0 - E5	Sweet-sounding alto sax simulation.
073	AltoSax!	E0 - C6	Simulation of a conventional alto sax.
074	HarpAlto	G0 - C6	Strongly processed sax sound, with harmonica-like formants.
075	HarpAlt2	G0 - C6	Sax sound with different processing.
076	GlassAlt	C0 - C6	Alto sax sound with emphasized glass-like resonance.
077	AcidSax	C0 - C6	Distorted acid sax - use BC for attack, FC (CC#4) controls Tonguing...normal playing with FC (CC#4) at full. Lowering softens tonguing.
078	WackSax	G#0 - E5	Bizarre tenor sax - BC heavily affects characteristics of tone. PB controls pitch and embouchure slightly. AT controls throat and scream.
079	NuTenrSx	D0 - E5	Bright pop/rock/fusion style breathy tenor sax. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
080	MildTenr	C0 - C6	A conventional tenor sax sound.
081	Jazz Sax	A#0 - E5	Sax sound suitable for jazz.
082	TenorSub	A#0 - A5	Sax sound with a sub-tone, suitable for blues.
083	BellMike	C0 - C5	The sound of a sax recorded by a mic near the bell.
084	GlasTenr	G0 - E5	Tenor sax sound with emphasized glass-like resonance.
085	FnkyTenr	C0 - G5	An unstable tenor sax sound suitable for funky solos. Assign the Throat Formant to a suitable controller, and try adding a throat effect when appropriate.
086	OldTenor	C0 - A5	The kind of tenor sax sound heard on old jazz records.
087	BrTTenor	C0 - C6	Bright and tight tenor sax sound. Suitable for performance with a wind controller.
088	BariSax!	C0 - C5	Simulation of Baritone sax
089	VoxoSaxo	C0 - C5	Breathy, vocal character, synthetic saxophone-like woodwind.
090	Oboe!	F0 - C6	Simulation of Oboe.
091	Oboe!2	C0 - C6	Another oboe.
092	Noboe	C0 - G5	New hybrid/synthetic double reed.
093	OboeWhi	G1 - G6	Oboe/whistle mix. PB up raises embouchure - all the way up is one octave above the fundamental. PB down decreases the embouchure and pitch.
094	DbIReedy	C0 - A5	Mysterious sound mixing a double-reed instrument with a "kokyu" (classical Asian bowed string instrument).
095	TripleRd	C0 - C6	New syncoustic reed, with hybrid Oboe and Harmonica character.
096	EngHorn!	C0 - C6	Simulation of English horn

## PRESET 2 VOICE LIST

No.	Voice Name	Recommended Note Range	Comment
097	Loboe	C0 - C6	New double reed — a contrabass oboe !
098	Bassoon!	C0 - C5	Simulation of Bassoon.
099	Clarint!	A0 - C6	Simulation of Clarinet.
100	LitePipe	C0 - C6	Light-feeling synth lead sound close to a sax or clarinet
101	HyperCla	C0 - C6	A sound combining characteristics of synth lead, clarinet, sax, etc.
102	Clarint2	F0 - C6	Jazz / big band solo clarinet with AT "scoop" effect.
103	IslePipe	C1 - C5	New wooden ethnic flute.
104	Chanter	D1 - C6	A simulation of a bagpipe's melodic note.
105	ThaiReed	C0 - C5	A simulation of a south-east Asian (mainly Thai) flute.
106	Recordr!	C0 - A5	Recorder simulation.
107	Claricrd	C0 - C5	Basically the sound of a medieval reed instrument (like the clarinet's ancestor). As you play into the higher register, it takes on more of a recorder-like character.
108	SoftPipe	G0 - C5	A soft-toned recorder.
109	BowdSaw	C0 - C5	The sound of a bowed saw, with a character like the Ondes Martenot or Theremin (both early electronic instruments).
110	Ocarina!	F0 - C7	Ocarina simulation.
111	Lonely	C#2 - E6	Synth lead-like woodwind instrument with few overtones.
112	Ophelia	C0 - C6	Gentle synth lead with mellow sound. Suitable for performance with a wind controller.
113	Maysbe?	D#0 - A5	Synth lead with brass character in the attack.
114	MizuHorn	C0 - C6	Synth lead sound with brass character.
115	PicoStrg	G#0 - C5	Stringy pipe sound.
116	Sylophon	C0 - C5	Bright, nasal sound with Eastern influences.
117	BowLead	C0 - C6	Violinesque lead sound - velocity controls embouchure and damping. FC (CC#4) controls filter and tonguing. For strongest attack, FC (CC#4) at full. Lowering softens tonguing and closes filter.
118	Squeeze	C0 - C6	Accordion simulation.
119	MouthKey	C0 - C6	Simulation of a reed-type wind instrument with a keyboard.
120	AmpdHarp	C0 - C6	Simulation of a miked blues harp played through a guitar amp.
121	CromHarp	A-1 - C6	Chromatic harmonica simulation.
122	WahUpHp	B-1 - C6	Funky harmonica with breath control wah.
123	YamaBotl	A#1 - C6	Bottle-type sound with metallic resonance.
124	Blowsoo	G-1 - C5	Bright, resonant synth brass lead with accentuated filter dynamic range.
125	Brappo	C0 - C5	The sound of playing a tuba mouthpiece.
126	Crumbon	E0 - G5	Mellow and warm new hybrid double reed (blend of crumhorm, trombone and oboe).
127	Klarina	E0 - B5	New hybrid single reed driven pan pipes. Use (-) PB for "scoop" effect and (+) PB for "growl" effect.
128	ReedWin	E0 - C6	New hybrid jet lip driven cylindrical woodwind (a flute mouthpiece on a clarinet body).

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## PRESET, CUSTOM, INTERNAL VOICE LIST

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Bank Select MSB=33

Program Change No.		Bank0= Preset1	Bank1= Preset2	Bank2= Custom	Bank3= Internal				
1 ~ 128		1 ~ 128	1 ~ 128	1 ~ 6	1 ~ 64				

\* For more information on Preset 1 and Preset 2 Voices refer to page 1 – 8.

## VL-XG VOICE LIST

Bank Select MSB=81, 97

Instrument Group	Pch #	Bank 112	Bank 113	Bank 114	Bank 115	Bank 116	Bank 117	Bank 118	Bank 119
Organ	22	Squeeze	<---	<---	<---	<---	<---	<---	<---
	23	MouthKey	AmpdHarp	CromHarp	<---	<---	<---	<---	<---
Guitar	25	Spanish	<---	<---	<---	<---	<---	<---	<---
	27	JazzGtr!	Carlos	Destiny	<---	<---	<---	<---	<---
	28	L7 Pluck	WetPluck	<---	<---	<---	<---	<---	<---
Bass	33	Upright	<---	<---	<---	<---	<---	<---	<---
	34	Fnground	Birdland	<---	<---	<---	<---	<---	<---
	35	FlageoBs	DampBass	<---	<---	<---	<---	<---	<---
	36	Fretles!	Frtles!2	<---	<---	<---	<---	<---	<---
	37	New Slap	ThumBass	<---	<---	<---	<---	<---	<---
	39	AcidBas!	SqrBass!	<---	<---	<---	<---	<---	<---
	40	PulsClav	MogueBas	<---	<---	<---	<---	<---	<---
Strings	41	NuViolin	Viol Inn C	Violin	BrtVioln	MuteViol	<---	<---	<---
	42	BrtViola	ViolOutt	<---	<---	<---	<---	<---	<---
	43	Cello!	Eleanor	Nu Cello	<---	<---	<---	<---	<---
	44	Contrair	DoublBow	<---	<---	<---	<---	<---	<---
Brass	57	Trumpet!	Trumpt!2	FluglHr!	Cornet	<---	<---	<---	<---
	58	Trmbone!	Melwbone	<---	<---	<---	<---	<---	<---
	59	Tuba!	<---	<---	<---	<---	<---	<---	<---
	60	MuteTp!	MuteTp!2	<---	<---	<---	<---	<---	<---
	61	Horn!	Horn!2	<---	<---	<---	<---	<---	<---
Reed	65	SoprSax!	CvopSax	SoprPipe	LiteSopr	<---	<---	<---	<---
	66	AltoSax!	SweetAlt	LiteAlto	HarpAlto	HarpAlt2	GlassAlt	<---	<---
	67	TenrSax!	MildTenr	Jazz Sax	TenorSub	BellMike	GlasTenr	FnkyTenr	OldTenor
	68	BariSax!	VoxoSaxo	<---	<---	<---	<---	<---	<---
	69	Oboe!	Oboe!2	DblReedy	TripleRd	<---	<---	<---	<---
	70	EngHorn!	Loboe	<---	<---	<---	<---	<---	<---
	71	Bassoon!	Flurinet	<---	<---	<---	<---	<---	<---
	72	Clarint!	LitePipe	HyperCla	BassCla!	<---	<---	<---	<---
Pipe	73	Piccolo!	Piccol!2	BowPicol	<---	<---	<---	<---	<---
	74	C Flute	C Flute2	JazFlute	OakFlute	<---	<---	<---	<---
	75	Recordr!	Claricrd	SoftPipe	<---	<---	<---	<---	<---
	76	Pan Pipe	PanPicol	<---	<---	<---	<---	<---	<---
	77	YamaBot!	Bamboo	Andean	BtlFlute	BtlFlut2	<---	<---	<---
	78	Shakuha!	<---	<---	<---	<---	<---	<---	<---
	79	BowedSaw	<---	<---	<---	<---	<---	<---	<---
	80	Ocarina!	<---	<---	<---	<---	<---	<---	<---
Synth Lead	81	50 / 50	ChalPuls	PluckLd	<---	<---	<---	<---	<---
	82	BrassyN	AcoSynLd	VintgLd	<---	<---	<---	<---	<---
	83	Maysbe?	Air Sax	Baroquen	LipClari	<---	<---	<---	<---
	84	Grunge	Ossyncro	Talk Box	<---	<---	<---	<---	<---
	85	MizuHorn	Floboe	<---	<---	<---	<---	<---	<---
	86	SoftReed	BrethBow	<---	<---	<---	<---	<---	<---
Ethnic	88	Chamlion	Old Mini	<---	<---	<---	<---	<---	<---
	105	Sitar!	India	<---	<---	<---	<---	<---	<---
	110	Chanter	ThaiReed	<---	<---	<---	<---	<---	<---
Percussive	111	JetLpBow	<---	<---	<---	<---	<---	<---	<---
	115	YamSteel	<---	<---	<---	<---	<---	<---	<---

\* “<—” indicates the content is the same as that of Bank 112.

## VL-XG VOICE LIST

Bank Select MSB=81

Instrument Group	Pch #	Bank 112	Bank 113	Bank 114	Bank 115	Bank 116	Bank 117	Bank 118	Bank 119
Synth Effects	97	Mad Tube	<---	<---	<---	<---	<---	<---	<---
	98	StoneHng	<---	<---	<---	<---	<---	<---	<---
	99	Mu	<---	<---	<---	<---	<---	<---	<---
	100	Moby	<---	<---	<---	<---	<---	<---	<---
	101	Igneous	<---	<---	<---	<---	<---	<---	<---
	102	SquealAT	<---	<---	<---	<---	<---	<---	<---
Sound Effects	121	Jurassic	<---	<---	<---	<---	<---	<---	<---
	122	Formula	<---	<---	<---	<---	<---	<---	<---
	123	Waterphn	<---	<---	<---	<---	<---	<---	<---
	124	Devil	<---	<---	<---	<---	<---	<---	<---
	125	SpchHorse	<---	<---	<---	<---	<---	<---	<---
	126	DinoPerc	<---	<---	<---	<---	<---	<---	<---
	127	SpaceZoo	<---	<---	<---	<---	<---	<---	<---
128	Jason	<---	<---	<---	<---	<---	<---	<---	

\* "<---" indicates the content is the same as that of Bank 112.

## EFFECT TYPE LIST

### ■ REVERB

No.	Exclusive		Effect Type	Description
	MSB	LSB		
1	00	00	NO EFFECT	Effect turned off.
2	01	00	HALL1	Reverb simulating the resonance of a hall.
3	01	01	HALL2	Reverb simulating the resonance of a hall.
4	02	00	ROOM1	Reverb simulating the resonance of a room.
5	02	01	ROOM2	Reverb simulating the resonance of a room.
6	02	02	ROOM3	Reverb simulating the resonance of a room.
7	03	00	STAGE1	Reverb appropriate for a solo instrument.
8	03	01	STAGE2	Reverb appropriate for a solo instrument.
9	04	00	PLATE	Reverb simulating a metal plate reverb unit.
10	10	00	WHITE ROOM	A unique short reverb with a bit of initial delay.
11	11	00	TUNNEL	Simulation of a tunnel space expanding to left and right.
12	12	00	CANYON	An imaginary sonic universe of unlimited expanse.
13	13	00	BASEMENT	A bit of initial delay followed by reverb with a unique resonance.

### ■ CHORUS

No.	Exclusive		Effect Type	Description
	MSB	LSB		
1	00	00	NO EFFECT	Effect turned off.
2	41	00	CHORUS1	Conventional chorus program that adds natural spaciousness.
3	41	01	CHORUS2	Conventional chorus program that adds natural spaciousness.
4	41	02	CHORUS3	Conventional chorus program that adds natural spaciousness.
5	42	00	CELESTE1	A 3-phase LFO adds modulation and spaciousness to the sound.
6	42	01	CELESTE2	A 3-phase LFO adds modulation and spaciousness to the sound.
7	42	02	CELESTE3	A 3-phase LFO adds modulation and spaciousness to the sound.
8	43	00	FLANGER1	Adds a jet-airplane effect to the sound.
9	43	01	FLANGER2	Adds a jet-airplane effect to the sound.
10	44	00	SYMPHONIC	A multi-phase version of CELESTE.
11	48	00	PHASER	Cyclically changes the phase to add modulation to the sound.

## EFFECT TYPE LIST

### ■ VARIATION

No.	Exclusive		Effect Type	Description
	MSB	LSB		
1	00	00	NO EFFECT	Effect turned off.
2	01	00	HALL1	Reverb simulating the resonance of a hall.
3	01	01	HALL2	Reverb simulating the resonance of a hall.
4	02	00	ROOM1	Reverb simulating the resonance of a room.
5	02	01	ROOM2	Reverb simulating the resonance of a room.
6	02	02	ROOM3	Reverb simulating the resonance of a room.
7	03	00	STAGE1	Reverb appropriate for a solo instrument.
8	03	01	STAGE2	Reverb appropriate for a solo instrument.
9	04	00	PLATE	Reverb simulating a metal plate reverb unit.
10	05	00	DELAY L,C,R	A program that creates three delay sounds; L, R, and C (center).
11	06	00	DELAY L,R	A program that creates two delay sounds; L and R. Two feedback delays are provided.
12	07	00	ECHO	Two delays (L and R) and independent feedback delays for L and R.
13	08	00	CROSS DELAY	A program that crosses the feedback of two delays.
14	09	00	ER1	An effect that produces only the early reflection component of reverb.
15	09	01	ER2	An effect that produces only the early reflection component of reverb.
16	0A	00	GATE REVERB	A simulation of gated reverb.
17	0B	00	REVERSE GATE	A program that simulates gated reverb played backwards.
18	14	00	KARAOKE 1	A delay with feedback of the same type as used for karaoke reverb.
19	14	01	KARAOKE 2	A delay with feedback of the same type as used for karaoke reverb.
20	14	02	KARAOKE 3	A delay with feedback of the same type as used for karaoke reverb.
21	41	00	CHORUS1	A conventional chorus program, providing natural spaciousness.
22	41	01	CHORUS2	A conventional chorus program, providing natural spaciousness.
23	41	02	CHORUS3	A conventional chorus program, providing natural spaciousness.
24	42	00	CELESTE1	A 3-phase LFO adds modulation and spaciousness to the sound.
25	42	01	CELESTE2	A 3-phase LFO adds modulation and spaciousness to the sound.
26	42	02	CELESTE3	A 3-phase LFO adds modulation and spaciousness to the sound.
27	43	00	FLANGER1	Adds a jet-airplane effect to the sound.
28	43	01	FLANGER2	Adds a jet-airplane effect to the sound.
29	44	00	SYMPHONIC	A multi-phase version of CELESTE.
30	45	00	ROTARY SPEAKER	A simulation of a rotary speaker.
31	46	00	TREMOLO	An effect that cyclically modulates the volume.
32	47	00	AUTO PAN	A program that cyclically moves the sound image to left and right, front and back.
33	48	00	PHASER	Cyclically changes the phase to add modulation to the sound.
34	49	00	DISTORTION	Adds a sharp-edged distortion to the sound.
35	4A	00	OVERDRIVE	Adds mild distortion to the sound.
36	4B	00	AMP SIMULATOR	A simulation of a guitar amp.
37	4C	00	3-BAND EQ(MONO)	A mono EQ with adjustable LOW, MID, and HIGH equalizing.
38	4D	00	2-BAND EQ(STEREO)	A stereo EQ with adjustable LOW and HIGH.
39	4E	00	AUTO WAH(LFO)	Cyclically modulates the center frequency of a wah filter.
40	50	00	PITCH CHANGE	This program changes the pitch of the input signal.
41	51	00	AURAL EXCITER	This effect adds new overtones to the input signal to make the sound stand out.
42	52	00	TOUCH WAH	This program modifies the center frequency of a wah filter according to the input level.
43	52	01	TOUCH WAH+DIST	This program adds distortion to the output of the Touch Wah effect.
44	53	00	COMPRESSOR	This program restricts the output level when the input signal exceeds a specified level. It can be used to reduce the sense of attack.
45	54	00	NOISE GATE	This program gates the input when the input signal falls below a specified level.
46	40	00	THRU	Bypass without applying an effect.

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### ■ DISTORTION

No.	Exclusive		Effect Type	Description
	MSB	LSB		
1	40	00	THRU	Bypass without applying an effect.
2	49	00	DISTORTION	Adds a sharp-edged distortion to the sound.
3	4A	00	OVER DRIVE	Adds mild distortion to the sound.
4	4C	00	3-BAND EQ(MONO)	A mono EQ with adjustable LOW, MID, and HIGH equalizing.

## EFFECT TYPE MAP

### ■ REVERB EFFECTS

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	03-07	08
000	00	NO EFFECT				
001	01	HALL 1	HALL 2			
002	02	ROOM 1	ROOM 2	ROOM 3		
003	03	STAGE 1	STAGE 2			
004	04	PLATE				
005	05	NO EFFECT				
:	:	:				
015	0F	NO EFFECT				
016	10	WHITE ROOM				
017	11	TUNNEL				
018	12	CANYON				
019	13	BASEMENT				
020	14	NO EFFECT				
:	:	:				
127	7F	NO EFFECT				



NO EFFECT



Same as BASIC EFFECT (LSB=00)

### ■ CHORUS EFFECTS

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	03-07	08
000	00	NO EFFECT				
001	01	NO EFFECT				
:	:	:				
064	40	NO EFFECT				
065	41	CHORUS 1	CHORUS 2	CHORUS 3		
066	42	CELESTE 1	CELESTE 2	CELESTE 3		
067	43	FLANGER 1	FLANGER 2			
068	44	SYMPHONIC				
069	45	NO EFFECT				
:	:	:				
071	47	NO EFFECT				
072	48	PHASER				
073	49	NO EFFECT				
:	:	:				
127	7F	NO EFFECT				



NO EFFECT



Same as BASIC EFFECT (LSB=00)



# EFFECT TYPE MAP

## ■ VARIATION EFFECTS (0~63)

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	03-07	08
000	00	NO EFFECT				
001	01	HALL 1	HALL 2			
002	02	ROOM 1	ROOM 2	ROOM 3		
003	03	STAGE 1	STAGE 2			
004	04	PLATE				
005	05	DELAY L,C,R				
006	06	DELAY L,R				
007	07	ECHO				
008	08	CROSS DELAY				
009	09	EARLY REF1	EARLY REF2			
010	0A	GATE REVERB				
011	0B	REVERSE GATE				
012	0C	NO EFFECT or THRU				
:	:	:				
019	13	NO EFFECT or THRU				
020	14	KARAOKE 1	KARAOKE 2	KARAOKE 3		
021	15	NO EFFECT or THRU				
:	:	:				
063	3F	NO EFFECT or THRU				

NO EFFECT (for SYS) or THRU (for INS)

Same as BASIC EFFECT (LSB=00)

## ■ VARIATION EFFECTS (64~127)

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	03-07	08
064	40	THRU				
065	41	CHORUS 1	CHORUS 2	CHORUS 3		
066	42	CELESTE 1	CELESTE 2	CELESTE 3		
067	43	FLANGER 1	FLANGER 2			
068	44	SYMPHONIC				
069	45	ROTARY SPEAKER				
070	46	TREMOLO				
071	47	AUTO PAN				
072	48	PHASER				
073	49	DISTORTION				
074	4A	OVERDRIVE				
075	4B	GUITAR AMP SIMULATOR				
076	4C	3-BAND EQ(MONO)				
077	4D	2-BAND EQ(STEREO)				
078	4E	AUTO WAH				
079	4F	THRU				
080	50	PITCH CHANGE				
081	51	AURAL EXCITER®				
082	52	TOUCH WAH	TOUCH WAH+DIST			
083	53	COMPRESSOR				
084	54	NOISE GATE				
085	55	THRU				
:	:	:				
127	7F	THRU				

THRU

Same as BASIC EFFECT (LSB=00)

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# EFFECT TYPE MAP

## ■ DISTORTION EFFECTS

TYPE MSB		TYPE LSB				
DEC	HEX	00	01	02	03-07	08
000	00	THRU				
:	:	:				
063	0F	THRU				
064	40	THRU				
065	41	THRU				
:	:	:				
072	48	THRU				
073	49	DISTORTION				
074	4A	OVERDRIVE				
076	4C	3-BAND EQ(MONO)				
077	4D	THRU				
:	:	:				
127	7F	THRU				

 THRU

 Same as BASIC EFFECT (LSB=00)

# EFFECT PARAMETER LIST

\* Use the "Effect Data Value Assign Tables" listed in the "See Table" column for relations of "data" and actual parameter values.

\* Parameters marked with a "●" in the "Control" column can be controlled by an assignable controller.

## HALL1, HALL2, ROOM1, ROOM2, ROOM3, STAGE1, STAGE2, PLATE

No.	Parameter	Display	Value	See Table	Control
1	Reverb Time	0.3-30.0s	0-69	table#4	
2	Diffusion	0-10	0-10		
3	Initial Delay	0-63	0-63	table#5	
4	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
5	LPF Cutoff	1.0k-Thru	34-60	table#3	
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Rev Delay	0-63	0-63	table#5	
12	Density	0-4	0-4		
13	Er/ Rev Balance	E63> R- E=R ~ E<R63	1-127		
14	High Damp	0.1-1.0	1-10		
15					
16					

## ECHO

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay1	0.1-355.0ms	1-3550		
2	Lch Feedback Level	-63-+63	1-127		
3	Rch Delay1	0.1-355.0ms	1-3550		
4	Rch Feedback Level	-63-+63	1-127		
5	High Damp	0.1-1.0	1-10		
6	Lch Delay2	0.1-355.0ms	1-3550		
7	Rch Delay2	0.1-355.0ms	1-3550		
8	Delay2 Level	0-127	0-127		
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
12	LPF Cutoff	1.0k-Thru	34-60	table#3	
13					
14					
15					
16					

## WHITE ROOM, TUNNEL, CANYON, BASEMENT

No.	Parameter	Display	Value	See Table	Control
1	Reverb Time	0.3-30.0s	0-69	table#4	
2	Diffusion	0-10	0-10		
3	Initial Delay	0-63	0-63	table#5	
4	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
5	LPF Cutoff	1.0k-Thru	34-60	table#3	
6	Width	0.5-10.2m	0-37	table#11	
7	Height	0.5-20.2m	0-73	table#11	
8	Depth	0.5-30.2m	0-104	table#11	
9	Wall Vary	0-30	0-30		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Rev Delay	0-63	0-63	table#5	
12	Density	0-4	0-4		
13	Er/ Rev Balance	E63> R- E=R ~ E<R63	1-127		
14	High Damp	0.1-1.0	1-10		
15	Feedback Level	-63-+63	1-127		
16					

## CROSS DELAY

No.	Parameter	Display	Value	See Table	Control
1	L->R Delay	0.1-355.0ms	1-3550		
2	R->L Delay	0.1-355.0ms	1-3550		
3	Feedback Level	-63-+63	1-127		
4	Input Select	L,R,L&R	0-2		
5	High Damp	0.1-1.0	1-10		
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
12	LPF Cutoff	1.0k-Thru	34-60	table#3	
13					
14					
15					
16					

## DELAY L,C,R

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay	0.1-715.0ms	1-7150		
2	Rch Delay	0.1-715.0ms	1-7150		
3	Cch Delay	0.1-715.0ms	1-7150		
4	Feedback Delay	0.1-715.0ms	1-7150		
5	Feedback Level	-63-+63	1-127		
6	Cch Level	0-127	0-127		
7	High Damp	0.1-1.0	1-10		
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
12	LPF Cutoff	1.0k-Thru	34-60	table#3	
13					
14					
15					
16					

## EARLY REF1, EARLY REF2

No.	Parameter	Display	Value	See Table	Control
1	Type	S-H, L-H, Rdm, Rvs, Pit, Spr	0-5		
2	Room Size	0.1-7.0	0-44	table#6	
3	Diffusion	0-10	0-10		
4	Initial Delay	0-63	0-63	table#5	
5	Feedback Level	-63-+63	1-127		
6	HPF Cutoff	Thru-8.0kHz	0-52		
7	LPF Cutoff	1.0k-Thru	34-60		
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Liveness	0-10	0-10		
12	Density	0-3	0-3		
13	High Damp	0.1-1.0	1-10		
14					
15					
16					

## DELAY L,R

No.	Parameter	Display	Value	See Table	Control
1	Lch Delay	0.1-715.0ms	1-7150		
2	Rch Delay	0.1-715.0ms	1-7150		
3	Feedback Delay 1	0.1-715.0ms	1-7150		
4	Feedback Delay 2	0.1-715.0ms	1-7150		
5	Feedback Level	-63-+63	1-127		
6	High Damp	0.1-1.0	1-10		
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
12	LPF Cutoff	1.0k-Thru	34-60	table#3	
13					
14					
15					
16					

## GATE REVERB, REVERSE GATE

No.	Parameter	Display	Value	See Table	Control
1	Type	TypeA,TypeB	0-1		
2	Room Size	0.1-7.0	0-44	table#6	
3	Diffusion	0-10	0-10		
4	Initial Delay	0-63	0-63	table#5	
5	Feedback Level	-63-+63	1-127		
6	HPF Cutoff	Thru-8.0kHz	0-52	table#3	
7	LPF Cutoff	1.0k-Thru	34-60	table#3	
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Liveness	0-10	0-10		
12	Density	0-3	0-3		
13	High Damp	0.1-1.0	1-10		
14					
15					
16					

# EFFECT PARAMETER LIST

## KARAOKE1, KARAOKE2, KARAOKE3

No.	Parameter	Display	Value	See Table	Control
1	Delay Time	0~127	0-127	table#7	
2	Feedback Level	-63~+63	1-127		
3	HPF Cutoff	Thru~8.0kHz	0-52		
4	LPF Cutoff	1.0k~Thru	34-60		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11					
12					
13					
14					
15					
16					

## ROTARY SPEAKER

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00~39.7Hz	0-127	table#1	●
2	LFO Depth	0~127	0-127		
3					
4					
5					
6	EQ Low Frequency	32Hz~2.0kHz	4-40	table#3	
7	EQ Low Gain	-12~+12dB	52-76		
8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	
9	EQ High Gain	-12~+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11	EQ Mid Frequency	100Hz~10.0kHz	14-54	table#3	
12	EQ Mid Gain	-12~+12dB	52-76		
13	EQ Mid Width	1.0~12.0	10-120		
14					
15					
16					

## CHORUS1, CHORUS2, CHORUS3, CELESTE1, CELESTE2, CELESTE3

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00~39.7Hz	0-127	table#1	
2	LFO PM Depth	0~63	0-63		
3	Feedback Level	-63~+63	1-127		
4	Delay Offset	0~127	0-127	table#2	
5					
6	EQ Low Frequency	32Hz~2.0kHz	4-40	table#3	
7	EQ Low Gain	-12~+12dB	52-76		
8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	
9	EQ High Gain	-12~+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	EQ Mid Frequency	100Hz~10.0kHz	14-54	table#3	
12	EQ Mid Gain	-12~+12dB	52-76		
13	EQ Mid Width	1.0~12.0	10-120		
14	LFO AM Depth	0~127	0-127		
15					
16					

## TREMOLO

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00~39.7Hz	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	-12~+12dB	52-76		
8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	
9	EQ High Gain	-12~+12dB	52-76		
10					
11	EQ Mid Frequency	100Hz~10.0kHz	14-54	table#3	
12	EQ Mid Gain	-12~+12dB	52-76		
13	EQ Mid Width	1.0~12.0	10-120		
14	LFO Phase Difference	-180~+180deg	4-124		
15					
16					

## FLANGER1, FLANGER2

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00~39.7Hz	0-127	table#1	
2	LFO Depth	0~127	0-127		
3	Feedback Level	-63~+63	1-127		
4	Delay Offset	0~63	0-63	table#2	
5					
6	EQ Low Frequency	32Hz~2.0kHz	4-40	table#3	
7	EQ Low Gain	-12~+12dB	52-76		
8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	
9	EQ High Gain	-12~+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	EQ Mid Frequency	100Hz~10.0kHz	14-54	table#3	
12	EQ Mid Gain	-12~+12dB	52-76		
13	EQ Mid Width	1.0~12.0	10-120		
14	LFO Phase Difference	-180~+180deg	4-124		
15					
16					

## AUTO PAN

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00~39.7Hz	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,Ltum,Rtum,L/R	0-5		
5					
6	EQ Low Frequency	32Hz~2.0kHz	4-40	table#3	
7	EQ Low Gain	-12~+12dB	52-76		
8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	
9	EQ High Gain	-12~+12dB	52-76		
10					
11	EQ Mid Frequency	100Hz~10.0kHz	14-54	table#3	
12	EQ Mid Gain	-12~+12dB	52-76		
13	EQ Mid Width	1.0~12.0	10-120		
14					
15					
16					

## SYMPHONIC

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00~39.7Hz	0-127	table#1	
2	LFO Depth	0~127	0-127		
3	Delay Offset	0~127	0-127	table#2	
4					
5					
6	EQ Low Frequency	32Hz~2.0kHz	4-40	table#3	
7	EQ Low Gain	-12~+12dB	52-76		
8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	
9	EQ High Gain	-12~+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	EQ Mid Frequency	100Hz~10.0kHz	14-54	table#3	
12	EQ Mid Gain	-12~+12dB	52-76		
13	EQ Mid Width	1.0~12.0	10-120		
14					
15					
16					

## PHASER

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00~39.7Hz	0-127	table#1	
2	LFO Depth	0~127	0-127		
3	Phase Shift Offset	0~127	0-127		
4	Feedback Level	-63~+63	1-127		
5					
6	EQ Low Frequency	32Hz~2.0kHz	4-40	table#3	
7	EQ Low Gain	-12~+12dB	52-76		
8	EQ High Frequency	500Hz~16.0kHz	28-58	table#3	
9	EQ High Gain	-12~+12dB	52-76		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Stage	4,6,8,	4-8		
12	Diffusion	Mono/Stereo	0-1		
13					
14					
15					
16					

# EFFECT PARAMETER LIST

## DISTORTION, OVERDRIVE

No.	Parameter	Display	Value	See Table	Control
1	Drive	0-127	0-127		●
2	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3	
3	EQ Low Gain	-12-+12dB	52-76		
4	LPF Cutoff	1.0k-Thru	34-60	table#3	
5	Output Level	0-127	0-127		
6					
7	EQ Mid Frequency	100Hz-10.0kHz	14-54	table#3	
8	EQ Mid Gain	-12-+12dB	52-76		
9	EQ Mid Width	1.0-12.0	10-120		
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11					
12					
13					
14					
15					
16					

## AUTO WAH

No.	Parameter	Display	Value	See Table	Control
1	LFO Frequency	0.00-39.7Hz	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	-12-+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12-+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					

## GUITAR AMP SIMULATOR

No.	Parameter	Display	Value	See Table	Control
1	Drive	0-127	0-127		●
2	AMP Type	Off,Stack,Combo,Tube	0-3		
3	LPF Cutoff	1.0k-Thru	34-60	table#3	
4	Output Level	0-127	0-127		
5					
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		
11					
12					
13					
14					
15					
16					

## PITCH CHANGE

No.	Parameter	Display	Value	See Table	Control
1	Pitch	-24-+24	40-88		
2	Initial Delay	0-127	0-127	table#7	
3	Fine 1	-50-+50	14-114		
4	Fine 2	-50-+50	14-114		
5	Feedback Gain	-63-+63	1-127		
6					
7					
8					
9					
10	Dry/Wet	D63>W ~ D=W ~ D<W63	1-127		●
11	Pan 1	L63-R63	1-127		
12	Output Level 1	0-127	0-127		
13	Pan 2	L63-R63	1-127		
14	Output Level 2	0-127	0-127		
15					
16					

## 3-BAND EQ (MONO)

No.	Parameter	Display	Value	See Table	Control
1	EQ Low Gain	-12-+12dB	52-76		
2	EQ Mid Frequency	100Hz-10.0kHz	14-54	table#3	
3	EQ Mid Gain	-12-+12dB	52-76		
4	EQ Mid Width	1.0-12.0	10-120		
5	EQ High Gain	-12-+12dB	52-76		
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3	
7	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
8					
9					
10					
11					
12					
13					
14					
15					
16					

## AURAL EXCITER®

No.	Parameter	Display	Value	See Table	Control
1	HPF cutoff	500Hz-16.0kHz	28-58		
2	Drive	0-127	0-127		
3	Mix Level	0-127	0-127		
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

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## 2-BAND EQ (STEREO)

No.	Parameter	Display	Value	See Table	Control
1	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3	
2	EQ Low Gain	-12-+12dB	52-76		
3	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
4	EQ High Gain	-12-+12dB	52-76		
5					
6					
7					
8					
9					
10					
11	EQ Mid Frequency	100Hz-10.0kHz	14-54	table#3	
12	EQ Mid Gain	-12-+12dB	52-76		
13	EQ Mid Width	1.0-12.0	10-120		
14					
15					
16					

## TOUCH WAH, TOUCH WAH+DIST

No.	Parameter	Display	Value	See Table	Control
1	Sensitivity	0-127	0-127		
2	Cutoff Frequency Offset	0-127	0-127		●
3	Resonance	1.0-12.0	10-120		
4					
5					
6	EQ Low Frequency	32Hz-2.0kHz	4-40	table#3	
7	EQ Low Gain	-12-+12dB	52-76		
8	EQ High Frequency	500Hz-16.0kHz	28-58	table#3	
9	EQ High Gain	-12-+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					

# EFFECT PARAMETER LIST

## COMPRESSOR

No.	Parameter	Display	Value	See Table	Control
1	Attack	1-40ms	0-19	table#8	
2	Release	10-680ms	0-15	table#9	
3	Threshold	-48--6dB	79-121		
4	Ratio	1.0-20.0	0-7	table#10	
5	Output Level	0-127	0-127		
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

## NOISE GATE

No.	Parameter	Display	Value	See Table	Control
1	Attack	1-40ms	0-19	table#8	
2	Release	10-680ms	0-15	table#9	
3	Threshold	-72--30dB	55-97		
4	Output Level	0-127	0-127		
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

# EFFECT DATA VALUE ASSIGN TABLE

Table #1 : LFO Frequency

Data	Value	Data	Value	Data	Value	Data	Value
0	0.00	32	1.34	64	2.69	96	8.41
1	0.08	33	1.43	65	2.77	97	8.74
2	0.08	34	1.43	66	2.86	98	9.08
3	0.16	35	1.51	67	2.94	99	9.42
4	0.16	36	1.51	68	3.02	100	9.75
5	0.25	37	1.59	69	3.11	101	10.00
6	0.25	38	1.59	70	3.19	102	10.70
7	0.33	39	1.68	71	3.28	103	11.40
8	0.33	40	1.68	72	3.36	104	12.10
9	0.42	41	1.76	73	3.44	105	12.70
10	0.42	42	1.76	74	3.53	106	13.40
11	0.50	43	1.85	75	3.61	107	14.10
12	0.50	44	1.85	76	3.70	108	14.80
13	0.58	45	1.93	77	3.86	109	15.40
14	0.58	46	1.93	78	4.03	110	16.10
15	0.67	47	2.01	79	4.20	111	16.80
16	0.67	48	2.01	80	4.37	112	17.40
17	0.75	49	2.10	81	4.54	113	18.10
18	0.75	50	2.10	82	4.71	114	19.50
19	0.84	51	2.18	83	4.87	115	20.80
20	0.84	52	2.18	84	5.04	116	22.20
21	0.92	53	2.27	85	5.21	117	23.50
22	0.92	54	2.27	86	5.38	118	24.80
23	1.00	55	2.35	87	5.55	119	26.20
24	1.00	56	2.35	88	5.72	120	27.50
25	1.09	57	2.43	89	6.05	121	28.90
26	1.09	58	2.43	90	6.39	122	30.20
27	1.17	59	2.52	91	6.72	123	31.60
28	1.17	60	2.52	92	7.06	124	32.90
29	1.26	61	2.60	93	7.40	125	34.30
30	1.26	62	2.60	94	7.73	126	37.00
31	1.34	63	2.69	95	8.07	127	39.70

Table #3 : EQ Frequency

Data	Value	Data	Value
0	THRU(20)	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	10.0k
23	280	55	11.0k
24	315	56	12.0k
25	355	57	14.0k
26	400	58	16.0k
27	450	59	18.0k
28	500	60	THRU(20.0k)
29	560		
30	630		
31	700		

Table #2 : Modulation Delay Offset

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

Table #4 : Reverb Time

Data	Value	Data	Value	Data	Value
0	0.3	32	3.5	64	17.0
1	0.4	33	3.6	65	18.0
2	0.5	34	3.7	66	19.0
3	0.6	35	3.8	67	20.0
4	0.7	36	3.9	68	25.0
5	0.8	37	4.0	69	30.0
6	0.9	38	4.1		
7	1.0	39	4.2		
8	1.1	40	4.3		
9	1.2	41	4.4		
10	1.3	42	4.5		
11	1.4	43	4.6		
12	1.5	44	4.7		
13	1.6	45	4.8		
14	1.7	46	4.9		
15	1.8	47	5.0		
16	1.9	48	5.5		
17	2.0	49	6.0		
18	2.1	50	6.5		
19	2.2	51	7.0		
20	2.3	52	7.5		
21	2.4	53	8.0		
22	2.5	54	8.5		
23	2.6	55	9.0		
24	2.7	56	9.5		
25	2.8	57	10.0		
26	2.9	58	11.0		
27	3.0	59	12.0		
28	3.1	60	13.0		
29	3.2	61	14.0		
30	3.3	62	15.0		
31	3.4	63	16.0		

# EFFECT DATA VALUE ASSIGN TABLE

Table #5 : Delay Time (200.0ms)

Data	Value	Data	Value	Data	Value	Data	Value
0	0.1	32	50.5	64	100.8	96	151.2
1	1.7	33	52.0	65	102.4	97	152.8
2	3.2	34	53.6	66	104.0	98	154.4
3	4.8	35	55.2	67	105.6	99	155.9
4	6.4	36	56.8	68	107.1	100	157.5
5	8.0	37	58.3	69	108.7	101	159.1
6	9.5	38	59.9	70	110.3	102	160.6
7	11.1	39	61.5	71	111.9	103	162.2
8	12.7	40	63.1	72	113.4	104	163.8
9	14.3	41	64.6	73	115.0	105	165.4
10	15.8	42	66.2	74	116.6	106	166.9
11	17.4	43	67.8	75	118.2	107	168.5
12	19.0	44	69.4	76	119.7	108	170.1
13	20.6	45	70.9	77	121.3	109	171.7
14	22.1	46	72.5	78	122.9	110	173.2
15	23.7	47	74.1	79	124.4	111	174.8
16	25.3	48	75.7	80	126.0	112	176.4
17	26.9	49	77.2	81	127.6	113	178.0
18	28.4	50	78.8	82	129.2	114	179.5
19	30.0	51	80.4	83	130.7	115	181.1
20	31.6	52	81.9	84	132.3	116	182.7
21	33.2	53	83.5	85	133.9	117	184.3
22	34.7	54	85.1	86	135.5	118	185.8
23	36.3	55	86.7	87	137.0	119	187.4
24	37.9	56	88.2	88	138.6	120	189.0
25	39.5	57	89.8	89	140.2	121	190.6
26	41.0	58	91.4	90	141.8	122	192.1
27	42.6	59	93.0	91	143.3	123	193.7
28	44.2	60	94.5	92	144.9	124	195.3
29	45.7	61	96.1	93	146.5	125	196.9
30	47.3	62	97.7	94	148.1	126	198.4
31	48.9	63	99.3	95	149.6	127	200.0

Table #7 : Delay Time (400.0ms)

Data	Value	Data	Value	Data	Value	Data	Value
0	0.1	32	100.9	64	201.6	96	302.4
1	3.2	33	104.0	65	204.8	97	305.5
2	6.4	34	107.2	66	207.9	98	308.7
3	9.5	35	110.3	67	211.1	99	311.8
4	12.7	36	113.5	68	214.2	100	315.0
5	15.8	37	116.6	69	217.4	101	318.1
6	19.0	38	119.8	70	220.5	102	321.3
7	22.1	39	122.9	71	223.7	103	324.4
8	25.3	40	126.1	72	226.8	104	327.6
9	28.4	41	129.2	73	230.0	105	330.7
10	31.6	42	132.4	74	233.1	106	333.9
11	34.7	43	135.5	75	236.3	107	337.0
12	37.9	44	138.6	76	239.4	108	340.2
13	41.0	45	141.8	77	242.6	109	343.3
14	44.2	46	144.9	78	245.7	110	346.5
15	47.3	47	148.1	79	248.9	111	349.6
16	50.5	48	151.2	80	252.0	112	352.8
17	53.6	49	154.4	81	255.2	113	355.9
18	56.8	50	157.5	82	258.3	114	359.1
19	59.9	51	160.7	83	261.5	115	362.2
20	63.1	52	163.8	84	264.6	116	365.4
21	66.2	53	167.0	85	267.7	117	368.5
22	69.4	54	170.1	86	270.9	118	371.7
23	72.5	55	173.3	87	274.0	119	374.8
24	75.7	56	176.4	88	277.2	120	378.0
25	78.8	57	179.6	89	280.3	121	381.1
26	82.0	58	182.7	90	283.5	122	384.3
27	85.1	59	185.9	91	286.6	123	387.4
28	88.3	60	189.0	92	289.8	124	390.6
29	91.4	61	192.2	93	292.9	125	393.7
30	94.6	62	195.3	94	296.1	126	396.9
31	97.7	63	198.5	95	299.2	127	400.0

Table #6 : Room Size

Data	Value	Data	Value
0	0.1	32	5.1
1	0.3	33	5.3
2	0.4	34	5.4
3	0.6	35	5.6
4	0.7	36	5.7
5	0.9	37	5.9
6	1.0	38	6.1
7	1.2	39	6.2
8	1.4	40	6.4
9	1.5	41	6.5
10	1.7	42	6.7
11	1.8	43	6.8
12	2.0	44	7.0
13	2.1		
14	2.3		
15	2.5		
16	2.6		
17	2.8		
18	2.9		
19	3.1		
20	3.2		
21	3.4		
22	3.5		
23	3.7		
24	3.9		
25	4.0		
26	4.2		
27	4.3		
28	4.5		
29	4.6		
30	4.8		
31	5.0		

Table #8 : Compressor Attack Time

Data	Value
0	1
1	2
2	3
3	4
4	5
5	6
6	7
7	8
8	9
9	10
10	12
11	14
12	16
13	18
14	20
15	23
16	26
17	30
18	35
19	40



## EFFECT DATA VALUE ASSIGN TABLE

Table #9 : Compressor Release Time

Data	Value
0	10
1	15
2	25
3	35
4	45
5	55
6	65
7	75
8	85
9	100
10	115
11	140
12	170
13	230
14	340
15	680

Table #10 : Compressor Ratio

Data	Value
0	1.0
1	1.5
2	2.0
3	3.0
4	5.0
5	7.0
6	10.0
7	20.0

Table #11 : Reverb Width;Depth;Height

Data	Value	Data	Value	Data	Value	Data	Value
0	0.5	32	8.8	64	17.6	96	27.5
1	0.8	33	9.1	65	17.9	97	27.8
2	1.0	34	9.4	66	18.2	98	28.1
3	1.3	35	9.6	67	18.5	99	28.5
4	1.5	36	9.9	68	18.8	100	28.8
5	1.8	37	10.2	69	19.1	101	29.2
6	2.0	38	10.4	70	19.4	102	29.5
7	2.3	39	10.7	71	19.7	103	29.9
8	2.6	40	11.0	72	20.0	104	30.2
9	2.8	41	11.2	73	20.2		
10	3.1	42	11.5	74	20.5		
11	3.3	43	11.8	75	20.8		
12	3.6	44	12.1	76	21.1		
13	3.9	45	12.3	77	21.4		
14	4.1	46	12.6	78	21.7		
15	4.4	47	12.9	79	22.0		
16	4.6	48	13.1	80	22.4		
17	4.9	49	13.4	81	22.7		
18	5.2	50	13.7	82	23.0		
19	5.4	51	14.0	83	23.3		
20	5.7	52	14.2	84	23.6		
21	5.9	53	14.5	85	23.9		
22	6.2	54	14.8	86	24.2		
23	6.5	55	15.1	87	24.5		
24	6.7	56	15.4	88	24.9		
25	7.0	57	15.6	89	25.2		
26	7.2	58	15.9	90	25.5		
27	7.5	59	16.2	91	25.8		
28	7.8	60	16.5	92	26.1		
29	8.0	61	16.8	93	26.5		
30	8.3	62	17.1	94	26.8		
31	8.6	63	17.3	95	27.1		

## EFFECT DEFAULT DATA

### ■ REVERB EFFECTS

TYPE	PARAMETER No.															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
NOEFFECT																
HALL 1	18	10	8	13	49						0	4	50	8		
HALL 2	25	10	28	6	46						13	3	74	7		
ROOM 1	5	10	16	4	49						5	3	64	8		
ROOM 2	12	10	5	4	38						0	4	50	8		
ROOM 3	9	10	47	5	36						0	4	60	8		
STAGE 1	19	10	16	7	54						0	3	64	6		
STAGE 2	11	10	16	7	51						2	2	64	6		
PLATE	25	10	6	8	49						2	3	64	5		
WHITEROOM	9	5	11	0	46	30	50	70	7		34	4	64	7	64	
TUNNEL	48	6	19	0	44	33	52	70	16		20	4	64	7	64	
CANYON	59	6	63	0	45	34	62	91	13		25	4	64	4	64	
BASEMENT	3	6	3	0	34	26	29	59	15		32	4	64	8	64	

### ■ CHORUS EFFECTS

TYPE	PARAMETER No.															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
NOEFFECT																
CHORUS 1	6	54	77	106		28	64	46	64		46	64	10	0		
CHORUS 2	8	63	64	30		28	62	42	58		46	64	10	0		
CHORUS 3	4	44	64	110		28	64	46	66		46	64	10	0		
CELESTE 1	12	32	64	0		28	64	46	64		40	68	10	0		
CELESTE 2	28	18	90	2		28	62	42	60		40	68	10	0		
CELESTE 3	4	63	44	2		28	64	46	68		40	68	10	0		
FLANGER 1	14	14	104	2		28	64	46	64		40	64	10	4		
FLANGER 2	32	17	26	2		28	64	46	60		40	64	10	4		

# EFFECT DEFAULT DATA

## ■ VARIATION EFFECTS

TYPE	PARAMETER No.															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
NOEFFECT																
HALL 1	18	10	8	13	49					40	0	4	50	8		
HALL 2	25	10	28	6	46					40	13	3	74	7		
ROOM 1	5	10	16	4	49					40	5	3	64	8		
ROOM 2	12	10	5	4	38					40	0	4	50	8		
ROOM 3	9	10	47	5	36					40	0	4	60	8		
STAGE 1	19	10	16	7	54					40	0	3	64	6		
STAGE 2	11	10	16	7	51					40	2	2	64	6		
PLATE	25	10	6	8	49					40	2	3	64	5		
DELAY L,C,R	3333	1667	5000	5000	74	100	10			32	0	60				
DELAY L,R	2500	3750	3752	3750	87	10				32	0	60				
ECHO	1700	80	1780	80	10	1700	1780	0		40	0	60				
CROSS DELAY	1700	1750	111	1	10					32	0	60				
EARLY REF 1	0	19	5	16	64	0	46			32	5	0	10			
EARLY REF 2	2	7	10	16	64	3	46			32	5	2	10			
GATE REVERB	0	15	6	2	64	0	44			32	4	3	10			
REVERSE GATE	1	19	8	3	64	0	47			32	6	3	10			
KARAOKE 1	63	97	0	48						64						
KARAOKE 2	55	105	0	50						64						
KARAOKE 3	43	110	14	53						64						
CHORUS 1	6	54	77	106		28	64	46	64	64	46	64	10	0		
CHORUS 2	8	63	64	30		28	62	42	58	64	46	64	10	0		
CHORUS 3	4	44	64	110		28	64	46	66	64	46	64	10	0		
CELESTE 1	12	32	64	0		28	64	46	64	127	40	68	10	0		
CELESTE 2	28	18	90	2		28	62	42	60	84	40	68	10	0		
CELESTE 3	4	63	44	2		28	64	46	68	127	40	68	10	0		
FLANGER 1	14	14	104	2		28	64	46	64	96	40	64	10	4		
FLANGER 2	32	17	26	2		28	64	46	60	96	40	64	10	4		
SYMPHONIC	12	25	16			28	64	46	64	127	46	64	10			
ROTARY SPEAKER	81	35				24	60	45	54	127	33	52	30			
TREMOLO	83	56	0			28	64	46	64		40	64	10	64		
AUTO PAN	76	80	32	5		28	64	46	64		40	64	10			
PHASER	8	111	74	104		28	64	46	64	64	6	1				
DISTORTION	40	20	72	53	48		43	74	10	127						
OVERDRIVE	29	24	68	45	55		41	72	10	127						
GUITAR AMP SIMULATOR	39	1	48	55						127						
3-BAND EQ (MONO)	70	34	60	10	70	28	46									
2-BAND EQ (STEREO)	28	70	46	70							34	64	10			
AUTO WAH	70	56	39	25		28	66	46	64	127	0					
PITCH CHANGE	64	0	74	54	64					64	1	127	127	127		
AURAL EXCITER®	44	30	48													
TOUCH WAH	36	0	30			28	66	46	64	127	0					
TOUCH WAH + DIST	36	0	30			28	66	46	64	127	30					
COMPRESSOR	6	2	100	4	96											
NOISE GATE	0	11	82	50												
THRU																

☐ Can be set only when used as INS.

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## ■ DISTORTION EFFECTS

TYPE	PARAMETER No.															
	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
DISTORTION	40	20	72	53	48		43	74	10	127						
OVERDRIVE	29	24	68	45	55		41	72	10	127						
3-BAND EQ (MONO)	70	34	60	10	70	28	46									

# MIDI DATA FORMAT

## 1. KEY ON / KEY OFF

Status :9nH/8nH

If the Part Parameter Rcv NOTE MESSAGE = OFF, that Part will ignore Key ON and Key OFF messages.

## 2. PROGRAM CHANGE

Status :CnH

If the Part Parameter Rcv PROGRAM CHANGE = OFF, that Part will not receive Program Change Messages.

## 3. PITCH BEND

Status :EnH

If the Part Parameter Rcv PITCH BEND = OFF, that Part will not receive Pitch Bend Messages.

## 4. CONTROL CHANGE

Status :BnH

If the Part Parameter Rcv CONTROL CHANGE = OFF, that Part will not receive Control Change Messages.

### <Bank Select MSB/LSB> 00H/20H

Cntrl#	parameter	Data Range
0	Bank Select MSB	33: Preset1/ Preset2/ Custom/ Internal 81: VL-XG non alternative voice. 97: VL-XG alternative voice.
32	Bank Select LSB	0 :Preset1 1 :Preset2 2 :Custom 3 :Internal 112...119: VL-XG Alternative or non alternative variation.

If the Part Parameter Rcv BANK SELECT = OFF, that Part will not receive Bank Select Messages. A new bank selection will not become effective until the next Program Change is received.

### <Modulation> 01H

Cntrl#	parameter	Data Range
1	Modulation	0...127

If the Part Parameter Rcv MODULATION = OFF, that Part will not receive Modulation Messages.

### <Breath Controller> 02H

Cntrl#	parameter	Data Range
2	Breath Controller	0...127

### <Foot Controller> 04H

Cntrl#	parameter	Data Range
4	Foot Controller	0...127

### <Portamento Time> 05H

Cntrl#	parameter	Data Range
5	Portamento Time	0...127

When the Portamento parameter = ON, values will adjust the speed of pitch change.

A setting of 0= minimum portamento time, and 127 = maximum portamento time.

### <Data Entry MSB/LSB> 06H/26H

Cntrl#	parameter	Data Range
6	Data Entry MSB	0...127
38	Data Entry LSB	0...127

Messages which set the value for the parameter specified by RPN, NRPN.

### <Main Volume> 07H

Cntrl#	parameter	Data Range
7	Main Volume	0...127

If the Part Parameter Rcv MAIN VOLUME = OFF, that Part will not receive Main Volume Messages.

### <Pan> 0AH

Cntrl#	parameter	Data Range
10	Panpot	0...127

If the Part Parameter Rcv PAN = OFF, that Part will not receive Pan Pot Messages. 0=Left, 127=Right.

### <Expression> 0BH

Cntrl#	parameter	Data Range
11	Expression	0...127

If the Part Parameter Rcv EXPRESSION = OFF, that Part will not receive Expression Messages.

### <Control Change 13> 0DH

Cntrl#	parameter	Data Range
13	Control Change 13	0...127

### <Hold1> 40H

Cntrl#	parameter	Data Range
64	Hold1	0...127 (0-63:Off, 64-127:On)

If the Part Parameter Rcv HOLD 1 = OFF, that Part will not receive Hold 1 Messages.

### <Portamento> 41H

Cntrl#	parameter	Data Range
65	Portamento	0...127 (0-63:Off, 64-127:On)

If the Part Parameter Rcv PORTAMENTO = OFF, that Part will not receive Portamento Messages. If the Portamento parameter = ON, values will adjust the speed of the portamento. If the Mono mode is activated and Portamento = ON, the Single Trigger Mode will be activated. If not, the Multi-Trigger Mode will be effective.

# MIDI DATA FORMAT

## <Soft Pedal> 43H

Cntrl#	parameter	Data Range
67	Soft Pedal	0...127 (0-63:Off, 64-127:On)

If the Part Parameter Rcv SOFT PEDAL = OFF, that Part will not receive Soft Pedal Messages. When the SOFT PEDAL is set "ON" the effect will take place from the next Key On signal. Messages will control the Filter Cutoff Frequency. Depending upon the Voice, the effect may or may not have an effect.

## <Harmonic Content> 47H

Cntrl#	parameter	Data Range
71	Harmonic Content	0...127 (0:-64, 64:+0, 127:+63)

Messages which adjust the resonance set for each Based on a standard of 64, these values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

## <Release Time> 48H

Cntrl#	parameter	Data Range
72	Release Time	0...127 (0:-64, 64:+0, 127:+63)

Messages which adjust the envelope release time. Based on a standard of 64, values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

## <Attack Time> 49H

Cntrl#	parameter	Data Range
73	Attack Time	0...127 (0:-64, 64:+0, 127:+63)

Messages which adjust the envelope attack time. Based on a standard of 64, values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

## <Brightness> 4AH

Cntrl#	parameter	Data Range
74	Brightness	0...127 (0:-64, 64:+0, 127:+63) Default:40H

Messages which adjust the filter cutoff frequency. Based on a standard of 64, values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

## <Effect Send Level 1 (Reverb)> 5BH

Cntrl#	parameter	Data Range
91	Effect 1 Depth	0...127

Messages adjust the send level for the Reverb effect.

## <Effect Send Level 3 (Chorus)> 5DH

Cntrl#	parameter	Data Range
93	Effect3 Depth	0...127

Messages adjust the send level for the Chorus effect.

## <Effect Send Level 4 (Variation)> 5EH

Cntrl#	parameter	Data Range
94	Effect4 Depth	0...127

Messages adjust the send level for the Variation effect

If the parameter Variation Connection = System, this message sets the send level for the Variation effect.

## <Data Increment / Decrement> 60H/61H

Cntrl#	parameter	Data Range
96	Increment	0...127
97	Decrement	0...127

The data byte is ignored.

RPN messages which increase or decrease the MSB value of the parameter by 1.

## <NRPN (Non-Registered Parameter Number) LSB/MSB> 62H/63H

Cntrl#	parameter	Data Range
98	NRPN LSB	0...127
99	NRPN MSB	0...127

If the Part Parameter Rcv NRPN = OFF, that Part will not receive NRPN Messages.

First send the NRPN MSB and NRPN LSB to specify the parameter which is to be controlled. Then use the Data Entry to set the value of the specified parameter.

The following NRPN numbers can be received.

NRPN Data-entry			Data Range
MSB	LSB	parameter	
01H	08H	mmH Vibrato Rate	mm:00H-40H-7FH (-64-0+63)
01H	09H	mmH Vibrato Depth	mm:00H-40H-7FH (-64-0+63)
01H	0AH	mmH Vibrato Delay	mm:00H-40H-7FH (-64-0+63)

The Rate, Depth, and Delay Time for the Vibrato is controlled.

01H	20H	mmH Filter Cutoff Frequency	mm:00H-40H-7FH (-64-0+63)
01H	21H	mmH Filter Resonance	mm:00H-40H-7FH (-64-0+63)
01H	22H	mmH Filter EG Depth	mm:00H-40H-7FH (-64-0+63)

The Cut-off, Frequency, Resonance, and Envelope Depth for the Filter is controlled.

01H	30H	mmH Bass	mm:00H-40H-7FH (-64-0+63)
01H	31H	mmH Treble	mm:00H-40H-7FH (-64-0+63)

The Bass and Treble are controlled.

01H	63H	mmH EG Attack Time	mm:00H-40H-7FH (-64-0+63)
01H	64H	mmH EG Decay Time	mm:00H-40H-7FH (-64-0+63)
01H	66H	mmH EG Release	mm:00H-40H-7FH (-64-0+63)

# MIDI DATA FORMAT

The Attack time, Decay time, and Release time for the Envelope are controlled.

Based on a standard of 64, values will be added to or subtracted from the Voice data. Depending on the Voice, the effective range may be narrower.

## <RPN (Registered Parameter Number) LSB/

### MSB> 64H/65H

Cntrl#	parameter	Data Range
100	RPN LSB	0...127
101	RPN MSB	0...127

If the Part Parameter Rcv RPN = OFF, that Part will not receive RPN Messages.

In correspondence to the following parameters.

#### RPN Data-entry

LSB	MSB	MSB	parameter	Data Range
00H	00H	mmH	Pitch Bend Sensitivity	mm:00H-18H (0+24) Default:02H
01H	00H	mmH	Fine Tune	mm:00H-40H-7FH (-64-0+63) Default : 40H 00H
02H	00H	mmH	Coarse Tune	mm:28H-40H-58H (-24-0+24) Default : 40H 00H
7FH	7FH	—	Null	—

## 5. CHANNEL MODE MESSAGES

### <All Sounds Off> 78H

Cntrl#	parameter	Data Range
120	—————	0

Terminates all sounds currently sounding. However, the status of channel messages are maintained.

### <Reset All Controllers> 79H

Cntrl#	parameter	Data Range
121	—————	0

The values of the following controllers will be reset to the defaults.

Pitch Bend	Center
Channel Aftertouch	0
Modulation	0
Breath Control	Max
Foot Control	Max
Expression	Max
Control Change 13	Center
Hold 1	Off
Portamento	Off
Soft Pedal	Off
RPN	Null

### <All Notes Off> 7BH

Cntrl#	parameter	Data Range
123	—————	0

Terminates all notes currently on. However, if Hold 1 is on, notes will continue sounding until Hold 1 is turned off.

### <Omni Off> 7CH

Cntrl#	parameter	Data Range
124	—————	0

Performs the same function as when an All Notes Off message is received.

### <Omni On> 7DH

Cntrl#	parameter	Data Range
125	—————	0

Performs the same function as when an All Notes Off message is received. It will not activate OMNI ON.

### <Mono> 7EH

Cntrl#	parameter	Data Range
126	Mono	0...16

Performs the same function as when an All Sounds Off message is received, and if the 3rd byte (mono number) is in the range of 0 - 16, and sets the instrument to Mono Mode.

### <Poly> 7FH

Cntrl#	parameter	Data Range
127	—————	0

Performs the same function as when an All Sounds Off message is received, and sets the instrument to Poly mode.

## 6. CHANNEL AFTERTOUCH

Status :DnH

If the Part Parameter Rcv CHANNEL AFTER TOUCH = OFF, that Part will not receive Channel After Touch Messages.

## 7. SYSTEM EXCLUSIVE MESSAGES

If the Part Parameter Rcv SYSTEM EXCLUSIVE = OFF, that Part will not receive System Exclusive Messages.

### <UNIVERSAL REALTIME MESSAGES>

#### 1) MIDI Master Volume Receive only.

FOH, 7FH, xnH, 04H, 01H, 11H, mmH, F7H

xn : n=Device Number, xn=7F : Broadcast

ll : Master Volume LSB

mm : Master Volume MSB

When received, the Volume MSB will be effective for the System Parameter MASTER VOLUME.

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# MIDI DATA FORMAT

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## <UNIVERSAL NON-REALTIME MESSAGES>

### 1) ID Request **Receive only.**

F0H, 7EH, xnH, 06H, 01H, F7H  
xn : n=Device Number, xn=7F : Broadcast

### 2) ID Reply **Send only.**

F0H, 7EH, 0nH, 06H, 02H, 43H, 00H, 41H, 0CH, 02H,  
00H, 00H, 00H, 02H, F7H  
0n : n=Device Number

When an ID Request is received, an ID Replay is sent.

## <PARAMETER CHANGE>

### [VL70-m Native Format]

F0H, 43H, 1nH, 57H, ahH, amH, alH, ddH, ~, ddH, F7H

1n : n=Device Number

ah : Address High

am : Address Mid

al : Address Low

dd : Data

- 1) **Sound Module Mode** **Receive only.** See <Table 1>.
- 2) **System Parameter** See <Table 3>.
- 3) **Current Voice / Common Misc Parameter** See <Table 6>.
- 4) **Current Voice / Common Part Parameter** See <Table 7>.  
When this message is received in the Voice Mode, the Part Number is fixed to 1.  
When this message is received in the VL-XG Mode, the Part Number is ignored.
- 5) **Current Voice / Common Effect Parameter** See <Table 8>.
- 6) **Current Voice / Element Parameter** See <Table 9>.
- 7) **Remote SW** **Receive only.** See <Table 12>.

### [VL-XG Format]

F0H, 43H, 1nH, 4CH, ahH, amH, alH, ddH, ~, ddH, F7H

1n : n=Device Number

ah : Address High

am : Address Mid

al : Address Low

dd : Data

- 1) **XG System On** **Receive only.** See <Table 2>.
- 2) **System Parameter** See <Table 3>.
- 3) **Display Data** **Receive only.** See <Table 5>.
- 4) **Current Voice / Common Part Parameter** See <Table 7>.  
When this message is sent, the established Part Number is used.  
When this message is received in the Voice Mode, the Part Number is fixed to 1.  
When in the VL-XG mode, this message can be received if the Part Numbers are in agreement.
- 5) **Current Voice / Common Effect Parameter** See <Table 8>.

## [Other]

### 1) MIDI Master Tune **Receive only.**

F0H, 43H, 1nH, 27H, 30H, 00H, 00H, mmH, llH, ccH, F7H

1n : n=Device Number

mm : Master Tune MSB

ll : Master Tune LSB

cc : Don't care

When received, the System Parameter will reflect the Master Tune.

## <PARAMETER REQUEST>

F0H, 43H, 3nH, 57H or 4CH, ahH, amH, alH, F7H

3n : n=Device Number

ah : Address High

am : Address Mid

al : Address Low

Receive only.

The corresponding Parameter Changes other than those that are marked "Receive only" are transmitted.

In the Voice Mode, Model ID = 57H is transmitted, in the VL-XG Model ID = Channel 4 is transmitted.

## <BULK DUMP>

### [VL70-m Native Format]

F0H, 43H, 0nH, 57H, bmH, blH, ahH, amH, alH, ddH, ~, ddH, ccH, F7H

0n : n=Device Number

bm : Byte Count MSB

bl : Byte Count LSB

ah : Address High

am : Address Mid

al : Address Low

dd : Data

cc : Check Sum

- 1) **System Parameter** See <Table 3>.
- 2) **Current Voice / Common Misc Parameter** See <Table 6>.
- 3) **Current Voice / Common Part Parameter** See <Table 7>.  
When this message is transmitted, the Part Number is fixed to 1.  
When this message is received in the Voice Mode, the Part Number is fixed to 1.  
When this message is received in the VL-XG Mode, the Part Number is ignored.
- 4) **Current Voice / Common Effect Parameter** See <Table 8>.
- 5) **Current Voice / Element Parameter** See <Table 9>.
- 6) **Custom Voice Parameter** See <Table 10>.
- 7) **Internal Voice Parameter** See <Table 11>.

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# MIDI DATA FORMAT

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## [VL-XG Format]

F0H, 43H, 0nH, 4CH, bmH, blH, ahH, amH, alH, ddH, ~, ddH, ccH, F7H

0n : n=Device Number

bm : Byte Count MSB

bl : Byte Count LSB

ah : Address High

am : Address Mid

al : Address Low

dd : Data

cc : Check Sum

- 1) **System Parameter** See <Table 3>.
- 2) **System Information Send Only.** See <Table 4>.
- 3) **Current Voice / Common Part Parameter** See <Table 7>.  
When sent, the established Part Number is used.  
When this message is received in the Voice Mode, the Part Number is fixed to 1.  
In the VL-XG Mode, this message will be received, if the Part Numbers are in agreement.
- 4) **Current Voice / Common Effect Parameter** See <Table 8>.

## <BULK DUMP REQUEST>

F0H, 43H, 2nH, 57H or 4CH, ahH, amH, alH, F7H

2n : n=Device Number

ah : Address High

am : Address Mid

al : Address Low

Receive Only

The corresponding Bulk Dump will be sent.

In the Voice Mode, Model ID = 57H is transmitted, in the VL-XG Model ID = Channel 4 is transmitted.

For the Address and Byte Count, refer to the supplementary tables.

Here, the Byte Count is indicated by the "TOTAL SIZE" in the table.

The block's leading byte is the Bulk Dump and Dump Request's Address.

A "Block" is the lumped together unit which is indicated by the "Total Size".

The Check Sum is the value that results in a value of 0 for the lower 7 bits when the Start Address, Byte Count, Data, plus the Check Sum itself are added.

## 8. REALTIME MESSAGES

### <Active Sensing>

Status :FEH

Not Transmitted.

Once Active Sensing is received, if no MIDI data is received for longer than an interval of 300msec, the instrument will perform the same function as when ALL SOUND OFF and ALL NOTE OFF, RESET ALL CONTROLLER messages are received, and will return to a status in which Active Sensing is not monitored.



# MIDI DATA FORMAT

**<Table 1> Sound Module Mode**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
00 00 7E	1	00 - 01	SOUND MODULE MODE	0:VL-XG, 1:VOICE	

**<Table 2> XG System On**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
00 00 7E	1	00	XG SYSTEM ON	0:VL-XG	

**<Table 3> System Parameter**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
00 00 00	4	0000 - 07FF	MASTER TUNE	-102.4 - +102.3[cent] 1st bit3-0→bit15-12 2nd bit3-0→bit11-8 3rd bit3-0→bit7-4 4th bit3-0→bit3-0	00 04 00 00
04	1	00 - 7F	MASTER VOLUME	0 - 127	7F
05	1		reserve		
06	1	28 - 58	TRANSPOSE	-24 - +24[semitones]	40
07	1	00 - 04	DUMP INTERVAL	50msec ... 300msec	02:150msec
08	1		reserve		
09	1	00 - 0F	MIDI Tx CHANNEL	ch1 - ch16	00
0A	1	00 - 10	VOICE Rcv CHANNEL	ch1 - ch16, ALL	10
0B	1	00 - 01	BREATH CONTROL NUMBER	BC, EXPRESSION	00
0C	1	30 - 50	BREATH CONTROL CURVE	-16 - +16	40
0D	1	00 - 01	WX LIP LOCK	OFF/ON	00
0E	1	00 - 01	BREATH SET LOCK	OFF/ON	00
0F	1	00 - 01	WX LIP	NORMAL,EXPAND	00
10	1	00 - 02	BREATH MODE	BC/WX, VELOCITY, TOUCH EG	00 (01 when Initial)
11	1	00 - 7F	VELOCITY DEPTH	0 - 127	30
12	1	00 - 7F	VELOCITY OFFSET	0 - 127	50
13	1	00 - 7F	TOUCH EG TIME	0 - 127	2A
14	1	00 - 7F	AT LOW DEPTH	0 - 127	1B
15	1	00 - 7F	AT LOW OFFSET	0 - 127	50
16	1	00 - 7F	AT HIGH DEPTH	0 - 127	25
17	1	00 - 7F	AT HIGH OFFSET	0 - 127	65

\* In the VL70-m Native Format, parameters 00 00 00 to 00 00 17 (a total size of 18) are fully supported.

\* In the VL-XG Format, parameters 00 00 00 to 00 00 06 (a total size of 07) are fully supported.

**<Table 4> System Information**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
01 00 00	E		MODEL NAME	32 - 127 (ASCII)	"VL70-m _ _ _ _ _"
0E	1		XG LEVEL	NON BASIC	7E
0F	1		TONE GENERATOR TYPE	VL	02
TOTAL SIZE 10					

**<Table 5> Display Data**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
06 00 00	20	20 - 7F	DISPLAY LETTER	32 - 127 (ASCII)	
TOTAL SIZE 20					
07 00 00	30	00 - 7F	DISPLAY BITMAP	0 - 127	
TOTAL SIZE 30					

# MIDI DATA FORMAT

**<Table 6> Current Voice / Common Misc Parameter**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
10 00 00	1	20 - 7F	VOICE NAME #1	32 - 127 (ASCII)	
01	1	20 - 7F	VOICE NAME #2	32 - 127 (ASCII)	
02	1	20 - 7F	VOICE NAME #3	32 - 127 (ASCII)	
03	1	20 - 7F	VOICE NAME #4	32 - 127 (ASCII)	
04	1	20 - 7F	VOICE NAME #5	32 - 127 (ASCII)	
05	1	20 - 7F	VOICE NAME #6	32 - 127 (ASCII)	
06	1	20 - 7F	VOICE NAME #7	32 - 127 (ASCII)	
07	1	20 - 7F	VOICE NAME #8	32 - 127 (ASCII)	
08	1		reserve		
09	1	00 - 7F	VOICE LEVEL	0 - 127	
0A	1	00 - 02	ASSIGN MODE	BOTTOM, TOP, LAST	
0B	2	0000 - 1F1F	POLY EXPAND	off...32>32	
0D	1	00 - 01	PORTAMENTO MODE	FULLTIME, FINGERED	
0E	1		reserve		
TOTAL SIZE 0F					

**<Table 7> Current Voice / Common Part Parameter**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
08 0p 00	1		reserve		
01	1	00 - 7F	BANK SELECT MSB	0 - 127	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	ch1 - ch16, OFF	00
05	1	00 - 01	MONO/POLY MODE	0:MONO, 1:POLY	01
06	1		reserve		
07	1	00 - 05	PART MODE	0:NORMAL	00
08	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	40
09	2	00 - FF	DETUNE	-12.8 - +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	RANDOM (0), L63...C...R63 (1...64...127)	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 - +63	40
16	1	00 - 7F	VIBRATO DEPTH	-64 - +63	40
17	1	00 - 7F	VIBRATO DELAY	-64 - +63	40
18	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - +63	40
19	1	00 - 7F	FILTER RESONANCE	-64 - +63	40
1A	1	00 - 7F	EG ATTACK TIME	-64 - +63	40
1B	1	00 - 7F	EG DECAY TIME	-64 - +63	40
1C	1	00 - 7F	EG RELEASE TIME	-64 - +63	40
1D	1	28 - 58	MW PITCH CONTROL	-24 - +24[semitones]	40
1E	1	00 - 7F	MW FILTER CONTROL	-9600 - +9450[cent]	40
1F	1	00 - 7F	MW AMPLITUDE CONTROL	-100 - +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		reserve		
23	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]	42
24	1	00 - 7F	BEND FILTER CONTROL	-9600 - +9450[cent]	40
25	1	00 - 7F	BEND AMPLITUDE CONTROL	-100 - +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		reserve		
TOTAL SIZE 29					

# MIDI DATA FORMAT

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)	
08 Op	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		reserve		
	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	01
	38	1	00 - 01	Rcv MODULATION	OFF/ON	01
	39	1	00 - 01	Rcv MAIN 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		reserve		
	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	-64 - +63[cent]	40
	42	1	00 - 7F	SCALE TUNING C#	-64 - +63[cent]	40
	43	1	00 - 7F	SCALE TUNING D	-64 - +63[cent]	40
	44	1	00 - 7F	SCALE TUNING D#	-64 - +63[cent]	40
	45	1	00 - 7F	SCALE TUNING E	-64 - +63[cent]	40
	46	1	00 - 7F	SCALE TUNING F	-64 - +63[cent]	40
	47	1	00 - 7F	SCALE TUNING F#	-64 - +63[cent]	40
	48	1	00 - 7F	SCALE TUNING G	-64 - +63[cent]	40
	49	1	00 - 7F	SCALE TUNING G#	-64 - +63[cent]	40
	4A	1	00 - 7F	SCALE TUNING A	-64 - +63[cent]	40
	4B	1	00 - 7F	SCALE TUNING A#	-64 - +63[cent]	40
	4C	1	00 - 7F	SCALE TUNING B	-64 - +63[cent]	40
	4D	1	28 - 58	AT PITCH CONTROL	-24 - +24[semitones]	40
	4E	1	00 - 7F	AT FILTER CONTROL	-9600 - +9450[cent]	40
	4F	1	00 - 7F	AT AMPLITUDE CONTROL	-100 - +100[%]	40
	50	1	00 - 7F	AT LFO PMOD DEPTH	0 - 127	00
	51	1	00 - 7F	AT LFO FMOD DEPTH	0 - 127	00
	52	1		reserve		
	53	1		reserve		
	54	1		reserve		
	55	1		reserve		
	56	1		reserve		
	57	1		reserve		
	58	1		reserve		
	59	1	00 - 5F	AC1 CONTROLLER NUMBER	off - 95	10
	5A	1	28 - 58	AC1 PITCH CONTROL	-24 - +24[semitones]	40
	5B	1	00 - 7F	AC1 FILTER CONTROL	-9600 - +9450[cent]	40
	5C	1	00 - 7F	AC1 AMPLITUDE CONTROL	-100 - +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		reserve		
	60	1		reserve		
	61	1		reserve		
	62	1		reserve		
	63	1		reserve		
	64	1		reserve		
	65	1		reserve		
	66	1		reserve		
	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 - +63	40
	6A	1	00 - 7F	PITCH EG ATTACK TIME	-64 - +63	40
	6B	1	00 - 7F	PITCH EG RELEASE LEVEL	-64 - +63	40
	6C	1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63	40
	6D	1		reserve		
	6E	1		reserve		
TOTAL SIZE 3F						

# MIDI DATA FORMAT

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)		
08	0p	70	1	28 - 58	BEND PITCH LOW CONTROL	-24 - +24[semitones]	3E
		71	1	00 - 7F	FILTER EG DEPTH	-64 - +63	40
		72	1	00 - 7F	BASS	-64 - +63	40
		73	1	00 - 7F	TREBLE	-64 - +63	40
TOTAL SIZE 04							

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)		
09	0p	00	1	00 - 01	NOTE ASSIGN	OFF/ON	01
		01	1		reserve		
		02	1	00 - 0F, 7F	NOTE FILTER	ch1 - ch16, THRU	7F
		03	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		04	1	00 - 7F	DEPTH	-64 - +63	40
		05	1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		06	1	00 - 7F	DEPTH	-64 - +63	40
		07	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		08	1	00 - 7F	DEPTH	-64 - +63	40
		09	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		0A	1	00 - 7F	DEPTH	-64 - +63	40
		0B	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		0C	1	00 - 7F	DEPTH	-64 - +63	40
		0D	1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		0E	1	00 - 7F	DEPTH	-64 - +63	40
		0F	1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		10	1	00 - 7F	DEPTH	-64 - +63	40
		11	1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		12	1	00 - 7F	DEPTH	-64 - +63	40
		13	1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		14	1	00 - 7F	DEPTH	-64 - +63	40
		15	1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB	00
		16	1	00 - 7F	DEPTH	-64 - +63	40
TOTAL SIZE 17							

\* p = Part Number

\* The above parameters are supported in the VL-XG Format.

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)		
09	00	17	1	00 - 7F	AMP LEVEL SCALE BREAK POINT	C-2 - G8	3C
		18	1	00 - 7F	DEPTH	-64 - +63	40
		19	1	00 - 7F	FILTER CUTOFF SCALE BREAK POINT	C-2 - G8	3C
		1A	1	00 - 7F	DEPTH	-64 - +63	40
		1B	1	00 - 02	BANK POINTER	PRESET1, PRESET2, CUSTOM	00
		1C	1	00 - 7F	PROGRAM POINTER	1 - 128	00
TOTAL SIZE 06							

\* The parameters that are supported in the VL-XG Format plus the parameters listed above are supported in the VL70-m Native Format.

# MIDI DATA FORMAT

**<Table 8> Current Voice / Common Effect Parameter**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 00	2	00 - 7F	REVERB TYPE MSB	See "EFFECT MAP"	01(=HALL1)
		00 - 7F	REVERB TYPE LSB	00 : basic type	00
	02	00 - 7F	REVERB PARAMETER 1	See "EFFECT PARAMETER LIST"	depends on reverb type
	03	00 - 7F	REVERB PARAMETER 2	See "EFFECT PARAMETER LIST"	depends on reverb type
	04	00 - 7F	REVERB PARAMETER 3	See "EFFECT PARAMETER LIST"	depends on reverb type
	05	00 - 7F	REVERB PARAMETER 4	See "EFFECT PARAMETER LIST"	depends on reverb type
	06	00 - 7F	REVERB PARAMETER 5	See "EFFECT PARAMETER LIST"	depends on reverb type
	07	00 - 7F	REVERB PARAMETER 6	See "EFFECT PARAMETER LIST"	depends on reverb type
	08	00 - 7F	REVERB PARAMETER 7	See "EFFECT PARAMETER LIST"	depends on reverb type
	09	00 - 7F	REVERB PARAMETER 8	See "EFFECT PARAMETER LIST"	depends on reverb type
	0A	00 - 7F	REVERB PARAMETER 9	See "EFFECT PARAMETER LIST"	depends on reverb type
	0B	00 - 7F	REVERB PARAMETER 10	See "EFFECT PARAMETER LIST"	depends on reverb type
	0C	00 - 7F	REVERB RETURN	-∞dB...0dB...+6dB (0...64...127)	40
	0D	01 - 7F	REVERB PAN	L63...C...R63 (1...64...127)	40
TOTAL SIZE 0E					
Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 10	1	00 - 7F	REVERB PARAMETER 11	See "EFFECT PARAMETER LIST"	depends on reverb type
	11	00 - 7F	REVERB PARAMETER 12	See "EFFECT PARAMETER LIST"	depends on reverb type
	12	00 - 7F	REVERB PARAMETER 13	See "EFFECT PARAMETER LIST"	depends on reverb type
	13	00 - 7F	REVERB PARAMETER 14	See "EFFECT PARAMETER LIST"	depends on reverb type
	14	00 - 7F	REVERB PARAMETER 15	See "EFFECT PARAMETER LIST"	depends on reverb type
	15	00 - 7F	REVERB PARAMETER 16	See "EFFECT PARAMETER LIST"	depends on reverb type
TOTAL SIZE 06					
Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 20	2	00 - 7F	CHORUS TYPE MSB	See "EFFECT MAP"	41(=CHORUS1)
		00 - 7F	CHORUS TYPE LSB	00 : basic type	00
	22	00 - 7F	CHORUS PARAMETER 1	See "EFFECT PARAMETER LIST"	depends on chorus type
	23	00 - 7F	CHORUS PARAMETER 2	See "EFFECT PARAMETER LIST"	depends on chorus type
	24	00 - 7F	CHORUS PARAMETER 3	See "EFFECT PARAMETER LIST"	depends on chorus type
	25	00 - 7F	CHORUS PARAMETER 4	See "EFFECT PARAMETER LIST"	depends on chorus type
	26	00 - 7F	CHORUS PARAMETER 5	See "EFFECT PARAMETER LIST"	depends on chorus type
	27	00 - 7F	CHORUS PARAMETER 6	See "EFFECT PARAMETER LIST"	depends on chorus type
	28	00 - 7F	CHORUS PARAMETER 7	See "EFFECT PARAMETER LIST"	depends on chorus type
	29	00 - 7F	CHORUS PARAMETER 8	See "EFFECT PARAMETER LIST"	depends on chorus type
	2A	00 - 7F	CHORUS PARAMETER 9	See "EFFECT PARAMETER LIST"	depends on chorus type
	2B	00 - 7F	CHORUS PARAMETER 10	See "EFFECT PARAMETER LIST"	depends on chorus type
	2C	00 - 7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...64...127)	40
	2D	01 - 7F	CHORUS PAN	L63...C...R63 (1...64...127)	40
	2E	00 - 7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00
TOTAL SIZE 0F					
Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 30	1	00 - 7F	CHORUS PARAMETER 11	See "EFFECT PARAMETER LIST"	depends on chorus type
	31	00 - 7F	CHORUS PARAMETER 12	See "EFFECT PARAMETER LIST"	depends on chorus type
	32	00 - 7F	CHORUS PARAMETER 13	See "EFFECT PARAMETER LIST"	depends on chorus type
	33	00 - 7F	CHORUS PARAMETER 14	See "EFFECT PARAMETER LIST"	depends on chorus type
	34	00 - 7F	CHORUS PARAMETER 15	See "EFFECT PARAMETER LIST"	depends on chorus type
	35	00 - 7F	CHORUS PARAMETER 16	See "EFFECT PARAMETER LIST"	depends on chorus type
TOTAL SIZE 06					

# MIDI DATA FORMAT

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 40	2	00 - 7F 00 - 7F	VARIATION TYPE MSB VARIATION TYPE LSB	See "EFFECT MAP" 00 : basic type	05(=DELAY L,C,R) 00
42	2	00 - 7F 00 - 7F	VARIATION PARAMETER 1 MSB VARIATION PARAMETER 1 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
44	2	00 - 7F 00 - 7F	VARIATION PARAMETER 2 MSB VARIATION PARAMETER 2 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
46	2	00 - 7F 00 - 7F	VARIATION PARAMETER 3 MSB VARIATION PARAMETER 3 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
48	2	00 - 7F 00 - 7F	VARIATION PARAMETER 4 MSB VARIATION PARAMETER 4 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
4A	2	00 - 7F 00 - 7F	VARIATION PARAMETER 5 MSB VARIATION PARAMETER 5 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
4C	2	00 - 7F 00 - 7F	VARIATION PARAMETER 6 MSB VARIATION PARAMETER 6 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
4E	2	00 - 7F 00 - 7F	VARIATION PARAMETER 7 MSB VARIATION PARAMETER 7 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
50	2	00 - 7F 00 - 7F	VARIATION PARAMETER 8 MSB VARIATION PARAMETER 8 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
52	2	00 - 7F 00 - 7F	VARIATION PARAMETER 9 MSB VARIATION PARAMETER 9 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
54	2	00 - 7F 00 - 7F	VARIATION PARAMETER 10 MSB VARIATION PARAMETER 10 LSB	See "EFFECT PARAMETER LIST" See "EFFECT PARAMETER LIST"	depends on variation type depends on variation type
56	1	00 - 7F	VARIATION RETURN	-∞dB...0dB...+6dB (0...64...127)	40
57	1	01 - 7F	VARIATION PAN	L63...C...R63 (1...64...127)	40
58	1	00 - 7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...64...127)	00
59	1	00 - 7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB ( 0...64...127)	00
5A	1	00 - 01	VARIATION CONNECTION	0:INSERTION, 1:SYSTEM	00
5B	1	00 - 7F	VARIATION PART	Part1...16 (0...15), OFF (16...127)	7F
5C	1		reserve		
5D	1		reserve		
5E	1	00 - 7F	AT VARIATION CONTROL DEPTH	-64 - +63	40
5F	1	00 - 7F	AC1 VARIATION CONTROL DEPTH	-64 - +63	40
60	1		reserve		
TOTAL SIZE 21					

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
02 01 70	1	00 - 7F	VARIATION PARAMETER 11	See "EFFECT PARAMETER LIST"	depends on variation type
71	1	00 - 7F	VARIATION PARAMETER 12	See "EFFECT PARAMETER LIST"	depends on variation type
72	1	00 - 7F	VARIATION PARAMETER 13	See "EFFECT PARAMETER LIST"	depends on variation type
73	1	00 - 7F	VARIATION PARAMETER 14	See "EFFECT PARAMETER LIST"	depends on variation type
74	1	00 - 7F	VARIATION PARAMETER 15	See "EFFECT PARAMETER LIST"	depends on variation type
75	1	00 - 7F	VARIATION PARAMETER 16	See "EFFECT PARAMETER LIST"	depends on variation type
TOTAL SIZE 06					

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
03 00 00	2	00 - 7F 00 - 7F	DISTORTION TYPE MSB DISTORTION TYPE LSB	See "EFFECT MAP" 00 : basic type	49(=DISTORTION) 00
02	1	00 - 7F	DISTORTION PARAMETER1	See "EFFECT PARAMETER LIST"	depends on distortion type
03	1	00 - 7F	DISTORTION PARAMETER2	See "EFFECT PARAMETER LIST"	depends on distortion type
04	1	00 - 7F	DISTORTION PARAMETER3	See "EFFECT PARAMETER LIST"	depends on distortion type
05	1	00 - 7F	DISTORTION PARAMETER4	See "EFFECT PARAMETER LIST"	depends on distortion type
06	1	00 - 7F	DISTORTION PARAMETER5	See "EFFECT PARAMETER LIST"	depends on distortion type
07	1	00 - 7F	DISTORTION PARAMETER6	See "EFFECT PARAMETER LIST"	depends on distortion type
08	1	00 - 7F	DISTORTION PARAMETER7	See "EFFECT PARAMETER LIST"	depends on distortion type
09	1	00 - 7F	DISTORTION PARAMETER8	See "EFFECT PARAMETER LIST"	depends on distortion type
0A	1	00 - 7F	DISTORTION PARAMETER9	See "EFFECT PARAMETER LIST"	depends on distortion type
0B	1	00 - 7F	DISTORTION PARAMETER10	See "EFFECT PARAMETER LIST"	depends on distortion type
0C	1	00 - 7F	DISTORTION PART	Part1...16 (0...15), OFF (16...127)	7F
0D	1		reserve		
0E	1		reserve		
0F	1	00 - 7F	AT DISTORTION CONTROL DEPTH	-64 - +63	40
10	1	00 - 7F	AC1 DISTORTION CONTROL DEPTH	-64 - +63	40
11	1		reserve		
TOTAL SIZE 12					

# MIDI DATA FORMAT

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
20	1	00 - 7F	DISTORTION PARAMETER11	See "EFFECT PARAMETER LIST"	depends on distortion type
21	1	00 - 7F	DISTORTION PARAMETER12	See "EFFECT PARAMETER LIST"	depends on distortion type
22	1	00 - 7F	DISTORTION PARAMETER13	See "EFFECT PARAMETER LIST"	depends on distortion type
23	1	00 - 7F	DISTORTION PARAMETER14	See "EFFECT PARAMETER LIST"	depends on distortion type
24	1	00 - 7F	DISTORTION PARAMETER15	See "EFFECT PARAMETER LIST"	depends on distortion type
25	1	00 - 7F	DISTORTION PARAMETER16	See "EFFECT PARAMETER LIST"	depends on distortion type
TOTAL SIZE 06					

<Table 9> Current Voice / Element Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
20 00 00	1	20 - 7F	ELEMENT NAME #1	32 - 127 (ASCII)	
00 01	1	20 - 7F	ELEMENT NAME #2	32 - 127 (ASCII)	
00 02	1	20 - 7F	ELEMENT NAME #3	32 - 127 (ASCII)	
00 03	1	20 - 7F	ELEMENT NAME #4	32 - 127 (ASCII)	
00 04	1	20 - 7F	ELEMENT NAME #5	32 - 127 (ASCII)	
00 05	1	20 - 7F	ELEMENT NAME #6	32 - 127 (ASCII)	
00 06	1	20 - 7F	ELEMENT NAME #7	32 - 127 (ASCII)	
00 07	1	20 - 7F	ELEMENT NAME #8	32 - 127 (ASCII)	
00 08	1	20 - 7F	ELEMENT NAME #9	32 - 127 (ASCII)	
00 09	1	20 - 7F	ELEMENT NAME #10	32 - 127 (ASCII)	
00 0A	1	00 - 01	EXPRESSION MODE	BC, VOLUME	
00 0B	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 0C	2	0101 - 007F	DEPTH	-127 - +127	
00 0E	1	70 - 10	CURVE	-16 - +16	
00 0F	1	00 - 62	FILTER CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 10	2	0101 - 007F	DEPTH	-127 - +127	
00 12	1	70 - 10	CURVE	-16 - +16	
00 13	1	00 - 62	AMPLITUDE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 14	2	0101 - 007F	DEPTH	-127 - +127	
00 16	1	70 - 10	CURVE	-16 - +16	
00 17	1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 18	2	0101 - 007F	UPPER DEPTH	-127 - +127	
00 1A	2	0101 - 007F	LOWER DEPTH	-127 - +127	
00 1C	1	00 - 01	MODE	CENTER BASE, MINIMUM BASE	
00 1D	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 1E	2	0101 - 007F	DEPTH	-127 - +127	
00 20	1	70 - 10	CURVE	-16 - +16	
00 21	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 22	2	0101 - 007F	DEPTH	-127 - +127	
00 24	1	70 - 10	CURVE	-16 - +16	
00 25	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 26	2	0101 - 007F	DEPTH	-127 - +127	
00 28	1	70 - 10	CURVE	-16 - +16	
00 29	1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 2A	2	0101 - 007F	DEPTH	-127 - +127	
00 2C	1	70 - 10	CURVE	-16 - +16	
00 2D	1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 2E	2	0101 - 007F	DEPTH	-127 - +127	
00 30	1	70 - 10	CURVE	-16 - +16	
00 31	1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 32	2	0101 - 007F	DEPTH	-127 - +127	
00 34	1	70 - 10	CURVE	-16 - +16	
00 35	1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 36	2	0101 - 007F	DEPTH	-127 - +127	
00 38	1	70 - 10	CURVE	-16 - +16	
00 39	1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB	
00 3A	2	0101-007F	DEPTH	-127 - +127	
00 3C	1	70 - 10	CURVE	-16 - +16	
00 3D			reserve		
			reserve		
0A 6A			reserve		
TOTAL SIZE 56B					

# MIDI DATA FORMAT

**<Table 10> Custom Voice Parameter**

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
30 00 0n	1	20 - 7F	VOICE NAME #1	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #2	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #3	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #4	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #5	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #6	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #7	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #8	32 - 127 (ASCII)	
	1		reserve		
	1	00 - 7F	VOICE LEVEL	0 - 127	
	1	00 - 02	ASSIGN MODE	BOTTOM, TOP, LAST	
	2	0000 - 1F1F	POLY EXPAND	off...32>32	
	1	00 - 01	PORTAMENTO MODE	FULLTIME, FINGERED	
	1		reserve		
	1	00 - 01	MONO/POLY MODE	0:MONO, 1:POLY	
	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	
	2	00 - FF	DETUNE	-12.8 - +12.7[Hz], 1st bit3-0→bit7-4, 2nd bit3-0→bit3-0	
	1		reserve		
	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	
	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	
	1	00 - 7F	PAN	RANDOM (0), L63...C...R63 (1...64...127)	
	1		reserve		
	1		reserve		
	1	00 - 7F	DRY LEVEL	0 - 127	
	1	00 - 7F	CHORUS SEND	0 - 127	
	1	00 - 7F	REVERB SEND	0 - 127	
	1	00 - 7F	VARIATION SEND	0 - 127	
	1	28 - 58	MW PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	MW FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	MW AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	
	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	BEND FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	BEND AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	BEND LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	BEND LFO FMOD DEPTH	0 - 127	
	1	00 - 7F	SCALE TUNING C	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING C#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING D	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING D#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING E	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING F	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING F#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING G	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING G#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING A	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING A#	-64 - +63[cent]	
	1	00 - 7F	SCALE TUNING B	-64 - +63[cent]	
	1	28 - 58	AT PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	AT FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	AT AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	AT LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	AT LFO FMOD DEPTH	0 - 127	
	1	00 - 5F	AC1 CONTROLLER NUMBER	off - 95	
	1	28 - 58	AC1 PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	AC1 FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	AC1 AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	AC1 LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	AC1 LFO FMOD DEPTH	0 - 127	
	1	00 - 01	PORTAMENTO SWITCH	OFF/ON	
	1	00 - 7F	PORTAMENTO TIME	0 - 127	
	1	28 - 58	BEND PITCH LOW CONTROL	-24 - +24[semitones]	



# MIDI DATA FORMAT

1	00 - 7F	REVERB TYPE MSB	See "EFFECT MAP"
1	00 - 7F	REVERB TYPE LSB	00 : basic type
1	00 - 7F	REVERB PARAMETER 1	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 2	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 3	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 4	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 5	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 6	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 7	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 8	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 9	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 10	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB RETURN	-∞dB...0dB...+6dB (0...64...127)
1	01 - 7F	REVERB PAN	L63...C...R63 (1...64...127)
1	00 - 7F	REVERB PARAMETER 11	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 12	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 13	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 14	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 15	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 16	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS TYPE MSB	See "EFFECT MAP"
1	00 - 7F	CHORUS TYPE LSB	00 : basic type
1	00 - 7F	CHORUS PARAMETER 1	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 2	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 3	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 4	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 5	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 6	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 7	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 8	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 9	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 10	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...64...127)
1	01 - 7F	CHORUS PAN	L63...C...R63 (1...64...127)
1	00 - 7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0...64...127)
1	00 - 7F	CHORUS PARAMETER 11	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 12	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 13	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 14	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 15	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 16	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION TYPE MSB	See "EFFECT MAP"
1	00 - 7F	VARIATION TYPE LSB	00 : basic type
1	00 - 7F	VARIATION PARAMETER 1 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 1 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 2 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 2 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 3 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 3 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 4 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 4 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 5 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 5 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 6 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 6 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 7 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 7 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 8 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 8 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 9 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 9 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 10 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 10 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION RETURN	-∞dB...0dB...+6dB (0...64...127)
1	01 - 7F	VARIATION PAN	L63...C...R63 (1...64...127)
1	00 - 7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...64...127)
1	00 - 7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB (0...64...127)

# MIDI DATA FORMAT

1	00 - 01	VARIATION CONNECTION	0:INSERTION,1:SYSTEM
1	00 - 7F	VARIATION PART	Part1...16 (0...15), OFF (16...127)
1	00 - 7F	AT VARIATION CONTROL DEPTH	-64 - +63
1	00 - 7F	AC1 VARIATION CONTROL DEPTH	-64 - +63
1	00 - 7F	VARIATION PARAMETER 11	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 12	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 13	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 14	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 15	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 16	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION TYPE MSB	See "EFFECT MAP"
1	00 - 7F	DISTORTION TYPE LSB	00 : basic type
1	00 - 7F	DISTORTION PARAMETER1	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER2	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER3	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER4	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER5	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER6	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER7	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER8	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER9	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER10	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PART	Part1...16 (0...15), OFF (16...127)
1	00 - 7F	AT DISTORTION CONTROL DEPTH	-64 - +63
1	00 - 7F	AC1 DISTORTION CONTROL DEPTH	-64 - +63
1	00 - 7F	DISTORTION PARAMETER11	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER12	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER13	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER14	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER15	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER16	See "EFFECT PARAMETER LIST"

TOTAL SIZE A3

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
31 00 0n	1	20 - 7F	ELEMENT NAME #1	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #2	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #3	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #4	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #5	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #6	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #7	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #8	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #9	32 - 127 (ASCII)	
	1	20 - 7F	ELEMENT NAME #10	32 - 127 (ASCII)	
	1	00 - 01	EXPRESSION MODE	BC, VOLUME	
	1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	0101 - 007F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	FILTER CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	0101 - 007F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	AMPLITUDE CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	0101 - 007F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	0101 - 007F	UPPER DEPTH	-127 - +127	
	2	0101 - 007F	LOWER DEPTH	-127 - +127	
	1	00 - 01	MODE	CENTER BASE, MINIMUM BASE	
	1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	0101-007F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	0101-007F	DEPTH	-127 - +127	
	1	70 - 10	CURVE	-16 - +16	
	1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB	
	2	0101-007F	DEPTH	-127 - +127	

# MIDI DATA FORMAT

1	70 - 10	CURVE	-16 - +16
1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
52E		reserve	

TOTAL SIZE 56B

n = Voice Number(0 - 5)

<Table 11> Internal Voice Parameter

Address (H)	Size (H)	Data (H)	Parameter	Description	Default value(H)
40 00 nm	1	20 - 7F	VOICE NAME #1	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #2	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #3	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #4	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #5	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #6	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #7	32 - 127 (ASCII)	
	1	20 - 7F	VOICE NAME #8	32 - 127 (ASCII)	
	1	00 - 7F	VOICE LEVEL	0 - 127	
	1	00 - 02	ASSIGN MODE	BOTTOM, TOP, LAST	
	2	0000 - 1F1F	POLY EXPAND	off...32>32	
	1	00 - 01	PORTAMENTO MODE	FULLTIME, FINGERED	
	1	00 - 01	MONO/POLY MODE	0:MONO, 1:POLY	
	1	28 - 58	NOTE SHIFT	-24 - +24[semitones]	
	2	00 - FF	DETUNE	-12.8 - +12.7[Hz], 1st bit3-0→bit7-4, 2nd bit3-0→bit3-0	
	1	00 - 7F	VOLUME	0 - 127	
	1	00 - 7F	VELOCITY SENSE DEPTH	0 - 127	
	1	00 - 7F	VELOCITY SENSE OFFSET	0 - 127	
	1	00 - 7F	PAN	RANDOM (0), L63...C...R63 (1...64...127)	
	1	00 - 7F	NOTE LIMIT LOW	C-2 - G8	
	1	00 - 7F	NOTE LIMIT HIGH	C-2 - G8	
	1	00 - 7F	DRY LEVEL	0 - 127	
	1	00 - 7F	CHORUS SEND	0 - 127	
	1	00 - 7F	REVERB SEND	0 - 127	
	1	00 - 7F	VARIATION SEND	0 - 127	
	1	00 - 7F	VIBRATO RATE	-64 - +63	
	1	00 - 7F	VIBRATO DEPTH	-64 - +63	
	1	00 - 7F	VIBRATO DELAY	-64 - +63	
	1	00 - 7F	FILTER CUTOFF FREQUENCY	-64 - +63	
	1	00 - 7F	FILTER RESONANCE	-64 - +63	
	1	00 - 7F	EG ATTACK TIME	-64 - +63	
	1	00 - 7F	EG DECAY TIME	-64 - +63	
	1	00 - 7F	EG RELEASE TIME	-64 - +63	
	1	00 - 7F	MW LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	MW LFO FMOD DEPTH	0 - 127	
	1	28 - 58	BEND PITCH CONTROL	-24 - +24[semitones]	
	1	00 - 7F	BEND LFO PMOD DEPTH	0 - 127	
	1	00 - 7F	AT FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	AT LFO PMOD DEPTH	0 - 127	
	1	00 - 5F	AC1 CONTROLLER NUMBER	off - 95	
	1	00 - 7F	AC1 FILTER CONTROL	-9600 - +9450[cent]	
	1	00 - 7F	AC1 AMPLITUDE CONTROL	-100 - +100[%]	
	1	00 - 7F	AC1 LFO PMOD DEPTH	0 - 127	

# MIDI DATA FORMAT

1	00 - 01	PORTAMENTO SWITCH	OFF/ON
1	00 - 7F	PORTAMENTO TIME	0 - 127
1	00 - 7F	PITCH EG INITIAL LEVEL	-64 - +63
1	00 - 7F	PITCH EG ATTACK TIME	-64 - +63
1	00 - 7F	PITCH EG RELEASE LEVEL	-64 - +63
1	00 - 7F	PITCH EG RELEASE TIME	-64 - +63
1	28 - 58	BEND PITCH LOW CONTROL	-24 - +24[semitones]
1	00 - 7F	FILTER EG DEPTH	-64 - +63
1	00 - 7F	BASS	-64 - +63
1	00 - 7F	TREBLE	-64 - +63
1	00 - 7F	AMP LEVEL SCALE BREAK POINT	C-2 - G8
1	00 - 7F	DEPTH	-64 - +63
1	00 - 7F	FILTER CUTOFF SCALE BREAK POINT	C-2 - G8
1	00 - 7F	DEPTH	-64 - +63
1	00 - 02	BANK POINTER	PRESET1, PRESET2, CUSTOM
1	00 - 7F	PROGRAM POINTER	1 - 128
1	00 - 7F	REVERB TYPE MSB	See "EFFECT MAP"
1	00 - 7F	REVERB TYPE LSB	00 : basic type
1	00 - 7F	REVERB PARAMETER 1	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 2	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 3	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 4	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB PARAMETER 5	See "EFFECT PARAMETER LIST"
1	00 - 7F	REVERB RETURN	-∞dB...0dB...+6dB (0...64...127)
1	01 - 7F	REVERB PAN	L63...C...R63 (1...64...127)
1	00 - 7F	CHORUS TYPE MSB	See "EFFECT MAP"
1	00 - 7F	CHORUS TYPE LSB	00 : basic type
1	00 - 7F	CHORUS PARAMETER 1	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 2	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 3	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS PARAMETER 4	See "EFFECT PARAMETER LIST"
1	00 - 7F	CHORUS RETURN	-∞dB...0dB...+6dB (0...64...127)
1	01 - 7F	CHORUS PAN	L63...C...R63 (1...64...127)
1	00 - 7F	SEND CHORUS TO REVERB	-∞dB...0dB...+6dB (0...64...127)
1	00 - 7F	VARIATION TYPE MSB	See "EFFECT MAP"
1	00 - 7F	VARIATION TYPE LSB	00 : basic type
1	00 - 7F	VARIATION PARAMETER 1 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 1 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 2 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 2 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 3 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 3 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 4 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 4 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 5 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 5 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 10 MSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION PARAMETER 10 LSB	See "EFFECT PARAMETER LIST"
1	00 - 7F	VARIATION RETURN	-∞dB...0dB...+6dB (0...64...127)
1	01 - 7F	VARIATION PAN	L63...C...R63 (1...64...127)
1	00 - 7F	SEND VARIATION TO REVERB	-∞dB...0dB...+6dB (0...64...127)
1	00 - 7F	SEND VARIATION TO CHORUS	-∞dB...0dB...+6dB (0...64...127)
1	00 - 01	VARIATION CONNECTION	0:INSERTION, 1:SYSTEM
1	00 - 7F	VARIATION PART	Part1...16 (0...15), OFF (16...127)
1	00 - 7F	AT VARIATION CONTROL DEPTH	-64 - +63
1	00 - 7F	AC1 VARIATION CONTROL DEPTH	-64 - +63
1	00 - 7F	DISTORTION TYPE MSB	See "EFFECT MAP"
1	00 - 7F	DISTORTION TYPE LSB	00 : basic type
1	00 - 7F	DISTORTION PARAMETER1	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER2	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER3	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER4	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER5	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PARAMETER10	See "EFFECT PARAMETER LIST"
1	00 - 7F	DISTORTION PART	Part1...16 (0...15), OFF (16...127)
1	00 - 7F	AT DISTORTION CONTROL DEPTH	-64 - +63
1	00 - 7F	AC1 DISTORTION CONTROL DEPTH	-64 - +63
1	00 - 01	EXPRESSION MODE	BC, VOLUME

# MIDI DATA FORMAT

1	00 - 62	PRESSURE CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	FILTER CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	AMPLITUDE CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	EMBOUCHURE CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	UPPER DEPTH	-127 - +127
2	0101 - 007F	LOWER DEPTH	-127 - +127
1	00 - 01	MODE	CENTER BASE, MINIMUM BASE
1	00 - 62	TONGUING CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	SCREAM CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	BREATH NOISE CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	GROWL CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	THROAT FORMANT CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	HARMONIC ENHANCER CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	DAMPING CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16
1	00 - 62	ABSORPTION CONTROL NO.	off - 95, AT, VELOCITY, PB
2	0101 - 007F	DEPTH	-127 - +127
1	70 - 10	CURVE	-16 - +16

TOTAL SIZE A3

nn = Voice Number (00 - 3F)

<Table 12> Remote SW

Address (H)	Size (H)	Data (H)	Parameter	Description
0A 00 00	1	00 - 01	PLAY	OFF/ON
01	1	00 - 01	UTIL	OFF/ON
02	1	00 - 01	MODE	OFF/ON
03	1	00 - 01	EDIT	OFF/ON
04	1	00 - 01	EFFECT	OFF/ON
05	1	00 - 01	BREATH	OFF/ON
06	1	00 - 01	MIDI/WX	OFF/ON
07	1	00 - 01	ENTER	OFF/ON
08	1	00 - 01	EXIT	OFF/ON
09	1	00 - 01	PART -	OFF/ON
0A	1	00 - 01	SELECT -	OFF/ON
0B	1	00 - 01	VALUE -	OFF/ON
0C	1	00 - 01	PART +	OFF/ON
0D	1	00 - 01	SELECT +	OFF/ON
0E	1	00 - 01	VALUE +	OFF/ON

Function ...	Transmitted	Recognized	Remarks
Basic Default Channel Changed	1 - 16 1 - 16	1 - 16 1 - 16	memorized
Mode Default Messages Altered	3 X *****	1 - 4 3,4(m=0-16) *1 X	
Note Number : True voice	X *****	0 - 127 0 - 127	
Velocity Note ON Note OFF	X X	0 v=1-127 X	
After Key's Touch Ch's	X X	X 0	*2
Pitch Bender	X	0 0-24 semi	*2
1,4,5,7,10,13 2,11 6,38	X X 0 X	0 0 0 0	*2 *2 *2 *2
Control 64,65,67 71-74	X X	0 0	*2 *2
Change 91,93,94 96,97 98,99 100,101 120 121	X X X X X X	0 0 0 0 0 0	*2 *2 *2 *2 *2 *2
			Bank Select Data Entry Sound Controller Effect Depth RPN Inc,Dec NRPN LSB,MSB RPN LSB,MSB All Sound Off Reset All Cntrls

Prog Change : True #	x *****	o 0 - 127
System Exclusive	o	*2
System : Song Pos.	x	x
System : Song Sel.	x	x
Common : Tune	x	x
System : Clock	x	x
Real Time : Commands	x	x
Aux : Local ON/OFF	x	x
: All Notes OFF	x	o(123-125)
Mes- : Active Sense	x	o
sages:Reset	x	x

Notes: \*1 ; m is always treated as "1" regardless of its value.  
\*2 ; receive if switch is on.

Mode 1 : OMNI ON, POLY      Mode 2 : OMNI ON, MONO      o : Yes  
Mode 3 : OMNI OFF, POLY    Mode 4 : OMNI OFF, MONO    x : No

