Roland®

GENERAL MIDI2

Fantom

Sound/Parameter List

Thank you, and congratulations on your choice of the Roland Fantom (FA-76).

Performance List

PRST (Preset Group)

No.	Name	No.	Name	No.	Name	No.	Name
01	Fantasm	17	Eclipse	33	AnalogStkSet	49	Humanizer
02	All That	18	OrganBldTrio	34	Nirvana	50	Full Strings
03	Trippin	19	GruvaciusSet	35	Jz PianoTrio	51	Piano+Rhodes
04	FunkRock Set	20	Rock It!	36	Springy Set	52	BossaNovaSet
05	RhythmClvSet	21	ArpGuitarSet	37	InstantScore	53	Techno Set 2
06	Relaxation	22	Jupiter	38	Sweep Pad	54	Cultivate
07	Romance	23	Rock Brs Set	39	60's Set	55	SynthBrs Set
08	Soaring Saws	24	Andreas Cave	40	Slip Stack	56	Sabbath Day
09	VORTEX	25	Voltage Ctrl	41	Xtreme!	57	Blue Sky
10	BeatRockSet	26	Watta Gate!	42	SlicdTrncSet	58	Cycles
11	Arp BellsPad	27	Techno Set	43	Pumping	59	MIDI Rhodes
12	Stacked Pads	28	Road2Heaven	44	Dulcitar Stk	60	Techno Loop
13	Quasar	29	Powerwiggle	45	TempoMdnsSet	61	Lo-Fi Trance
14	Hit it! RSS	30	VoxStacks	46	PhsDyn&BsSet	62	OvertoneStak
15	StereoSlicer	31	BluesHarpSet	47	Brass Band	63	Ac.Piano/Bs
16	SwingJazzSet	32	Flying Keys	48	Rock Gtr Set	64	Piano & Str

Multitimbre List

PRST (Preset Group)

No.	Name	No.	Name	No.	Name	No.	Name
01	FANTOM Temp	05	Pop	09	Ac. Jazz	13	New Age
02	Techno	06	Funk Rock	10	Cont. Jazz	14	Orchestral
03	House	07	Hard Rock	11	Big Band	15	Film Music
04	Hip-Hop	08	Blues	12	Latin	16	GM2 Template

Patch List

USER (User Group)

No.	Name	Voice	Key Assign	No.	Name	Voice	Key Assign
001	GenerationXV	4	POLY	065	Verby Organ	2	POLY
002	Grand XV	4	POLY	066	Cloud 9	5	POLY
003	GlobalWarmup	4	POLY	067	Enchanted XV	3	MONO
004	Chordbender	4	POLY	068	Soft Nylon	4	POLY
005	My Orchestra	4	POLY	069	Trem Guitar	2	POLY
006	Vortex	4	POLY	070	Crying Solo	2	POLY
007	TempoMadness	4	POLY	071	Stringless	4	POLY
008	Stream Bell	5	POLY	072	Creamy Bass	2	MONO
009	Blue Mutes	2	POLY	073	Lead 4x Vlns	4	POLY
010	UltraSmooth	2	POLY	074	Wheel Brass	4	POLY
011	Thipper Bass	3	MONO	075	Solo SoprSax	1	MONO
012	Drew's Bee	3	POLY	076	Symphonique	7	POLY
013	Backspinner	5	POLY	077	T8 Brass	3	POLY
014	Dream 2001	3	POLY	078	Technogrunge	3	POLY
015	XV Crystal	4	POLY	079	Mood Ringz	4	POLY
016	XV Ac.Bass	4	POLY	080	Soff Machine	4	POLY
017	Groovedigger	4	POLY	081	Cheepy Synth	2	POLY
018	Hold A Chord	6	POLY	082	Down2Earth	7	POLY
019	XV Trombone	2	POLY	083	Spread Pad	2	POLY
020	LegatoJupitr	1	MONO	084	R-mod Vox	2	POLY
021	Thick Steel	4	POLY	085	R&Ballad Mix	6	POLY
022	Saw Grits	1	MONO	086	Hybrid EP	3	POLY
023	Henry VIII	8	POLY	087	Pop Ballad	3	POLY
024	CrystalGlass	1	POLY	088	Ambient Wood	2	POLY
025	Contemplate	2	POLY	089	Wedding Mass	5	POLY
026	Xtremities	4	MONO	090	Plug n' Play	2	POLY
027	Etheraaahl	2	POLY	091	COSM Loud Gt	3	POLY
028	VeloClikOrgn	2	POLY	092	COSM Bass	4	POLY
029	Phatso Bass	3	MONO	093	West End Bs	5	MONO
030	OvertoneScan	4	POLY	094	XV Strings	3	POLY
031	Complex Echo	1	POLY	095	Tape Orch	4	POLY
032	Rocky Road	3	POLY	096	man@work	4	MONO
033	Tight Brass	5	POLY	097	Queen V	6	POLY
034	Blues Harp	2	POLY	098	SoaringHrns2	7	POLY
035	Cutter Clav	2	POLY	099	SquareDreams	4	POLY
036	Tap Bass	1	POLY	100	Upwind Glata	4	POLY
037	JD Multi Ld	1	MONO	101	Gruvacious	5	POLY
038	Dance Zipper	4	MONO	102	Pianomonics	4	POLY
039	Y2K Concerto	8	POLY	103	Wurli World	3	POLY
040	Distorted B	1	POLY	104	Aftertouchin	4	POLY
041	SteelRelease	4	POLY	105	DeepInPrayer	6	POLY
042	COSM Searing	3	MONO	106	Swell Strat	1	POLY
043	Bottlephone	2	POLY	107	Wine Drops	4	POLY
044	TMT Scanner	4	POLY	108	Tekno Pizz	1	POLY
045	BatonStrings	3	POLY	109	Soft Padding	2	POLY
046	FatSynBrass	4	POLY	110	Auto Riff	2	POLY
047	Modular Life	4	POLY	111	Mini Lead	4	MONO
048	Flutterys	3	POLY	112	Froggy Bass	1	MONO
049	Swingin'Bari	3	POLY	113	BiggieBrass2	5	POLY
050	Funky Tube	1	POLY	114	Harm is Fine	3	POLY
051	Atlantis	5	POLY	115	Cold Roadz	4	POLY
052	Vocovox Wave	1	MONO	116	Combing	2	POLY
053	Double Steel	8	POLY	117	2.2 Strings	5	POLY
054	SwellEnsembl	4	POLY	118	Tape Q	4	POLY
055	Hydrogen	4	POLY	119	Traffic Pad	4	POLY
056	Nanolog Pad	4	POLY	120	Rhodes Trem	2	POLY
057	Aftermath	4	POLY	121	Shuffle Bell	4	POLY
058	Slice & Dice	4	POLY	122	Vintage Pad	2	POLY
059	Wedding Gig	4	POLY	123	Aliastrings	4	POLY
060	SparklePiano	6	POLY	124	AmbiRhodes	4	POLY
061	Wurly Gum	2	POLY	125	Mutezzicato	3	POLY
062	Voxfuzz Klav	4	POLY	126	Throbulax	2	POLY
063	Digibell Pad	4	POLY	127	Morph Pad	8	POLY
064	IslandSpirit	3	POLY	128	Flashback	4	POLY

PR-A (Preset A Group)

No.	Name	Voice	Key Assign	No.	Name	Voice	Key Assign
001	Grand XV	4	POLY	065	Voxfuzz Klav	4	POLY
002	Contemplate	2	POLY	066	St.Harpsichd	4	POLY
003	Hall Grand	2	POLY	067	PositvHarpsi	4	POLY
004	64voicePno	1	POLY	068	3PartInventn	4	POLY
005	Bright Piano	2	POLY	069	Pop Ballad	3	POLY
006	Nice Piano	4	POLY	070	Musicbox XV	3	POLY
007	Upright Pno	4	POLY	071	Chime Bells	4	POLY
008	Rock Piano	2	POLY	072	Shuffle Bell	4	POLY
009	RockPiano Ch	3	POLY	073	Stream Bell	5	POLY
010	Pianomonics	4	POLY	074	Heavenals	4	POLY
011	RN Sad Song	6	POLY	075	HolidayCheer	4	POLY
012	Y2K Concerto	8	POLY	076	Morning Lite	2	POLY
013	Piano+SftPad	4	POLY	077	Digibell Pad	4	POLY
014	WarmVoxPiano	4	POLY	078	D50 StacHvn	4	POLY
015	Piano+AirPad	5	POLY	079	Celestabox	1	POLY
016	ChoraLeader	8	POLY	080	Sandman	4	POLY
017	SparklePiano	6	POLY	081	Bell Museum	4	POLY
018	Warm pF Mix	6	POLY	082	Wide Tubular	4	POLY
019	R&Ballad Mix	6	POLY	083	True Vibe	2	POLY
020	Power Octs	6	POLY	084	Echo Vibe	2	POLY
021	RD-1000	3	POLY	085	Tremolo Vibe	2	POLY
022	Retro Rhodes	3	POLY	086	Marimbula	3	POLY
023	Fat Rhodes	3	POLY	087	Exotic Velo	4	POLY
024	PingE Piano	2	POLY	088	Bottlephone	2	POLY
025	Rhodes Trem	2	POLY	089	IslandSpirit	3	POLY
026	Phaser Dyno	3	POLY	090	Ambient Wood	2	POLY
027	Hit Rhodes	3	POLY	091	Steel Drums	1	POLY
028	Hybrid EP	3	POLY	092	Soft B	2	POLY
029	Rocky Road	3	POLY	093	Ballad B	2	POLY
030	Sweet Tynes	4	POLY	094	Soft Perky	5	POLY
031	Pluk Rhodes	3	POLY	095	Full Stops	2	POLY
032	Rhodes Trip	2	POLY	096	Fullness	5	POLY
033	AmbiRhodes	4	POLY	097	Paleface 1	2	POLY
034	Rholitzer	3	POLY	098	Paleface 2	4	POLY
035	SA Rhodes	4	POLY	099	VeloClikOrgn	2	POLY
036	Dig Rhodes	2	POLY	100	British B	4	POLY
037	Octa Rhodes	4	POLY	101	Rocker Org	6	POLY
038	Waterhodes	2	POLY	102	Tone Wh.Solo	3	POLY
039	Wurlie	2	POLY	103	Drew's Bee	3	POLY
040	Curly Wurly	4	POLY	104	Split B	6	POLY
041	Wurli World	3	POLY	105	Velvet Organ	4	POLY
042	Super Trip	2	POLY	106	Verby Organ	2	POLY
043	Amped Wurlie	3	POLY	107	Happy 60s	2	POLY
044	Dirty Wurlie	4	POLY	108	96 Years	1	POLY
045	Wurly Gum	2	POLY	109	Boogie Organ	4	POLY
046	FM Delight	2	POLY	110	Glory Us Rok	2	POLY
047	Cold Roadz	4	POLY	111	SoapOpera x4	1	POLY
048	XV Crystal	4	POLY	112	Klubb Organ	4	POLY
049	Ring E.Piano	4	POLY	113	PercInterval	8	POLY
050	See-Thru EP	3	POLY	114	Distorted B	1	POLY
051	Innocent EP	2	POLY	115	Radikal B	1	POLY
052	EP+Mod Pad	4	POLY	116	Cathedral	4	POLY
053	WaterPiano2	3	POLY	117	Church Harmn	4	POLY
054	Swimming EP	8	POLY	118	Cathdr Harmn	5	POLY
055	Backrhodes	3	POLY	119	Wedding Mass	5	POLY
056	Cutter Clav	2	POLY	120	Harmonica XV	1	POLY
057	Comp Clav	1	POLY	121	Blues Harp	2	POLY
058	Mute Clav D6	3	POLY	122	Nylon Gtr	3	POLY
059	PhazeWahClav	6	POLY	123	Soft Nylon	4	POLY
060	Phase Clav	1	POLY	124	Nylozzicato	3	POLY
061	Psyche Clav	1	POLY	125	Mutezzicato	3	POLY
062	PieceOfCheez	2	POLY	126	Hybrid Nylon	3	POLY
063	Harpsy Clav	3	POLY	127	Steel Away	3	POLY
064	Dist Clav	1	POLY	128	Solo Steel	5	POLY

Voice: number of voice

Patch List

PR-B (Preset B Group)

No.	Name	Voice	Key Assign	No.	Name	Voice	Key Assign
001	Thick Steel	4	POLY	065	Slap Bass 1	1	POLY
002	XV SteelGt 1	4	POLY	066	Slap Bass 2	1	MONO
003	SteelRelease	4	POLY	067	Slap Bass 3	2	POLY
004	XV SteelGt 2	4	POLY	068	Stick Chopz	4	POLY
005	So nice!	8	POLY	069	4 Pole Bass	1	MONO
006	Steel&Nylon	8	POLY	070	Tick Bass	4	MONO
007	Comp'Steel	4	POLY	071	House Bass	3	MONO
008	Double Steel	8	POLY	072	101 Bass	2	MONO
009	Folk Guitar	4	POLY	073	Wonder Bass	3	MONO
010	SpanishNight	5	POLY	074	SinusoidRave	1	MONO
011	Classic Gtr	3	POLY	075	202 Rude Bs	2	MONO
012	DesertCrystl	4	POLY	076	Creamy Bass	2	MONO
013	DeepInPrayer	6	POLY	077	Buster Bass	2	MONO
014	Two+Ensemble	5	POLY	078	Thipper Bass	3	MONO
015	Harmless	2	POLY	079	Phatso Bass	3	MONO
016	Clear Guitar	3	POLY	080	Acid TB	1	MONO
017	Jz Gtr Hall	2	POLY	081	TB Squelch	2	POLY
018	JC Strat	2	POLY	082	Ticker Bass	4	MONO
019	Solo Strat	3	POLY	083	Muscle Bass	2	MONO
020	Plug n' Play	2	POLY	084	Grounded Bs	2	MONO
021	Wah Guitar	3	POLY	085	West End Bs	5	MONO
022	Trem Guitar	2	POLY	086	Snap Bass	2	MONO
023	Rotary Gtr	2	POLY	087	700 Bassboy	3	MONO
024	Fab 4 Guitar	4	POLY	088	8VCO MonoSyn	8	MONO
025	Syn Strat	3	POLY	089	ResoMoist Bs	4	MONO
026	SwitchOnMute	2	POLY	090	Kickin' Bass	2	MONO
027	LetterFrmPat	5	POLY	091	Sub Zero	4	MONO
028	StratSeq'nce	4	POLY	092	Liquid Bass	2	MONO
029	Swell Strat	1	POLY	093	Hefty Bass	2	MONO
030	Blusey OD	2	POLY	094	Severe Ow Bs	4	MONO
031	Searing Lead	3	MONO	095	Jupiter Bass	4	MONO
032	LouderPlease	3	POLY	096	Untamed Bass	3	MONO
033	Crying Solo	2	POLY	097	XV Strings	3	POLY
034	Southern Fry	2	POLY	098	St.Strings	2	POLY
035	Strum Distrt	2	POLY	099	BatonStrings	3	POLY
036	Match Drive	3	POLY	100	Fat Strings	3	POLY
037	Stacked	3	POLY	101	Dolce p/m/f	6	POLY
038	2-Stack Over	2	POLY	102	Sad Strings	6	POLY
039	COSM Searing	3	MONO	103	Lush Strings	4	POLY
040	COSM Loud Gt	3	POLY	104	Film Octaves	4	POLY
041	Plugged !!!	1	POLY	105	Strings4Film	6	POLY
042	Blue Mutes	2	POLY	106	Marcato	2	POLY
043	Metal 5150	3	POLY	107	Marcato Str	4	POLY
044	Crunch Phase	2	POLY	108	TremoloStrng	3	POLY
045	Alt Dist Gtr	2	POLY	109	End Titles	4	POLY
046	Hurtin'Tubes	3	POLY	110	Bass Pizz	4	POLY
047	Punker	2	POLY	111	ChamberQrt.1	4	POLY
048	XV Ac.Bass	4	POLY	112	ChamberQrt.2	4	POLY
049	XV Upright	1	POLY	113	Lead 4x Vlns	4	POLY
050	Ac.Upright	1	POLY	114	ChamberSect.	4	POLY
051	Fingerd Bass	1	POLY	115	FullChmbrStr	6	POLY
052	Stringless	4	POLY	116	Tape Strings	2	POLY
053	LookMaNoFret	3	MONO	117	JP-8 Str 1	3	POLY
054	XV Fretless	1	POLY	118	Jupiter 21	4	POLY
055	Basic F'less	1	MONO	119	Filt Strings	3	POLY
056	8-str F'less	2	POLY	120	HybStringsXV	4	POLY
057	Fretls Dry	1	POLY	121	UltraSmooth	2	POLY
058	Tap Bass	1	POLY	122	Hold A Chord	6	POLY
059	Pick Bass	1	POLY	123	Prelude	4	POLY
060	Pop Bass	1	POLY	124	ChamberPlyrs	4	POLY
061	P.Bs Chorus	4	MONO	125	TudorFanfare	4	POLY
062	TremCho Bs	2	POLY	126	Hornz	5	POLY
063	Punch Bass	1	MONO	127	Symphonique	7	POLY
064	COSM Bass	4	POLY	128	Wood Symphny	7	POLY

PR-C (Preset C Group)

No.	Name	Voice	Key Assign	No.	Name	Voice	Key Assign
001	Henry VIII	8	POLY	065	Retro Lead	2	MONO
002	Str&Brs Orch	7	POLY	066	LivingInSync	2	MONO
003	Soft Symphny	7	POLY	067	Leads United	4	MONO
004	Brassy Symph	4	POLY	068	Dirty Sync	2	MONO
005	My Orchestra	4	POLY	069	DistortaSync	1	MONO
006	HybOrchestra	8	POLY	070	Blistering	2	MONO
007	Swell Oboe	3	POLY	071	Guttural	8	MONO
008	Oboe mf	1	POLY	072	Powersoaker	4	MONO
009	Clarinet mp	1	POLY	073	Mean Thing	2	MONO
010	Flute/Clari	2	POLY	074	Jet Sync	2	MONO
011	Orch Reeds	3	POLY	075	Edye Boost	2	MONO
012	Wind Wood	4	POLY	076	JD Multi Ld	1	MONO
013	SwellEnsembl	4	POLY	077	Enchanted XV	3	MONO
014	Flute	2	POLY	078	Mini Lead	4	MONO
015	Jazzer Flute	2	POLY	079	Flyin' High	3	MONO
016	Dual Flutes	3	POLY	080	Soft Tooth	2	MONO
017	LegatoBamboo	4	MONO	081	Soaring Sqr	4	MONO
018	Ambience Flt	4	POLY	082	Soaring Sync	4	MONO
019	The Andes	1	POLY	083	Nasal Spray	2	MONO
020	Deja Vlute	4	MONO	084	Lamb Lead	2	MONO
021	Tooters Lead	3	POLY	085	Creamer	2	MONO
022	Air Lead	2	POLY	086	Sine System	4	MONO
023	Flutterys	3	POLY	087	WhistlinAtom	2	POLY
024	Brass Sect	5	POLY	088	Pure Pipe	2	POLY
025	Tight Brass	5	POLY	089	You and Luck	2	MONO
026	Simply Brass	2	POLY	090	LegatoJupitr	1	MONO
027	FullSt Brass	5	POLY	091	Atlantis	5	POLY
028	Dragnet	4	POLY	092	Jet Voxs	3	POLY
029	Biggie Brass	4	POLY	093	Dirty Hit	4	POLY
030	BiggieBrass2	5	POLY	094	MOVE!	6	MONO
031	NewR&RBrass	8	POLY	095	Reel Slam	4	POLY
032	Tower Trumps	5	POLY	096	OffTheRecord	4	POLY
033	BigBrassBand	5	POLY	097	Hit Bitz	4	POLY
034	Lil'BigHornz	6	POLY	098	80s LoFi Hit	4	POLY
035	VoyagerBrass	3	POLY	099	Impact	4	POLY
036	Wheel Brass	4	POLY	100	Backspinner	5	POLY
037	Symph Horns	3	POLY	101	Auto Chord	4	POLY
038	XV Trumpet	3	POLY	102	3rdTeenChord	4	POLY
039	Ballad Trump	4	POLY	103	Bend a Chord	4	POLY
040	XV Trombone	2	POLY	104	DiscreteChrd	4	POLY
041	Trombone Atm	3	POLY	105	2ndRateChord	4	MONO
042	Harmon Mute	1	POLY	106	House Chord	4	MONO
043	Poly Brass	3	POLY	107	MinorIncidnt	4	MONO
044	Rugby Horn	3	POLY	108	GenderBender	4	MONO
045	JupiterHorns	2	POLY	109	AM 05:59	4	MONO
046	3 Osc Brass	3	POLY	110	Chordbender	4	POLY
047	FatSynBrass	4	POLY	111	Phunky DC	2	MONO
048	T8 Brass	3	POLY	112	RageInYouth	3	POLY
049	True ANALOG	3	POLY	113	Agent X	7	POLY
050	Triumph Brs	3	POLY	114	Winky	8	POLY
051	P5 Polymod	2	POLY	115	Looney 2nz	8	POLY
052	Solo SoprSax	1	MONO	116	Shortrave	2	POLY
053	Ambient Sax	4	MONO	117	DeeperBeeper	2	MONO
054	Solo AltoSax	2	MONO	118	Sequalog	4	POLY
055	XV DynoTenor	3	POLY	119	Dance Zipper	4	MONO
056	Honker Bari	2	POLY	120	Technogrunge	3	POLY
057	Swingin'Bari	3	POLY	121	Percolator	4	POLY
058	Full Saxz	7	POLY	122	Civilization	3	POLY
059	LA Sax's	4	POLY	123	Filter Morph	4	POLY
060	Soaring Saws	6	MONO	124	Choir Bounce	4	POLY
061	Square Roots	2	MONO	125	Ambi Voices	8	POLY
062	BOG	3	MONO	126	Say Yeah !	2	POLY
063	Saw Grits	1	MONO	127	Vocovox Wave	1	MONO
064	Talking Box	3	MONO	128	Xcuse me	2	POLY

Voice: number of voice

PR-D (Preset D Group)

No.	Name	Voice	Key Assign	No.	Name	Voice	Key Assign
001	Froggy Bass	1	MONO	065	Slice & Dice	4	POLY
002	5ths in 4ths	4	POLY	066	BrushingSaw1	8	POLY
003	Pretty Ugly	2	POLY	067	BrushingSaw2	8	POLY
004	Con Sequence	2	POLY	068	Throbulax	2	POLY
005	BermudaShort	2	POLY	069	Cultivate	5	POLY
006	Saw n' 202	2	POLY	070	Soff Machine	4	POLY
007	Technoheadz	4	POLY	071	CrystalGlass	1	POLY
008	Boss'd Synth	4	MONO	072	RiversOfTime	4	POLY
009	Cross Fire	2	POLY	073	Glistening	4	POLY
010	Techno Cave	2	MONO	074	Shadows	5	POLY
011	Generator	4	MONO	075	Shapeshifter	4	POLY
012	Xtremities	4	MONO	076	Moon Rise	8	POLY
013	Auto TB-303	3	MONO	077	Atmospherics	4	POLY
014	Happy Brass	8	POLY	078	Runaway Rez	2	POLY
015	Tape Orch	4	POLY	079	Dropplets	4	POLY
016	Tekno Pizz	1	POLY	080	Indian Guru	4	POLY
017	Analog Seq	3	POLY	081	Cosmic Rain	1	POLY
018	Booster Bips	2	POLY	082	Trying Winds	3	POLY
019	Keep :-)	2	POLY	083	Space Whiz	2	POLY
020	Dist TB-303	2	MONO	084	ForestMoon	8	POLY
021	B'on d'moov!	3	POLY	085	Predator 2	8	POLY
022	Rippling	1	POLY	086	Dark Side	8	POLY
023	SteppingPhsr	3	POLY	087	The Beast	6	POLY
024	Trance Fair	8	MONO	088	X-mod Reso	1	POLY
025	TechnoSurf 1	2	POLY	089	Planet Meta	7	POLY
026	TechnoSurf 2	2	POLY	090	Nexus	8	POLY
027	GermanBounce	4	POLY	091	Halographix	2	POLY
028	TMT Scanner	4	POLY	092	Windy Dunes	4	POLY
029	Complex Echo	1	POLY	093	Ice Blasts	4	POLY
030	Double Helix	4	POLY	094	Ringy Thingy	8	MONO
031	Acid JaZZ	5	MONO	095	DigitalDrone	2	POLY
032	Cutter>ModWh	2	POLY	096	Space Race	1	POLY
033	Blades	4	POLY	097	Bowed Bell	2	POLY
034	Mad Bender	6	POLY	098	X-Tension	2	POLY
035	Mood Ringz	4	POLY	099	DUB!!!	4	POLY
036	Wedo-Wodo	4	POLY	100	Dream Diver	6	POLY
037	S.O.S.trings	4	POLY	101	Flashback	4	POLY
038	Syncronicity	4	POLY	102	St.LoFiNoise	2	POLY
039	Groovedigger	4	POLY	103	BPFsweep Mod	3	POLY
040	Alternative	2	MONO	104	Hydrogen	4	POLY
041	Raggatronic	4	POLY	105	Queen V	6	POLY
042	Flying Waltz	4	POLY	106	SkinnyBounce	2	POLY
043	DanceMachina	4	MONO	107	SquareBounce	3	POLY
044	Vox Chopper	4	POLY	108	Galactic	8	POLY
045	SlicingSyVox	2	POLY	109	Powerwiggle	3	POLY
046	Slice Girlz	4	POLY	110	80s Retrosyn	2	POLY
047	Voice Stream	4	POLY	111	Power Stack	3	POLY
048	Vortex	4	POLY	112	Cheepy Synth	2	POLY
049	man@work	4	MONO	113	Don't Jump	8	POLY
050	PressureDome	4	POLY	114	Big Bubbles	3	POLY
051	Quasar /Aft	4	POLY	115	X-mod Sweep	1	POLY
052	Ionizer	4	POLY	116	PhaseBlipper	2	POLY
053	Cyber Dreams	3	POLY	117	Glider	2	POLY
054	Strobe Mode	4	POLY	118	Bag O' Bones	6	POLY
055	Aftertouchin	4	POLY	119	Funky Tube	1	POLY
056	Rhythm Sync	1	POLY	120	AirSoThin	2	POLY
057	MilleniumStr	6	POLY	121	Poly Saws	4	POLY
058	Bounce Baby!	1	POLY	122	Analogical	4	POLY
059	Bounce Daddy	2	POLY	123	Waspy Pulse	2	POLY
060	Bounce Mama!	3	POLY	124	Digi Phased	4	POLY
061	Bounce Noize	2	POLY	125	Sweep Clav	3	POLY
062	Auto Riff	2	POLY	126	Synth Ethics	4	POLY
063	What a Gate!	7	MONO	127	Harm is Fine	3	POLY
064	Mini Sequenz	4	POLY	128	D-2000	4	POLY

PR-E (Preset E Group)

No.	Name	Voice	Key Assign	No.	Name	Voice	Key Assign
001	Ackward East	4	POLY	065	Ethereal Str	4	POLY
002	Promonade	3	POLY	066	Darkshine	4	POLY
003	Ray Tracer	2	POLY	067	Velcropad	4	POLY
004	Soaring Hrns	6	POLY	068	NothrnLights	4	POLY
005	SoaringHrns2	7	POLY	069	Sun Dive	7	POLY
006	Vintage Orch	4	POLY	070	Traffic Pad	4	POLY
007	Glass Orbit	3	POLY	071	Aliastrings	4	POLY
008	Down2Earth	7	POLY	072	On The Air	4	POLY
009	5th Atm /Aft	2	POLY	073	Brite Vox 1	4	POLY
010	Mod DirtyWav	3	POLY	074	Brite Vox 2	4	POLY
011	Lo-fiBellPad	4	POLY	075	Longing...	3	POLY
012	Apophis	4	POLY	076	Ooh)Aah Mod	4	POLY
013	Lo-fi Sweep	2	POLY	077	Vocals: Ooh	4	POLY
014	Modular Life	4	POLY	078	Vocals: Scat	6	POLY
015	Oscillations	4	POLY	079	Vocals: Boys	6	POLY
016	Vintage Pad	2	POLY	080	St. Choir	4	POLY
017	Combing	2	POLY	081	SampleThe80s	2	POLY
018	Dream 2001	3	POLY	082	Sacred Tree	2	POLY
019	Rolling 5ths	4	POLY	083	VP330 OctEko	2	POLY
020	Analogue Str	4	POLY	084	Whisper Vox	4	POLY
021	Lunar Strngs	4	POLY	085	Dark Vox	2	POLY
022	5080 Random	4	POLY	086	Spaced Voxx	4	POLY
023	XV Stepping	5	POLY	087	R-mod Vox	2	POLY
024	India Garden	6	POLY	088	Etheraaahl	2	POLY
025	FloatingVox	3	POLY	089	Andreas Cave	4	POLY
026	Heirborne	4	POLY	090	AmbiPizza	5	POLY
027	Wine Drops	4	POLY	091	Voxy Nylon	3	POLY
028	Belly Pad	3	POLY	092	EastrnEurope	3	POLY
029	Spectre	4	POLY	093	Far Eastern	2	POLY
030	Rainy Day	5	POLY	094	Pilgrimage	4	POLY
031	Morph Pad	8	POLY	095	Celtic Harp	2	POLY
032	Nanolog Pad	4	POLY	096	Harp On It	3	POLY
033	Air Pad	3	POLY	097	VelHarp)Harm	3	POLY
034	Sabbath Day	4	POLY	098	Reso Sitar	2	POLY
035	XV BlowPad	4	POLY	099	The Ganges	3	POLY
036	Soft Padding	2	POLY	100	Sitar	4	POLY
037	Warmth Pad	2	POLY	101	Dulcimer	2	POLY
038	Warmth	3	POLY	102	Dulcitar	4	POLY
039	Silky Way	2	POLY	103	MountainFolk	2	POLY
040	Soundtraque	2	POLY	104	Byzantine	4	POLY
041	Spread Pad	2	POLY	105	AsiaPlectrum	8	POLY
042	ClassicJPpad	2	POLY	106	Pluckaphone	4	POLY
043	Jupiter Str	2	POLY	107	Taj Mahal	2	POLY
044	Fat Pad	4	POLY	108	Sheep Dream	4	MONO
045	Cloud 9	5	POLY	109	Cairo lead	3	POLY
046	OvertoneScan	4	POLY	110	Lochscapes	2	POLY
047	GR700 Pad	3	POLY	111	Celtic Song	4	POLY
048	GlobalWarmup	4	POLY	112	Blown Str.	2	POLY
049	White Arcade	3	POLY	113	Brass Tubes	4	POLY
050	SquareDreams	4	POLY	114	Dreams East	3	POLY
051	Pulse Pad	4	POLY	115	Synergistic	2	POLY
052	JP-8Haunting	4	POLY	116	Slap Timps	4	POLY
053	Paradise	3	POLY	117	Rain Forest	4	POLY
054	Translucence	4	POLY	118	Upwind Glata	4	POLY
055	D'light	2	POLY	119	Aftermath	4	POLY
056	2.2 Strings	5	POLY	120	Tape Q	4	POLY
057	Moonchimes	3	POLY	121	Open End	2	POLY
058	SusPed Swap	4	POLY	122	TempoMadness	4	POLY
059	Dimensional	2	POLY	123	Gruvacious	5	POLY
060	E-Motion Pad	4	POLY	124	Thor's Drums	4	POLY
061	Octapad	3	POLY	125	Suite Combo	6	POLY
062	Gluey Pad	3	POLY	126	Lounge Gig	4	POLY
063	Borealis	4	POLY	127	Wedding Gig	4	POLY
064	PhasingPad	2	POLY	128	GenerationXV	4	POLY

Voice: number of voice

Patch List

GM (GM2 Group)

No.	Name	Voice	LSB	PC	No.	Name	Voice	LSB	PC	No.	Name	Voice	LSB	PC	No.	Name	Voice	LSB	PC
001	Piano 1	4	0	1	065	Chorus Gt.	2	1		129	French Horns	2	0	61	193	Sitar	1	0	105
002	Piano 1w	2	1		066	Mid Tone GTR	1	2		130	Fr.Horn 2	2	1		194	Sitar 2	2	1	
003	European Pf	1	2		067	Muted Gt.	1	0	29	131	Brass 1	3	0	62	195	Banjo	1	0	106
004	Piano 2	4	0	2	068	Funk Pop	1	1		132	Brass 2	2	1		196	Shamisen	1	0	107
005	Piano 2w	1	1		069	Funk Gt.2	2	2		133	Synth Brass1	2	0	63	197	Koto	2	0	108
006	Piano 3	1	0	3	070	Jazz Man	2	3		134	Pro Brass	2	1		198	Taisho Koto	1	1	
007	Piano 3w	1	1		071	Overdrive Gt	2	0	30	135	Oct SynBrass	2	2		199	Kalimba	1	0	109
008	Honky-tonk	2	0	4	072	Guitar Pinch	2	1		136	Jump Brass	3	3		200	Bagpipe	2	0	110
009	Honky-tonk 2	2	1		073	DistortionGt	2	0	31	137	Synth Brass2	2	0	64	201	Fiddle	1	0	111
010	E.Piano 1	2	0	5	074	Feedback Gt.	2	1		138	SynBrass sfz	2	1		202	Shanai	1	0	112
011	St.Soft EP	2	1		075	Dist Rtm GTR	2	2		139	Velo Brass 1	2	2		203	Tinkle Bell	3	0	113
012	FM+SA EP	2	2		076	Gt.Harmonics	1	0	32	140	Soprano Sax	1	0	65	204	Agogo	1	0	114
013	Wurly	2	3		077	Gt. Feedback	1	1		141	Alto Sax	1	0	66	205	Steel Drums	1	0	115
014	E.Piano 2	2	0	6	078	Acoustic Bs.	1	0	33	142	Tenor Sax	2	0	67	206	Woodblock	1	0	116
015	Detuned EP 2	2	1		079	Fingered Bs.	1	0	34	143	Baritone Sax	1	0	68	207	Castanets	1	1	
016	St.FM EP	2	2		080	Finger Slap	2	1		144	Oboe	2	0	69	208	Taiko	3	0	117
017	EP Legend	2	3		081	Picked Bass	1	0	35	145	English Horn	1	0	70	209	Concert BD	2	1	
018	EP Phase	2	4		082	Fretless Bs.	1	0	36	146	Bassoon	1	0	71	210	Melo. Tom 1	1	0	118
019	Harpsichord	1	0	7	083	Slap Bass 1	1	0	37	147	Clarinet	1	0	72	211	Melo. Tom 2	1	1	
020	Coupled Hps.	2	1		084	Slap Bass 2	2	0	38	148	Piccolo	1	0	73	212	Synth Drum	2	0	119
021	Harpsi.w	1	2		085	Synth Bass 1	1	0	39	149	Flute	1	0	74	213	808 Tom	2	1	
022	Harpsi.o	2	3		086	SynthBass101	1	1		150	Recorder	1	0	75	214	Elec Perc	1	2	
023	Clav.	1	0	8	087	Acid Bass	1	2		151	Pan Flute	1	0	76	215	Reverse Cym.	1	0	120
024	Pulse Clav	1	1		088	Clavi Bass	2	3		152	Bottle Blow	2	0	77	216	Gt.FretNoise	1	0	121
025	Celesta	1	0	9	089	Hammer	2	4		153	Shakuhachi	2	0	78	217	Gt.Cut Noise	1	1	
026	Glockenspiel	1	0	10	090	Synth Bass 2	2	0	40	154	Whistle	1	0	79	218	String Slap	1	2	
027	Music Box	1	0	11	091	Beef FM Bass	2	1		155	Ocarina	2	0	80	219	Breath Noise	1	0	122
028	Vibraphone	2	0	12	092	RubberBass 2	2	2		156	Square Wave	2	0	81	220	Fl.Key Click	1	1	
029	Vibraphone w	2	1		093	Attack Pulse	1	3		157	MG Square	1	1		221	Seashore	1	0	123
030	Marimba	1	0	13	094	Violin	1	0	41	158	2600 Sine	1	2		222	Rain	1	1	
031	Marimba w	1	1		095	Slow Violin	1	1		159	Saw Wave	2	0	82	223	Thunder	1	2	
032	Xylophone	1	0	14	096	Viola	1	0	42	160	OB2 Saw	1	1		224	Wind	1	3	
033	Tubular-bell	1	0	15	097	Cello	1	0	43	161	Doctor Solo	2	2		225	Stream	2	4	
034	Church Bell	1	1		098	Contrabass	1	0	44	162	Natural Lead	2	3		226	Bubble	2	5	
035	Carillon	1	2		099	Tremolo Str	1	0	45	163	SequencedSaw	2	4		227	Bird	2	0	124
036	Santur	1	0	16	100	PizzicatoStr	1	0	46	164	Syn.Calliope	2	0	83	228	Dog	1	1	
037	Organ 1	2	0	17	101	Harp	1	0	47	165	Chiffer Lead	2	0	84	229	Horse-Gallop	1	2	
038	Trem. Organ	2	1		102	Yang Qin	2	1		166	Charang	2	0	85	230	Bird 2	1	3	
039	60's Organ 1	1	2		103	Timpani	1	0	48	167	Wire Lead	2	1		231	Telephone 1	1	0	125
040	70's E.Organ	2	3		104	Strings	2	0	49	168	Solo Vox	2	0	86	232	Telephone 2	1	1	
041	Organ 2	2	0	18	105	Orchestra	3	1		169	5th Saw Wave	2	0	87	233	DoorCreaking	1	2	
042	Chorus Or.2	2	1		106	60s Strings	2	2		170	Bass & Lead	2	0	88	234	Door	1	3	
043	Perc. Organ	2	2		107	Slow Strings	1	0	50	171	Delayed Lead	2	1		235	Scratch	2	4	
044	Organ 3	2	0	19	108	Syn.Strings1	2	0	51	172	Fantasia	2	0	89	236	Wind Chimes	2	5	
045	Church Org.1	1	0	20	109	Syn.Strings3	2	1		173	Warm Pad	1	0	90	237	Helicopter	2	0	126
046	Church Org.2	2	1		110	Syn.Strings2	2	0	52	174	Sine Pad	2	1		238	Car-Engine	1	1	
047	Church Org.3	2	2		111	Choir Aahs	2	0	53	175	Polysynth	2	0	91	239	Car-Stop	1	2	
048	Reed Organ	1	0	21	112	Chorus Aahs	2	1		176	Space Voice	2	0	92	240	Car-Pass	1	3	
049	Puff Organ	2	1		113	Voice Oohs	1	0	54	177	Itopia	2	1		241	Car-Crash	2	4	
050	Accordion Fr	2	0	22	114	Humming	2	1		178	Bowed Glass	3	0	93	242	Siren	1	5	
051	Accordion It	2	1		115	SynVox	1	0	55	179	Metal Pad	3	0	94	243	Train	1	6	
052	Harmonica	1	0	23	116	Analog Voice	1	1		180	Halo Pad	2	0	95	244	Jetplane	2	7	
053	Bandoneon	2	0	24	117	OrchestraHit	2	0	56	181	Sweep Pad	1	0	96	245	Starship	2	8	
054	Nylon-str.Gt	1	0	25	118	Bass Hit	2	1		182	Ice Rain	2	0	97	246	Burst Noise	2	9	
055	Ukulele	1	1		119	6th Hit	2	2		183	Soundtrack	2	0	98	247	Applause	2	0	127
056	Nylon Gt.o	2	2		120	Euro Hit	2	3		184	Crystal	2	0	99	248	Laughing	1	1	
057	Nylon Gt.2	2	3		121	Trumpet	1	0	57	185	Syn Mallet	1	1		249	Screaming	1	2	
058	Steel-str.Gt	1	0	26	122	Dark Trumpet	1	1		186	Atmosphere	2	0	100	250	Punch	1	3	
059	12-str.Gt	2	1		123	Trombone	1	0	58	187	Brightness	2	0	101	251	Heart Beat	1	4	
060	Mandolin	2	2		124	Trombone 2	1	1		188	Goblin	2	0	102	252	Footsteps	1	5	
061	Steel + Body	2	3		125	Bright Tb	1	2		189	Echo Drops	1	0	103	253	Gun Shot	1	0	128
062	Jazz Gt.	1	0	27	126	Tuba	1	0	59	190	Echo Bell	2	1		254	Machine Gun	1	1	
063	Pedal Steel	1	1		127	MutedTrumpet	1	0	60	191	Echo Pan	2	2		255	Lasergun	1	2	
064	Clean Gt.	1	0	28	128	MuteTrumpet2	1	1		192	Star Theme	2	0	104	256	Explosion	2	3	

Voice: number of voice LSB: Bank Select LSB, MSB is all 121 PC: Program Change Number Key Assign: all POLY

Rhythm Set List

PRST (Preset Group)

Note No.	001 R&B Kit 1	002 R&B Kit 2	003 House Kit	004 Techno Kit	005 XV Pop Kit	006 Pop Kit 2
28	Dance Kick	Dance Kick	House Kick 6	TechnoKick 6	Dance Kick	Dance Kick
29	Dry Kick	Dry Kick	House Kick 5	TechnoKick 5	Dry Kick	Dry Kick
30	R&B1 SN Roll	R&B2 SN Roll	House ClHH 3	Techno ClHH	Rock Roll	Rock Roll
31	Hybrid Kick	R&B 2 909Kik	House Kick 4	TechnoKick 4	Hybrid Kick	Hybrid Kick
32	R&B1 SN Ghst	R&B2 SN Ghst	Reso Stick	Techno ClHH	Snare Ghost	Snare Ghost
33	Round Kick	R&B 2 909Kik	House Kick 3	TechnoKick 3	Round Kick	Round Kick
34	R&B 1 PdHH	R&B 2 PdHH	House OpHH 2	Techno ClHH	Rock PdHH	Pop 2 PdHH
35	R&B 1 Kick 2	R&B 2 Kick	House Kick 2	TechnoKick 2	Hybrid Kick2	70s RocKick
C2 36	R&B 1 Kick 1	Dance Kick	House Kick 1	TechnoKick 1	Old Kick	Pop 2 Kick
37	R&B 1 Stick	R&B 2 Stick	House Stick	TechnoStick	Side Stick	Side Stick
38	R&B 1 SN 1	R&B SN 1	House SN 1	TechnoSN 1	Wet SN	70s Pic SN
39	Snare Ghost	R&B SN 2	House Claps	TechnoSNGhst	Snare Ghost	Pop2 SNGst
40	R&B 1 SN 2	R&B SN 3	House SN 2	TechnoSN 2	AmbientSN	3v Dry SN
41	R&B 1 Tom L	R&B 2 Tom L	House NzTomL	TechnoTom1 L	Maple Tom L	Pop 2 Tom L
42	R&B 1 ClHH 1	R&B 2 ClHH 1	House ClHH 1	TechnoClHH 1	Rock ClHH 1	Pop 2 ClHH1
43	Rock Flm L	808 Tom L	808 Tom L	TechnoTom2 L	Rock Flm L	Rock Flm L
44	R&B 1 ClHH 2	R&B 2 ClHH 2	House ClHH 2	TechnoClHH 2	Rock ClHH 2	Pop 2 ClHH2
45	R&B 1 Tom M	R&B 2 Tom M	House NzTomM	TechnoTom1 M	Maple Tom M	Pop 2 Tom M
46	R&B 1 OpHH	R&B 2 OpHH	House OpHH	TechnoOpHH	Rock OpHH	Pop 2 OpHH
47	Rock Flm M	808 Tom M	808 Tom M	TechnoTom2 M	Rock Flm M	Rock Flm M
C3 48	R&B 1 Tom H	R&B 2 Tom H	House NzTomH	TechnoTom1 H	Maple Tom H	Pop 2 Tom H
49	R&B 1 CrCym1	R&B 2 CrCym	House CrCym	TechnoCrCym	Crash Cymbal	Pop 2 CrCym
50	Rock Flm H	808 Tom H	808 Tom H	TechnoTom2 H	Rock Flm H	Rock Flm H
51	Rock RdCym1	R&B 2 RdCym	House FbkCym	TechnoCym	Rock RdCym1	Rock RdCym1
52	R&B 1 CrCym2	R&B 2 China	House SN 3	TechnoRvSNRl	Crash 1	Crash 1
53	Rock RdCym2	Ride Bell	House FSnaps	MC500 Beep	Rock RdCym2	Rock RdCym2
54	Tambourine 1	Tambourine 1	House ClHH 4	TechnoBrSlap	Tambourine 2	Tambourine 2
55	Rock CrCym2	R&B 2 Prc	House Cowbel	TechnoNzStik	Rock CrCym2	Pop 2 China
56	Cowbell Lo	Cowbell	House ClHH 5	TechnoClHH6	Cowbell Lo	Cowbell Lo
57	Crash 1	R&B 2 CrCym2	House WBlock	TechnoSNRoll	Crash 1	Crash 1
58	Cowbell Hi	Vibraslap	House OpHH 3	TechnoRvJzRl	Cowbell Hi	Cowbell Hi
59	Ride Bell	R&B 2 RdCym	House Claps2	TechnoSiren	Ride Bell	Ride Bell
C4 60	Bongo Hi	Bongo Hi	House Cabasa	TechnoLoop 3	Cga Mute Hi	Cga Mute Hi
61	Bongo Lo	Bongo Lo	House WCrak	TechnoLoNz	Cga Mute Lo	Cga Mute Lo
62	Cga Mute Hi	Cga Mute Hi	House VoxNz	TechnoRdCym	Cga Slap	Cga Slap
63	Cga Open Hi	Cga Open Hi	House Kick 7	TechnoCowbel	Cga Open Hi	Cga Open Hi
64	Cga Open Lo	Cga Open Lo	Timp 3	TechnoTel 1	Cga Open Lo	Cga Open Lo
65	Timbale Hi	Timbale Hi	House Bird	TechnoTimpni	Timbale Hi	Timbale Hi
66	Timbale Lo	Timbale Lo	House Gun	TehcnoClHH 7	Timbale Lo	Timbale Lo
67	R&B 1 AgBel1	R&B 2 AgBel1	House FBell	TechnoRvOHit	AgogoBellsHi	AgogoBellsHi
68	R&B 1 AgBel2	R&B 2 AgBel2	House Rattle	TechnoRvTHit	AgogoBellsLo	AgogoBellsLo
69	R&B 1 AgBel3	R&B 2 AgBel3	House RvOHit	TechnoRvBHt1	Cabasa Up	Cabasa Up
70	Maracas	Maracas	House Noize1	TechnoRvBHt2	Maracas	Maracas
71	606 Cl HiHat	606 Cl HiHat	House Noize2	TechnoWBlock	ShortWhistle	ShortWhistle
C5 72	606 Cl HiHat	606 Cl HiHat	House BongoL	TechnoKick 7	Long Whistle	Long Whistle
73	606 Op HiHat	606 Op HiHat	House BongoH	TechnoClHH8	Short Guiro	Short Guiro
74	Long Guiro	Long Guiro	House Tambrn	TechnoRim 1	Long Guiro	Long Guiro
75	Claves	Claves	House Heart	TechnoRim 2	Claves	Claves
76	Wood BlockHi	Wood BlockHi	House CgaSlp	TechnoBrRoll	WoodBlock Hi	WoodBlock Hi
77	Wood BlockLo	Wood BlockLO	House CgMute	TehcnoIcRain	WoodBlock Lo	WoodBlock Lo
78	R&B 1 Pizz	R&B 2 Pizz	House Tri	TechnoThrill	Mute Cuica	Mute Cuica
79	R&B 1 Gmlan1	R&B 2 Gmlan1	House Vibra	TechnoSN 3	Open Cuica	Open Cuica
80	R&B 1 Gmlan2	R&B 2 Gmlan2	House FXLoop	TechnoWCrak	Mute Triangl	Mute Triangl
81	R&B 1 BtlHit	R&B 2 BtlHit	House Aplase	TechnoScrach	Open Triangl	Open Triangl
82	R&B 1 ThrilL	R&B 2 ThrilL	House Chord	TechnoBNz	Cabasa Cut	Cabasa Cut
83	R&B 1 ThrilH	R&B 2 ThrilH	House OrcHit	TechnoSN 4	Spectrum	Spectrum
C6 84	808 SN	808 SN 1	House Spectr	TechnoPunch	Wind Chimes	Wind Chimes
85	R&B 1 WdBlk	808 SN 2	House Train	TehcnoPlink	Wood Block	Wood Block
86	R&B 1 CgSlap	808 SN 3	House StrSip	TechnoRvRoll	Mute Surdo	Mute Surdo
87	Dry Tom L	R&B 2 HClaps	House Crunch	TechnoOSC	Open Surdo	Open Surdo
88	Lite Kick	R&B 2 VBreth	House Tel2	TechnoNz 1	Lite Kick	Lite Kick
89	Hybrid Kick2	Scratch 3	House Bubble	TechnoTkHit	Hybrid Kick2	Hybrid Kick2
90	Old Kick	Tin Wave	Bird	TechnoBubble	Old Kick	Old Kick
91	Pop Voice	R&B 2 CrCym3	House Gun 2	TechnoNz 2	Pop Voice	Pop Voice
92	Wind Agogo	R&B 2 RdBell	House Metro	TechnoNz 3	Wind Agogo	Wind Agogo
93	R&B 1 OpHH	REV Tin Wave	House BakHit	TechnoNz 4	Op HiHat 2	Op HiHat 2
94	Anklungs	DIGI Bell 1	House TekHit	TechnoPwChrd	Anklungs	Anklungs
95	R&B 1 OpHH	Metal Wind	House SNRoll	TechnoBckHit	Op HiHat 2	Op HiHat 2
C7 96	Metronome 2	Applause	House Loop	TechnoNz 5	Metronome 2	Metronome 2
97	R8 Click	R8 Click	R8 Click	R8 Click	R8 Click	R8 Click
98	Metronome 1	Metronome 1	Metronome 1	TechnoNz 6	Metronome 1	Metronome 1
99	R&B 1 HClaps	R&B 1 HClaps	Hand Claps	TechnoNz 7	Hand Claps	Hand Claps
100	R&B 1 CrCym1	Cowbell	House Tom2 L	TechnoKick 7	Rock CrCym2	Pop 2 CrCym
101	Rock RdCym2	Ride Bell	House Tom2 M	TechnoKick 8	Rock RdCym2	Rock RdCym2
102	Tambourine 1	Tambourine 1	House Rim	TechnoSN 4	Cowbell Lo	Cowbell Lo
103	Rock CrCym2	R&B 2 CrCym	House Tom2 H	TechnoClHH 9	Crash 1	Crash 1

Rhythm Set List

PRST (Preset Group)

Note No.	007 XV Rock Kit	008 Rock Kit 2	009 XV Jazz Kit	010 Jazz Kit 2	011 XV Bully Kit	012 Bully Kit 2
28	Dance Kick	Dance Kick	JazzDry Kick	JazzDry Kick	Bully 808K	Bully2 Kick4
29	Round Kick	Dry Kick	Pillow Kick	Pillow Kick	Bully Kick 3	Bully2 Kick3
30	Rock Roll	Rock Roll	Jazz Swish	Jazz Swish	Bully Roll	Bully2 Roll
31	Jazz Kick	Hybrid Kick	Hybrid Kick2	Hybrid Kick2	Bully Kick 2	Bully2 Kick2
32	Rock Gst	Snare Ghost	Snare Ghost	Snare Ghost	Bully BrSlap	Bully2BrSlap
33	Verb Kick	Round Kick	MplLmtr Kick	MplLmtr Kick	Bully Kick 1	Bully2 Kick1
34	Rock PdHH	Rock 2 PdHH	Jazz PdHH	Jazz PdHH	Bully PdHH	Bully2 PdHH
35	Maple Kick	Rock 2 Kick	JazzDry Kick	JazzDry Kick	Bully 909K1	Bully2 909K1
C2 36	Rock Kick	PunchKick	Jazz Kick	Jazz 2 Kick	Bully 909K2	Bully2 909K2
37	RockStick	WoodyStick	Dry Stick 2	SideStick	Bully Stick	Bully2 Stick
38	Rock SN 1	Rock 2 SN 1	Jazz SN 1	Jz SN w/Ghst	Bully 909SN	Bully2 909SN
39	Rock Gst	Rock Gst	Snare Ghost	Jazz SN Ghst	Bully 808Clp	Bully2808Clp
40	Rock SN 2	Rock 2 SN 2	Jazz SN 2	Jz SN w/Rim	Bully 808SN	Bully2 808SN
41	Rock Tom L	Rock 2 Tom L	Jazz Tom L	Jazz 2 Tom L	Bully Tom L2	Bully2 TomL2
42	Rock ClHH 1	Rock 2 ClHH1	Jazz ClHH1	Jazz Pedel	Bully ClHH 1	Bully2 ClHH1
43	Rock Flm L	Rock 2 Flm L	Jazz Flm L	Jazz 2 Flm L	Bully Tom L1	Bully2 TomL1
44	Rock ClHH 2	Rock 2 ClHH2	Jazz ClHH2	Jazz 2 ClHH	Bully ClHH 2	Bully2 ClHH2
45	Rock Tom M	Rock 2 Tom M	Jazz Tom M	Jazz 2 Tom M	Bully Tom M	Bully2 Tom M
46	Rock OpHH	Rock 2 OpHH	Jazz OpHH	Jazz 2 OpHH	Bully OpHH	Bully2 OpHH
47	Rock Flm M	Rock 2 Flm M	Jazz Flm M	Jazz 2 Flm M	Bully Tom M	Bully2 Tom M
C3 48	Rock Tom H	Rock 2 Tom H	Jazz Tom H	Jazz 2 Tom H	Bully Tom H	Bully2 Tom H
49	Rock CrCym1	Rock 2 CrCym	Jazz CrCym	Jazz 2 CrCym	Crash	Crash
50	Rock Flm H	Rock 2 Flm H	Jazz Flm H	Jazz 2 Flm H	Bully Tom H	Bully2 Tom H
51	Rock RdCym1	Rock RdCym1	Jazz RdCym	Jazz 2 RdCym	Ride	Ride
52	Rock China	Crash 1	Rock RdCym1	Rock RdCym1	China Cym	China Cym
53	Rock RdCym2	Bell Ride	Rock RdCym2	Rock RdCym2	Ride Bell	Ride Bell
54	Tambourine 2	Tambourine 1	Tambourine 1	Tambourine 1	Tambourine	Tambourine
55	Rock CrCym2	Rock 2 CrCy2	Crash 1	Crash 1	Crash	Crash
56	Cowbell Lo	Cowbell Lo	Cowbell Lo	Cowbell Lo	Cowbell 1	Cowbell 1
57	Crash 1	Crash 1	Crash 2	Crash 2	Nz Cymbal	Nz Cymbal
58	Cowbell Hi	Cowbell Hi	Cowbell Hi	Cowbell Hi	Cowbell 2	Cowbell 2
59	Ride Bell	Ride Bell	Ride Bell	Ride Bell	Rock RdCym	Rock RdCym
C4 60	Cga Mute Hi	Cga Mute Hi	Cga Mute Hi	Cga Mute Hi	LoFi Cga MtH	LoFi Cga MtH
61	Cga Mute Lo	Cga Mute Lo	Cga Mute Lo	Cga Mute Lo	LoFi Cga MtL	LoFi Cga MtL
62	Cga Slap	Cga Slap	Cga Slap	Cga Slap	LoFi Cga Slp	LoFi Cga Slp
63	Cga Open Hi	Cga Open Hi	Cga Open Hi	Cga Open Hi	LoFi Cga OpH	LoFi Cga OpH
64	Cga Open Lo	Cga Open Lo	Cga Open Lo	Cga Open Lo	LoFi Cga OpL	LoFi Cga OpL
65	Timbale Hi	Timbale Hi	Timbale Hi	Timbale Hi	Timbale Hi	Timbale Hi
66	Timbale Lo	Timbale Lo	Timbale Lo	Timbale Lo	Timbale Lo	Timbale Lo
67	AgogoBellsHi	AgogoBellsHi	AgogoBellsHi	AgogoBellsHi	AgogoBell Hi	AgogoBell Hi
68	AgogoBellsLo	AgogoBellsLo	AgogoBellsLo	AgogoBellsLo	AgogoBell Lo	AgogoBell Lo
69	Cabasa Up	Cabasa Up	Cabasa Up	Cabasa Up	Cabasa Up	Cabasa Up
70	Maracas	Maracas	Maracas	Maracas	Maracas	Maracas
71	ShortWhistle	ShortWhistle	ShortWhistle	ShortWhistle	Noise Stop	Noise Stop
C5 72	Long Whistle	Long Whistle	Long Whistle	Long Whistle	Noise Open	Noise Open
73	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Rattles Stop	Rattles Stop
74	Long Guiro	Long Guiro	Long Guiro	Long Guiro	Rattles	Rattles
75	Claves	Claves	Claves	Claves	Claves	Claves
76	WoodBlock Hi	WoodBlock Hi	WoodBlock Hi	WoodBlock Hi	StrikePole	StrikePole
77	WoodBlock Lo	WoodBlock Lo	WoodBlock Lo	WoodBlock Lo	GtrBody Hit	GtrBody Hit
78	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	LoFi Cuica 1	LoFi Cuica 1
79	Open Cuica	Open Cuica	Open Cuica	Open Cuica	LoFi Cuica 2	LoFi Cuica 2
80	Mute Triangl	Mute Triangl	Mute Triangl	Mute Triangl	Mute Triangl	Mute Triangl
81	Open Triangl	Open Triangl	Open Triangl	Open Triangl	Open Triangl	Open Triangl
82	Cabasa Cut	Cabasa Cut	Cabasa Cut	Cabasa Cut	Cabasa Cut	Cabasa Cut
83	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum	Spectrum
C6 84	Wind Chimes	Wind Chimes	Wind Chimes	Wind Chimes	Wind Chimes	Wind Chimes
85	Wood Block	Wood Block	Wood Block	Wood Block	Steps	Steps
86	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	GtrString Nz	GtrString Nz
87	Open Surdo	Open Surdo	Open Surdo	Open Surdo	BreathNoise	BreathNoise
88	Lite Kick	Lite Kick	Lite Kick	Lite Kick	REV 909 Kick	REV 909 Kick
89	Hybrid Kick2	Hybrid Kick2	Hybrid Kick2	Hybrid Kick2	REV 909 Snr	REV 909 Snr
90	Old Kick	Old Kick	Old Kick	Old Kick	Pitch Wind	Pitch Wind
91	Pop Voice	Pop Voice	Pop Voice	Pop Voice	Oohs Chord L	Oohs Chord L
92	Wind Agogo	Wind Agogo	Wind Agogo	Wind Agogo	Metal Wind	Metal Wind
93	Op HiHat 2	Op HiHat 2	Op HiHat 2	Op HiHat 2	909 Op HiHat	909 Op HiHat
94	Anklungs	Anklungs	Anklungs	Anklungs	SlowAnklungs	SlowAnklungs
95	Op HiHat 2	Op HiHat 2	Op HiHat 2	Op HiHat 2	Block	Block
C7 96	Metronome 2	Metronome 2	Metronome 2	Metronome 2	Metronome 2	Metronome 2
97	R8 Click	R8 Click	R8 Click	R8 Click	R8 Click	R8 Click
98	Metronome 1	Metronome 1	Metronome 1	Metronome 1	Metronome 1	Metronome 1
99	Hand Claps	Hand Claps	Hand Claps	Hand Claps	Hand Claps	Hand Claps
100	Rock CrCym1	Rock 2 CrCym	Crash 2	Jazz 2 CrCym	Noise Open	Crash
101	Rock China	Crash 1	Jazz CrCym	Crash 2	GtrString Nz	Ride Bell
102	Rock RdCym2	Bell Ride	Rock RdCym1	Rock RdCym2	BreathNoise	Tambourine
103	Crash 1	Crash 1	Crash 1	Crash 1	Crash	Crash

PRST (Preset Group)

Note No.	013 XV Rust Kit	014 Rust Kit 2	015 XV WayHipKit	016 OrchestraKit
28	70s Kick 2	70s Kick 2	WHip 808K	Old Kick
29	Old Kick	Old Kick	WHip DryK	Round Kick
30	Rock Roll	Rock Gst	WHip Sweep	SN Roll
31	909 Kick 2	909 Kick 2	Noisy Kick	Jazz Kick
32	Rock Gst	Rock Gst	WHip RimShot	Snare Ghost
33	909 Kick 1	909 Kick 1	WHip HybridK	Verb Kick
34	Rock PdHH	Vibraslap	WHip PdHH	Pedal HiHat
35	808Kick long	808Kick Long	WHip OldKick	Concert BD 2
C2 36	Dance Kick 1	Rust 2 Kick1	WHip 909Kick	Concert BD
37	RockStick	Dry Stick	WHip Stik	Side Stick
38	Old Fill SN	Old Fill SN	WHip 70s Snr	Concert SN
39	Rock Gst	808 Claps	WHip Clap	Snare Ghost
40	Rock SN	808 SN	WHip Snare	Snare Roll
41	Elec.Tom L2	Elec.Tom L2	SciHip Tom L	Timpani
42	Rock ClHH1	Rock ClHH1	WHip ClHH 1	Timpani
43	Elec.Tom L1	Elec.Tom L1	WHip Tom L	Timpani
44	Rock ClHH2	Rock ClHH2	WHip ClHH 2	Timpani
45	Elec.Tom M	Elec.Tom M	SciHip Tom M	Timpani
46	Rock OpHH	Rock OpHH	WHip Op HH	Timpani
47	Elec.Tom M	Elec.Tom M	WHip Tom M	Timpani
C3 48	Elec.Tom H	Elec.Tom H	SciHip Tom H	Timpani
49	Rock CrCym1	Rock CrCym1	Crash Cymbal	Timpani
50	Elec.Tom H	Elec.Tom H	WHip Tom H	Timpani
51	Rock RdCym1	Rock RdCym1	Rock RdCym 1	Timpani
52	Rock CrCym2	Rock CrCym2	Rock CrCym 1	Timpani
53	Rock RdCym2	Rock RdCym2	Rock RdCym 2	Timpani
54	Tambourine 1	Tambourine 1	Tambourine	Tambourine 1
55	Rock Splash	Rock Splash	Rock CrCym 2	Crash 1
56	Cowbell	Cowbell	LoFiCowbell1	Cowbell
57	China Cym	China Cym	Crash	Crash 1
58	Vibraslap	Vibraslap	LoFiCowbell2	Ride 1
59	70s Kick 2	Rust 2 Kick2	Ride Bell	Ride 2
C4 60	70s Kick 1	Rust 2 Kick3	WHipCgaMtHi	Bongo Hi
61	Dry Stick	RockStick	WHipCgaMtLo	Bongo Lo
62	70s SN	Rust 2 SN	LoFi Cga Slp	Cga Mute Hi
63	Finger Snaps	Finger Snaps	LoFi Cga Hi	Cga Open Hi
64	HumanClapsEQ	Rust 2 Claps	LoFi Cga Lo	Cga Open Lo
65	JD Cowbell	JD Cowbell	El.TimbaleHi	Timbale
66	70s Cl HiHat	Rock ClHH1	El.TimbaleLo	Timbale
67	AgogoBells	Rust 2 Agogo	El.Agogo Hi	AgogoBells
68	70s Cl HiHat	Rock ClHH1	El.Agogo Lo	AgogoBells
69	909 NZ HiHat	909 NZ HiHat	NoisyCabasa1	Cabasa Up
70	70s Op HiHat	Rock OpHH	Nz Blip	Maracas
71	Cabasa Up	Cabasa Up	Digi Pulse 1	ShortWhistle
C5 72	Long Whistle	Long Whistle	Digi Pulse 2	Long Whistle
73	REV RkOpHH f	REV RkOpHH f	LoFi Guiro	Short Guiro
74	Tambourine 2	Tambourine 2	WHip Noise 1	Long Guiro
75	REV JzOpHH f	REV JzOpHH f	WHip Noise 2	Claves
76	Scratch 2	Scratch 2	WHip Noise 3	Wood Block
77	Mute Triangl	Mute Triangl	WHip Noise 4	Wood Block
78	909 Cl HiHat	909 Cl HiHat	Digi Tamb. 1	Cuica
79	Open Triangl	Open Triangl	Digi Tamb. 2	Cuica
80	909 Cl HiHat	909 Cl HiHat	Mute Triangl	Mute Triangl
81	Cabasa	Cabasa	Open Triangl	Open Triangl
82	909 Op HiHat	909 Op HiHat	NoisyCabasa2	Cabasa Cut
83	Spectrum	Spectrum	Nz Spectrum	Spectrum
C6 84	Maple Kick	Maple Kick	LoFi Block	Wind Chimes
85	Woody Stick	Woody Stick	Rattle Block	Wood Block
86	Maple SN	Maple SN	Steps	Cga Slap
87	SN Roll	SN Roll	WHip Noise 5	Dry Tom Lo
88	Maple Tom 3	Maple Tom 3	WHip Creak	Applause
89	909 Kick 1	909 Kick 1	WHip Bubble	Hybrid Kick2
90	Old Kick	Old Kick	WHip DoorSlm	Cl HiHat 4
91	808Kick Shrt	808Kick Shrt	Sci Punch	Round Kick
92	909 SN 2	909 SN 2	Noise Fall	Pedal HiHat2
93	909 SN 1	909 SN 1	WHip Noise 6	Natural SN2
94	808 SN	808 SN	WHip Noise 7	Op HiHat 2
95	Dance Kick 2	Dance Kick	WHip OrgClik	Brush Slap
C7 96	REV Timp3	REV Timp3	Metronome 2	Brush Swish
97	R8 Click	R8 Click	R8 Click	Brush Roll
98	Metronome 2	Metronome 2	Metronome 1	SN Roll
99	808 Claps	808 Claps	Hand Claps	Orch Cymbal
100	Rock CrCym2	Spectrum	WHip Noise 5	Cabasa Cut
101	Rock Splash	Rock Splash	Digi Pulse 1	Claves
102	Rock RdCym2	Rock RdCym2	WHip Noise 4	Mute Triangl
103	Rock CrCym1	Rock CrCym1	Nz Spectrum	Open Triangl

Rhythm Set List

GM (GM2 Group)

Note No.	001 (PC: 1) GM2 STANDARD	002 (PC: 9) GM2 ROOM	003 (PC: 17) GM2 POWER	004 (PC: 25) GM2 ELECTRIC	005 (PC: 26) GM2 ANALOG	006 (PC: 33) GM2 JAZZ
27	High-Q	High-Q	High-Q	High-Q	High-Q	High-Q
28	Slap	Slap	Slap	Slap	Slap	Slap
29	ScratchPush	ScratchPush	ScratchPush	ScratchPush	ScratchPush	ScratchPush
30	ScratchPull	ScratchPull	ScratchPull	ScratchPull	ScratchPull	ScratchPull
31	Sticks	Sticks	Sticks	Sticks	Sticks	Sticks
32	SquareClick	SquareClick	SquareClick	SquareClick	SquareClick	SquareClick
33	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click	Mtrnm.Click
34	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell	Mtrnm. Bell
35	Mix Kick	Mix Kick	Mix Kick	Mix Kick	Mix Kick	Jazz Kick 2
C2 36	Standard KK1	Standard KK1	Power Kick1	Elec Kick 1	TR-808 Kick	Jazz Kick 1
37	Side Stick	Side Stick	Side Stick	Side Stick	808 Rimshot	Side Stick
38	Standard SN1	Standard SN1	Dance Snare1	Elec. Snare	808 Snare 1	Standard SN1
39	909 HandClap	909 HandClap	909 HandClap	909 HandClap	909 HandClap	909 HandClap
40	Elec Snare 3	Elec Snare 3	Elec Snare 3	Elec Snare 2	Elec Snare 3	Elec Snare 3
41	Real Tom 6	Room Tom 5	Rock Tom 4	Synth Drum 2	808 Tom 2	Real Tom 6
42	Close HiHat2	Close HiHat2	Close HiHat2	Close HiHat2	TR-808 CHH	Close HiHat2
43	Real Tom 6	Room Tom 5	Rock Tom 4	Synth Drum 2	808 Tom 2	Real Tom 6
44	Pedal HiHat2	Pedal HiHat2	Pedal HiHat2	Pedal HiHat2	808__chh	Pedal HiHat2
45	Real Tom 4	Room Tom 2	Rock Tom 4	Synth Drum 2	808 Tom 2	Real Tom 4
46	Open HiHat2	Open HiHat2	Open HiHat2	Open HiHat2	TR-808 OHH	Open HiHat2
47	Real Tom 4	Room Tom 2	Rock Tom 4	Synth Drum 2	808 Tom 2	Real Tom 4
C3 48	Real Tom 1	Room Tom 2	Rock Tom 1	Synth Drum 2	808 Tom 2	Real Tom 1
49	Crash Cym.1	Crash Cym.1	Crash Cym.1	Crash Cym.1	808 Crash	Crash Cym.1
50	Real Tom 1	Room Tom 2	Rock Tom 1	Synth Drum 2	808 Tom 2	Real Tom 1
51	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal
52	ChinaCymbal	ChinaCymbal	ChinaCymbal	ReverseCymbl	ChinaCymbal	ChinaCymbal
53	Ride Bell	Ride Bell	Ride Bell	Ride Bell	Ride Bell	Ride Bell
54	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine
55	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.	Splash Cym.
56	Cowbell	Cowbell	Cowbell	Cowbell	808cowbe	Cowbell
57	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2	Crash Cym.2
58	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap	Vibraslap
59	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal	Ride Cymbal
C4 60	Bongo High	Bongo High	Bongo High	Bongo High	Bongo High	Bongo High
61	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo	Bongo Lo
62	Mute H.Conga	Mute H.Conga	Mute H.Conga	Mute H.Conga	808 Conga	Mute H.Conga
63	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	Conga Hi Opn	808 Conga	Conga Hi Opn
64	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	Conga Lo Opn	808 Conga	Conga Lo Opn
65	High Timbale	High Timbale	High Timbale	High Timbale	High Timbale	High Timbale
66	Low Timbale	Low Timbale	Low Timbale	Low Timbale	Low Timbale	Low Timbale
67	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
68	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
69	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa	Cabasa
70	Maracas	Maracas	Maracas	Maracas	808marac	Maracas
71	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle	ShrtWhistle
C5 72	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle	LongWhistle
73	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Short Guiro	Short Guiro
74	Long Guiro	Long Guiro	Long Guiro	Long Guiro	Long Guiro	Long Guiro
75	Claves	Claves	Claves	Claves	808clave	Claves
76	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock
77	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock	Woodblock
78	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica	Mute Cuica
79	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica	Open Cuica
80	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl	MuteTriangl
81	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl	OpenTriangl
82	Shaker	Shaker	Shaker	Shaker	Shaker	Shaker
83	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell	Jingle Bell
C6 84	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree	Bell Tree
85	Castanets	Castanets	Castanets	Castanets	Castanets	Castanets
86	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo	Mute Surdo
87	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo	Open Surdo
88	-----	-----	-----	-----	-----	-----

PC: Program Change Number Bank Select MSB is all 120, LSB is all 0

GM (GM2 Group)

Note No.	007 (PC: 41) GM2 BRUSH	008 (PC: 49) GM2 ORCHSTRA	009 (PC: 57) GM2 SFX
27	High-Q	Close HiHat2	-----
28	Slap	Pedal HiHat2	-----
29	ScratchPush	Open HiHat2	-----
30	ScratchPull	Ride Cymbal	-----
31	Sticks	Sticks	-----
32	SquareClick	SquareClick	-----
33	Mtrnm.Click	Mtrnm.Click	-----
34	Mtrnm. Bell	Mtrnm. Bell	-----
35	Jazz Kick 2	Concert BD	-----
C2 36	Jazz Kick 1	ConcertBD Mt	-----
37	Side Stick	Side Stick	-----
38	Brush Swirl	Concert Snr	-----
39	Brush Slap1	Castanets	High-Q
40	Brush Swirl	Concert Snr	Slap
41	Real Tom 6	Timpani	ScratchPush
42	Close HiHat2	Timpani	ScratchPull
43	Real Tom 6	Timpani	Sticks
44	Pedal HiHat2	Timpani	SquareClick
45	Real Tom 4	Timpani	Mtrnm.Click
46	Open HiHat2	Timpani	Mtrnm. Bell
47	Real Tom 4	Timpani	Gt.FretNoiz
C3 48	Real Tom 1	Timpani	Gt.CutNoise
49	Crash Cym.1	Timpani	Gt.CutNoise
50	Real Tom 1	Timpani	String Slap
51	Ride Cymbal	Timpani	Fl.KeyClick
52	ChinaCymbal	Timpani	Laughing
	Ride Bell	Timpani	Screaming
53 54	Tambourine	Tambourine	Punch
55	Splash Cym.	Splash Cym.	Heart Beat
56	Cowbell	Cowbell	Footsteps
57	Crash Cym.2	Con.Cymbal2	Footsteps
58	Vibraslap	Vibraslap	Applause
59	Ride Cymbal	Concert Cym.	Creaking
C4 60	Bongo High	Bongo High	Door
61	Bongo Lo	Bongo Lo	Scratch
62	Mute H.Conga	Mute H.Conga	Wind Chimes
63	Conga Hi Opn	Conga Hi Opn	Car-Engine
64	Conga Lo Opn	Conga Lo Opn	Car-Stop
	High Timbale	High Timbale	Car-Pass
65 66	Low Timbale	Low Timbale	Car-Crash
67	Agogo	Agogo	Siren
68	Agogo	Agogo	Train
69	Cabasa	Cabasa	Jetplane
70	Maracas	Maracas	Helicopter
71	ShrtWhistle	ShrtWhistle	Starship
C5 72	LongWhistle	LongWhistle	Gun Shot
73	Short Guiro	Short Guiro	Machine Gun
74	Long Guiro	Long Guiro	Lasergun
75	Claves	Claves	Explosion
76	Woodblock	Woodblock	Dog
	Woodblock	Woodblock	HorseGallop
77 78	Mute Cuica	Mute Cuica	Bird
79	Open Cuica	Open Cuica	Rain
80	MuteTriangl	MuteTriangl	Thunder
81	OpenTriangl	OpenTriangl	Wind
82	Shaker	Shaker	Seashore
83	Jingle Bell	Jingle Bell	Stream
C6 84	Bell Tree	Bell Tree	Bubble
85	Castanets	Castanets	-----
86	Mute Surdo	Mute Surdo	-----
87	Open Surdo	Open Surdo	-----
88	-----	Applause	-----

PC: Program Change Number Bank Select MSB is all 120, LSB is all 0

Waveform List

No.	Wave Name
1	StGrand pA L
2	StGrand pA R
3	StGrand pB L
4	StGrand pB R
5	StGrand pC L
6	StGrand pC R
7	StGrand fA L
8	StGrand fA R
9	StGrand fB L
10	StGrand fB R
11	StGrand fC L
12	StGrand fC R
13	Ac Piano2 pA
14	Ac Piano2 pB
15	Ac Piano2 pC
16	Ac Piano2 fA
17	Ac Piano2 fB
18	Ac Piano2 fC
19	Ac Piano1 A
20	Ac Piano1 B
21	Ac Piano1 C
22	Piano Thump
23	Piano Up TH
24	Piano Atk
25	MKS-20 P3 A
26	MKS-20 P3 B
27	MKS-20 P3 C
28	SA Rhodes 1A
29	SA Rhodes 1B
30	SA Rhodes 1C
31	SA Rhodes 2A
32	SA Rhodes 2B
33	SA Rhodes 2C
34	Dyn Rhd mp A
35	Dyn Rhd mp B
36	Dyn Rhd mp C
37	Dyn Rhd mf A
38	Dyn Rhd mf B
39	Dyn Rhd mf C
40	Dyn Rhd ff A
41	Dyn Rhd ff B
42	Dyn Rhd ff C
43	Wurly soft A
44	Wurly soft B
45	Wurly soft C
46	Wurly hard A
47	Wurly hard B
48	Wurly hard C
49	E.Piano 1A
50	E.Piano 1B
51	E.Piano 1C
52	E.Piano 2A
53	E.Piano 2B
54	E.Piano 2C
55	E.Piano 3A
56	E.Piano 3B
57	E.Piano 3C
58	MK-80 EP A
59	MK-80 EP B
60	MK-80 EP C
61	EP Hard
62	EP Distone
63	Clear Keys
64	D-50 EP A
65	D-50 EP B
66	D-50 EP C
67	Celesta
68	Music Box
69	Music Box 2
70	Clav 1A
71	Clav 1B
72	Clav 1C
73	Clav 2A
74	Clav 2B
75	Clav 2C
76	Clav 3A
77	Clav 3B
78	Clav 3C
79	Clav 4A
80	Clav 4B
81	Clav 4C
82	Clav Wave
83	MIDI Clav
84	HarpsiWave A
85	HarpsiWave B
86	HarpsiWave C
87	Jazz Organ 1
88	Jazz Organ 2
89	Organ 1
90	Organ 2
91	Organ 3
92	Organ 4
93	60's Organ1
94	60's Organ2
95	60's Organ3
96	60's Organ4
97	Full Organ
98	Full Draw
99	Rock Organ
100	RockOrg1 A L
101	RockOrg1 A R
102	RockOrg1 B L
103	RockOrg1 B R
104	RockOrg1 C L
105	RockOrg1 C R
106	RockOrg2 A L
107	RockOrg2 A R
108	RockOrg2 B L
109	RockOrg2 B R
110	RockOrg2 C L
111	RockOrg2 C R
112	RockOrg3 A L
113	RockOrg3 A R
114	RockOrg3 B L
115	RockOrg3 B R
116	RockOrg3 C L
117	RockOrg3 C R
118	Dist. Organ
119	Rot.Org Slw
120	Rot.Org Fst
121	Pipe Organ
122	Soft Nylon A
123	Soft Nylon B
124	Soft Nylon C
125	Nylon Gtr A
126	Nylon Gtr B
127	Nylon Gtr C
128	Nylon Str
129	6-Str Gtr A
130	6-Str Gtr B
131	6-Str Gtr C
132	StlGtr mp A
133	StlGtr mp B
134	StlGtr mp C
135	StlGtr mf A
136	StlGtr mf B
137	StlGtr mf C
138	StlGtr ff A
139	StlGtr ff B
140	StlGtr ff C
141	StlGtr sld A
142	StlGtr sld B
143	StlGtr sld C
144	StlGtr Hrm A
145	StlGtr Hrm B
146	StlGtr Hrm C
147	Gtr Harm A
148	Gtr Harm B
149	Gtr Harm C
150	Jazz Gtr A
151	Jazz Gtr B
152	Jazz Gtr C
153	LP Rear A
154	LP Rear B
155	LP Rear C
156	Rock lead 1
157	Rock lead 2
158	Comp Gtr A
159	Comp Gtr B
160	Comp Gtr C
161	Comp Gtr A+
162	Mute Gtr 1
163	Mute Gtr 2A
164	Mute Gtr 2B
165	Mute Gtr 2C
166	Muters
167	Pop Strat A
168	Pop Strat B
169	Pop Strat C
170	JC Strat A
171	JC Strat B
172	JC Strat C
173	JC Strat A+
174	JC Strat B+
175	JC Strat C+
176	Clean Gtr A
177	Clean Gtr B
178	Clean Gtr C
179	Stratus A
180	Stratus B
181	Stratus C
182	Scrape Gut
183	Strat Sust
184	Strat Atk
185	OD Gtr A
186	OD Gtr B
187	OD Gtr C
188	OD Gtr A+
189	Heavy Gtr A
190	Heavy Gtr B
191	Heavy Gtr C
192	Heavy Gtr A+
193	Heavy Gtr B+
194	Heavy Gtr C+
195	PowerChord A
196	PowerChord B
197	PowerChord C
198	EG Harm
199	Gt.FretNoise
200	Syn Gtr A
201	Syn Gtr B
202	Syn Gtr C
203	Harp 1A
204	Harp 1B
205	Harp 1C
206	Harp Harm
207	Pluck Harp
208	Banjo A
209	Banjo B
210	Banjo C
211	Sitar A
212	Sitar B
213	Sitar C
214	E.Sitar A
215	E.Sitar B
216	E.Sitar C
217	Santur A
218	Santur B
219	Santur C
220	Dulcimer A
221	Dulcimer B
222	Dulcimer C
223	Shamisen A
224	Shamisen B
225	Shamisen C
226	Koto A
227	Koto B
228	Koto C
229	Taishokoto A
230	Taishokoto B
231	Taishokoto C
232	Pick Bass A
233	Pick Bass B
234	Pick Bass C
235	Fingerd Bs A
236	Fingerd Bs B
237	Fingerd Bs C
238	E.Bass
239	P.Bass 1
240	P.Bass 2
241	Stick
242	Fretless A
243	Fretless B
244	Fretless C
245	Fretless 2A
246	Fretless 2B
247	Fretless 2C
248	UprightBs 1
249	UprightBs 2A
250	UprightBs 2B
251	UprightBs 2C
252	Ac.Bass A
253	Ac.Bass B
254	Ac.Bass C
255	Slap Bass 1
256	Slap & Pop
257	Slap Bass 2
258	Slap Bass 3
259	Jz.Bs Thumb
260	Jz.Bs Slap 1
261	Jz.Bs Slap 2
262	Jz.Bs Slap 3
263	Jz.Bs Pop
264	Funk Bass1
265	Funk Bass2
266	Syn Bass A
267	Syn Bass C
268	Syn Bass
269	Syn Bass 2 A
270	Syn Bass 2 B
271	Syn Bass 2 C
272	Mini Bs 1A
273	Mini Bs 1B
274	Mini Bs 1C
275	Mini Bs 2
276	Mini Bs 2+
277	MC-202 Bs A
278	MC-202 Bs B
279	MC-202 Bs C
280	Hollow Bs
281	Flute 1A
282	Flute 1B
283	Flute 1C
284	Jazz Flute A
285	Jazz Flute B
286	Jazz Flute C
287	Flute Tone
288	Piccolo A
289	Piccolo B
290	Piccolo C
291	Blow Pipe
292	Pan Pipe
293	BottleBlow
294	Rad Hose
295	Shakuhachi
296	Shaku Atk
297	Flute Push
298	Clarinet A
299	Clarinet B
300	Clarinet C
301	Oboe mf A
302	Oboe mf B
303	Oboe mf C
304	Oboe f A
305	Oboe f B
306	Oboe f C
307	E.Horn A
308	E.Horn B
309	E.Horn C
310	Bassoon A
311	Bassoon B
312	Bassoon C
313	T_Recorder A
314	T_Recorder B
315	T_Recorder C
316	Sop.Sax A
317	Sop.Sax B
318	Sop.Sax C
319	Sop.Sax mf A
320	Sop.Sax mf B
321	Sop.Sax mf C
322	Alto mp A
323	Alto mp B
324	Alto mp C
325	Alto Sax 1A
326	Alto Sax 1B
327	Alto Sax 1C
328	T.Breathy A
329	T.Breathy B
330	T.Breathy C
331	SoloSax A
332	SoloSax B
333	SoloSax C
334	Tenor Sax A
335	Tenor Sax B
336	Tenor Sax C
337	T.Sax mf A
338	T.Sax mf B
339	T.Sax mf C
340	Bari.Sax f A
341	Bari.Sax f B
342	Bari.Sax f C
343	Bari.Sax A
344	Bari.Sax B
345	Bari.Sax C
346	Syn Sax
347	Chanter
348	Harmonica A
349	Harmonica B
350	Harmonica C
351	OrcUnisonA L
352	OrcUnisonA R
353	OrcUnisonB L
354	OrcUnisonB R
355	OrcUnisonC L
356	OrcUnisonC R
357	BrassSectA L
358	BrassSectA R
359	BrassSectB L
360	BrassSectB R
361	BrassSectC L
362	BrassSectC R
363	Tpt Sect. A
364	Tpt Sect. B
365	Tpt Sect. C
366	Tb Sect A
367	Tb Sect B
368	Tb Sect C
369	T.Sax Sect A
370	T.Sax Sect B
371	T.Sax Sect C
372	Flugel A
373	Flugel B
374	Flugel C
375	FlugelWave

No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name	No.	Wave Name
376	Trumpet 1A	451	Voice Aahs B	526	MMM VOX	601	TVF_Trig	676	Rock SN f R
377	Trumpet 1B	452	Voice Aahs C	527	Lead Wave	602	Org Click	677	Rock Rim p L
378	Trumpet 1C	453	Voice Oohs1A	528	Synth Reed	603	Cut Noiz	678	Rock Rim p R
379	Trumpet 2A	454	Voice Oohs1B	529	Synth Saw 1	604	Bass Body	679	Rock Rim mfL
380	Trumpet 2B	455	Voice Oohs1C	530	Synth Saw 2	605	Flute Click	680	Rock Rim mfR
381	Trumpet 2C	456	Voice Oohs2A	531	Syn Saw 2inv	606	Gt&BsNz MENU	681	Rock Rim f L
382	HarmonMute1A	457	Voice Oohs2B	532	Synth Saw 3	607	Ac.BassNz 1	682	Rock Rim f R
383	HarmonMute1B	458	Voice Oohs2C	533	JD Syn Saw 2	608	Ac.BassNz 2	683	Rock Gst L
384	HarmonMute1C	459	Choir 1A	534	FAT Saw	609	El.BassNz 1	684	Rock Gst R
385	Trombone 1	460	Choir 1B	535	JP-8 Saw A	610	El.BassNz 2	685	Snare Ghost
386	Trombone 2 A	461	Choir 1C	536	JP-8 Saw B	611	DistGtrNz 1	686	Jazz SN p L
387	Trombone 2 B	462	Oohs Chord L	537	JP-8 Saw C	612	DistGtrNz 2	687	Jazz SN p R
388	Trombone 2 C	463	Oohs Chord R	538	P5 Saw A	613	DistGtrNz 3	688	Jazz SN mf L
389	Tuba A	464	Male Ooh A	539	P5 Saw B	614	DistGtrNz 4	689	Jazz SN mf R
390	Tuba B	465	Male Ooh B	540	P5 Saw C	615	SteelGtrNz 1	690	Jazz SN f L
391	Tuba C	466	Male Ooh C	541	P5 Saw2 A	616	SteelGtrNz 2	691	Jazz SN f R
392	French 1A	467	Org Vox A	542	P5 Saw2 B	617	SteelGtrNz 3	692	Jazz SN ff L
393	French 1C	468	Org Vox B	543	P5 Saw2 C	618	SteelGtrNz 4	693	Jazz SN ff R
394	F.Horns A	469	Org Vox C	544	D-50 Saw A	619	SteelGtrNz 5	694	Jazz Rim p L
395	F.Horns B	470	Org Vox	545	D-50 Saw B	620	SteelGtrNz 6	695	Jazz Rim p R
396	F.Horns C	471	ZZZ Vox	546	D-50 Saw C	621	SteelGtrNz 7	696	Jazz Rim mfL
397	Violin A	472	Bell VOX	547	Synth Square	622	Sea	697	Jazz Rim mfR
398	Violin B	473	Kalimba	548	JP-8 SquareA	623	Thunder	698	Jazz Rim f L
399	Violin C	474	JD Kalimba	549	JP-8 SquareB	624	Windy	699	Jazz Rim f R
400	Violin 2 A	475	Klmba Atk	550	JP-8 SquareC	625	Stream	700	Jazz Rim ffL
401	Violin 2 B	476	Wood Crak	551	DualSquare A	626	Bubble	701	Jazz Rim ffR
402	Violin 2 C	477	Block	552	DualSquare C	627	Bird	702	Brush Slap
403	Cello A	478	Gamelan 1	553	DualSquareA+	628	Dog Bark	703	Brush Swish
404	Cello B	479	Gamelan 2	554	JD SynPulse1	629	Horse	704	Jazz Swish p
405	Cello C	480	Gamelan 3	555	JD SynPulse2	630	Telephone 1	705	Jazz Swish f
406	Cello 2 A	481	Log Drum	556	JD SynPulse3	631	Telephone 2	706	909 SN 1
407	Cello 2 B	482	Hooky	557	JD SynPulse4	632	Creak	707	909 SN 2
408	Cello 2 C	483	Tabla	558	Synth Pulse1	633	Door Slam	708	808 SN
409	Cello Wave	484	Marimba Wave	559	Synth Pulse2	634	Engine	709	Rock Roll L
410	Pizz	485	Xylo	560	JD SynPulse5	635	Car Stop	710	Rock Roll R
411	STR Attack A	486	Xylophone	561	Sync Sweep	636	Car Pass	711	Jazz Roll
412	STR Attack B	487	Vibes	562	Triangle	637	Crash	712	Brush Roll
413	STR Attack C	488	Bottle Hit	563	JD Triangle	638	Gun Shot	713	Dry Stick
414	DolceStr.A L	489	Glockenspiel	564	Sine	639	Siren	714	Dry Stick 2
415	DolceStr.A R	490	Tubular	565	Metal Wind	640	Train	715	Side Stick
416	DolceStr.B L	491	Steel Drums	566	Wind Agogo	641	Jetplane	716	Woody Stick
417	DolceStr.B R	492	Pole lp	567	Feedbackwave	642	Starship	717	RockStick pL
418	DolceStr.C L	493	Fanta Bell A	568	Spectrum	643	Breath	718	RockStick pR
419	DolceStr.C R	494	Fanta Bell B	569	CrunchWind	644	Laugh	719	RockStick fL
420	JV Strings L	495	Fanta Bell C	570	ThroatWind	645	Scream	720	RockStick fR
421	JV Strings R	496	FantaBell A+	571	Pitch Wind	646	Punch	721	Dry Kick
422	JV Strings A	497	Org Bell	572	JD Vox Noise	647	Heart	722	Maple Kick
423	JV Strings C	498	AgogoBells	573	Vox Noise	648	Steps	723	Rock Kick p
424	JP Strings1A	499	FingerBell	574	BreathNoise	649	Machine Gun	724	Rock Kick mf
425	JP Strings1B	500	DIGI Bell 1	575	Voice Breath	650	Laser	725	Rock Kick f
426	JP Strings1C	501	DIGI Bell 1+	576	White Noise	651	Thunder 2	726	Jazz Kick p
427	JP Strings2A	502	JD Cowbell	577	Pink Noise	652	AmbientSN pL	727	Jazz Kick mf
428	JP Strings2B	503	Bell Wave	578	Rattles	653	AmbientSN pR	728	Jazz Kick f
429	JP Strings2C	504	Chime	579	Ice Rain	654	AmbientSN fL	729	Jazz Kick
430	PWM	505	Crystal	580	Tin Wave	655	AmbientSN fR	730	Pillow Kick
431	Pulse Mod	506	2.2 Bellwave	581	Anklungs	656	Wet SN p L	731	JazzDry Kick
432	Soft Pad A	507	2.2 Vibwave	582	Wind Chimes	657	Wet SN p R	732	Lite Kick
433	Soft Pad B	508	Digiwave	583	Orch. Hit	658	Wet SN f L	733	Old Kick
434	Soft Pad C	509	DIGI Chime	584	Tekno Hit	659	Wet SN f R	734	Hybrid Kick
435	Fantasynth A	510	JD DIGIChime	585	Back Hit	660	Dry SN p	735	Hybrid Kick2
436	Fantasynth B	511	BrightDigi	586	Philly Hit	661	Dry SN f	736	Verb Kick
437	Fantasynth C	512	Can Wave 1	587	Scratch 1	662	Sharp SN	737	Round Kick
438	D-50 HeavenA	513	Can Wave 2	588	Scratch 2	663	Piccolo SN	738	MplLmtr Kick
439	D-50 HeavenB	514	Vocal Wave	589	Scratch 3	664	Maple SN	739	70s Kick 1
440	D-50 HeavenC	515	Wally Wave	590	Shami	665	Old Fill SN	740	70s Kick 2
441	Fine Wine	516	Brusky lp	591	Org Atk 1	666	70s SN	741	Dance Kick
442	D-50 Brass A	517	Wave Scan	592	Org Atk 2	667	SN Roll	742	808 Kick
443	D-50 Brass B	518	Wire String	593	Sm Metal	668	Natural SN1	743	909 Kick 1
444	D-50 Brass C	519	Nasty	594	StrikePole	669	Natural SN2	744	909 Kick 2
445	D-50 BrassA+	520	Wave Table	595	Thrill	670	Ballad SN	745	Rock TomL1 p
446	Doo	521	Klack Wave	596	Switch	671	Rock SN p L	746	Rock TomL2 p
447	Pop Voice	522	Spark VOX	597	Tuba Slap	672	Rock SN p R	747	Rock Tom M p
448	Syn Vox 1	523	JD Spark VOX	598	Plink	673	Rock SN mf L	748	Rock Tom H p
449	Syn Vox 2	524	Cutters	599	Plunk	674	Rock SN mf R	749	Rock TomL1 f
450	Voice Aahs A	525	EML 5th	600	EP Atk	675	Rock SN f L	750	Rock TomL2 f

Waveform List

No.	Wave Name
751	Rock Tom M f
752	Rock Tom H f
753	Rock Flm L1
754	Rock Flm L2
755	Rock Flm M
756	Rock Flm H
757	Jazz Tom L p
758	Jazz Tom M p
759	Jazz Tom H p
760	Jazz Tom L f
761	Jazz Tom M f
762	Jazz Tom H f
763	Jazz Flm L
764	Jazz Flm M
765	Jazz Flm H
766	Maple Tom 1
767	Maple Tom 2
768	Maple Tom 3
769	Maple Tom 4
770	808 Tom
771	Verb Tom Hi
772	Verb Tom Lo
773	Dry Tom Hi
774	Dry Tom Lo
775	Rock ClHH1 p
776	Rock ClHH1mf
777	Rock ClHH1 f
778	Rock ClHH2 p
779	Rock ClHH2mf
780	Rock ClHH2 f
781	Jazz ClHH1 p
782	Jazz ClHH1mf
783	Jazz ClHH1 f
784	Jazz ClHH2 p
785	Jazz ClHH2mf
786	Jazz ClHH2 f
787	Cl HiHat 1
788	Cl HiHat 2
789	Cl HiHat 3
790	Cl HiHat 4
791	Cl HiHat 5
792	Rock OpHH p
793	Rock OpHH f
794	Jazz OpHH p
795	Jazz OpHH mf
796	Jazz OpHH f
797	Op HiHat
798	Op HiHat 2
799	Rock PdHH p
800	Rock PdHH f
801	Jazz PdHH p
802	Jazz PdHH f
803	Pedal HiHat
804	Pedal HiHat2
805	Dance Cl HH
806	909 NZ HiHat
807	70s Cl HiHat
808	70s Op HiHat
809	606 Cl HiHat
810	606 Op HiHat
811	909 Cl HiHat
812	909 Op HiHat
813	808 Claps
814	HumanClapsEQ
815	Tight Claps
816	Hand Claps
817	Finger Snaps
818	Rock RdCym1p
819	Rock RdCym1f
820	Rock RdCym2p
821	Rock RdCym2f
822	Jazz RdCym p
823	Jazz RdCymmf
824	Jazz RdCym f
825	Ride 1

No.	Wave Name
826	Ride 2
827	Ride Bell
828	Rock CrCym1p
829	Rock CrCym1f
830	Rock CrCym2p
831	Rock CrCym2f
832	Rock Splash
833	Jazz CrCym p
834	Jazz CrCym f
835	Crash Cymbal
836	Crash 1
837	Rock China
838	China Cym
839	Cowbell
840	Wood Block
841	Claves
842	Bongo Hi
843	Bongo Lo
844	Cga Open Hi
845	Cga Open Lo
846	Cga Mute Hi
847	Cga Mute Lo
848	Cga Slap
849	Timbale
850	Cabasa Up
851	Cabasa Down
852	Cabasa Cut
853	Maracas
854	Long Guiro
855	Tambourine 1
856	Tambourine 2
857	Open Triangl
858	Cuica
859	Vibraslap
860	Timpani
861	Timp3 pp
862	Timp3 mp
863	Applause
864	Syn FX Loop
865	Loop 1
866	Loop 2
867	Loop 3
868	Loop 4
869	Loop 5
870	Loop 6
871	Loop 7
872	R8 Click
873	Metronome 1
874	Metronome 2
875	MC500 Beep 1
876	MC500 Beep 2
877	Low Saw
878	Low Saw inv
879	Low P5 Saw
880	Low Pulse 1
881	Low Pulse 2
882	Low Square
883	Low Sine
884	Low Triangle
885	Low White NZ
886	Low Pink NZ
887	DC
888	REV Orch.Hit
889	REV TeknoHit
890	REV Back Hit
891	REV PhillHit
892	REV Steel DR
893	REV Tin Wave
894	REV AmbiSNpL
895	REV AmbiSNpR
896	REV AmbiSNfL
897	REV AmbiSNfR
898	REV Wet SNpL
899	REV Wet SNpR
900	REV Wet SNfL

No.	Wave Name
901	REV Wet SNfR
902	REV Dry SN
903	REV PiccloSN
904	REV Maple SN
905	REV OldFilSN
906	REV 70s SN
907	REV SN Roll
908	REV NatrlSN1
909	REV NatrlSN2
910	REV BalladSN
911	REV RkSNpL
912	REV RkSNpR
913	REV RkSNmfL
914	REV RkSNmfR
915	REV RkSNfL
916	REV RkSNfR
917	REV RkRimpL
918	REV RkRimpR
919	REV RkRimmfL
920	REV RkRimmfR
921	REV RkRimfL
922	REV RkRimfR
923	REV RkGstL
924	REV RkGstR
925	REV SnareGst
926	REV JzSNpL
927	REV JzSNpR
928	REV JzSNmfL
929	REV JzSNmfR
930	REV JzSNfL
931	REV JzSNfR
932	REV JzSNffL
933	REV JzSNffR
934	REV JzRimpL
935	REV JzRimpR
936	REV JzRimmfL
937	REV JzRimmfR
938	REV JzRimfL
939	REV JzRimfR
940	REV JzRimffL
941	REV JzRimffR
942	REV Brush 1
943	REV Brush 2
944	REV Brush 3
945	REV JzSwish1
946	REV JzSwish2
947	REV 909 SN 1
948	REV 909 SN 2
949	REV RkRoll L
950	REV RkRoll R
951	REV JzRoll
952	REV Dry Stk
953	REV DrySick
954	REV Side Stk
955	REV Wdy Stk
956	REV RkStk1L
957	REV RkStk1R
958	REV RkStk2L
959	REV RkStk2R
960	REV Thrill
961	REV Dry Kick
962	REV Mpl Kick
963	REV RkKik p
964	REV RkKik mf
965	REV RkKik f
966	REV JzKik p
967	REV JzKik mf
968	REV JzKik f
969	REV Jaz Kick
970	REV Pillow K
971	REV Jz Dry K
972	REV LiteKick
973	REV Old Kick
974	REV Hybrid K
975	REV HybridK2

No.	Wave Name
976	REV 70s K 1
977	REV 70s K 2
978	REV Dance K
979	REV 909 K 2
980	REV RkTomL1p
981	REV RkTomL2p
982	REV RkTomM p
983	REV RkTomH p
984	REV RkTomL1f
985	REV RkTomL2f
986	REV RkTomM f
987	REV RkTomH f
988	REV RkFlmL1
989	REV RkFlmL2
990	REV RkFlm M
991	REV RkFlm H
992	REV JzTomL p
993	REV JzTomM p
994	REV JzTomH p
995	REV JzTomL f
996	REV JzTomM f
997	REV JzTomH f
998	REV JzFlm L
999	REV JzFlm M
1000	REV JzFlm H
1001	REV MplTom2
1002	REV MplTom4
1003	REV 808Tom
1004	REV VerbTomH
1005	REV VerbTomL
1006	REV DryTom H
1007	REV DryTom M
1008	REV RkClH1 p
1009	REV RkClH1mf
1010	REV RkClH1 f
1011	REV RkClH2 p
1012	REV RkClH2mf
1013	REV RkClH2 f
1014	REV JzClH1 p
1015	REV JzClH1mf
1016	REV JzClH1 f
1017	REV JzClH2 p
1018	REV JzClH2mf
1019	REV JzClH2 f
1020	REV Cl HH 1
1021	REV Cl HH 2
1022	REV Cl HH 3
1023	REV Cl HH 4
1024	REV Cl HH 5
1025	REV RkOpHH p
1026	REV RkOpHH f
1027	REV JzOpHH p
1028	REV JzOpHHmf
1029	REV JzOpHH f
1030	REV Op HiHat
1031	REV OpHiHat2
1032	REV RkPdHH p
1033	REV RkPdHH f
1034	REV JzPdHH p
1035	REV JzPdHH f
1036	REV PedalHH
1037	REV PedalHH2
1038	REV Dance HH
1039	REV 70s ClHH
1040	REV 70s OpHH
1041	REV 606 ClHH
1042	REV 606 OpHH
1043	REV 909 NZHH
1044	REV 909 OpHH
1045	REV HClapsEQ
1046	REV TghtClps
1047	REV FingSnap
1048	REV RealCLP
1049	REV RkRCym1p
1050	REV RkRCym1f

No.	Wave Name
1051	REV RkRCym2p
1052	REV RkRCym2f
1053	REV JzRCym p
1054	REV JzRCymmf
1055	REV JzRCym f
1056	REV Ride 1
1057	REV Ride 2
1058	REV RideBell
1059	REV RkCCym1p
1060	REV RkCCym1f
1061	REV RkCCym2p
1062	REV RkCCym2f
1063	REV RkSplash
1064	REV JzCCym p
1065	REV JzCCym f
1066	REV CrashCym
1067	REV Crash 1
1068	REV RkChina
1069	REV China
1070	REV Cowbell
1071	REV WoodBlck
1072	REV Claves
1073	REV Conga
1074	REV Timbale
1075	REV Maracas
1076	REV Guiro
1077	REV Tamb 1
1078	REV Tamb 2
1079	REV Cuica
1080	REV Timpani
1081	REV Timp3 pp
1082	REV Timp3 mp
1083	REV Metro

Arpeggio Style List

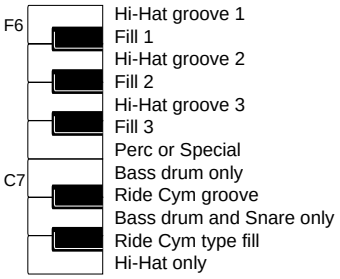
No.	Style Name	Variation	Comment
01	NOTE VALUES	12	Variations based on note values: 1/4, 1/8, 1/12, 1/16, 1/24, 1/32 (Single and Dual)
02	1/8 BASIC 1	5	Variations on 1/8 note rhythms
03	1/8 BASIC 2	5	
04	1/8 BASIC 3	5	
05	1/8 BASIC 4	5	
06	1/8 BASIC 5	5	
07	1/8 SYNC 1-1	5	Variations on more syncopated 1/8 note rhythms
08	1/8 SYNC 1-2	5	
09	1/8 SYNC 1-3	5	
10	1/8 SYNC 1-4	5	
11	1/8 SYNC 1-5	5	
12	1/8 SYNC 2-1	5	
13	1/8 SYNC 2-2	5	
14	1/8 SYNC 2-3	5	
15	1/8 SYNC 2-4	5	
16	1/8 SYNC 2-5	5	
17	1/8 DRIVE 1	5	Variations on 1/8 note rhythms with a stronger pushing feel
18	1/8 DRIVE 2	5	
19	1/8 DRIVE 3	5	
20	1/8 DRIVE 4	5	
21	1/8 DRIVE 5	5	
22	1/8 TRIPLET 1	5	Variations on 1/8 triplet rhythms
23	1/8 TRIPLET 2	5	
24	1/8 TRIPLET 3	5	
25	1/8 TRIPLET 4	5	
26	1/8 TRIPLET 5	5	
27	1/16 BASIC 1	5	Variations on 1/16 note rhythms
28	1/16 BASIC 2	5	
29	1/16 BASIC 3	5	
30	1/16 BASIC 4	5	
31	1/16 BASIC 5	5	
32	1/16 SYNC 1-1	5	Variations on more syncopated 1/16 note rhythms
33	1/16 SYNC 1-2	5	
34	1/16 SYNC 1-3	5	
35	1/16 SYNC 1-4	5	
36	1/16 SYNC 1-5	5	
37	1/16 SYNC 2-1	5	
38	1/16 SYNC 2-2	5	
39	1/16 SYNC 2-3	5	
40	1/16 SYNC 2-4	5	
41	1/16 SYNC 2-5	5	
42	1/16 DRIVE 1	5	Variations on 1/16 note rhythms with a stronger pushing feel
43	1/16 DRIVE 2	5	
44	1/16 DRIVE 3	5	
45	1/16 DRIVE 4	5	
46	1/16 DRIVE 5	5	
47	RHYTHMIX 1	5	Variations include rhythmic mixes including 1/8, 1/16, syncopated and triplet rhythms
48	RHYTHMIX 2	5	
49	RHYTHMIX 3	5	
50	RHYTHMIX 4	5	
51	RHYTHMIX 5	5	
52	RHYTHMIX 6	5	
53	RHYTHMIX 7	5	
54	RHYTHMIX 8	5	
55	CYCLES 3RD PHR	4	Phrase based variations that cycle through intervals of 3rds
56	CYCLES 4TH PHR	4	Phrase based variations that cycle through intervals of 4ths
57	CYCLES 5TH PHR	5	Phrase based variations that cycle through intervals of 5ths
58	CYCLES MAJ PHR	4	Phrase based variations that cycle through major tonalities
59	CYCLES MIN PHR	4	Phrase based variations that cycle through minor tonalities
60	CYC MAJ/MIN PHR	6	Phrase based variations that cycle between major and minor tonalities
61	AG PROGRES1 PHR	5	Phrase based variations for acoustic guitar progressions
62	AG PROGRES2 PHR	5	
63	AG CUTTING PHR	14	Phrase based variations for rhythm guitar
64	AG 3 FINGER PHR	4	Phrase based variations for guitar finger picking
65	AG ARPEGGIO PHR	2	Phrase based variations for guitar arpeggios
66	AG SPANISH1 PHR	6	Phrase based variations for fast Spanish style guitar strums
67	AG SPANISH2 PHR	5	Phrase based variations for Spanish style guitar
68	AG BOSSA PHR	10	Phrase based variations for Bossa Nova style guitar
69	EG CUTTING PHR	15	Phrase based variations for rhythm guitar
70	EG RIFFS PHR	8	Phrase based variations for rhythmic guitar riffs
71	EG OD RIFFS1 PHR	9	Phrase based variations for overdrive or distortion guitar
72	EG OD RIFFS2 PHR	5	
73	EG ARPEGGIO PHR	5	Phrase based variations for guitar arpeggios
74	BLUES GUITAR PHR	6	Phrase based variations for blues guitar progressions
75	GUITAR TRILL PHR	3	Phrase based variations for guitar trills
76	BASS PHR	4	Phrase based variations for bass lines
77	BS SHUFFLE PHR	3	Phrase based variations for shuffle bass lines
78	FRETLESS BS PHR	2	Phrase based variations for fretless bass in 6/8 time
79	WALKING BASS PHR	8	Phrase based variations for walking bass lines
80	BALLAD BASS PHR	3	Phrase based variations for simple bass lines
81	EP PROGRES1 PHR	5	Phrase based variations for piano or electric pianos progressions
82	EP PROGRES2 PHR	5	
83	LATIN PIANO PHR	9	Phrase based variations for Latin piano styles
84	FUNKY CLAV 1 PHR	5	Phrase based variations for rhythmic clavinet styles
85	FUNKY CLAV 2 PHR	9	
86	SYNTH LEAD PHR	4	Phrase based variations for synth lead
87	DANCE SYNTH PHR	5	Phrase based variations for dance synth progressions
88	HARP PHR	6	Phrase based variations on harp scrolls

Rhythm Pattern Style List

No.	Style Name	Recommended Tempo (BPM)	Recommended Rhythm Set
01	BLUES 6/8	90	R&B Kit 1
02	BOSSA NOVA	138	XV Pop Kit
03	DRUM&BASS	158	R&B Kit 2
04	ELECTRONICA 1	134	House Kit
05	ELECTRONICA 2	120	Techno Kit
06	ELECTRONICA 3	130	Techno Kit
07	FUNK 1	125	R&B Kit 1
08	FUNK 2	136	R&B Kit 2
09	GROOVE 1	90	R&B Kit 1
10	GROOVE 2	94	R&B Kit 1
11	HIPHOP 1	80	Rust Kit 2
12	HIPHOP 2	100	Bully Kit 2
13	HIPHOP 3	96	XV Bully Kit
14	HIPHOP 4	74	Bully Kit 2
15	HIPHOP 5	90	Rust Kit 2
16	HIPHOP 6	86	XV Bully Kit
17	HOUSE 1	130	House Kit
18	HOUSE 2	138	Techno Kit
19	HOUSE 3	130	House Kit
10	HOUSE 4	130	House Kit
21	HOUSE 5	130	Techno Kit
22	HOUSE 6	132	House Kit
23	JAZZ 1	124	Jazz Kit 2
24	JAZZ 2	208	Jazz Kit 2
25	LATIN HOUSE	126	House Kit
26	POP 1	104	R&B Kit 1
27	POP 2	106	Pop Kit 2
28	POP 3	118	Pop Kit 2
29	POP 4	84	XV Pop Kit
30	POP 5	84	R&B Kit 1
31	POP 6	80	R&B Kit 1
32	POP 7	74	XV Pop Kit
33	R&B 1	132	R&B Kit 2
34	R&B 2	112	R&B Kit 2
35	R&B 3	102	R&B Kit 2
36	R&B 4	90	R&B Kit 1
37	R&B 5	108	R&B kit 1
38	R&B 6	96	R&B Kit 2
39	R&B 7	116	R&B Kit 2
40	R&B 8	90	R&B Kit 1
41	R&B BRUSH	78	Jazz Kit 2
42	ROCK 1	98	Rock Kit 2
43	ROCK 2	120	Rock Kit 2
44	ROCK 3	90	Rock Kit 2
45	SALSA	196	XV Pop Kit
46	TECHNO 1	125	Techno Kit
47	TECHNO 2	136	Techno Kit
48	TECHNO 3	125	Techno Kit
49	TRANCE 1	142	House Kit
50	TRANCE 2	134	Techno Kit

The rhythm patterns are assigned in a one-octave range starting from the key specified as Note Assign.

When Note Assign is set to F6



Parameter List

Patch Parameters

** Parameters that can be set independently for each Tone are indicated by "T."*

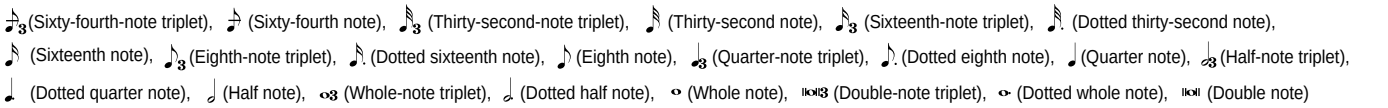
General Group (Owner's Manual; p. 47)

Parameter		Value	
General			
Patch Name		space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←	
Patch Category		(*1)	
Voice Priority		LAST, LOUDEST	
Analog Feel	Analog Feel Depth	0–127	
Mono / Poly		MONO, POLY	
Cutoff Offset		-63–+63	
Resonance Offset		-63–+63	
Attack Time Offset		-63–+63	
Release Time Offset		-63–+63	
Velocity Sens Offset	Velocity Sensitivity Offset	-63–+63	
Clock Source	Patch Clock Source	PATCH, SEQUENCER	
Tempo	Patch Tempo	20–250	
Legato Switch	Solo Legato Switch	OFF, ON	
Legato Retrigger	Legato Retrigger Switch	OFF, ON	
Portamento Switch		OFF, ON	
Portamento Mode		NORMAL, LEGATO	
Portamento Type		RATE, TIME	
Portamento Start		PITCH, NOTE	
Portamento Time		0–127	
Bend Range Up	Pitch Bend Range Up	0–+48	
Bend Range Down	Pitch Bend Range Down	-48–0	
Patch Tone			
Env Mode	Tone Envelope Mode	NO SUS, SUST	T
Delay Mode	Tone Delay Mode	NORM, HOLD, OFF-N, OFF-D	T
Delay Time	Tone Delay Time	0–127, note (*2)	T
Rx Bender	Tone Receive Pitch Bend Switch	OFF, ON	T
Rx Expression	Tone Receive Expression Switch	OFF, ON	T
Rx Hold-1	Tone Receive Hold-1 Switch	OFF, ON	T
Rx Pan Mode	Tone Receive Pan Mode	CONT, K-ON	T
Redamper Sw	Tone Redamper Switch	OFF, ON	T

*1:

NO ASSIGN, AC.PIANO, EL.PIANO, KEYBOARDS, BELL, MALLET, ORGAN, ACCORDION, HARMONICA, AC.GUITAR, EL.GUITAR, DIST.GUITAR, BASS, SYNTH BASS, STRINGS, ORCHESTRA, HIT&STAB, WIND, FLUTE, AC.BRASS, SYNTH BRASS, SAX, HARD LEAD, SOFT LEAD, TECHNO SYNTH, PULSATING, SYNTH FX, OTHER SYNTH, BRIGHT PAD, SOFT PAD, VOX, PLUCKED, ETHNIC, FRETTED, PERCUSSION, SOUND FX, BEAT&GROOVE, DRUMS, COMBINATION

*2:



Arpeggio Group (Owner's Manual; p. 51)

Parameter		Value	
Arpeggio			
Switch	Arpeggio Switch	OFF, ON	
Hold	Arpeggio Hold Switch	OFF, ON	
Style	Arpeggio Style	Refer to "Arpeggio Style List" (p. 15).	
Variation	Arpeggio Variation		
Motif	Arpeggio Motif	UP, DOWN, UP&DOWN, RANDOM, NOTE ORDER, GLISSANDO, CHORD, AUTO1, AUTO2, PHRASE	
Accent Rate	Arpeggio Accent Rate	0–100 %	
Shuffle Rate	Arpeggio Shuffle Rate	0–100 %	
Shuffle Resolution	Arpeggio Shuffle Resolution	(Sixteenth note) , (Eighth note)	
Keyboard Velocity	Arpeggio Keyboard Velocity	REAL, 1–127	
Octave Range	Arpeggio Octave Range	-3–+3	
Key Trigger	Arpeggio Key Trigger	OFF, ON	

Controller Group (Owner's Manual; p. 52)

Parameter		Value	
Knob			
Assign 1–4	Realtime Control Knob Assign 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, TEMPO, ARP VAR, ARP ACCENT, ARP SHFFLE, ARP OCTAVE	
Switch			
Assign 1–4	Realtime Control Button Assign 1–4	OFF, CC01–31, 33–95, BEND UP, BEND DOWN, AFTERTOUCH, OCT UP, OCT DOWN, TRNS UP, TRNS DOWN, TAP TEMPO, MONO / POLY, ARP HOLD	
Mode 1–4	Realtime Control Button Mode 1–4	MOMENTARY, LATCH	
D Beam			
Switch	D Beam Switch	OFF, ON	
Assign	D Beam Assign	OFF, CC01–31, 33–95, BEND UP, BEND DOWN, AFTERTOUCH, NOTE, OCT UP, OCT DOWN, START / STOP, TAP TEMPO, ARP SWITCH, ARP VAR, ARP ACCENT, ARP SHFFLE, ARP OCT UP, ARP OCT DW	
Polarity	D Beam Polarity	STANDARD, REVERSE	
Range Lower	D Beam Range Lower	0–UPPER	
Range Upper	D Beam Range Upper	LOWER–127	

Effects Group (Owner's Manual; p. 165)

Parameter		Value	
Effects			
Tone Select		Tone 1–Tone 4	
Patch Output Assign		MFX, A, B, 1–4, TONE	
Tone Output Assign		MFX, A, B, 1–4	T
Tone Dry Send Level		0–127	T
Tone Chorus Send Level		0–127	T
Tone Reverb Send Level		0–127	T
MFX Type	Multi-Effects Type	0 (Through)–90 (3D Manual)	
MFX Dry Send Level	Multi-Effects Dry Send Level	0–127	
MFX Output Assign	Multi-Effects Output Assign	A, B	
MFX Chorus Send Level	Multi-Effects Chorus Send Level	0–127	
MFX Reverb Send Level	Multi-Effects Reverb Send Level	0–127	
Chorus Type		0 (Off), 1 (Chorus), 2 (Delay), 3 (GM2Chorus)	
Chorus Level		0–127	
Chorus Output Assign		A, B	
Chorus Output Select		MAIN, REV, M+R	
Reverb Type		0 (Off), 1 (Reverb), 2 (SRV Room), 3 (SRV Hall), 4 (SRV Plate), 5 (GM2Reverb)	
Reverb Level		0–127	
Reverb Output Assign		A, B	

MFX Group (Owner's Manual; p. 174)

Parameter		Value	
MFX			
Type	Multi-Effects Type	00 THROUGH–90 3D MANUAL	

** For details regarding multi-effects settings, refer to "Multi-Effects Parameters" (p. 32).*

MFX Control Group (Owner's Manual; p. 174)

Parameter		Value	
MFX Control			
Source 1–4	Multi-Effects Control Source 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	
Destination 1–4	Multi-Effects Control Destination 1–4	Refer to "Multi-Effects Parameters" (p. 32).	
Sens 1–4	Multi-Effects Control Sensitivity 1–4	-63–+63	

Chorus Group (Owner's Manual; p. 176)

Parameter		Value	
Chorus			
Type	Chorus Type	0 OFF, 1 CHORUS, 2 DELAY, 3 GM2 CHORUS	

* *For details regarding chorus settings, refer to "Chorus Parameters" (p. 62).*

Reverb Group (Owner's Manual; p. 177)

Parameter		Value	
Reverb			
Type	Reverb Type	0 OFF, 1 REVERB, 2 SRV ROOM, 3 SRV HALL, 4 SRV PLATE, 5 GM2 REVERB	

* *For details regarding reverb settings, refer to "Reverb Parameters" (p. 62).*

Matrix Ctrl Group (Owner's Manual; p. 54)

Parameter		Value	
Matrix Control			
Source 1–4	Matrix Control Source 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PITCH ENV, TVF ENV, TVA ENV	
Destination 1–4	Matrix Control Destination 1–4	OFF, PITCH, CUTOFF, RESONANCE, LEVEL, PAN, DRY LEVEL, CHORUS SEND, REVERB SEND, LFO1/LFO2 PCH DEPTH, LFO1/LFO2 TVF DEPTH, LFO1/LFO2 TVA DEPTH, LFO1/LFO2 PAN DEPTH, LFO1/LFO2 RATE, PIT ENV A-TIME, PIT ENV D-TIME, PIT ENV R-TIME, TVF ENV A-TIME, TVF ENV D-TIME, TVF ENV R-TIME, TVA ENV A-TIME, TVA ENV D-TIME, TVA ENV R-TIME, TMT, FXM DEPTH, MFX CTRL1–4	
Sns 1–4	Matrix Control Sens 1–4	-63–+63	
Tone 1–4	Tone Control Switch 1–4	(OFF), ✔ (ON), R (REVERSE)	T
TMT Control Switch	TMT Control Switch	OFF, ON	

TMT Group (Owner's Manual; p. 56)

Parameter		Value	
TMT			
Structure 1 & 2, 3 & 4	Structure Type 1 & 2, 3 & 4	1–10	
Booster 1 & 2, 3 & 4	Booster Gain 1 & 2, 3 & 4	0, +6, +12, +18	
Key Fade Lower	Keyboard Fade Width Lower	0–127	T
Key Range Lower	Keyboard Range Lower	C-1–UPPER	T
Key Range Upper	Keyboard Range Upper	LOWER–G9	T
Key Fade Upper	Keyboard Fade Width Upper	0–127	T
TMT Vel Control	TMT Velocity Control Switch	OFF, ON, RND	
Vel Fade Lower	Velocity Fade Width Lower	0–127	T
Vel Range Lower	Velocity Range Lower	1–UPPER	T
Vel Range Upper	Velocity Range Upper	LOWER–127	T
Vel Fade Upper	Velocity Fade Width Upper	0–127	T

Wave Group (Owner's Manual; p. 59)

Parameter		Value	
Wave			
Wave Group		INT, XP-A, XP-B, XP-C	T
Wave No. (L)	Wave Number (L)	----, 0001–1083	T
Wave No. (R)	Wave Number (R)	----, 0001–1083	T
Gain	Wave Gain	-6, 0, +6, +12	T
FXM Switch		OFF, ON	T
FXM Color		1–4	T
FXM Depth		0–16	T
Tempo Sync	Wave Tempo Sync	OFF, ON	T

Pitch Group (Owner's Manual; p. 60)

Parameter		Value	
Pitch			
Patch C Tune	Patch Coarse Tune	-48–+48	
Patch F Tune	Patch Fine Tune	-50–+50	
Octave Shift		-3–+3	
Stretch Tune	Stretch Tune Depth	OFF, 1–3	
Tone C Tune	Tone Coarse Tune	-48–+48	T
Tone F Tune	Tone Fine Tune	-50–+50	T
Rnd Pitch Depth	Random Pitch Depth	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200	T
Pitch KF	Pitch Key follow	-200, -190, -180, -170, -160, -150, -140, -130, -120, -110, -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100, +110, +120, +130, +140, +150, +160, +170, +180, +190, +200	T
Env Depth	Pitch Envelope Depth	-12–+12	T
Env V-Sens	Pitch Envelope Velocity Sensitivity	-63–+63	T
Env T1 V-Sens	Pitch Envelope Time 1 Velocity Sensitivity	-63–+63	T
Env T4 V-Sens	Pitch Envelope Time 4 Velocity Sensitivity	-63–+63	T
Env Time KF	Pitch Envelope Time Key follow	-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100	T
Env Level 0–4	Pitch Envelope Level 0–4	-63–+63	T
Env Time 1–4	Pitch Envelope Time 1–4	0–127	T

TVF Group (Owner's Manual; p. 62)

Parameter		Value	
TVF			
Filter Type		OFF, LPF, BPF, HPF, PKG, LPF2, LPF3	T
Cutoff Freq	Cutoff Frequency	0–127	T
Cutoff KF	Cutoff Frequency Key follow	-200, -190, -180, -170, -160, -150, -140, -130, -120, -110, -100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100, +110, +120, +130, +140, +150, +160, +170, +180, +190, +200	T
Cutoff V-Curve	Cutoff Frequency Velocity Curve	FIXED, 1–7	T
Cutoff V-Sens	Cutoff Frequency Velocity Sensitivity	-63–+63	T
Resonance		0–127	T
Reso V-Sens	Resonance Velocity Sensitivity	-63–+63	T
Env Depth	TVF Envelope Depth	-63–+63	T
Env V-Curve	TVF Envelope Velocity Curve	FIXED, 1–7	T
Env V-Sens	TVF Envelope Velocity Sensitivity	-63–+63	T
Env T1 V-Sens	TVF Envelope Time 1 Velocity Sensitivity	-63–+63	T
Env T4 V-Sens	TVF Envelope Time 4 Velocity Sensitivity	-63–+63	T
Env Time KF	TVF Envelope Time Key Follow	-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100	T
Env Level 0–4	TVF Envelope Level 0–4	0–127	T
Env Time 1–4	TVF Envelope Time 1–4	0–127	T

TVA Group (Owner's Manual; p. 64)

Parameter		Value	
TVA			
Patch Level		0–127	
Tone Level		0–127	T
Bias Level		-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100	T
Bias Position		C-1–G9	T
Bias Direction		LOWER, UPPER, LO&UP, ALL	T
Level V-Curve	TVA Level Velocity Curve	FIXED, 1–7	T
Level V-Sens	TVA Level Velocity Sensitivity	-63–+63	T
Patch Pan		L64–0–63R	
Tone Pan		L64–0–63R	T
Pan KF	Pan Key follow	-100–+100	T
Rnd Pan Depth	Random Pan Depth	0–63	T
Alter Pan Depth	Alternate Pan Depth	L63–0–63R	T
Env T1 V-Sens	TVA Envelope Time 1 Velocity Sensitivity	-63–+63	T
Env T4 V-Sens	TVA Envelope Time 4 Velocity Sensitivity	-63–+63	T
Env Time KF	TVA Envelope Time Key Follow	-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100	T
Env Time 1–4	TVA Envelope Time 1–4	0–127	T
Env Level 1–3	TVA Envelope Level 1–3	0–127	T

LFO Group (Owner's Manual; p. 66)

Parameter		Value	
LFO			
1:/2:Waveform	LFO1/LFO2 Waveform	SIN, TRI, SAW-U, SAW-D, SQR, RND, BND-U, BND-D, TRP, S&H, CHAOS	T
1:/2:Rate	LFO1/LFO2 Rate	0–127, note (*1)	T
1:/2:Offset	LFO1/LFO2 Offset	-100, -50, 0, +50, +100	T
1:/2:Rate Detune	LFO1/LFO2 Rate Detune	0–127	T
1:/2:Delay Time	LFO1/LFO2 Delay Time	0–127	T
1:/2:Delay Time KF	LFO1/LFO2 Delay Time Key follow	-100, -90, -80, -70, -60, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +60, +70, +80, +90, +100	T
1:/2:Fade Mode	LFO1/LFO2 Fade Mode	ON <, ON >, OFF <, OFF >	T
1:/2:Fade Time	LFO1/LFO2 Fade Time	0–127	T
1:/2:Key Trigger	LFO1/LFO2 Key Trigger	OFF, ON	T
1:/2:Pitch Depth	LFO1/LFO2 Pitch Depth	-63–+63	T
1:/2:TVF Depth	LFO1/LFO2 TVF Depth	-63–+63	T
1:/2:TVA Depth	LFO1/LFO2 TVA Depth	-63–+63	T
1:/2:Pan Depth	LFO1/LFO2 Pan Depth	-63–+63	T

*1:

(Sixty-fourth-note triplet), (Sixty-fourth note), (Thirty-second-note triplet), (Thirty-second note), (Sixteenth-note triplet), (Dotted thirty-second note), (Sixteenth note), (Eighth-note triplet), (Dotted sixteenth note), (Eighth note), (Quarter-note triplet), (Dotted eighth note), (Quarter note), (Half-note triplet), (Dotted quarter note), (Half note), (Whole-note triplet), (Dotted half note), (Whole note), (Double-note triplet), (Dotted whole note), (Double note)

Rhythm Set Parameters

* *Parameters that can be set independently for each Rhythm Tone are indicated by "T."*
* *Parameters that can be set independently for each Wave comprising the Rhythm Tone are indicated by "W."*

General Group (Owner's Manual; p. 74)

Parameter		Value	
General			
Rhythm Name	Rhythm Set Name	space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←	
Clock Source	Rhythm Set Clock Source	RHYTHM, SEQUENCER	
Tempo	Rhythm Set Tempo	20–250	
Rhythm Tone			
Tone Name	Rhythm Tone Name	space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←	T
Assign Type		MULTI, SINGLE	T
Mute Group		OFF, 1–31	T
Env Mode	Rhythm Tone Envelope Mode	NO SUS, SUST	T
Bend Range	Rhythm Tone Pitch Bend Range	0–48	T
Rx Expression	Rhythm Tone Receive Expression Switch	OFF, ON	T
Rx Hold-1	Rhythm Tone Receive Hold-1 Switch	OFF, ON	T
Rx Pan Mode	Rhythm Tone Receive Pan Mode	CONTINUOUS, KEY-ON	T

Rhythm Ptn Group (Owner's Manual; p. 75)

Parameter		Value	
Rhythm Ptn			
Switch	Pattern Switch	OFF, ON	
Hold	Pattern Hold Switch	OFF, ON	
Style	Pattern Style	Refer to "Rhythm Pattern Style List" (p. 16).	
Accent Rate	Pattern Accent Rate	0–100 %	
Shuffle Rate	Pattern Shuffle Rate	0–100 %	
Shuffle Resolution	Pattern Shuffle Resolution	♪ (Sixteenth note) , ♪ (Eighth note)	
Keyboard Velocity	Pattern Keyboard Velocity	REAL, 1–127	
Note Assign	Pattern Note Assign	C-1–G9	
Key Trigger	Pattern Key Trigger	OFF, ON	

Controller Group (Owner's Manual; p. 76)

Parameter		Value	
Knob			
Assign 1–4	Realtime Control Knob Assign 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, TEMPO, PTN ACCENT, PTN SHFFLE	
Switch			
Assign 1–4	Realtime Control Button Assign 1–4	OFF, CC01–31, 33–95, BEND UP, BEND DOWN, AFTERTOUCH, OCT UP, OCT DOWN, TRNS UP, TRNS DOWN, TAP TEMPO, PTN HOLD	
Mode 1–4	Realtime Control Button Mode 1–4	MOMENTARY, LATCH	
D Beam			
Switch	D Beam Switch	OFF, ON	
Assign	D Beam Assign	OFF, CC01–31, 33–95, BEND UP, BEND DOWN, AFTERTOUCH, NOTE, OCT UP, OCT DOWN, START / STOP, TAP TEMPO, PTN SWITCH, PTN ACCENT, PTN SHFFLE	
Polarity	D Beam Polarity	STANDARD, REVERSE	
Range Lower	D Beam Range Lower	0–UPPER	
Range Upper	D Beam Range Upper	LOWER–127	

Effects Group (Owner's Manual; p. 165)

Parameter		Value	
Effects			
Rhythm Key Select		A0–C8	
Rhythm Output Assign		MFX, A, B, 1–4, TONE	
Tone Output Assign		MFX, A, B, 1–4	T
Tone Dry Send Level		0–127	T
Tone Chorus Send Level		0–127	T
Tone Reverb Send Level		0–127	T
MFX Type	Multi-Effects Type	0 (Through)–90 (3D Manual)	
MFX Dry Send Level	Multi-Effects Dry Send Level	0–127	
MFX Output Assign		A, B	
MFX Chorus Send Level	Multi-Effects Chorus Send Level	0–127	
MFX Reverb Send Level	Multi-Effects Reverb Send Level	0–127	
Chorus Type		0 (Off), 1 (Chorus), 2 (Delay), 3 (GM2Chorus)	
Chorus Level		0–127	
Chorus Output Assign		A, B	
Chorus Output Select		MAIN, REV, M+R	
Reverb Type		0 (Off), 1 (Reverb), 2 (SRV Room), 3 (SRV Hall), 4 (SRV Plate), 5 (GM2Reverb)	
Reverb Level		0–127	
Reverb Output Assign		A, B	

MFX Group (Owner's Manual; p. 174)

Parameter		Value	
MFX			
Type	Multi-Effects Type	00 THROUGH–90 3D MANUAL	

* *For details regarding multi-effects settings, refer to "Multi-Effects Parameters" (p. 32).*

MFX Control Group (Owner's Manual; p. 174)

Parameter		Value	
MFX Control			
Source 1–4	Multi-Effects Control Source 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	
Destination 1–4	Multi-Effects Control Destination 1–4	Refer to "Multi-Effects Parameters" (p. 32).	
Sens 1–4	Multi-Effects Control Sensitivity 1–4	-63–+63	

Chorus Group (Owner's Manual; p. 176)

Parameter		Value	
Chorus			
Type	Chorus Type	0 OFF, 1 CHORUS, 2 DELAY, 3 GM2 CHORUS	

* *For details regarding chorus settings, refer to "Chorus Parameters" (p. 62).*

Reverb Group (Owner's Manual; p. 177)

Parameter		Value	
Reverb			
Type	Reverb Type	0 OFF, 1 REVERB, 2 SRV ROOM, 3 SRV HALL, 4 SRV PLATE, 5 GM2 REVERB	

* *For details regarding reverb settings, refer to "Reverb Parameters" (p. 62).*

WMT Group (Owner's Manual; p. 77)

Parameter		Value	
WMT			
Wave Group		INT, XP-A, XP-B, XP-C	W
Wave No. (L)	Wave Number (L)	----, 0001–1083	W
Wave No. (R)	Wave Number (R)	----, 0001–1083	W
Wave Gain		-6, 0, +6, +12	W
FXM Switch		OFF, ON	W
FXM Color		1–4	W
FXM Depth		0–16	W
Tempo Sync	Wave Tempo Sync	OFF, ON	W
Coarse Tune		-48–+48	W
Fine Tune		-50–+50	W
Wave Pan		L64–0–63R	W
Rnd Pan Sw	Random Pan Switch	OFF, ON	W
Alter Pan Sw	Alternate Pan Switch	OFF, ON, REV	W
Wave Level		0–127	W
Velocity Control	Velocity Control Switch	OFF, ON, RND	
Vel Fade Lower	Velocity Fade Width Lower	0–127	W
Vel Range Lower	Velocity Range Lower	1–UPPER	W
Vel Range Upper	Velocity Range Upper	LOWER–127	W
Vel Fade Upper	Velocity Fade Width Upper	0–127	W

Pitch Group (Owner's Manual; p. 79)

Parameter		Value	
Pitch			
Tone Coarse Tune	Rhythm Tone Coarse Tune	C-1–G9	T
Tone Fine Tune	Rhythm Tone Fine Tune	-50–+50	T
Random Pitch Depth		0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200	T
Env Depth	Pitch Envelope Depth	-12–+12	T
Env V-Sens	Pitch Envelope Velocity Sensitivity	-63–+63	T
Env T1 V-Sens	Pitch Envelope Time 1 Velocity Sensitivity	-63–+63	T
Env T4 V-Sens	Pitch Envelope Time 4 Velocity Sensitivity	-63–+63	T
Env Level 0–4	Pitch Envelope Level 0–4	-63–+63	T
Env Time 1–4	Pitch Envelope Time 1–4	0–127	T

TVF Group (Owner's Manual; p. 80)

Parameter		Value	
TVF			
Filter Type		OFF, LPF, BPF, HPF, PKG, LPF2, LPF3	T
Cutoff Frequency		0–127	T
Cutoff V-Curve	Cutoff Frequency Velocity Curve	FIXED, 1–7	T
Cutoff V-Sens	Cutoff Frequency Velocity Sensitivity	-63–+63	T
Resonance		0–127	T
Resonance V-Sens	Resonance Velocity Sensitivity	-63–+63	T
Env Depth	TVF Envelope Depth	-63–+63	T
Env V-Curve	TVF Envelope Velocity Curve	FIXED, 1–7	T
Env V-Sens	TVF Envelope Velocity Sensitivity	-63–+63	T
Env T1 V-Sens	TVF Envelope Time 1 Velocity Sensitivity	-63–+63	T
Env T4 V-Sens	TVF Envelope Time 4 Velocity Sensitivity	-63–+63	T
Env Level 0–4	TVF Envelope Level 0–4	0–127	T
Env Time 1–4	TVF Envelope Time 1–4	0–127	T

TVA Group (Owner's Manual; p. 82)

Parameter		Value	
TVA			
Rhythm Level	Rhythm Set Level	0–127	
Tone Level	Rhythm Tone level	0–127	T
Level V-Curve	TVA Level Velocity Curve	FIXED, 1–7	T
Level V-Sens	TVA Level Velocity Sensitivity	-63–+63	T
Tone Pan	Rhythm Tone Pan	L64–0–63R	T
Random Pan Depth		0–63	T
Alternate Pan Depth		L63–0–63R	T
Env T1 V-Sens	TVA Envelope Time 1 Velocity Sensitivity	-63–+63	T
Env T4 V-Sens	TVA Envelope Time 4 Velocity Sensitivity	-63–+63	T
Env Time 1–4	TVA Envelope Time 1–4	0–127	T
Env Level 1–3	TVA Envelope Level 1–3	0–127	T

Multitimbre Parameters

** Parameters that can be set independently for each Part are indicated by "P."*

General Group (Owner's Manual; p. 115)

Parameter		Value	
General			
Multitimbre Name		space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←	

Part Group (Owner's Manual; p. 115)

Parameter		Value	
Part			
Patch / Rhythm	Patch / Rhythm Set	PAT, RHY	P
Patch Bank		USR, PRA–E (PR), GM, XPA–C	P
Patch Number		001–***	P
Level	Part Level	0–127	P
Pan	Part Pan	L64–0–63R	P
Coarse Tune	Part Coarse Tune	-48–+48	P
Fine Tune	Part Fine Tune	-50–+50	P
Mono / Poly	Part Mono / Poly	MON, POL, PAT	P
Legato Switch	Part Legato Switch	OFF, ON, PAT	P
Pitch Bend Range	Part Pitch Bend Range	0–24, PAT	P
Portamento Switch	Part Portamento Switch	OFF, ON, PAT	P
Portamento Time	Part Portamento Time	0–127, PAT	P
Cutoff Offset	Part Cutoff Offset	-64–+63	P
Resonance Offset	Part Resonance Offset	-64–+63	P
Attack Time Offset	Part Attack Time Offset	-64–+63	P
Release Time Offset	Part Release Time Offset	-64–+63	P
Decay Time Offset	Part Decay Time Offset	-64–+63	P
Vibrate Rate	Part Vibrate Rate	-64–+63	P
Vibrate Depth	Part Vibrate Depth	-64–+63	P
Vibrate Delay	Part Vibrate Delay	-64–+63	P
Octave Shift	Part Octave Shift	-3–+3	P
Vel Sens Offset	Part Velocity Sensitivity Offset	-63–+63	P
Key Fade Lower	Part Keyboard Fade Width Lower	0–127	P
Key Range Lower	Part Keyboard Range Lower	C-1–UPPER	P
Key Range Upper	Part Keyboard Range Upper	LOWER–G9	P
Key Fade Upper	Part Keyboard Fade Width Upper	0–127	P
Voice Reserve		0–63, FUL	P

MIDI Group (Owner's Manual; p. 118)

Parameter		Value	
Part MIDI			
Receive Channel		1–16	P
Receive Switch		OFF, ON	P
Solo Part Select		(OFF), SEL	
Mute Switch		OFF, MUT	P
MIDI Filter			
Program Change	Receive Program Change Switch	(OFF), ✔ (ON)	P
Bank Select	Receive Bank Select Switch	(OFF), ✔ (ON)	P
Pitch Bend	Receive Pitch Bend Switch	(OFF), ✔ (ON)	P
Channel Pressure	Receive Channel Pressure Switch	(OFF), ✔ (ON)	P
Poly Key Pressure	Receive Polyphonic Key Pressure Switch	(OFF), ✔ (ON)	P
Modulation	Receive Modulation Switch	(OFF), ✔ (ON)	P
Volume	Receive Volume Switch	(OFF), ✔ (ON)	P
Pan	Receive Pan Switch	(OFF), ✔ (ON)	P
Expression	Receive Expression Switch	(OFF), ✔ (ON)	P
Hold-1	Receive Hold 1 Switch	(OFF), ✔ (ON)	P
Phase Lock	Phase Lock Switch	(OFF), ✔ (ON)	P
Velocity Curve		(OFF), 1–4	P

Effects Group (Owner's Manual; p. 170)

Parameter		Value	
Effects			
Part Select		Part 1–Part 16	
Part Output Assign		MFX, A, B, 1–4, PAT	P
Part Output MFX Select	Part Output Multi-Effects Select	A–C (MFX-A–MFX-C)	P
Part Dry Send Level		0–127	P
Part Chorus Send Level		0–127	P
Part Reverb Send Level		0–127	P
MFX Type	Multi-Effects Type	0 (Through)–90 (3D Manual)	
MFX Dry Send Level	Multi-Effects Dry Send Level	0–127	
MFX Output Assign	Multi-Effects Output Assign	A, B	
MFX Chorus Send Level	Multi-Effects Chorus Send Level	0–127	
MFX Reverb Send Level	Multi-Effects Reverb Send Level	0–127	
Chorus Type		0 (Off), 1 (Chorus), 2 (Delay), 3 (GM2Chorus)	
Chorus Level		0–127	
Chorus Output Assign		A, B	
Chorus Output Select		MAIN, REV, M+R	
Reverb Type		0 (Off), 1 (Reverb), 2 (SRV Room), 3 (SRV Hall), 4 (SRV Plate), 5 (GM2Reverb)	
Reverb Level		0–127	
Reverb Output Assign		A, B	
MFX-A Source	Multi-Effects A Source	MLT, P1–P16	
Chorus Source		MLT, P1–P16	
Reverb Source		MLT, P1–P16	

MFX Group (Owner's Manual; p. 174)

Parameter		Value	
MFX			
Select	Multi-Effects Select	MFX-A–MFX-C	
Type	Multi-Effects Type	00 THROUGH–90 3D MANUAL	

* *For details regarding multi-effects settings, refer to "Multi-Effects Parameters" (p. 32).*

MFX Control Group (Owner's Manual; p. 174)

Parameter		Value	
MFX Control			
Select	Multi-Effects Select	MFX-A–MFX-C	
Source 1–4	Multi-Effects Control Source 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	
Destination 1–4	Multi-Effects Control Destination 1–4	Refer to "Multi-Effects Parameters" (p. 32).	
Sens 1–4	Multi-Effects Control Sensitivity 1–4	-63–+63	
MFX Control Channel	Multi-Effects Control Channel	1–16, OFF	

Chorus Group (Owner's Manual; p. 176)

Parameter		Value	
Chorus			
Type	Chorus Type	0 OFF, 1 CHORUS, 2 DELAY, 3 GM2 CHORUS	

* *For details regarding chorus settings, refer to "Chorus Parameters" (p. 62).*

Reverb Group (Owner's Manual; p. 177)

Parameter		Value	
Reverb			
Type	Reverb Type	0 OFF, 1 REVERB, 2 SRV ROOM, 3 SRV HALL, 4 SRV PLATE, 5 GM2 REVERB	

* *For details regarding reverb settings, refer to "Reverb Parameters" (p. 62).*

Scale Tune Group (Owner's Manual; p. 120)

Parameter		Value	
Scale Tune			
C–B	Part Scale Tune C–B	-64–+63	P

Performance Parameters

** Parameters that can be set independently for each Part are indicated by "P."*

General Group (Owner's Manual; p. 94)

Parameter		Value	
General			
Performance Name		space, A–Z, a–z, 0–9, ! " # $ % & ' ( ) * + , - . / : ; < = > ? @ [\ ] ^ _ ` { | } → ←	
Seq Tempo Override	Sequencer Tempo Override	OFF, ON	
Overriding Tempo		20–250	

Arpeggio Group (Owner's Manual; p. 95)

Parameter		Value	
Arpeggio			
Switch	Arpeggio Switch	OFF, ON	
Hold	Arpeggio Hold Switch	OFF, ON	
Style	Arpeggio Style	Refer to "Arpeggio Style List" (p. 15).	
Variation	Arpeggio Variation		
Motif	Arpeggio Motif	UP, DOWN, UP&DOWN, RANDOM, NOTE ORDER, GLISSANDO, CHORD, AUTO1, AUTO2, PHRASE	
Accent Rate	Arpeggio Accent Rate	0–100 %	
Shuffle Rate	Arpeggio Shuffle Rate	0–100 %	
Shuffle Resolution	Arpeggio Shuffle Resolution	♪ (Sixteenth note) , ♪ (Eighth note)	
Keyboard Velocity	Arpeggio Keyboard Velocity	REAL, 1–127	
Octave Range	Arpeggio Octave Range	-3–+3	
Key Trigger	Arpeggio Key Trigger	OFF, ON	
Zone Number	Arpeggio Zone Number	1–16	

Rhythm Ptn Group (Owner's Manual; p. 96)

Parameter		Value	
Rhythm Ptn			
Switch	Pattern Switch	OFF, ON	
Hold	Pattern Hold Switch	OFF, ON	
Style	Pattern Style	Refer to "Rhythm Pattern Style List" (p. 16).	
Accent Rate	Pattern Accent Rate	0–100 %	
Shuffle Rate	Pattern Shuffle Rate	0–100 %	
Shuffle Resolution	Pattern Shuffle Resolution	♪ (Sixteenth note) , ♪ (Eighth note)	
Keyboard Velocity	Pattern Keyboard Velocity	REAL, 1–127	
Note Assign	Pattern Note Assign	C-1–G9	
Key Trigger	Pattern Key Trigger	OFF, ON	
Zone Number	Pattern Zone Number	1–16	

Controller Group (Owner's Manual; p. 97)

Parameter		Value	
Knob			
Assign 1–4	Realtime Control Knob Assign 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, TEMPO, ARP VAR, ARP ACCENT, ARP SHFFLE, ARP OCTAVE, PTN ACCENT, PTN SHFFLE	
Zone 1–4	Realtime Control Knob Zone Number 1–4	1–16	
Switch			
Assign 1–4	Realtime Control Button Assign 1–4	OFF, CC01–31, 33–95, BEND UP, BEND DOWN, AFTERTOUCH, OCT UP, OCT DOWN, TRNS UP, TRNS DOWN, TAP TEMPO, MONO / POLY, ARP HOLD, PTN HOLD, ZONE INT, ZONE EXT	
Mode 1–4	Realtime Control Button Mode 1–4	MOMENTARY, LATCH	
Zone 1–4	Realtime Control Button Zone Number 1–4	1–16	
D Beam			
Switch	D Beam Switch	OFF, ON	
Assign	D Beam Assign	OFF, CC01–31, 33–95, BEND UP, BEND DOWN, AFTERTOUCH, NOTE, OCT UP, OCT DOWN, START / STOP, TAP TEMPO, ARP SWITCH, ARP VAR, ARP ACCENT, ARP SHFFLE, ARP OCT UP, ARP OCT DW, PTN SWITCH, PTN ACCENT, PTN SHFFLE	
Polarity	D Beam Polarity	STANDARD, REVERSE	
Range Lower	D Beam Range Lower	0–UPPER	
Range Upper	D Beam Range Upper	LOWER–127	
Zone	D Beam Zone Number	1–16	

Zone Group (Owner's Manual; p. 98)

Parameter		Value	
Zone			
Transmit Channel		1–16	P
Int Switch	Internal Switch	OFF, ON	P
Ext Switch	External Switch	OFF, ON	P
Ext Bank Select MSB	External Bank Select MSB	0–127, ---	P
Ext Bank Select LSB	External Bank Select LSB	0–127	P
Ext Program Number	External Program Change Number	1–128, ---	P
Ext Level	External Level	0–127, ---	P
Ext Pan	External Pan	L64–0–63R, ---	P
Key Range Lower	Keyboard Range Lower	C-1–UPPER	P
Key Range Upper	Keyboard Range Upper	LOWER–G9	P
Control Bender	Control Pitch Bend Switch	OFF, ON	P
Control Aftertouch	Control Aftertouch Switch	OFF, ON	P
Control Modulation	Control Modulation Switch	OFF, ON	P
Control Hold Pedal	Control Hold Pedal Switch	OFF, ON	P
Control Pedal 1, 2	Control Pedal 1, 2 Switch	OFF, ON	P

Part Group (Owner's Manual; p. 100)

Parameter		Value	
Part			
Patch / Rhythm	Patch / Rhythm Set	PAT, RHY	P
Patch Bank		USR, PRA–E (PR), GM, XPA–C	P
Patch Number		001–***	P
Level	Part Level	0–127	P
Pan	Part Pan	L64–0–63R	P
Coarse Tune	Part Coarse Tune	-48–+48	P
Fine Tune	Part Fine Tune	-50–+50	P
Mono / Poly	Part Mono / Poly	MON, POL, PAT	P
Legato Switch	Part Legato Switch	OFF, ON, PAT	P
Pitch Bend Range	Part Pitch Bend Range	0–24, PAT	P
Portamento Switch	Part Portamento Switch	OFF, ON, PAT	P
Portamento Time	Part Portamento Time	0–127, PAT	P
Cutoff Offset	Part Cutoff Offset	-64–+63	P
Resonance Offset	Part Resonance Offset	-64–+63	P
Attack Time Offset	Part Attack Time Offset	-64–+63	P
Release Time Offset	Part Release Time Offset	-64–+63	P
Decay Time Offset	Part Decay Time Offset	-64–+63	P
Vibrate Rate	Part Vibrate Rate	-64–+63	P
Vibrate Depth	Part Vibrate Depth	-64–+63	P
Vibrate Delay	Part Vibrate Delay	-64–+63	P
Octave Shift	Part Octave Shift	-3–+3	P
Vel Sens Offset	Part Velocity Sensitivity Offset	-63–+63	P
Key Fade Lower	Part Keyboard Fade Width Lower	0–127	P
Key Range Lower	Part Keyboard Range Lower	C-1–UPPER	P
Key Range Upper	Part Keyboard Range Upper	LOWER–G9	P
Key Fade Upper	Part Keyboard Fade Width Upper	0–127	P
Voice Reserve		0–63, FUL	P

MIDI Group (Owner's Manual; p. 103)

Parameter		Value	
Part MIDI			
Receive Channel		1–16	P
Receive Switch		OFF, ON	P
Solo Part Select		(OFF), SEL	
Mute Switch		OFF, MUT	P
MIDI Filter			
Program Change	Receive Program Change Switch	(OFF), ✔ (ON)	P
Bank Select	Receive Bank Select Switch	(OFF), ✔ (ON)	P
Pitch Bend	Receive Pitch Bend Switch	(OFF), ✔ (ON)	P
Channel Pressure	Receive Channel Pressure Switch	(OFF), ✔ (ON)	P
Poly Key Pressure	Receive Polyphonic Key Pressure Switch	(OFF), ✔ (ON)	P
Modulation	Receive Modulation Switch	(OFF), ✔ (ON)	P
Volume	Receive Volume Switch	(OFF), ✔ (ON)	P
Pan	Receive Pan Switch	(OFF), ✔ (ON)	P
Expression	Receive Expression Switch	(OFF), ✔ (ON)	P
Hold-1	Receive Hold 1 Switch	(OFF), ✔ (ON)	P
Phase Lock	Phase Lock Switch	(OFF), ✔ (ON)	P
Velocity Curve		(OFF), 1–4	P

Effects Group (Owner's Manual; p. 170)

Parameter		Value	
Effects			
Part Select		Part 1–Part 16	
Part Output Assign		MFX, A, B, 1–4, PAT	P
Part Output MFX Select	Part Output Multi-Effects Select	A–C (MFX-A–MFX-C)	P
Part Dry Send Level		0–127	P
Part Chorus Send Level		0–127	P
Part Reverb Send Level		0–127	P
MFX Type	Multi-Effects Type	0 (Through)–90 (3D Manual)	
MFX Dry Send Level	Multi-Effects Dry Send Level	0–127	
MFX Output Assign	Multi-Effects Output Assign	A, B	
MFX Chorus Send Level	Multi-Effects Chorus Send Level	0–127	
MFX Reverb Send Level	Multi-Effects Reverb Send Level	0–127	
Chorus Type		0 (Off), 1 (Chorus), 2 (Delay), 3 (GM2Chorus)	
Chorus Level		0–127	
Chorus Output Assign		A, B	
Chorus Output Select		MAIN, REV, M+R	
Reverb Type		0 (Off), 1 (Reverb), 2 (SRV Room), 3 (SRV Hall), 4 (SRV Plate), 5 (GM2Reverb)	
Reverb Level		0–127	
Reverb Output Assign		A, B	
MFX-A Source	Multi-Effects A Source	PRF, P1–P16	
Chorus Source		PRF, P1–P16	
Reverb Source		PRF, P1–P16	

MFX Group (Owner's Manual; p. 174)

Parameter		Value	
MFX			
Select	Multi-Effects Select	MFX-A–MFX-C	
Type	Multi-Effects Type	00 THROUGH–90 3D MANUAL	

* *For details regarding multi-effects settings, refer to "Multi-Effects Parameters" (p. 32).*

MFX Control Group (Owner's Manual; p. 174)

Parameter		Value	
MFX Control			
Select	Multi-Effects Select	MFX-A–MFX-C	
Source 1–4	Multi-Effects Control Source 1–4	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH, SYS CTRL1–SYS CTRL4	
Destination 1–4	Multi-Effects Control Destination 1–4	Refer to "Multi-Effects Parameters" (p. 32).	
Sens 1–4	Multi-Effects Control Sensitivity 1–4	-63–+63	
MFX Control Channel	Multi-Effects Control Channel	1–16, OFF	

Chorus Group (Owner's Manual; p. 176)

Parameter		Value	
Chorus			
Type	Chorus Type	0 OFF, 1 CHORUS, 2 DELAY, 3 GM2 CHORUS	

* *For details regarding chorus settings, refer to "Chorus Parameters" (p. 62).*

Reverb Group (Owner's Manual; p. 177)

Parameter		Value	
Reverb			
Type	Reverb Type	0 OFF, 1 REVERB, 2 SRV ROOM, 3 SRV HALL, 4 SRV PLATE, 5 GM2 REVERB	

* *For details regarding reverb settings, refer to "Reverb Parameters" (p. 62).*

Scale Tune Group (Owner's Manual; p. 104)

Parameter		Value	
Scale Tune			
C–B	Part Scale Tune C–B	-64–+63	P

System Parameters

General Group (Owner's Manual; p. 179)

Parameter		Value
General		
Local Switch		OFF, ON
Master Tune		415.3–466.2 Hz
Master Key Shift		-24–+24
Master Level		0–127
Patch Remain	Patch Remain Switch	OFF, ON
Mix / Parallel		MIX, PARALLEL
Output Gain		-12, -6, 0, +6, +12 dB
Keyboard Velocity		REAL, 1–127
Keyboard Sens	Keyboard Sensitivity	LIGHT, MEDIUM, HEAVY
Aftertouch Sens	Aftertouch Sensitivity	0–100
Power Up Mode		LAST SET, DEFAULT
Backlight Saver		OFF, 5, 10, 20 ,30, 40, 50, 60 minutes

Sequencer Group (Owner's Manual; p. 180)

Parameter		Value
Sequencer		
Sync Mode		MASTER, SLAVE MIDI, SLAVE MTC, REMOTE
Sync Output	Sync Output Switch	OFF, ON
Soft Through	Soft Through Switch	OFF, ON
MMC Mode		MASTER, SLAVE
MMC Output	MMC Output Switch	OFF, ON
MTC Sync Output	MTC Sync Output Switch	OFF, ON
MTC Frame Rate		24, 25, 29N, 29D, 30
MTC Offset Hour	MTC Offset Time Hour	0–23 hours
MTC Offset Minute	MTC Offset Time Minute	0–59 minutes
MTC Offset Second	MTC Offset Time Second	0–59 seconds
MTC Offset Frame	MTC Offset Time Frame	0–29 frames
MTC Error Level		0 –10
Metronome Mode		OFF, PLAY ONLY, REC ONLY, PLAY&REC, ALWAYS
Metronome Level		0–10
Metronome Sound		TYPE 1, TYPE 2, TYPE 3, TYPE 4

MIDI Group (Owner's Manual; p. 182)

Parameter		Value
MIDI		
Performance Ctrl Ch	Performance Control Channel	1–16, OFF
Multitimbre Ctrl Ch	Multitimbre Control Channel	1–16, OFF
Patch / Rhythm Rx Channel	Patch / Rhythm Set Receive Channel	1–16
Patch / Rhythm Tx Channel	Patch / Rhythm Set Transmit Channel	1–16, Rx Ch, OFF
Remote Keyboard Sw	Remote Keyboard Switch	OFF, ON
Exclusive Protect	Exclusive Protect Switch	OFF, ON
Device ID	Device ID Number	17–32
Rx Program Change	Receive Program Change Switch	OFF, ON
Rx Bank Select	Receive Bank Select Switch	OFF, ON
Rx GM System On	Receive GM System On Switch	OFF, ON
Rx GM2 System On	Receive GM2 System On Switch	OFF, ON
Rx GS Reset	Receive GS Reset Switch	OFF, ON
Rx Exclusive	Receive System Exclusive Switch	OFF, ON
Tx Program Change	Transmit Program Change Switch	OFF, ON
Tx Bank Select	Transmit Bank Select Switch	OFF, ON
Tx Active Sensing	Transmit Active Sensing Switch	OFF, ON
Tx Edit Data	Transmit Edit Data Switch	OFF, ON

Controller Group (Owner's Manual; p. 184)

Parameter		Value
Controller		
Sys Ctrl 1–4 Source	System Control 1–4 Source	OFF, CC01–31, 33–95, PITCH BEND, AFTERTOUCH
Hold Pedal Polarity		STANDARD, REVERSE
Cont Hold Pedal	Continuous Hold Pedal Switch	OFF, ON
Pedal 1, 2 Assign		OFF, CC01–31, 33–95, BEND UP, BEND DOWN, AFTERTOUCH, OCT UP, OCT DOWN, START / STOP, PUNCH I / O, TAP TEMPO, PROG UP, PROG DOWN, FAV UP, FAV DOWN, ARP SW, PTN SW
Pedal 1, 2 Polarity		STANDARD, REVERSE
Beam Sens	D Beam Sensitivity	1–10

EQ Group (Owner's Manual; p. 185)

Parameter		Value
EQ		
EQ Switch	Equalizer Switch	BYPASS, ON
Low Freq	Low Frequency	200, 400 Hz
Low Gain		-15–+15 dB
High Freq	High Frequency	2000, 4000, 8000 Hz
High Gain		-15–+15 dB

Preview Group (Owner's Manual; p. 185)

Parameter		Value
Preview		
Preview Mode		SINGLE, CHORD, PHRASE
Note Number 1–4	Preview Note Number 1–4	C-1–G9
Velocity 1–4	Preview Velocity 1–4	OFF, 1–127

Scale Tune Group (Owner's Manual; p. 186)

Parameter		Value
Scale Tune		
C–B	Patch Scale Tune C–B	-64–+63
Scale Tune Switch		OFF, ON

Effects List

Multi-Effects Parameters

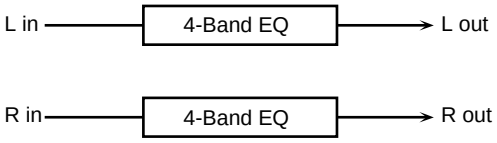
The multi-effects feature 90 different kinds of effects. Some of the effects consist of two or more different effects connected in series or in parallel.

Parameters marked with a sharp "#" can be controlled using a specified controller (Two setting items will change simultaneously for "#1" and "#2").

If a multi-effect marked by a "◆" symbol is selected as the MFX-A multi-effect in Performance mode or Multitimbre mode, three types (MFX-A--MFX-C) of multi-effect can be used simultaneously. Only multi-effects marked by this symbol can be selected for MFX-B and MFX-C.

1: STEREO EQ (Stereo Equalizer)

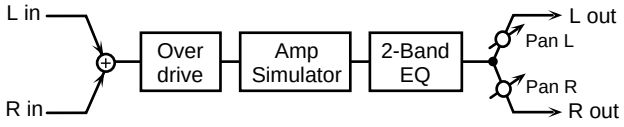
This is a four-band stereo equalizer (low, mid x 2, high).



Parameter	Value	Description
Low Freq	200, 400 Hz	Frequency of the low range
Low Gain	-15–+15 dB	Gain of the low range
Mid1 Freq	200–8000 Hz	Frequency of the middle range 1
Mid1 Gain	-15–+15 dB	Gain of the middle range 1
Mid1 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 1 Set a higher value for Q to narrow the range to be affected.
Mid2 Freq	200–8000 Hz	Frequency of the middle range 2
Mid2 Gain	-15–+15 dB	Gain of the middle range 2
Mid2 Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range 2 Set a higher value for Q to narrow the range to be affected.
High Freq	2000, 4000, 8000 Hz	Frequency of the high range
High Gain	-15–+15 dB	Gain of the high range
Output Level #	0–127	Output Level

2: OVERDRIVE

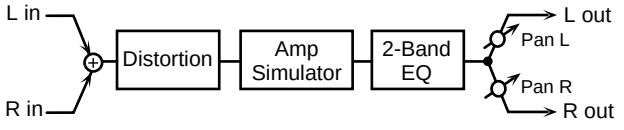
Creates a soft distortion similar to that produced by vacuum tube amplifiers.



Parameter	Value	Description
Drive #	0–127	Degree of distortion Also changes the volume.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp 3-STACK: large triple stack amp
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level
Output Pan #	L64–63R	Stereo location of the output sound

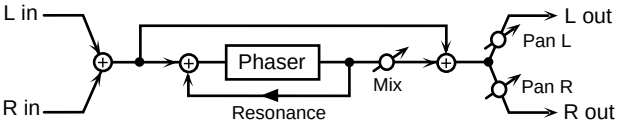
3: DISTORTION

Produces a more intense distortion than Overdrive. The parameters are the same as for “2: OVERDRIVE.”



4: PHASER

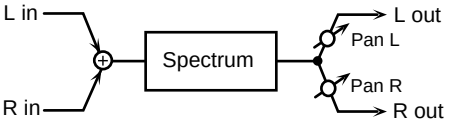
Adds a phase-shifted sound to the original sound, producing a twisting modulation that creates spaciousness and depth.



Parameter	Value	Description
Manual #	100–8000 Hz	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Resonance	0–127	Amount of feedback
Mix Level	0–127	Level of the phase-shifted sound
Output Level	0–127	Output Level
Output Pan	L64–63R	Stereo location of the output sound

5: SPECTRUM

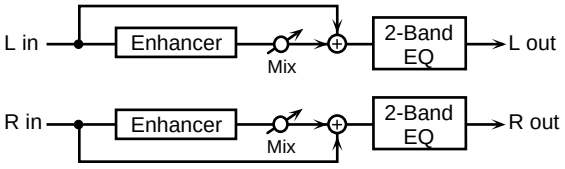
This is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies. It is similar to an equalizer, but has 8 frequency points fixed at locations most suitable for adding character to the sound.



Parameter	Value	Description
Band1 (250Hz)	-15–+15 dB	Gain of each frequency band
Band2 (500Hz)		
Band3 (1000Hz)		
Band4 (1250Hz)		
Band5 (2000Hz)		
Band6 (3150Hz)		
Band7 (4000Hz)		
Band8 (8000Hz)		
Q	0.5, 1.0, 2.0, 4.0, 8.0	Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
Output Level #	0–127	Output Level
Output Pan #	L64–63R	Stereo location of the output sound

6: ENHANCER

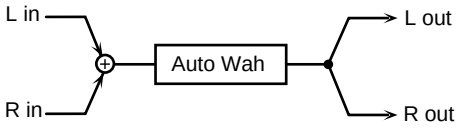
Controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



Parameter	Value	Description
Sens #	0–127	Sensitivity of the enhancer
Mix Level #	0–127	Level of the overtones generated by the enhancer
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level

7: AUTO WAH

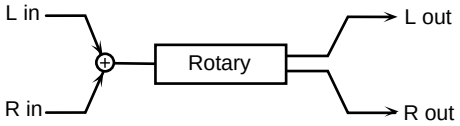
Cyclically controls a filter to create cyclic change in timbre.



Parameter	Value	Description
Filter Type	LPF, BPF	Type of filter LPF: The wah effect will be applied over a wide frequency range. BPF: The wah effect will be applied over a narrow frequency range
Sens	0–127	Adjusts the sensitivity with which the filter is controlled.
Manual #	0–127	Adjusts the center frequency at which the effect is applied.
Peak	0–127	Adjusts the amount of the wah effect that will occur in the range of the center frequency. Set a higher value for Q to narrow the range to be affected.
Rate #	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Output Level	0–127	Output Level

8: ROTARY

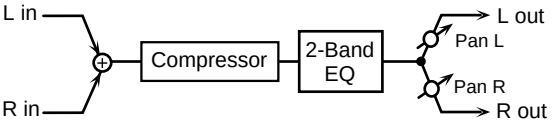
The Rotary effect simulates the sound of the rotary speakers often used with the electric organs of the past. Since the movement of the high range and low range rotors can be set independently, the unique type of modulation characteristic of these speakers can be simulated quite closely. This effect is most suitable for electric organ Patches.



Parameter	Value	Description
Speed #	SLOW, FAST	Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor. SLOW: Slows down the rotation to the Slow Rate. FAST: Speeds up the rotation to the Fast Rate.
Woofer Slow Rate	0.05–10.00 Hz	Slow speed (SLOW) of the low frequency rotor
Woofer Fast Rate	0.05–10.00 Hz	Fast speed (FAST) of the low frequency rotor
Woofer Accel	0–15	Adjusts the time it takes the low frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.
Woofer Level	0–127	Volume of the low frequency rotor
Tweeter Slow Rate	0.05–10.00 Hz	Settings of the high frequency rotor The parameters are the same as for the low frequency rotor
Tweeter Fast Rate	0.05–10.00 Hz	
Tweeter Accel	0–15	
Tweeter Level	0–127	
Separation	0–127	Spatial dispersion of the sound
Output Level #	0–127	Output Level

9: COMPRESSOR

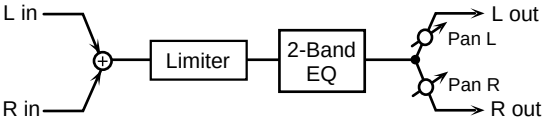
Flattens out high levels and boosts low levels, smoothing out unevenness in volume.



Parameter	Value	Description
Attack	0–127	Attack time of an input sound
Sustain	0–127	Adjusts the time over which low level sounds are boosted until they reach the specified volume.
Post Gain	0, +6, +12, +18 dB	Adjusts the output gain.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level #	0–127	Output Level
Output Pan #	L64–63R	Stereo location of the output sound

10: LIMITER

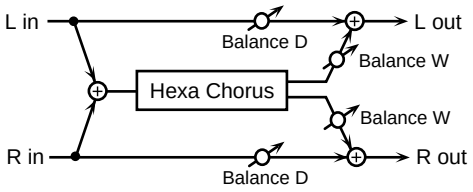
Compresses signals that exceed a specified volume level, preventing distortion from occurring.



Parameter	Value	Description
Threshold	0–127	Adjusts the volume at which compression will begin.
Ratio	1.5:1, 2:1, 4:1, 100:1	Compression ratio
Release	0–127	Adjusts the time from when the volume falls below the Threshold Level until compression is no longer applied.
Post Gain	0, +6, +12, +18 dB	Adjusts the output gain.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level #	0–127	Output Level
Output Pan #	L64–63R	Stereo location of the output sound

11: HEXA-CHORUS

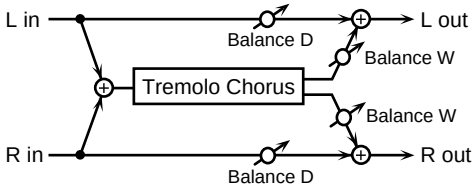
Uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.



Parameter	Value	Description
Rate #	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Depth Deviation	-20–+20	Adjusts the difference in modulation depth between each chorus sound.
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Pre Delay Deviation	0–20	Adjusts the differences in Pre Delay between each chorus sound.
Pan Deviation	0–20	Adjusts the difference in stereo location between each chorus sound. 0: All chorus sounds will be in the center. 20: Each chorus sound will be spaced at 60 degree intervals relative to the center.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Output Level	0–127	Output Level

12: TREMOLO CHORUS

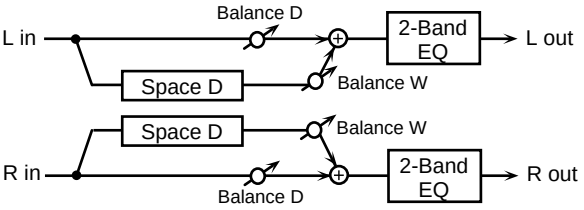
This is a chorus effect with added Tremolo (cyclic modulation of volume).



Parameter	Value	Description
Chorus Rate	0.05–10.00 Hz	Modulation frequency of the chorus effect
Chorus Depth	0–127	Modulation depth of the chorus effect
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Tremolo Rate #	0.05–10.00 Hz	Modulation frequency of the tremolo effect
Tremolo Phase	0–180˚	Spread of the tremolo effect
Tremolo Separation	0–127	Spread of the tremolo effect
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the tremolo chorus sound (W)
Output Level	0–127	Output Level

13: SPACE-D

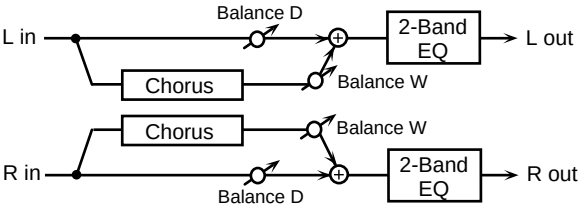
This is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.



Parameter	Value	Description
Rate #	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180˚	Spatial spread of the sound
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Output Level	0–127	Output Level

14: STEREO CHORUS

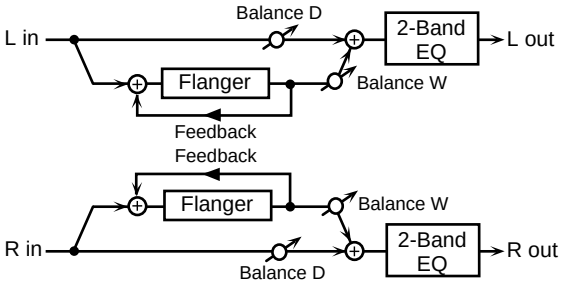
This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.



Parameter	Value	Description
Rate #	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180˚	Spatial spread of the sound
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Output Level	0–127	Output Level

15: STEREO FLANGER

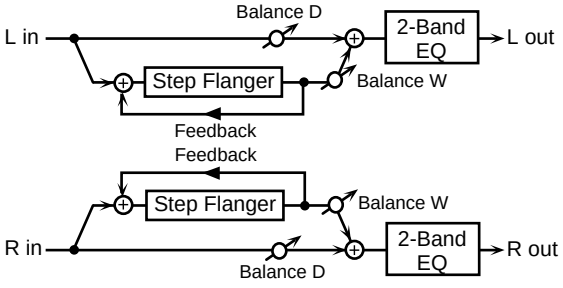
This is a stereo flanger. (The LFO has the same phase for left and right.) It produces a metallic resonance that rises and falls like a jet airplane taking off or landing. A filter is provided so that you can adjust the timbre of the flanged sound.



Parameter	Value	Description
Rate #	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Phase	0–180˚	Spatial spread of the sound
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Output Level	0–127	Output Level

16: STEP FLANGER

This is a flanger in which the flanger pitch changes in steps. The speed at which the pitch changes can also be specified in terms of a note-value of a specified tempo.

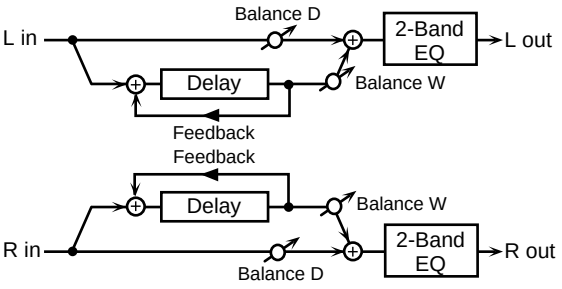


Parameter	Value	Description
Rate	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Phase	0–180˚	Spatial spread of the sound
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Step Rate #	0.10–20.00 Hz, note *1	Rate (period) of pitch change
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Output Level	0–127	Output Level

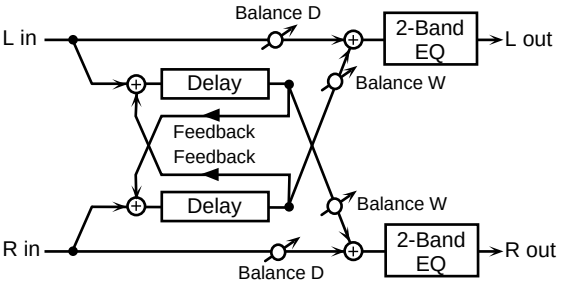
17: STEREO DELAY

This is a stereo delay.

When Feedback Mode is NORMAL:



When Feedback Mode is CROSS:

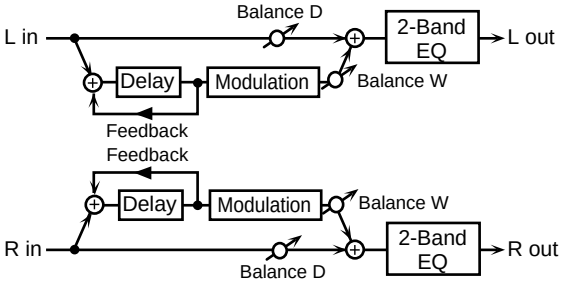


Parameter	Value	Description
Delay Left Delay Right	0.0–500.0 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect. (See the figures above.)
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Phase Left Phase Right	NORMAL, INVERT	Phase of the delay sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Output Level	0–127	Output Level

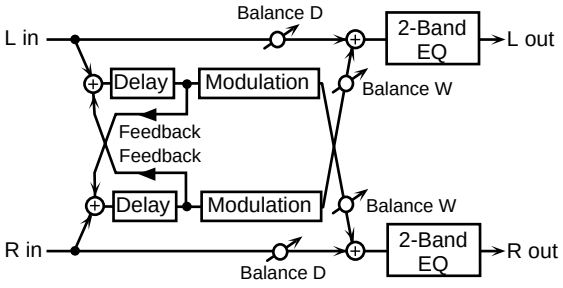
18: MODULATION DELAY

Adds modulation to the delayed sound, producing an effect similar to a flanger.

When Feedback Mode is NORMAL:



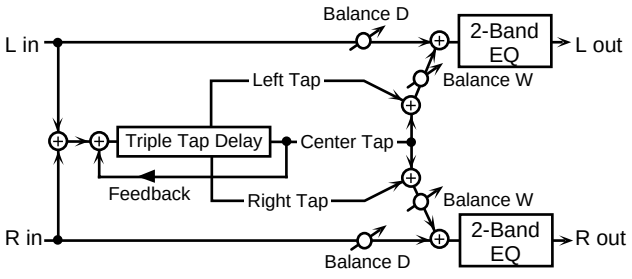
When Feedback Mode is CROSS:



Parameter	Value	Description
Delay Left Delay Right	0.0–500.0 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Feedback Mode	NORMAL, CROSS	Selects the way in which delay sound is fed back into the effect (See the figures above.)
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Rate #	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Phase	0–180˚	Spatial spread of the sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Output Level	0–127	Output Level

19: TRIPLE TAP DELAY

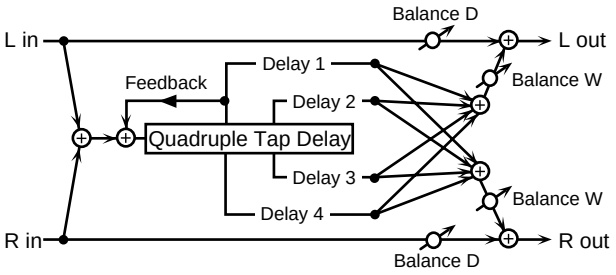
Produces three delay sounds; center, left and right.

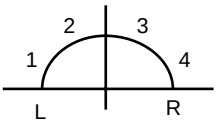


Parameter	Value	Description
Delay Center Delay Left Delay Right	200–1000 ms, note *1	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Center Level Left Level Right Level	0–127	Volume of each delay sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Output Level	0–127	Output Level

20: QUADRUPLE TAP DELAY

This effect has four delays.



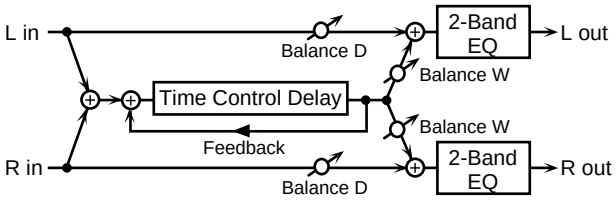


Stereo location of each delay sound

Parameter	Value	Description
Delay 1 Delay 2 Delay 3 Delay 4	200–1000 ms, note *1	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Level 1 Level 2 Level 3 Level 4	0–127	Volume of each delay sound
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Output Level	0–127	Output Level

21: TIME CONTROL DELAY

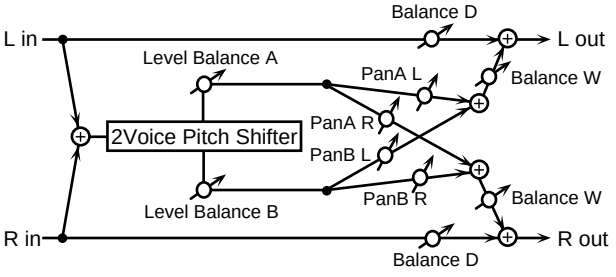
This effect allows you to use a specified controller (the controller selected in EFX Control Source) to control the delay time and pitch in realtime. Lengthening the delay will lower the pitch, and shortening it will raise the pitch.



Parameter	Value	Description
Delay #	200–1000 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Accel	0–15	Adjusts the time over which the Delay Time will change from the current setting to a newly specified setting. The rate of change for the Delay Time directly affects the rate of pitch change.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Output Level	0–127	Output Level
Output Pan	L64–63R	Stereo location of the delay sound

22: 2VOICE PITCH SHIFTER

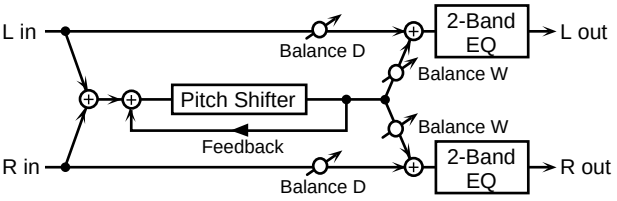
Shifts the pitch of the original sound. This 2-voice pitch shifter has two pitch shifters, and can add two pitch shifted sounds to the original sound.



Parameter	Value	Description
A:Coarse #1	-24–+12 semi	Adjusts the pitch of Pitch Shift A in semitone steps.
A:Fine #1	-100–+100 cent	Adjusts the pitch of Pitch Shift A in 2-cent steps.
A:Pre Delay	0.0–500 ms	Adjusts the delay time from the direct sound until the Pitch Shift A sound is heard.
A:Pan	L64–63R	Stereo location of the Pitch Shift A sound
B:Coarse #2	-24–+12 semi	Settings of the Pitch Shift B sound The parameters are the same as for the Pitch Shift A sound.
B:Fine #2	-100–+100 cent	
B:Pre Delay	0.0–500.0 ms	
B:Pan	L64–63R	
Mode	1, 2, 3, 4, 5	Setting a higher value for this parameter will result in slower response, but steadier pitch.
Level Balance	A100:0B–A0:100B	Volume balance between the Pitch Shift A and Pitch Shift B sounds
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Output Level	0–127	Output Level

23: FBK PITCH SHIFTER (Feedback Pitch Shifter)

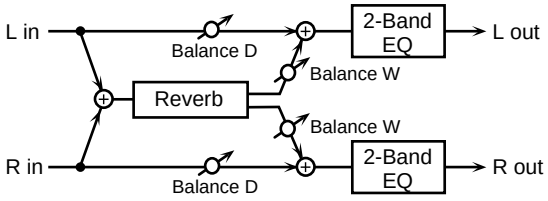
This allows the pitch shifted sound to be fed back into the effect.



Parameter	Value	Description
Coarse #1	-24–+12 semi	Adjusts the pitch of the pitch shifted sound in semitone steps.
Fine #1	-100–+100 cent	Adjusts the pitch of the pitch shifted sound in 2-cent steps.
Pre Delay	0.0–500.0 ms	Adjusts the delay time from the direct sound until the pitch shifted sound is heard.
Mode	1, 2, 3, 4, 5	Setting a higher value for this parameter will result in slower response, but steadier pitch.
Feedback #	-98–+98 %	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) settings will invert the phase.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Output Level	0–127	Output Level
Output Pan	L64–63R	Stereo location of the pitch shifted sound

24: REVERB

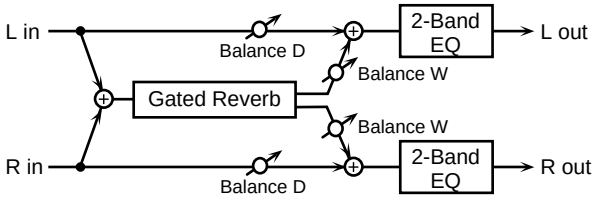
Adds reverberation to the sound, simulating an acoustic space.



Parameter	Value	Description
Type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2	Type of reverb ROOM1: dense reverb with short decay ROOM2: sparse reverb with short decay STAGE1: reverb with greater late reverberation STAGE2: reverb with strong early reflections HALL1: reverb with clear reverberance HALL2: reverb with rich reverberance
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the reverb sound is heard.
Time #	0–127	Time length of reverberation
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the reverb sound (W)
Output Level	0–127	Output Level

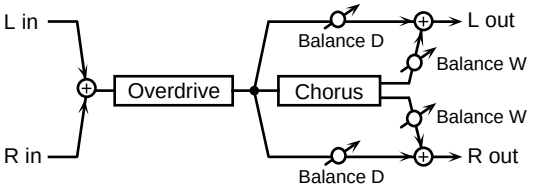
25: GATED REVERB

This is a special type of reverb in which the reverberant sound is cut off before its natural length.



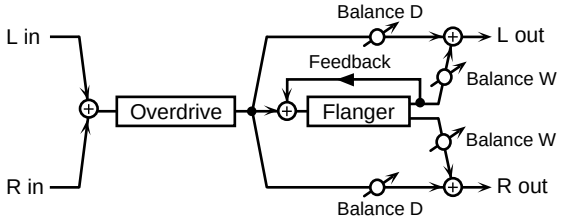
Parameter	Value	Description
Type	NORMAL, REVERSE, SWEEP1, SWEEP2	Type of reverb NORMAL: conventional gated reverb REVERSE: backwards reverb SWEEP1: the reverberant sound moves from right to left SWEEP2: the reverberant sound moves from left to right
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the reverb sound is heard.
Gate Time	5–500 ms	Adjusts the time from when the reverb is heard until it disappears.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the reverb sound (W)
Output Level #	0–127	Output Level

26: OVERDRIVE -> CHORUS



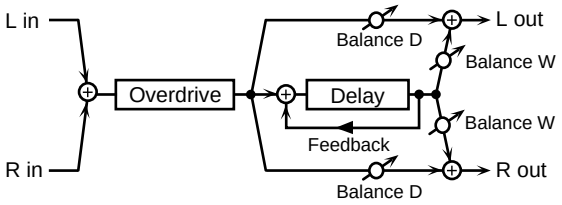
Parameter	Value	Description
OD Drive	0–127	Degree of distortion Also changes the volume.
OD Pan #	L64–63R	Stereo location of the overdrive sound
Chorus Rate	0.05–10.00 Hz	Frequency of modulation
Chorus Depth	0–127	Depth of modulation
Chorus Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Output Level	0–127	Output Level

27: OVERDRIVE -> FLANGER



Parameter	Value	Description
OD Drive	0–127	Degree of distortion Also changes the volume.
OD Pan #	L64–63R	Stereo location of the overdrive sound
Flanger Rate	0.05–10.00 Hz	Frequency of modulation
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Output Level	0–127	Output Level

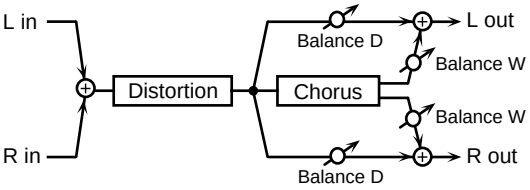
28: OVERDRIVE -> DELAY



Parameter	Value	Description
OD Drive	0–127	Degree of distortion Also changes the volume.
OD Pan #	L64–63R	Stereo location of the overdrive sound
Delay Time	0.0–500.0 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Output Level	0–127	Output Level

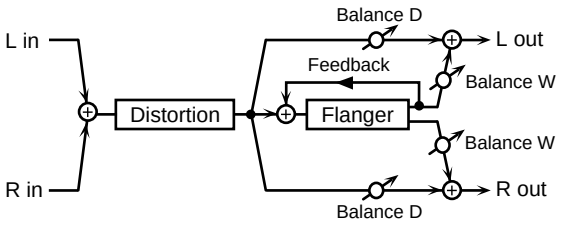
29: DISTORTION -> CHORUS

The parameters are essentially the same as in "26: OVERDRIVE -> CHORUS," with the exception of the following two.
OD Drive -> Dist Drive, OD Pan -> Dist Pan



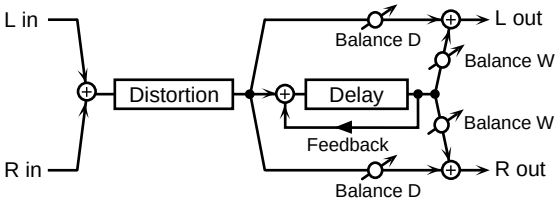
30: DISTORTION -> FLANGER

The parameters are essentially the same as in "27: OVERDRIVE -> FLANGER," with the exception of the following two.
OD Drive -> Dist Drive, OD Pan -> Dist Pan

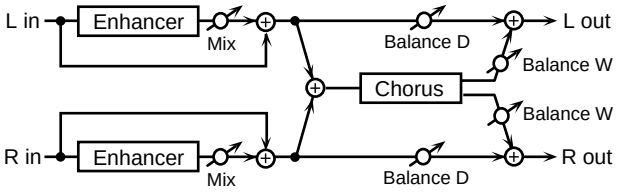


31: DISTORTION -> DELAY

The parameters are essentially the same as in "28: OVERDRIVE -> DELAY," with the exception of the following two.
OD Drive -> Dist Drive, OD Pan -> Dist Pan

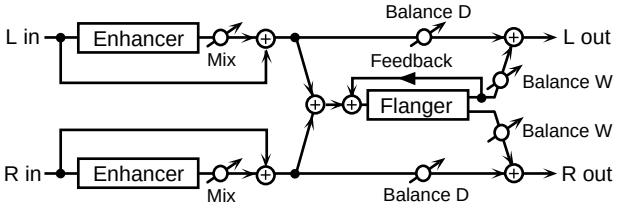


32: ENHANCER -> CHORUS



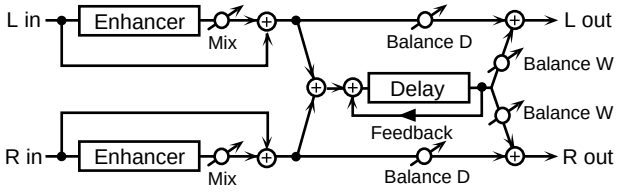
Parameter	Value	Description
Enhancer Sens #	0–127	Sensitivity of the enhancer
Enhancer Mix Level	0–127	Level of the overtones generated by the enhancer
Chorus Rate	0.05–10.00 Hz	Frequency of modulation
Chorus Depth	0–127	Depth of modulation
Chorus Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the chorus (W) and the sound that is not sent through the chorus (D).
Output Level	0–127	Output Level

33: ENHANCER -> FLANGER



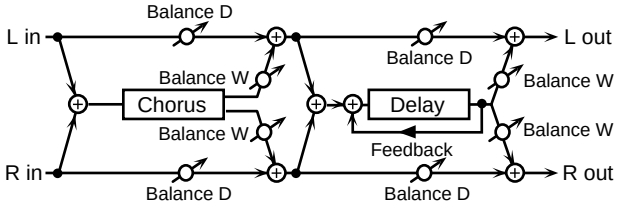
Parameter	Value	Description
Enhancer Sens #	0–127	Sensitivity of the enhancer
Enhancer Mix Level	0–127	Level of the overtones generated by the enhancer
Flanger Rate	0.05–10.00 Hz	Frequency of modulation
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Output Level	0–127	Output Level

34: ENHANCER -> DELAY



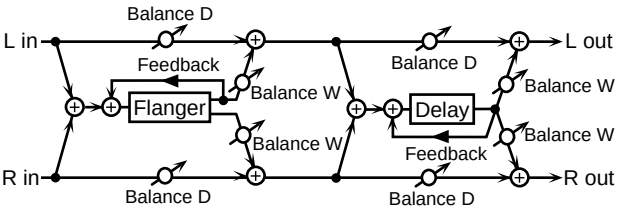
Parameter	Value	Description
Enhancer Sens #	0–127	Sensitivity of the enhancer
Enhancer Mix Level	0–127	Level of the overtones generated by the enhancer
Delay Time	0.0–500.0 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Output Level	0–127	Output Level

35: CHORUS -> DELAY



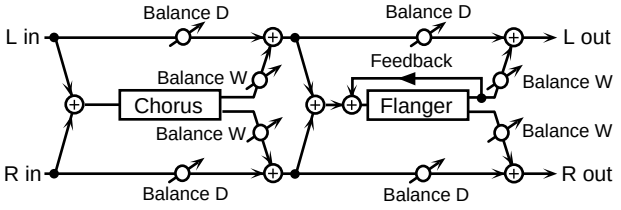
Parameter	Value	Description
Chorus Rate	0.05–10.00 Hz	Frequency of modulation
Chorus Depth	0–127	Depth of modulation
Chorus Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Delay Time	0.0–500.0 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Output Level	0–127	Output Level

36: FLANGER -> DELAY



Parameter	Value	Description
Flanger Rate	0.05–10.00 Hz	Frequency of modulation
Flanger Depth	0–127	Depth of modulation
Flanger Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Delay Time	0.0–500.0 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Delay Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Delay HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the delay (W) and the sound that is not sent through the delay (D).
Output Level	0–127	Output Level

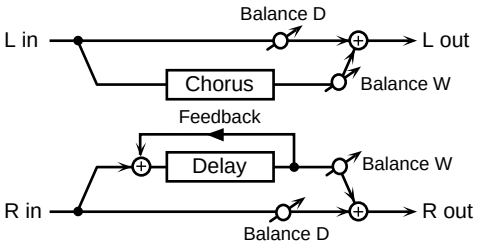
37: CHORUS -> FLANGER



Parameter	Value	Description
Chorus Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Chorus Rate	0.05–10.00 Hz	Modulation frequency of the chorus effect
Chorus Depth	0–127	Modulation depth of the chorus effect
Chorus Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Flanger Rate	0.05–10.00 Hz	Modulation frequency of the flanger effect
Flanger Depth	0–127	Modulation depth of the flanger effect
Flanger Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Flanger Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Flanger Balance #	D100:0W–D0:100W	Adjusts the volume balance between the sound that is sent through the flanger (W) and the sound that is not sent through the flanger (D).
Output Level	0–127	Output Level

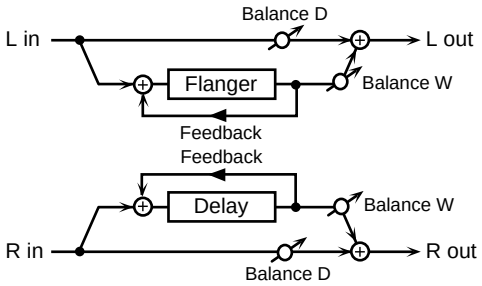
38: CHORUS/DELAY

The parameters are the same as for "35: CHORUS -> DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.



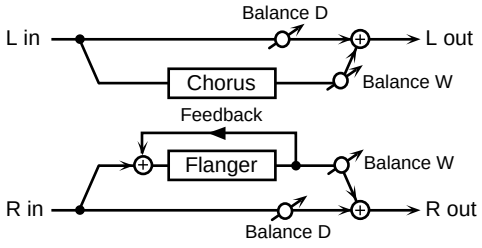
39: FLANGER/DELAY

The parameters are the same as for "36: FLANGER -> DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.



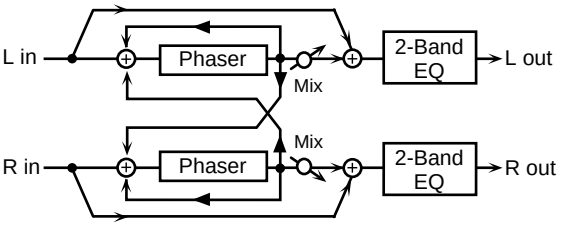
40: CHORUS/FLANGER

The parameters are the same as for "37: CHORUS -> FLANGER." However, the Flanger Balance parameter adjusts the volume balance between the direct sound and the flanger sound.



41: STEREO PHASER

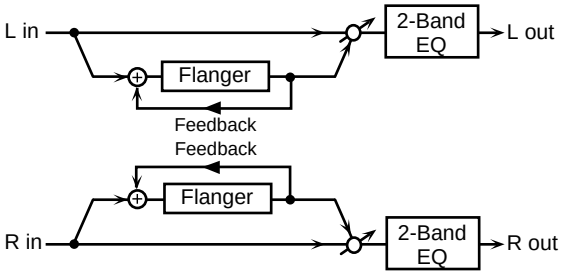
This is a stereo phaser. With the Step effects, you can also make stepped changes in the pitch of sounds to which the Phaser effect is applied.



Parameter	Value	Description
Type	1, 2	Type of phaser Type 2 adds more of the phaser effect to the high frequencies than Type 1.
Mode	4-STAGE, 8-STAGE	Number of stages in the phaser
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. INVERSE: The left and right phase will be opposite. When using a mono source, this spreads the sound. SYNCHRO: The left and right phase will be the same. Select this when inputting a stereo source.
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Resonance	0–127	Amount of feedback
Cross Feedback	-98–+98 %	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
Mix Level	0–127	Level of the phase-shifted sound
Step Switch	OFF, ON	Determines whether the pitch is changed in a stepped fashion (ON) or not (OFF).
Step Rate #	0.10–20.00 Hz, note *2	Rate (period) of pitch change
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level

42: KEYSYNC FLANGER

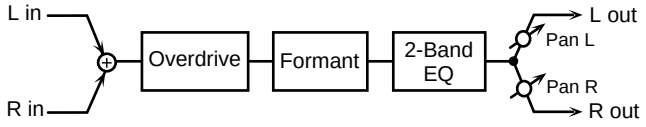
This effect controls the Flanger by resetting the effect at the volume of the sound input to the effects device, restarting from the same pitch each time the Flanger is reset.
This parameter lets your playing dynamics on the keyboard control the flanger effect.



Parameter	Value	Description
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Phase	0–180˚	Spatial spread of the sound
Pre Delay	0.0–100 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Step Switch	OFF, ON	Determines whether the pitch is changed in a stepped fashion (ON) or not (OFF).
Step Rate #	0.10–20.00 Hz, note *2	Rate (period) of pitch change
Keysync Switch	OFF, ON	Determines whether the Flanger LFO is reset according to the input sound (ON) or not (OFF).
Keysync Threshold	0–127	Adjusts the volume level for which reset will be applied.
Keysync Phase	0–360˚	LFO phase when the LFO is reset
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Output Level	0–127	Output Level

43: FORMANT FILTER

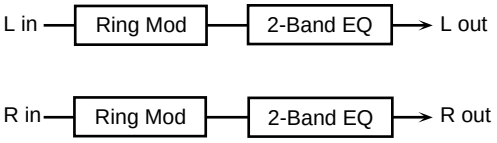
Adds a vowel character to the sound, making it similar to a human voice.



Parameter	Value	Description
Drive Switch	OFF, ON	Turns Drive on / off.
Drive #	0–127	Degree of distortion Also changes the volume.
Vowel1	a, e, i, o, u	Selects the vowel.
Vowel2		
Rate #	0.05–10.00 Hz, note *2	Frequency at which the two vowels will be switched
Depth #	0–127	Effect depth
Manual #	0–100	Adjusts the point at which the two vowels will be switched. When set to 50, Vowels 1 and 2 switched in the same amount of time. Setting this lower than 50 increases the time for Vowel 1; setting this higher than 50 decreases the time for Vowel 1.
Keysync Switch	OFF, ON	Determines whether the LFO for switching the vowels is reset according to the input sound (ON) or not (OFF).
Keysync Threshold	0–127	Volume level at which reset will be applied
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level
Output Pan	L64–63R	Stereo location of the output sound

44: RING MODULATOR

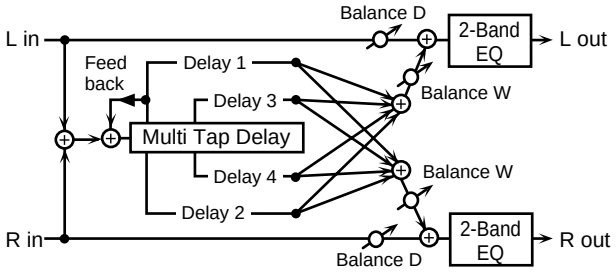
This is an effect which applies amplitude modulation (AM) to the input signal, producing bell-like sounds. You can also change the modulation frequency according to the volume of the sound input to the effects device.



Parameter	Value	Description
Frequency #	0–127	Adjusts the frequency at which modulation will be applied.
Modulator	OFF, SOURCE, A, B	Selects the source sound for the envelope controlling the modulation. SOURCE: The frequency is modulated according to the envelope of the sound sent into the Multi-effects. A, B: The frequency is modulated according to the envelope of the direct sound sent to the OUTPUT A or OUTPUT B jacks.
Modulator Monitor	OFF, ON	Determines whether the input sound used as the modulator is output (ON) or not (OFF). * This parameter is disabled when Modulator is set to OFF or SOURCE.
Sens #	0–127	Adjusts the amount of frequency modulation applied.
Polarity	UP, DOWN	Determines whether the frequency modulation moves towards higher frequencies (UP) or lower frequencies (DOWN).
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

45: MULTI TAP DELAY

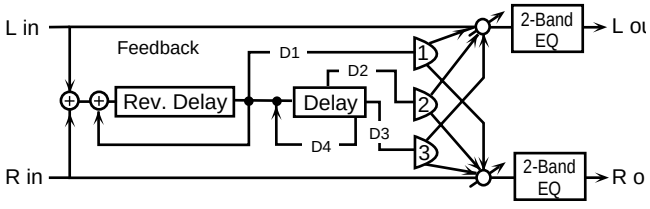
The effect has four delays. Each of the Delay Time parameters can be specified as a note length of the selected tempo. You can also set the panning and level of each delay sound.



Parameter	Value	Description
Delay 1–4	0–1800 ms, note *2	Adjusts the delay time from the direct sound until the delay 1–4 sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Level 1–4	0–127	Output level of the delay 1–4 sound
Pan 1–4	L64–63R	Stereo location of the delay 1–4 sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

46: REVERSE DELAY

Adds the reverse of the input sound as the delay sound.

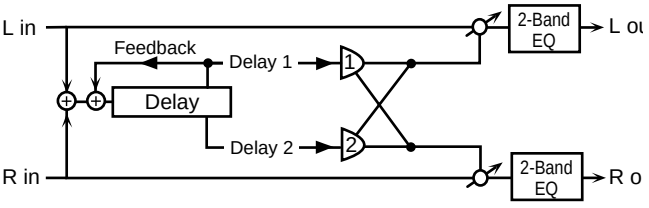


Parameter	Value	Description
Delay 1–4	0–900 ms, note *2	Adjusts the delay time from the direct sound until the delay 1–4 sound is heard.
Feedback 1 #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
Feedback 4 #		
HF Damp 1	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
HF Damp 4		
Level 1–3	0–127	Output level of the delay 1–3 sound
Pan 1–3	L64–63R	Stereo location of the delay 1–3 sound

Parameter	Value	Description
Threshold	0–127	Volume level at which the reverse delay will begin to apply
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

47: SHUFFLE DELAY

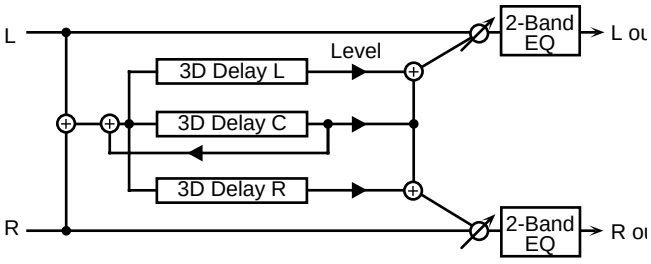
Adds a shuffle to the delay sound, giving the sound a bouncy delay effect with a swing feel.



Parameter	Value	Description
Delay #	0–1800 ms, note *2	Adjusts the delay time from the direct sound until the delay sound is heard.
Shuffle Rate #	0–100 %	Adjusts the ratio (as a percentage) of the time that elapses before the sound plays in Delay B relative to the time that elapses before the sound plays in Delay A. When set to 100%, the delay times are the same.
Accel	0–15	Adjusts the time over which the Delay Time will change from the current setting to a newly specified setting.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Pan A	L64–63R	Stereo location of the delay A sound
Pan B	L64–63R	Stereo location of the delay B sound
Level Balance	A100:0B–A0:100B	Volume balance between the delay A and delay B sounds
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

48: 3D DELAY

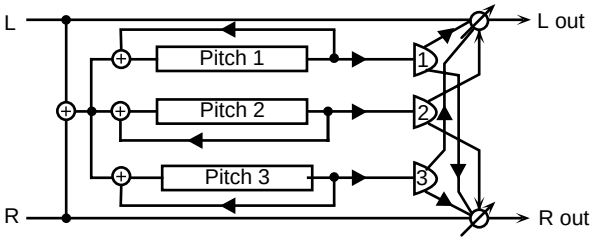
This applies a 3D effect to the delay sound. The delay sound will be positioned 90 degrees left and 90 degrees right.



Parameter	Value	Description
Delay Center Delay Left Delay Right	0–1800 ms, note *2	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Level Center Level Left Level Right	0–127	Output level of the delay sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.
Output Level	0–127	Output Level

49: 3VOICE PITCH SHIFTER

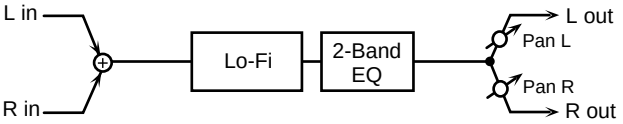
This 3-voice pitch shifter has three pitch shifters, and can add three pitch shifted sounds to the original sound.



Parameter	Value	Description
1:Coarse #1	-24–+12 semi	Adjusts the pitch of Pitch Shift 1 in semitone steps.
1:Fine #1	-100–+100 cent	Adjusts the pitch of Pitch Shift 1 in 2-cent steps.
1:Feedback #	-98–+98 %	Adjusts the proportion of the Pitch Shift 1 sound that is fed back into the effect. Negative (-) settings will invert the phase.
1:Pre Delay	0.0–500.0 ms	Adjusts the delay time from the direct sound until the Pitch Shift 1 sound is heard.
1:Level	0–127	Output Level of the Pitch Shift 1 sound
1:Pan	L64–63R	Stereo location of the Pitch Shift 1 sound
2:Coarse #2	-24–+12 semitone	Settings of the Pitch Shift 2 sound The parameters are the same as for the Pitch Shift 1 sound.
2:Fine #2	-100–+100 cent	
2:Feedback #	-98–+98 %	
2:Pre Delay	0.0–500 ms	
2:Level	0–127	
2:Pan	L64–63R	
3:Coarse #3	-24–+12 semitone	Settings of the Pitch Shift 3 sound The parameters are the same as for the Pitch Shift 1 sound.
3:Fine #3	-100–+100 cent	
3:Feedback #	-98–+98 %	
3:Pre Delay	0.0–500 ms	
3:Level	0–127	
3:Pan	L64–63R	
Mode	1, 2, 3, 4, 5	Setting a higher value for this parameter will result in slower response, but steadier pitch.
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

50: LOFI COMPRESS

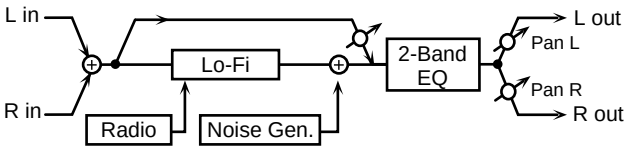
This is an effect that intentionally degrades the sound quality.



Parameter	Value	Description
Lo-Fi Type	1–9	Degrades the sound quality. The sound quality will become poorer as this value is increased.
Pre Filter Type	1–6	Adjusts the type of filter that will be applied before the sound passes through the Lo-Fi effect.
Post Filter 1 Type	1–6	Adjusts the type of filter that will be applied after the sound passes through the Lo-Fi effect.
Post Filter 2 Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff HPF: cuts the frequency range below the Cutoff
Post Filter 2 Cutoff	200–8000 Hz	Basic frequency of the filter
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level
Output Pan	L64–63R	Stereo location of the output sound

51: LOFI NOISE

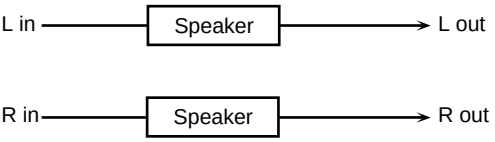
In addition to a Lo-Fi effect, this effect also generates various types of noise, such as radio noise and disc noise.



Parameter	Value	Description
Lo-Fi Type	1–9	Degrades the sound quality. The sound quality will become poorer as this value is increased.
Post Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff HPF: cuts the frequency range below the Cutoff
Post Filter Cutoff	200–8000 Hz	Basic frequency of the filter
Radio Detune #	0–127	Simulates the tuning noise of a radio. As this value is raised, the tuning will drift further.
Radio Noise Level	0–127	Volume of the radio noise
Disc Noise Type	LP, EP, SP, RND	Type of record noise The frequency at which the noise is heard will depend on the selected type.
Disc Noise LPF	200–8000 Hz, BYPASS	Adjusts the cutoff frequency of the low pass filter that is applied to the record noise. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Disc Noise Level	0–127	Volume of the record noise
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level
Output Pan	L64–63R	Stereo location of the output sound

52: SPEAKER SIMULATOR

Simulates the speaker type and mic settings used to record the speaker sound.



Parameter	Value	Description
Speaker Type	(See the table below.)	Type of speaker
Mic Setting	1, 2, 3	Adjusts the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2, and 3.
Mic Level #	0–127	Volume of the microphone
Direct Level #	0–127	Volume of the direct sound
Output Level #	0–127	Output Level

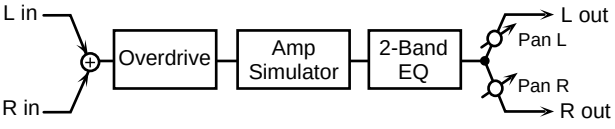
Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	small open-back enclosure	10	dynamic
SMALL 2	small open-back enclosure	10	dynamic
MIDDLE	open back enclosure	12 x 1	dynamic
JC-120	open back enclosure	12 x 2	dynamic
BUILT IN 1	open back enclosure	12 x 2	dynamic
BUILT IN 2	open back enclosure	12 x 2	condenser
BUILT IN 3	open back enclosure	12 x 2	condenser
BUILT IN 4	open back enclosure	12 x 2	condenser
BUILT IN 5	open back enclosure	12 x 2	condenser
BG STACK 1	sealed enclosure	12 x 2	condenser
BG STACK 2	large sealed enclosure	12 x 2	condenser
MS STACK 1	large sealed enclosure	12 x 4	condenser
MS STACK 2	large sealed enclosure	12 x 4	condenser
METAL STACK	large double stack	12 x 4	condenser
2-STACK	large double stack	12 x 4	condenser
3-STACK	large triple stack	12 x 4	condenser

53: OVERDRIVE 2

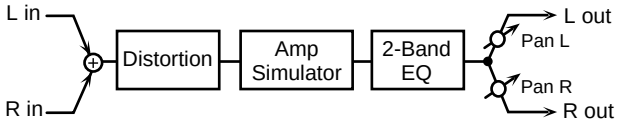
This is an overdrive that provides heavy distortion.



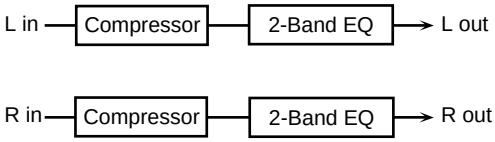
Parameter	Value	Description
Drive #	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on / off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp 3-STACK: large triple stack amp
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level
Output Pan #	L64–63R	Stereo location of the output sound

54: DISTORTION 2

This is a distortion effect that provides heavy distortion. The parameters are the same as for "53: OVERDRIVE 2."

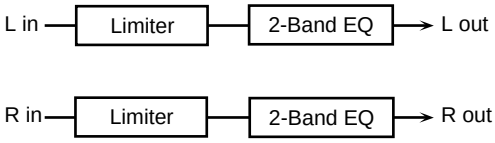


55: STEREO COMPRESSOR



Parameter	Value	Description
Attack	0–127	Attack time of an input sound
Sustain	0–127	Adjusts the time over which low level sounds are boosted until they reach the specified volume.
Post Gain	0, +6, +12, +18 dB	Adjusts the output gain.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level #	0–127	Output Level

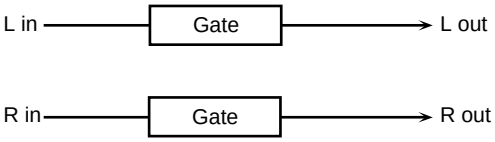
56: STEREO LIMITER



Parameter	Value	Description
Threshold	0–127	Adjusts the volume at which compression will begin.
Ratio	1.5:1, 2:1, 4:1, 100:1	Compression ratio
Release	0–127	Adjusts the time from when the volume falls below the Threshold Level until compression is no longer applied.
Post Gain	0, +6, +12, +18 dB	Adjusts the output gain.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level #	0–127	Output Level

57: GATE

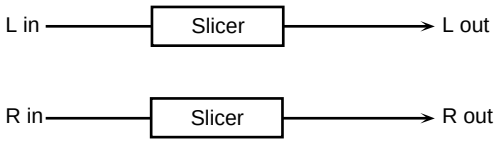
Cuts the reverb's delay according to the volume of the sound input to the effects device. Use this in situations such as when you want to force a decrease in the decay sound.



Parameter	Value	Description
Mode	GATE, DUCK	Type of the gate GATE (Gated Reverb): When the source volume falls below a certain level, the gate closes, giving the effect of the reverb sound being cut with a gated reverb. DUCK (Ducking Reverb): When the source volume gets high enough, the gate closes, which gives a ducking reverb-type effect. Stop the reverb sound only when input loud sound so that prevent the play sound become unclear.
Attack	0–127	Adjusts the time it takes the gate fully opens after being triggered.
Hold	0–127	Adjusts the time it takes the gate starts closing after the instant the source sound goes under the Key Threshold.
Release	0–127	Adjusts the time it takes the gate fully closes after passes by the hold time.
Key	SOURCE, A, B	Selects the source sound that acts as the trigger for closing the gate. SOURCE: The gate is closed by the sound sent into the Multi-effects. A, B: The gate is closed by the direct sound sent to the OUTPUT A or OUTPUT B jacks.
Key Threshold	0–127	Volume level at which the gate begins to close
Key Monitor	OFF, ON	Determines whether the sound used as the gate trigger is output (ON) or not (OFF). * This parameter is disabled when Key is set to SOURCE.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

58: SLICER

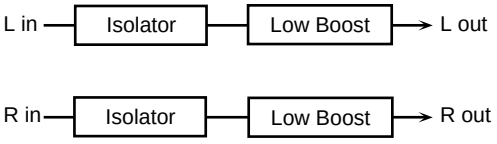
By applying successive cuts to the sound, this effect turns a conventional sound into a sound that appears to be played as a backing phrase. This is especially effective when applied to sustain-type sounds.



Parameter	Value	Description
Beat 1-1–4-4	0–127	For a single measure containing four quarter notes, this sets the level of each sixteenth-note when the measure is divided into sixteenth notes.
Rate #	0.05–10.00 Hz, note *2	Cycle for one measure
Attack	0–127	Speed at which the volume changes between beats
Reset Trigger #	OFF, SOURCE, A, B	Selects the source sound that acts as the trigger resetting the one-measure pattern. OFF: The pattern is not reset, even if the input signal is present. SOURCE: The pattern is reset by the sound sent into the Multi-effects. A, B: The pattern is reset by the direct sound sent to the OUTPUT A or OUTPUT B jacks. * When Reset Trigger is selected as the MFX Control parameter, you can use an external MIDI device to reset the pattern.
Reset Threshold	0–127	Volume level at which the reset begins
Reset Monitor	OFF, ON	Determines whether the sound used as the reset trigger is output (ON) or not (OFF). * This parameter is disabled when Reset Trigger is set to OFF or SOURCE.
Mode	LEGATO, SLASH	Sets the manner in which the volume changes as one beat progresses to the next. LEGATO: The change in volume from one beat's level to the next remains unaltered. If the level of a following beat is the same as the one preceding it, then there is no change in volume. SLASH: The level is momentarily set to 0 before progressing to the level for the next beat. This change in volume occurs even if the level of a following beat is the same as the one preceding it.
Shuffle #	0–127	Timing of volume changes in levels for even-numbered Beats (Beat 1-2 / Beat 1-4 / Beat 2-2 / ...). The higher the value selected, the later the timing with which the beat progresses.
Output Level	0–127	Output Level

59: ISOLATOR

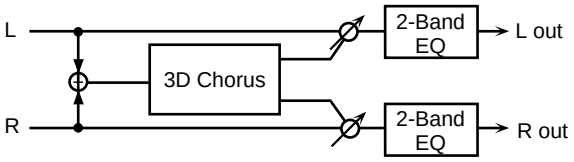
This is an equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.



Parameter	Value	Description
Boost / Cut Low #	-60–+4 dB	These boost and cut each of the High, Middle, and Low frequency ranges. At -60 dB, the sound becomes inaudible. 0 dB is equivalent to the input level of the sound.
Boost / Cut Mid #		
Boost / Cut High #		
Anti Phase Low Switch	OFF, ON	Turns the Anti-Phase function on and off for the Low frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.
Anti Phase Low Level	0–127	Adjusts the level settings for the Low frequency ranges. Adjusting this level for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo source.)
Anti Phase Mid Switch	OFF, ON	Settings of the Anti-Phase function for the Middle frequency ranges The parameters are the same as for the Low frequency ranges.
Anti Phase Mid Level	0–127	
Low Boost Switch	OFF, ON	Turns Low Booster on / off. This emphasizes the bottom to create a heavy bass sound.
Low Boost Level	0–127	Increasing this value gives you a heavier low end. * Depending on the Isolator and filter settings this effect may be hard to distinguish.
Output Level	0–127	Output Level

60: 3D CHORUS

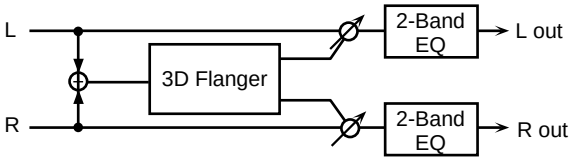
This applies a 3D effect to the chorus sound. The chorus sound will be positioned 90 degrees left and 90 degrees right.



Parameter	Value	Description
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Modulation depth of the chorus effect
Phase	0–180˚	Spatial spread of the sound
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus sound (W)
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.
Output Level	0–127	Output Level

61: 3D FLANGER

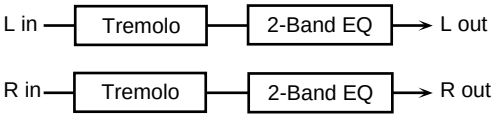
This applies a 3D effect to the flanger sound. The flanger sound will be positioned 90 degrees left and 90 degrees right.



Parameter	Value	Description
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback #	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Phase	0–180˚	Spatial spread of the sound
Pre Delay	0.0–100.0 ms	Adjusts the delay time from when the direct sound begins until the flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Step Switch	OFF, ON	Determines whether the pitch is changed in a stepped fashion (ON) or not (OFF).
Step Rate #	0.10–20.00 Hz, note *2	Rate (period) of pitch change
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the flanger sound (W)
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.
Output Level	0–127	Output Level

62: TREMOLO

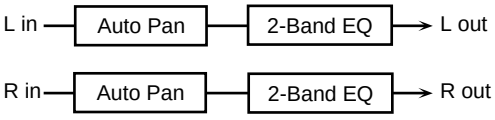
Cyclically modulates the volume to add tremolo effect to the sound.

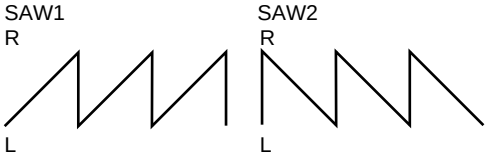


Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1, SAW2	Modulation Wave TRI: triangle wave SQR: square wave SIN: sine wave SAW1/2: sawtooth wave
		
Rate #	0.05–10.00 Hz, note *2	Frequency of the change
Depth #	0–127	Depth to which the effect is applied
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level

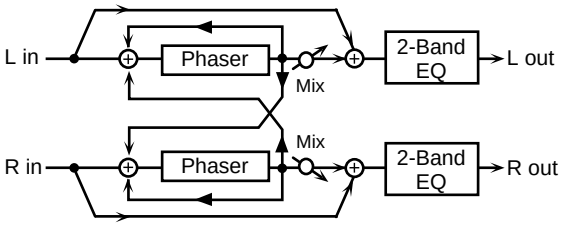
63: AUTO PAN

Cyclically modulates the stereo location of the sound.



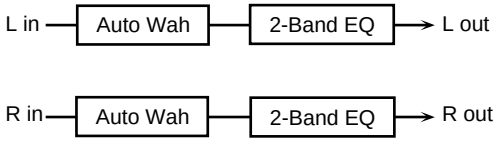
Parameter	Value	Description
Mod Wave	TRI, SQR, SIN, SAW1, SAW2	Modulation Wave TRI: triangle wave SQR: square wave SIN: sine wave SAW1/2: sawtooth wave
		
Rate #	0.05–10.00 Hz, note *2	Frequency of the change
Depth #	0–127	Depth to which the effect is applied
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level

64: STEREO PHASER 2



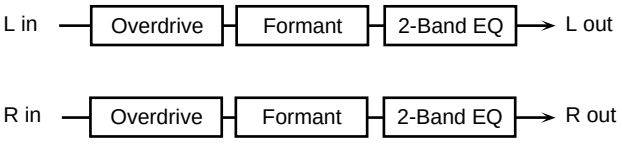
Parameter	Value	Description
Type	1, 2	Type of phaser Type 2 adds more of the phaser effect to the high frequencies than Type 1.
Mode	4-STAGE, 8-STAGE, 12-STAGE, 16-STAGE	Number of stages in the phaser
Polarity	INVERSE, SYNCHRO	Selects whether the left and right phase of the modulation will be the same or the opposite. INVERSE: The left and right phase will be opposite. When using a mono source, this spreads the sound. SYNCHRO: The left and right phase will be the same. Select this when inputting a stereo source.
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Resonance	0–127	Amount of feedback
Cross Feedback	-98–+98 %	Adjusts the proportion of the phaser sound that is fed back into the effect. Negative (-) settings will invert the phase.
Mix Level	0–127	Level of the phase-shifted sound
Step Switch	OFF, ON	Determines whether the pitch is changed in a stepped fashion (ON) or not (OFF).
Step Rate #	0.10–20.00 Hz, note *2	Rate (period) of pitch change
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level

65: STEREO AUTO WAH



Parameter	Value	Description
Filter Type	LPF, BPF	Type of filter LPF: The wah effect will be applied over a wide frequency range. BPF: The wah effect will be applied over a narrow frequency range.
Sens #	0–127	Adjusts the sensitivity with which the filter is controlled.
Manual #	0–127	Adjusts the center frequency at which the effect is applied.
Peak	0–127	Adjusts the amount of the wah effect that will occur in the range of the center frequency. Set a higher value for Q to narrow the range to be affected.
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth #	0–127	Depth of modulation
Polarity	UP, DOWN	Sets the direction in which the frequency will change when the auto-wah filter is modulated. UP: The filter will change toward a higher frequency. DOWN: The filter will change toward a lower frequency.
Phase #	0–180˚	Adjusts the degree of phase shift of the left and right sounds when the wah effect is applied.
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level

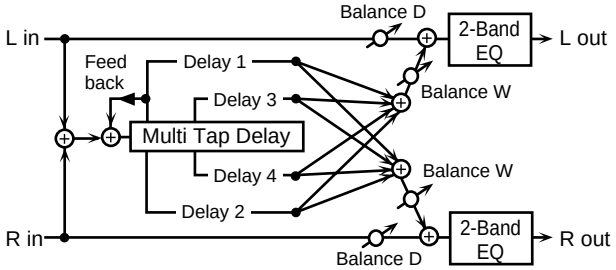
66: ST FORMANT FILTER (Stereo Formant Filter)



Parameter	Value	Description
Drive Switch	OFF, ON	Turns Drive on / off.
Drive #	0–127	Degree of distortion Also changes the volume.
Vowel1	a, e, i, o, u	Selects the vowel.
Vowel2		
Rate #	0.05–10.00 Hz, note *2	Frequency at which the two vowels will be switched
Depth #	0–127	Effect depth
Manual #	0–100	Adjusts the point at which the two vowels will be switched. When set to 50, Vowels 1 and 2 switched in the same amount of time. Setting this lower than 50 increases the time for Vowel 1; setting this higher than 50 decreases the time for Vowel 1.
Phase #	0–180˚	Adjusts the phase shift of the left and right sounds when the two vowels are switched.
Keysync Switch	OFF, ON	Determines whether the LFO for switching the vowels is reset according to the input sound (ON) or not (OFF).
Keysync Threshold	0–127	Volume level at which reset will be applied
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level

67: MULTI TAP DELAY 2

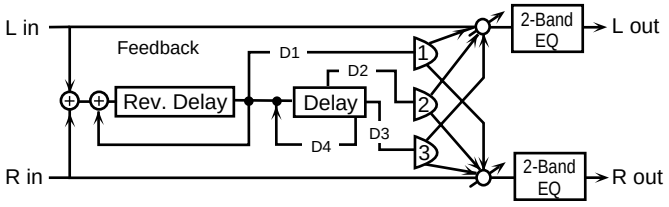
This allows you to set even longer delay times (max. 3000 ms) for the Multi-Tap Delay function.



Parameter	Value	Description
Delay 1–4	0–3000 ms, note *2	Adjusts the delay time from the direct sound until the delay 1–4 sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Level 1–4	0–127	Output level of the delay 1–4 sound
Pan 1–4	L64–63R	Stereo location of the delay 1–4 sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

68: REVERSE DELAY 2

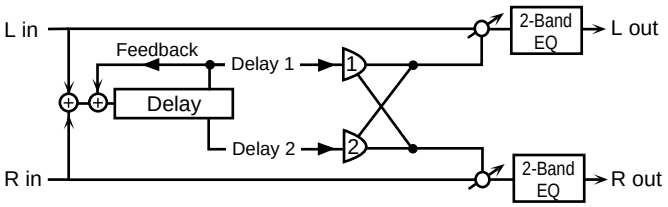
This allows you to set even longer delay times (max. 1500 ms) for the Reverse Delay function.



Parameter	Value	Description
Delay 1–4	0–1500 ms, note *2	Adjusts the delay time from the direct sound until the delay 1–4 sound is heard.
Feedback 1 # Feedback 4 #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp 1 HF Damp 4	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Level 1–3	0–127	Output level of the delay 1–3 sound
Pan 1–3	L64–63R	Stereo location of the delay 1–3 sound
Threshold	0–127	Volume level at which the reverse delay will begin to apply
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

69: SHUFFLE DELAY 2

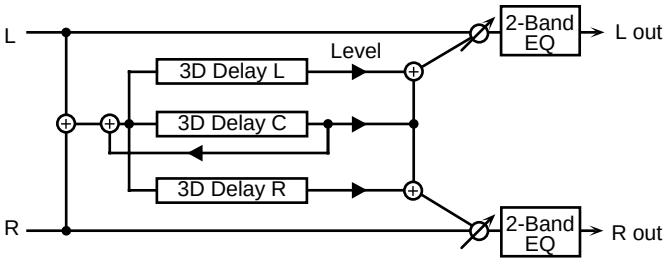
This allows you to set even longer delay times (max. 3000 ms) for the Shuffle Delay function.



Parameter	Value	Description
Delay #	0–3000 ms, note *2	Adjusts the delay time from the direct sound until the delay sound is heard.
Shuffle Rate #	0–100 %	Sets the ratio (as a percentage) of the time that elapses before the sound plays in Delay B relative to the time that elapses before the sound plays in Delay A. When set to 100%, the delay times are the same.
Accel	0–15	Adjusts the time over which the Delay Time will change from the current setting to a newly specified setting.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Pan A, B	L64–63R	Stereo location of the delay A / B sound
Level Balance	A100:0B–A0:100B	Volume balance between the delay A and delay B sounds
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

70: 3D DELAY 2

This allows you to set even longer delay times (max. 3000 ms) for the 3D Delay function.

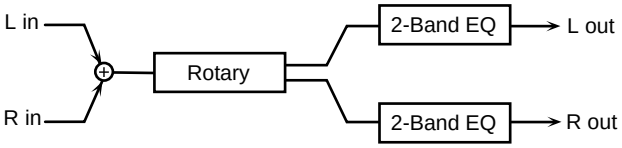


Parameter	Value	Description
Delay Center Delay Left Delay Right	0–3000 ms, note *2	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Level Center Level Left Level Right	0–127	Output level of the delay sound
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.
Output Level	0–127	Output Level

71: ROTARY 2

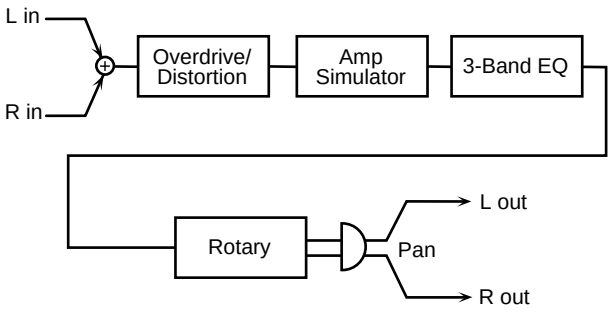
This type provides modified response for the rotary speaker, with the low end boosted further.

This effect features the same specifications as the VK-7's built-in rotary speaker.



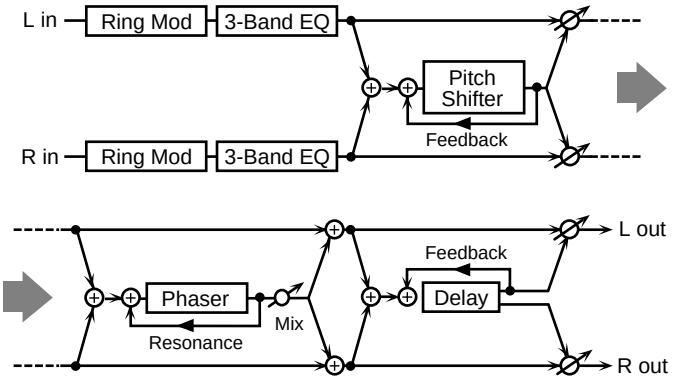
Parameter	Value	Description
Speed #	SLOW, FAST	Rotational speed of the rotating speaker
Brake #	OFF, ON	Switches the rotation of the rotary speaker. When this is turned off, the rotation will gradually stop. When it is turned on, the rotation will gradually resume.
Spread	0–10	Sets the rotary speaker stereo image. The higher the value set, the wider the sound is spread out.
Woofer Slow Rate	0.05–10.00 Hz, note *2	Low-speed rotation speed of the woofer
Woofer Fast Rate	0.05–10.00 Hz, note *2	High-speed rotation speed of the woofer
Woofer Trans Up	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Slow to Fast.
Woofer Trans Down	0–127	Adjusts the rate at which the woofer rotation speeds up when the rotation is switched from Fast to Slow.
Woofer Level	0–127	Volume of the woofer
Tweeter Slow Rate	0.05–10.00 Hz, note *2	Settings of the tweeter The parameters are the same as for the woofer.
Tweeter Fast Rate	0.05–10.00 Hz, note *2	
Tweeter Trans Up	0–127	
Tweeter Trans Down	0–127	
Tweeter Level	0–127	
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level #	0–127	Output Level

72: ROTARY MULTI



Parameter	Value	Description
OD/Dist		
Switch	OFF, ON	Turns the Overdrive / Distortion on / off.
Type	OVERDRIVE, DISTORTION	Selects either Overdrive or Distortion.
Drive #	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive / Distortion effect
Level	0–127	Volume of the Overdrive / Distortion sound
Amp Sim		
Switch	OFF, ON	Turns the Amp Simulator on / off.
Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp 3-STACK: large triple stack amp
EQ		
Switch	OFF, ON	Turns the 3 Band EQ on / off.
Low Gain	-15–+15 dB	Gain of the low range
Mid Freq	200–8000 Hz	Frequency of the middle range
Mid Gain	-15–+15 dB	Gain of the middle range
Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range Set a higher value for Q to narrow the range to be affected.
High Gain	-15–+15 dB	Gain of the high range
Rot		
Switch	OFF, ON	Turns the Rotary on / off.
Speed #	SLOW, FAST	Rotational speed of both the low-range and the high-range rotors
Woofer Slow Rate	0.05–10.00 Hz, note *2	Speed of the low-range rotor for the slow-speed setting
Woofer Fast Rate	0.05–10.00 Hz, note *2	Speed of the low-range rotor for the fast-speed setting
Woofer Accel	0–15	Adjusts the time over which the rotation speed of the low-range rotor will change from slow-speed to fast-speed (or fast-speed to slow-speed) rotation. Lower values will require longer times.
Woofer Level	0–127	Volume of the low-range rotor
Tweeter Slow Rate	0.05–10.00 Hz, note *2	Settings of the high-range rotor The parameters are the same as for the low-range rotor.
Tweeter Fast Rate	0.05–10.00 Hz, note *2	
Tweeter Accel	0–15	
Tweeter Level	0–127	
Separation	0–127	Spatial spread of the rotary sound
Output		
Level	0–127	Output Level
Pan	L64–63R	Stereo location of the output sound

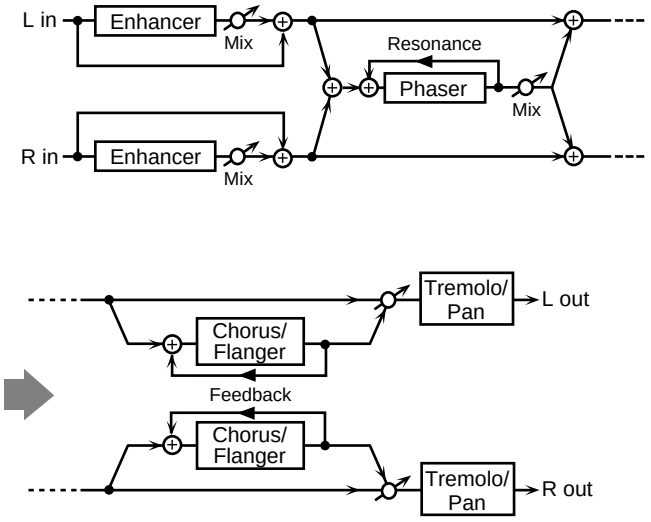
73: KEYBOARD MULTI

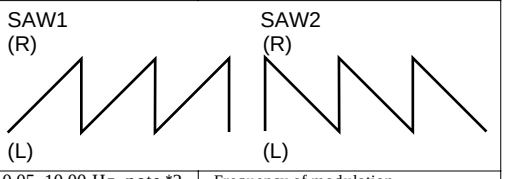


** Ring Modulator is an effect that applies amplitude modulation (AM) to the input signal, producing bell-like sounds.*

Parameter	Value	Description
Ring Mod		
Switch	OFF, ON	Turns the Ring Modulator on / off.
Freq #	0–127	Frequency at which modulation will be applied
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the ring modulated sound (W)
EQ		
Switch	OFF, ON	Turns the 3 Band EQ on / off.
Low Gain	-15–+15 dB	Gain of the low range
Mid Freq	200–8000 Hz	Frequency of the middle range
Mid Gain	-15–+15 dB	Gain of the middle range
Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range Set a higher value for Q to narrow the range to be affected.
High Gain	-15–+15 dB	Gain of the high range
P Shifter		
Switch	OFF, ON	Turns the Pitch Shifter on / off
Mode	1, 2, 3, 4, 5	Setting a higher value for this parameter will result in slower response, but steadier pitch.
Coarse #1	-24–+12 semi	Adjusts the pitch of the pitch shifted sound in semitone steps.
Fine #1	-100–+100 cent	Adjusts the pitch of the pitch shifted sound in 2-cent steps.
Delay	0.0–500.0 ms	Adjusts the delay time from the direct sound until the pitch shifted sound is heard.
Feedback #	-98–+98 %	Adjusts the proportion of the pitch shifted sound that is fed back into the effect. Negative (-) settings will invert the phase.
Balance	D100:0W–D0:100W	Volume balance between the direct sound (D) and the pitch shifted sound (W)
Phaser		
Switch	OFF, ON	Turns the Phaser on / off.
Mode	4-STAGE, 8-STAGE	Number of stages in the phaser
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Resonance	0–127	Amount of feedback
Mix Level	0–127	Level of the phase-shifted sound
Delay		
Switch	OFF, ON	Turns the Delay on / off.
Left	0–3000 ms, note *2	Adjusts the delay time from the direct sound until the delay sound is heard.
Right		
Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Output		
Level	0–127	Output Level

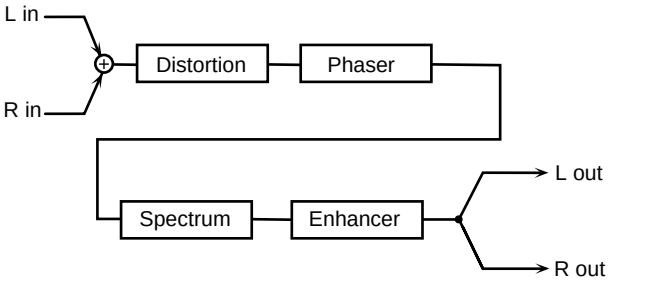
74: RHODES MULTI



Parameter	Value	Description
Enhancer		
Switch	OFF, ON	Turns the Enhancer on / off.
Sens #	0–127	Sensitivity of the enhancer
Mix Level	0–127	Level of the overtones generated by the enhancer
Phaser		
Switch	OFF, ON	Turns the Phaser on / off.
Mode	4-STAGE, 8-STAGE	Number of stages in the phaser
Manual #	0–127	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Resonance	0–127	Amount of feedback
Mix Level	0–127	Level of the phase-shifted sound
Cho/Flg		
Switch	OFF, ON	Turns the Chorus / Flanger on / off.
Type	CHORUS, FLANGER	Selects either Chorus or Flanger.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus / flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus / flanger sound (W)
Tre/Pan		
Switch	OFF, ON	Turns the Tremolo / Pan on / off.
Type	TREMOLO, AUTO PAN	Selects either Tremolo or Pan.
Mod Wave	TRI, SQR, SIN, SAW1, SAW2	Modulation Wave TRI: triangle wave SQR: square wave SIN: sine wave SAW1 / 2: sawtooth wave
		
Rate #	0.05–10.00 Hz, note *2	Frequency of modulation
Depth #	0–127	Depth of modulation
Output		
Level	0–127	Output Level

75: JD MULTI

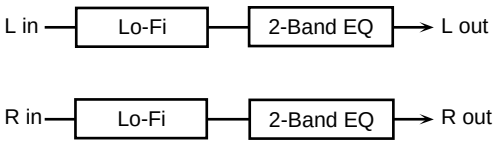
This allows the Distortion (DS), Phaser (PH), Spectrum (SP), and Enhancer (EH) effects to be connected in series in any desired order.



Parameter	Value	Description
Sequence	DS-PH-SP-EN : EN-SP-PH-DS	Order in which effects are connected
Dist		
Switch	OFF, ON	Turns the Distortion on / off.
Type	MELLOW DRIVE, OVERDRIVE, CRY DRIVE, MELLOW DIST, LIGHT DIST, FAT DIST, FUZZ DIST	Type of the distortion MELLOW DRIVE: A soft, mellow distortion; somewhat dark sounding. OVERDRIVE: The classic sound of an overdriven tube amp. CRY DRIVE: Distortion with a high-frequency boost. MELLOW DIST: Sounds like the distortion you'd get from a really big amp. LIGHT DIST: A distortion with an intense, brilliant feel. FAT DIST: Boosted lows and highs gives this one a thick, fat sound. FUZZ DIST: Like FAT DIST, but with even more distortion.
Drive #	0–100	Degree of distortion
Level	0–100	Distortion output level
Phaser		
Switch	OFF, ON	Turns the Phaser on / off.
Manual #	50 Hz–15.0 kHz	Adjusts the basic frequency from which the sound will be modulated.
Rate #	0.1–10.0 Hz	Frequency of modulation
Depth #	0–100	Depth of modulation
Resonance #	0–100	Amount of feedback
Mix Level #	0–100	Level of the phase-shifted sound
Spect		
Switch	OFF, ON	Turns the Spectrum on / off.
Band1 (250Hz)	-15–+15 dB	Gain of each frequency band
Band2 (500Hz)		
Band3 (1000Hz)		
Band4 (2000Hz)		
Band5 (4000Hz)		
Band6 (8000Hz)		
Width	1, 2, 3, 4, 5	Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
Enhancer		
Switch	OFF, ON	Turns the Enhancer on / off.
Sens	0–100	Sensitivity of the enhancer
Mix Level #	0–100	Level of the overtones generated by the enhancer
Output		
Level	0–127	Output Level
Pan	L64–63R	Stereo location of the output sound

76: STEREO LOFI COMPRESS

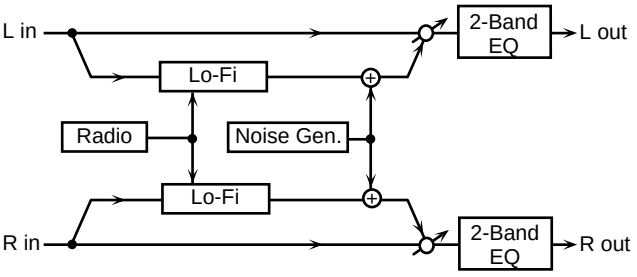
This is a stereo Lo-Fi compress. This is an effect that intentionally degrades the sound quality.



Parameter	Value	Description
Lo-Fi Type	1–9	Degrades the sound quality. The sound quality will become poorer as this value is increased.
Pre Filter Type	1–6	Adjusts the type of filter that will be applied before the sound passes through the Lo-Fi effect.
Post Filter 1 Type	1–6	Adjusts the type of filter that will be applied after the sound passes through the Lo-Fi effect.
Post Filter 2 Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff HPF: cuts the frequency range below the Cutoff
Post Filter 2 Cutoff	200–8000 Hz	Basic frequency of the filter
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

77: STEREO LOFI NOISE

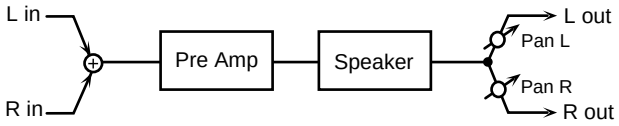
This is a stereo Lo-Fi noise. In addition to a Lo-Fi effect, this effect also generates various types of noise such as radio noise and disc noise.



Parameter	Value	Description
Lo-Fi Type	1–9	Degrades the sound quality. The sound quality will become poorer as this value is increased.
Post Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff HPF: cuts the frequency range below the Cutoff
Post Filter Cutoff	200–8000 Hz	Basic frequency of the filter
Hum Type	50 Hz, 60 Hz	Type of hum noise
Hum LPF	200–8000 Hz, BYPASS	Adjusts the cutoff frequency of the low pass filter that is applied to the hum noise. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Hum Level	0–127	Volume of the hum noise
Radio Detune #	0–127	Simulates the tuning noise of a radio. As this value is raised, the tuning will drift further.
Radio Noise Level	0–127	Volume of the radio noise
White / Pink Noise Type	WHITE, PINK	Selects either white noise or pink noise.
White / Pink Noise LPF	200–8000 Hz, BYPASS	Adjusts the cutoff frequency of the low pass filter that is applied to the white noise or pink noise. If you do not want to cut the high frequencies, set this parameter to BYPASS.
White / Pink Noise Level	0–127	Volume of the white noise or pink noise
Disc Noise Type	LP, EP, SP, RND	Type of record noise The frequency at which the noise is heard will depend on the selected type.
Disc Noise LPF	200–8000 Hz, BYPASS	Adjusts the cutoff frequency of the low pass filter that is applied to the record noise. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Disc Noise Level	0–127	Volume of the record noise
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the effect sound (W)
Output Level	0–127	Output Level

78: GUITAR AMP SIMULATOR

This is an effect that simulates an amp.



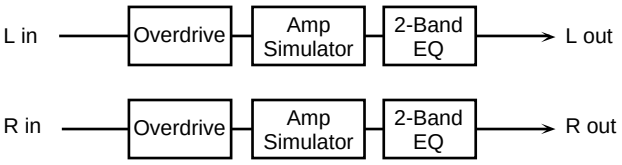
Parameter	Value	Description
Pre Amp Switch	OFF, ON	Turns the amp switch on / off.
Pre Amp Type	JC-120, CLEAN TWIN, MATCH DRIVE, BG LEAD, MS1959I, MS1959II, MS1959I+II, SLDN LEAD, METAL 5150, METAL LEAD, OD-1, OD-2 TURBO, DISTORTION, FUZZ	Type of guitar amp
Pre Amp Volume #	0–127	Volume and degree of distortion of the amp
Pre Amp Master #	0–127	Volume of the entire pre-amp
Pre Amp Gain	LOW, MID, HIGH	Degree of pre-amp distortion
Pre Amp Presence	0–127 (MATCH DRIVE: -127 - 0)	Tone for the ultra high frequency range
Pre Amp Bright	OFF, ON	Turning this "On" will produce a sharper and brighter sound. * This parameter can be set if the Pre Amp Type is set to "JC-120," "CLEAN TWIN," or "BG LEAD."
Pre Amp Bass	0–127	Tone of the bass / mid / treble range * Middle cannot be set if "MATCH DRIVE" is selected for the Pre Amp Type.
Pre Amp Middle		
Pre Amp Treble		
Speaker Switch	OFF, ON	Determines whether the signal passes through the speaker (ON), or not (OFF).
Speaker Type	(See the table below.)	Type of speaker
Mic Setting	1, 2, 3	Adjusts the location of the mic that is recording the sound of the speaker. This can be adjusted in three steps, with the mic becoming more distant in the order of 1, 2, and 3.
Mic Level	0–127	Volume of the microphone
Direct Level	0–127	Volume of the direct sound
Output Level #	0–127	Output Level
Output Pan #	L64–63R	Stereo location of the output sound

Specifications of each Speaker Type

The speaker column indicates the diameter of each speaker unit (in inches) and the number of units.

Type	Cabinet	Speaker	Microphone
SMALL 1	small open-back enclosure	10	dynamic
SMALL 2	small open-back enclosure	10	dynamic
MIDDLE	open back enclosure	12 x 1	dynamic
JC-120	open back enclosure	12 x 2	dynamic
BUILT IN 1	open back enclosure	12 x 2	dynamic
BUILT IN 2	open back enclosure	12 x 2	condenser
BUILT IN 3	open back enclosure	12 x 2	condenser
BUILT IN 4	open back enclosure	12 x 2	condenser
BUILT IN 5	open back enclosure	12 x 2	condenser
BG STACK 1	sealed enclosure	12 x 2	condenser
BG STACK 2	large sealed enclosure	12 x 2	condenser
MS STACK 1	large sealed enclosure	12 x 4	condenser
MS STACK 2	large sealed enclosure	12 x 4	condenser
METAL STACK	large double stack	12 x 4	condenser
2-STACK	large double stack	12 x 4	condenser
3-STACK	large triple stack	12 x 4	condenser

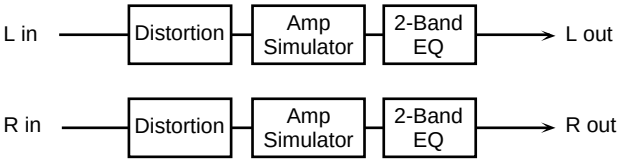
79: STEREO OVERDRIVE

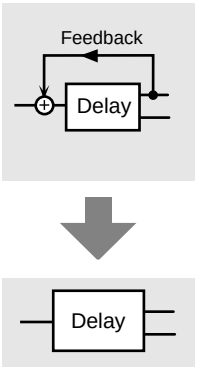


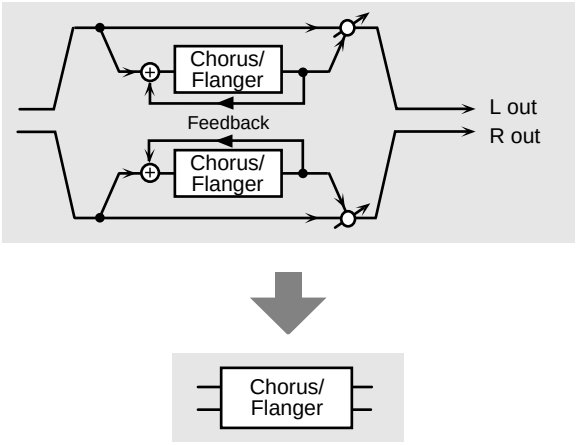
Parameter	Value	Description
Drive #	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive effect
Amp Switch	OFF, ON	Turns the Amp Simulator on / off.
Amp Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp 3-STACK: large triple stack amp
Low Gain	-15–+15 dB	Gain of the low range
High Gain	-15–+15 dB	Gain of the high range
Output Level	0–127	Output Level

80: STEREO DISTORTION

The parameters are the same as for "79: STEREO OVERDRIVE."

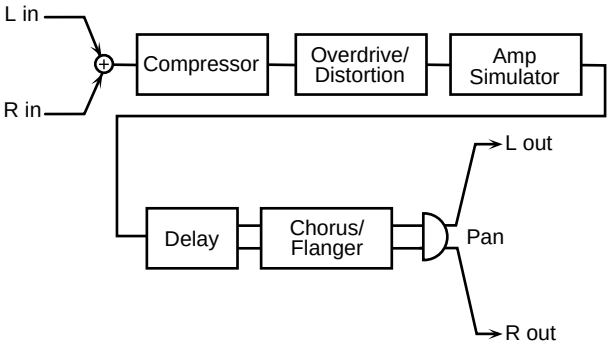






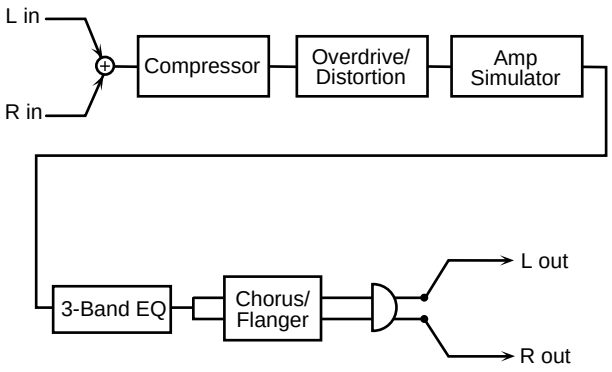
In this section, the Delay and Chorus / Flanger are depicted in diagrams. When these same effects are discussed later, these diagrams are used.

81: GUITAR MULTI A



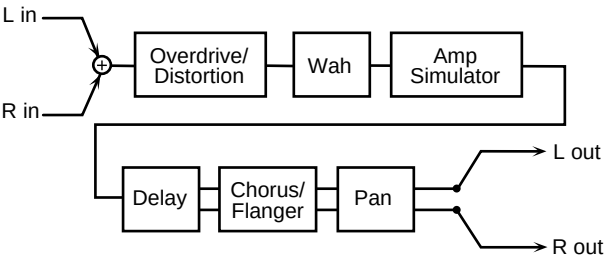
Parameter	Value	Description
Comp		
Switch	OFF, ON	Turns the Compressor on / off.
Attack	0–127	Attack time of an input sound
Sustain	0–127	Adjusts the time over which low level sounds are boosted until they reach the specified volume.
Level #	0–127	Volume of the Compressor sound
OD/Dist		
Switch	OFF, ON	Turns the Overdrive / Distortion on / off.
Type	OVERDRIVE, DISTORTION	Selects either Overdrive or Distortion.
Drive #	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive / Distortion effect
Level	0–127	Volume of the Overdrive / Distortion sound
Amp Sim		
Switch	OFF, ON	Turns the Amp Simulator on / off.
Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp 3-STACK: large triple stack amp
Delay		
Switch	OFF, ON	Turns the Delay on / off.
Left	0–3000 ms, note *2	Adjusts the delay time from the direct sound until the delay sound is heard.
Right		
Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BY-PASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BY-PASS.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Cho/Flg		
Switch	OFF, ON	Turns the Chorus / Flanger on / off.
Type	CHORUS, FLANGER	Selects either Chorus or Flanger.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus / flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus / flanger sound (W)
Output		
Level	0–127	Output Level
Pan	L64–63R	Stereo location of the output sound

82: GUITAR MULTI B



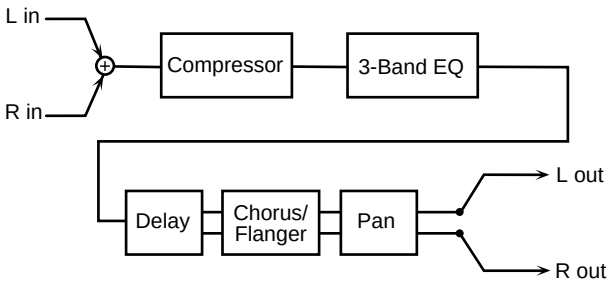
Parameter	Value	Description
Comp		
Switch	OFF, ON	Turns the Compressor on / off.
Attack	0–127	Attack time of an input sound
Sustain	0–127	Adjusts the time over which low level sounds are boosted until they reach the specified volume.
Level #	0–127	Volume of the Compressor sound
OD/Dist		
Switch	OFF, ON	Turns the Overdrive / Distortion on / off.
Type	OVERDRIVE, DISTORTION	Selects either Overdrive or Distortion.
Drive #	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive / Distortion effect
Level	0–127	Volume of the Overdrive / Distortion sound
Amp Sim		
Switch	OFF, ON	Turns the Amp Simulator on / off.
Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp 3-STACK: large triple stack amp
EQ		
Switch	OFF, ON	Turns the 3 Band EQ on / off.
Low Gain	-15–+15 dB	Gain of the low range
Mid Freq	200–8000 Hz	Frequency of the middle range
Mid Gain	-15–+15 dB	Gain of the middle range
Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range Set a higher value for Q to narrow the range to be affected.
High Gain	-15–+15 dB	Gain of the high range
Cho/Flg		
Switch	OFF, ON	Turns the Chorus / Flanger on / off.
Type	CHORUS, FLANGER	Selects either Chorus or Flanger.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus / flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus / flanger sound (W)
Output		
Level	0–127	Output Level
Pan	L64–63R	Stereo location of the output sound

83: GUITAR MULTI C



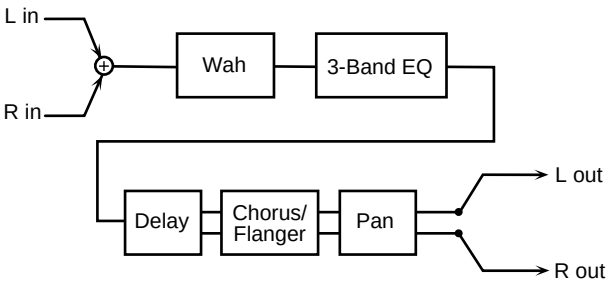
Parameter	Value	Description
OD/Dist		
Switch	OFF, ON	Turns the Overdrive / Distortion on / off.
Type	OVERDRIVE, DISTORTION	Selects either Overdrive or Distortion.
Drive #	0–127	Degree of distortion Also changes the volume.
Tone	0–127	Sound quality of the Overdrive / Distortion effect
Level	0–127	Volume of the Overdrive / Distortion sound
Wah		
Switch	OFF, ON	Turns the Auto Wah on / off.
Filter Type	LPF, BPF	Type of filter LPF: The wah effect will be applied over a wide frequency range. BPF: The wah effect will be applied over a narrow frequency range.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Sens	0–127	Adjusts the sensitivity with which the filter is controlled.
Manual #	0–127	Adjusts the center frequency at which the effect is applied.
Peak	0–127	Adjusts the amount of the wah effect that will occur in the range of the center frequency. Set a higher value for Q to narrow the range to be affected.
Amp Sim		
Switch	OFF, ON	Turns the Amp Simulator on / off.
Type	SMALL, BUILT-IN, 2-STACK, 3-STACK	Type of guitar amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp 3-STACK: large triple stack amp
Delay		
Switch	OFF, ON	Turns the Delay on / off.
Left	0–3000 ms, note *2	Adjusts the delay time from the direct sound until the delay sound is heard.
Right		
Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Cho/Flg		
Switch	OFF, ON	Turns the Chorus / Flanger on / off.
Type	CHORUS, FLANGER	Selects either Chorus or Flanger.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus / flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus / flanger sound (W)
Output		
Level	0–127	Output Level
Pan	L64–63R	Stereo location of the output sound

84: CLEAN GUITAR MULTI A



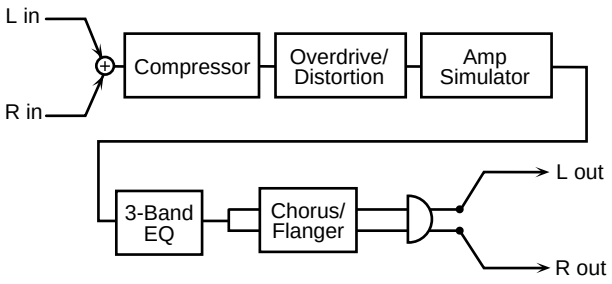
Parameter	Value	Description
Comp		
Switch	OFF, ON	Turns the Compressor on / off.
Attack	0–127	Attack time of an input sound
Sustain	0–127	Adjusts the time over which low level sounds are boosted until they reach the specified volume.
Level #	0–127	Volume of the Compressor sound
EQ		
Switch	OFF, ON	Turns the 3 Band EQ on / off.
Low Gain	-15–+15 dB	Gain of the low range
Mid Freq	200–8000 Hz	Frequency of the middle range
Mid Gain	-15–+15 dB	Gain of the middle range
Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range Set a higher value for Q to narrow the range to be affected.
High Gain	-15–+15 dB	Gain of the high range
Delay		
Switch	OFF, ON	Turns the Delay on / off.
Left Right	0–3000 ms, note*2	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Dump	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Cho/Flg		
Switch	OFF, ON	Turns the Chorus / Flanger on / off.
Type	CHORUS, FLANGER	Selects either Chorus or Flanger.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus / flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus / flanger sound (W)
Output		
Level	0–127	Output Level
Pan	L64–63R	Stereo location of the output sound

85: CLEAN GUITAR MULTI B



Parameter	Value	Description
Wah		
Switch	OFF, ON	Turns the Auto Wah on / off.
Filter Type	LPF, BPF	Type of filter LPF: The wah effect will be applied over a wide frequency range. BPF: The wah effect will be applied over a narrow frequency range.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Sens	0–127	Adjusts the sensitivity with which the filter is controlled.
Manual #	0–127	Adjusts the center frequency at which the effect is applied.
Peak	0–127	Adjusts the amount of the wah effect that will occur in the range of the center frequency. Set a higher value for Q to narrow the range to be affected.
EQ		
Switch	OFF, ON	Turns the 3 Band EQ on / off.
Low Gain	-15–+15 dB	Gain of the low range
Mid Freq	200–8000 Hz	Frequency of the middle range
Mid Gain	-15–+15 dB	Gain of the middle range
Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range Set a higher value for Q to narrow the range to be affected.
High Gain	-15–+15 dB	Gain of the high range
Delay		
Switch	OFF, ON	Turns the Delay on / off.
Left Right	0–3000 ms, note *2	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Dump	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the delay sound (W)
Cho/Flg		
Switch	OFF, ON	Turns the Chorus / Flanger on / off.
Type	CHORUS, FLANGER	Selects either Chorus or Flanger.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus / flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus / flanger sound (W)
Output		
Level	0–127	Output Level
Pan	L64–63R	Stereo location of the output sound

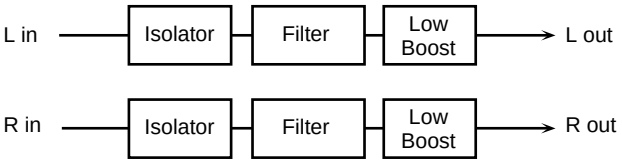
86: BASS MULTI



Parameter	Value	Description
Comp		
Switch	OFF, ON	Turns the Compressor on / off.
Attack	0–127	Attack time of an input sound
Sustain	0–127	Adjusts the time over which low level sounds are boosted until they reach the specified volume.
Level #	0–127	Volume of the Compressor sound
OD/Dist		
Switch	OFF, ON	Turns the Overdrive / Distortion on / off.
Type	OVERDRIVE, DISTORTION	Selects either Overdrive or Distortion.
Drive #	0–127	Degree of distortion Also changes the volume.
Level	0–127	Volume of the Overdrive / Distortion sound
Amp Sim		
Switch	OFF, ON	Turns the Amp Simulator on / off.
Type	SMALL, BUILT-IN, 2-STACK	Type of bass amp SMALL: small amp BUILT-IN: single-unit type amp 2-STACK: large double stack amp
EQ		
Switch	OFF, ON	Turns the 3 Band EQ on / off.
Low Gain	-15–+15 dB	Gain of the low range
Mid Freq	200–8000 Hz	Frequency of the middle range
Mid Gain	-15–+15 dB	Gain of the middle range
Mid Q	0.5, 1.0, 2.0, 4.0, 8.0	Width of the middle range Set a higher value for Q to narrow the range to be affected.
High Gain	-15–+15 dB	Gain of the high range
Cho/Flg		
Switch	OFF, ON	Turns the Chorus / Flanger on / off.
Type	CHORUS, FLANGER	Selects either Chorus or Flanger.
Rate	0.05–10.00 Hz, note *2	Frequency of modulation
Depth	0–127	Depth of modulation
Feedback	-98–+98 %	Adjusts the proportion of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus / flanger sound is heard.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Balance #	D100:0W–D0:100W	Volume balance between the direct sound (D) and the chorus / flanger sound (W)
Output		
Level	0–127	Output Level
Pan	L64–63R	Stereo location of the output sound

87: ISOLATOR 2

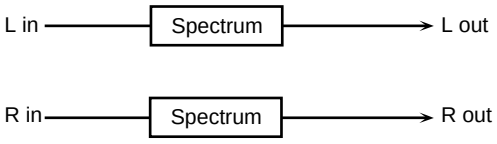
This adds a filter to the ISOLATOR effect. Isolator is an equalizer which cuts the volume greatly, allowing you to add a special effect to the sound by cutting the volume in varying ranges.



Parameter	Value	Description
Boost / Cut Low #	-60–+4 dB	These boost and cut each of the High, Middle, and Low frequency ranges. At -60 dB, the sound becomes inaudible. 0 dB is equivalent to the input level of the sound.
Boost / Cut Mid #		
Boost / Cut High #		
Anti Phase Low Switch	OFF, ON	Turns the Anti-Phase function on and off for the Low frequency ranges. When turned on, the counter-channel of stereo sound is inverted and added to the signal.
Anti Phase Low Level	0–127	Adjusts the level settings for the Low frequency ranges. Adjusting this level for certain frequencies allows you to lend emphasis to specific parts. (This is effective only for stereo source.)
Anti Phase Mid Switch	OFF, ON	Settings of the Anti-Phase function for the Middle frequency ranges The parameters are the same as for the Low frequency ranges.
Anti Phase Mid Level	0–127	
Post Filter Switch	OFF, ON	Turns the filter on / off.
Post Filter Type	LPF, BPF, HPF, NOTCH	Type of filter LPF: Passes frequencies below the Cutoff. BPF: Passes frequencies near the Cutoff. HPF: Passes frequencies above the Cutoff. NOTCH: Passes frequencies other than those near the Cutoff.
Post Filter Cutoff	0–127	Basic frequency of the filter The closer to zero it is set, the lower the cutoff frequency becomes; set it closer to 127, and the cutoff frequency becomes higher.
Post Filter Resonance	0–127	Resonance level of the filter Raising the setting increases resonance near the cutoff frequency.
Post Filter Slope	-12, -24 dB	Filter's attenuation slope -24 dB per octave: steep -12 dB per octave: gentle
Post Filter Gain	0–24 dB	Compensates for the volume dropped in the cut frequency range with some filters. The level of compensation increases as the value is increased, and raise the volume.
Low Boost Switch	OFF, ON	Turns Low Booster on / off. This emphasizes the bottom to create a heavy bass sound.
Low Boost Level	0–127	Increasing this value gives you a heavier low end. Depending on the Isolator and filter settings this effect may be hard to distinguish.
Output Level	0–127	Output Level

88: STEREO SPECTRUM

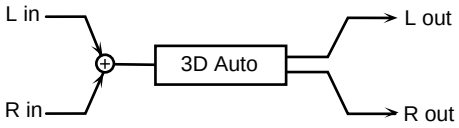
This is a stereo spectrum. Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies.



Parameter	Value	Description
Band1 (250Hz)	-15–+15 dB	Gain of each frequency band
Band2 (500Hz		
Band3 (1000Hz)		
Band4 (1250Hz)		
Band5 (2000Hz)		
Band6 (3150Hz)		
Band7 (4000Hz)		
Band8 (8000Hz)		
Q	0.5, 1.0, 2.0, 4.0, 8.0	Simultaneously adjusts the width of the adjusted ranges for all the frequency bands.
Output Level #	0–127	Output Level

89: 3D AUTO SPIN

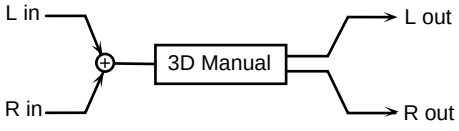
Rotates the location of the sound.



Parameter	Value	Description
Azimuth	L180–R180	Sets the location at which the sound will stop when rotation is stopped. A setting of “0” positions the sound in the center.
Speed #	0.05–10.00 Hz, note *2	Speed of rotation
Clockwise	-, +	Direction of rotation -: counterclockwise rotation +: clockwise rotation
Turn #	OFF, ON	Stops or starts the rotation. ON: The sound will rotate. OFF: Rotation will stop at the location specified by Azimuth.
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.
Output Level	0–127	Output Level

90: 3D MANUAL

Places the 3D effect at a desired location.



Parameter	Value	Description
Azimuth #	L180–R180	Specifies the location. A setting of “0” positions the sound in the center.
Output Mode	SPEAKER, PHONES	Adjusts the method that will be used to hear the sound that is output to the OUTPUT jacks. The optimal 3D effect will be achieved if you select SPEAKER when using speakers, or PHONES when using headphones.
Output Level	0–127	Output Level

When Using 3D Effects

The following 3D effects utilize RSS (Roland Sound Space) technology to create a spaciousness that cannot be produced by delay, reverb, chorus, etc.

48: 3D DELAY

60: 3D CHORUS

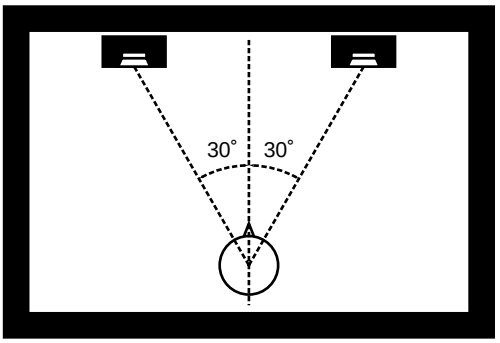
61: 3D FLANGER

70: 3D DELAY 2

89: 3D AUTO SPIN

90: 3D MANUAL

When using these effects, we recommend that you place your speakers as follows. Also, make sure that the speakers are at a sufficient distance from the walls on either side.



If the left and right speakers are too far apart, or if there is too much reverberation, the full 3D effect may not appear.

Each of these effects has an “Output Mode” parameter. If the sound from the OUTPUT jacks is to be heard through speakers, set this parameter to “SPEAKER.” If the sound is to be heard through headphones, set it to “PHONES.” This will ensure that the optimal 3D effect will be heard. If this parameter is not set correctly, the full 3D effect may not appear.

note *1:

(Sixteenth note), (Eighth-note triplet), (Dotted sixteenth note), (Eighth note), (Half-note triplet), (Dotted eighth note), (Quarter note), (Half-note triplet), (Dotted quarter note), (Half note),

note *2:

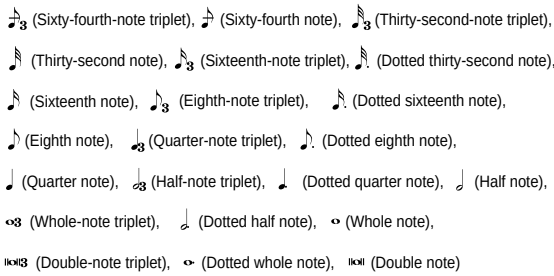
(Sixty-fourth-note triplet), (Sixty-fourth note), (Thirty-second-note triplet), (Thirty-second note), (Sixteenth-note triplet), (Dotted thirty-second note), (Sixteenth note), (Eighth-note triplet), (Dotted sixteenth note), (Eighth note), (Quarter-note triplet), (Dotted eighth note), (Quarter note), (Half-note triplet), (Dotted quarter note), (Half note), (Whole-note triplet), (Dotted half note), (Whole note), (Double-note triplet), (Dotted whole note), (Double note)

Chorus Parameters

The Fantom's Chorus effect unit can also be used as a stereo delay unit. These settings allow you to select chorus or delay, and the characteristics of the selected effect type.

Parameter	Value	Description
Chorus Type	0 (OFF), 1 (CHORUS), 2 (DELAY), 3 (GM2 CHORUS)	Selects either Chorus or Delay. 0 (OFF): Neither Chorus or Delay is used. 1 (CHORUS): Chorus is used. 2 (DELAY): Delay is used. 3 (GM2 CHORUS): GM2 Chorus is used.
Type: 1 (CHORUS)		
Rate	0.05–10.00 Hz	Frequency of modulation
Depth	0–127	Depth of modulation
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.
Feedback	0–127	Adjusts the amount of the chorus sound that is fed back into the effect.
Filter Type	OFF, LPF, HPF	Type of filter OFF: no filter is used LPF: cuts the frequency range above the Cutoff Freq HPF: cuts the frequency range below the Cutoff Freq
Cutoff Freq	200–8000 Hz	Basic frequency of the filter
Phase	0–180˚	Spatial spread of the sound
Type: 2 (DELAY)		
Delay Left Delay Right Delay Center	0–1000 ms, note	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedback	-98–+98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies, set this parameter to BYPASS.
Left Level Right Level Center Level	0–127	Volume of each delay sound
Type: 3 (GM2 CHORUS)		
Level	0–127	Volume of the chorus sound
Feedback	0–127	Adjusts the amount of the chorus sound that is fed back into the effect.
Pre-LPF	0–7	Cuts the high frequency range of the sound coming into the chorus. Higher values will cut more of the high frequencies.
Delay	0–127	Adjusts the delay time from the direct sound until the chorus sound is heard.
Rate	0–127	Frequency of modulation
Depth	0–127	Depth of modulation
Send Level To Reverb	0–127	Adjusts the amount of chorus sound that will be sent to the reverb.

note:



Reverb Parameters

These settings allow you to select the desired type of reverb, and its characteristics.

Parameter	Value	Description
Reverb Type	0 (OFF), 1 (REVERB), 2 (SRV ROOM), 3 (SRV HALL), 4 (SRV PLATE), 5 (GM2 REVERB)	Type of reverb 0 (OFF): Reverb is not used. 1 (REVERB): Normal reverb 2 (SRV ROOM): This simulates typical room acoustic reflections. 3 (SRV HALL): This simulates typical concert hall acoustic reflections. 4 (SRV PLATE): This simulates a reverb plate, a popular type of artificial reverb unit that derives its sound from the vibration of a metallic plate. 5 (GM2 REVERB): GM2 Reverb
Type: 1 (REVERB)		
Type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DELAY	Type of reverb / delay ROOM1: short reverb with high density ROOM2: short reverb with low density STAGE1: reverb with greater late reverberation STAGE2: reverb with strong early reflections HALL1: very clear-sounding reverb HALL2: rich reverb DELAY: conventional delay effect PAN-DELAY: delay effect with echoes that pan left and right
Time	0–127	Time length of reverberation (Type: ROOM1–HALL2) Delay time (Type: DELAY, PAN-DELAY)
HF Damp	200–8000 Hz, BYPASS	Adjusts the frequency above which the high-frequency content of the reverb sound will be cut, or "damped." If you do not want to cut the high frequencies, set this parameter to BYPASS.
Delay Feedback	0–127	Adjusts the amount of delay feedback when the Type setting is DELAY or PAN-DELAY.
Type: 2 (SRV ROOM)/3 (SRV HALL)/4 (SRV PLATE)		
Pre Delay	0.0–100.0 ms	Adjusts the delay time from the direct sound until the reverb sound is heard.
Time	0–127	Time length of reverberation
Size	1–8	Size of the simulated room or hall
High Cut	160 Hz–12.5 kHz, BYPASS	Adjusts the frequency above which the high-frequency content of the reverb will be reduced. If you do not want to reduce the high frequencies, set this parameter to BYPASS.
Density	0–127	Density of reverb
Diffusion	0–127	Adjusts the change in the density of the reverb over time. The higher the value, the more the density increases with time. (The effect of this setting is most pronounced with long reverb times.)
LF Damp Freq	50–4000 Hz, BYPASS	Adjusts the frequency below which the low-frequency content of the reverb sound will be reduced, or "damped." If you do not want to reduce the high frequencies, set this parameter to BYPASS.
LF Damp Gain	-36–0 dB	Adjusts the amount of damping applied to the frequency range selected with LF Damp. With a setting of "0," there will be no reduction of the reverb's low-frequency content.
HF Damp Freq	4000 Hz–12.5 kHz, BYPASS	Adjusts the frequency above which the high-frequency content of the reverb sound will be reduced, or "damped." If you do not want to reduce the high frequencies, set this parameter to BYPASS.
HF Damp Gain	-36–0 dB	Adjusts the amount of damping applied to the frequency range selected with HF Damp. With a setting of "0," there will be no reduction of the reverb's high-frequency content.
Type: 5 (GM2 REVERB)		
Level	0–127	Output level of reverbration
Character	0–7	Type of reverb 0–5: reverb 6, 7: delay
Pre-LPF	0–7	Cuts the high frequency range of the sound coming into the reverb. Higher values will cut more of the high frequencies.
Time	0–127	Time length of reverberation
Delay Feedback	0–127	Adjusts the amount of the delay sound that is fed back into the effect when the Reverb Character setting is 6 or 7.

MFX Template List

No.	Name	MFX Type
01	Lo-Fat EQ	01:STEREO EQ
02	Loudness EQ	01:STEREO EQ
03	Lo-Fi Iso	87:ISOLATOR 2
04	PhatEnhancer	06:ENHANCER
05	L-Hall Revrb	24:REVERB
06	Br.Stage Rev	24:REVERB
07	DarkRoom Rev	24:REVERB
08	SweepGateRev	25:GATED REVERB
09	ReversGateRv	25:GATED REVERB
10	Long Delay	17:STEREO DELAY
11	Medium Delay	17:STEREO DELAY
12	Short Delay	17:STEREO DELAY
13	ShuffleTpDly	19:TRIPLE TAP DELAY
14	RSS Long Dly	70:3D DELAY 2
15	ModLongDelay	18:MODULATION DELAY
16	ReverseDelay	68:REVERSE DELAY 2
17	Light Chorus	11:HEXA-CHORUS
18	Deep Chorus	11:HEXA-CHORUS
19	PanTrem Cho	12:TREMOLO CHORUS
20	Cho > MidDly	35:CHORUS->DELAY
21	C/D Resonatr	38:CHORUS / DELAY
22	LightFlanger	15:STEREO FLANGER
23	DeepSyncFlng	42:KEYSYNC FLANGER
24	StepSyncFlng	16:STEP FLANGER
25	Flngr>MidDly	36:FLANGER->DELAY
26	Light Phaser	04:PHASER
27	Deep Phaser	41:STEREO PHASER
28	2V Dly P-Sft	22:2VOICE PITCH SHIFTER
29	3V DlyMajSft	49:3VOICE PITCH SHIFTER
30	FBK Up Shftr	23:FBK PITCH SHIFTER
31	SyncDlyP-Sft	73:KEYBOARD MULTI
32	Drum St.Comp	55:STEREO COMPRESSOR
33	Bass St.Comp	55:STEREO COMPRESSOR
34	Gtr St.Comp	55:STEREO COMPRESSOR
35	Lofi Nz Comp	50:LOFI COMPRESS
36	Drum Limiter	10:LIMITER
37	Bass Limiter	10:LIMITER
38	Clav Limiter	56:STEREO LIMITER
39	BreakBtsGate	57:GATE
40	ShufflSlicer	58:SLICER
41	SynchroSlicr	58:SLICER
42	Fast Slicer	58:SLICER
43	Vibe Tremolo	62:TREMOLO
44	EP Tremolo	62:TREMOLO
45	EP Auto Pan	63:AUTO PAN
46	EP ChoPanMlt	74:RHODES MULTI
47	EP PhaserMlt	74:RHODES MULTI
48	Organ Rotary	71:ROTARY 2
49	OD Rotary	72:ROTARY MULTI
50	OD Rotary fs	72:ROTARY MULTI
51	Dist Rotary	72:ROTARY MULTI
52	RSS AutoSpin	89:3D AUTO SPIN
53	Syn Ring Mod	44:RING MODULATOR
54	SynPad Multi	73:KEYBOARD MULTI
55	SynLd Multi	73:KEYBOARD MULTI
56	SynMlwDrvMlt	75:JD MULTI
57	SynDstPhzMlt	75:JD MULTI
58	Duck Wah	07:AUTO WAH
59	EP Wah	65:STEREO AUTO WAH
60	Guitar Wah	07:AUTO WAH
61	a-e FormFilt	66:STEREO FORMANT FILTER
62	a-o FormFilt	66:STEREO FORMANT FILTER
63	i-a FormFilt	66:STEREO FORMANT FILTER
64	e-o FormFilt	66:STEREO FORMANT FILTER
65	o-u FormFilt	66:STEREO FORMANT FILTER
66	ClnGt ChoMlt	84:CLEAN GUITAR MULTI A
67	ClnGt WahMlt	85:CLEAN GUITAR MULTI B
68	GtrCmpDlyMlt	81:GUITAR MULTI A
69	Gtr OD Multi	82:GUITAR MULTI B
70	Gtr FlngrMlt	83:GUITAR MULTI C
71	Bass CompMlt	86:BASS MULTI
72	Bs OD CmpMlt	86:BASS MULTI
73	AmpSm JC-120	78:GUITAR AMP SIMULATOR
74	AmpSm ClnTwn	78:GUITAR AMP SIMULATOR
75	AmpSm MatchD	78:GUITAR AMP SIMULATOR
76	AmpSm BG Ld	78:GUITAR AMP SIMULATOR
77	AmpSmMS I+II	78:GUITAR AMP SIMULATOR
78	AmpSmSLDN Ld	78:GUITAR AMP SIMULATOR
79	AmpSmMtl5150	78:GUITAR AMP SIMULATOR
80	AmpSm Fuzz	78:GUITAR AMP SIMULATOR
81	SpkSmBuiltIn	52:SPEAKER SIMULATOR
82	SpkSm 2Stack	52:SPEAKER SIMULATOR
83	Small OD	53:OVERDRIVE2
84	Built-In OD	53:OVERDRIVE2
85	2 Stack OD	79:STEREO OVERDRIVE
86	3 Stack OD	79:STEREO OVERDRIVE
87	OD > Flanger	27:OVERDRIVE->FLANGER
88	OD > Delay	28:OVERDRIVE->DELAY
89	Small Dist	54:DISTORTION2
90	BuiltIn Dist	54:DISTORTION2
91	2 Stack Dist	80:STEREO DISTORTION
92	3 Stack Dist	80:STEREO DISTORTION
93	Dist > Cho	29:DISTORTION->CHORUS
94	Dist > Delay	31:DISTORTION->DELAY
95	Vinyl Noise	77:STEREO LOFI NOISE
96	Radio Noise	77:STEREO LOFI NOISE

Error Messages

This section gives the error messages in alphabetical order.

Message	Meaning	Action
BULK DUMP : Check Sum Error	The check sum of a received System Exclusive message was incorrect.	Set the correct Check Sum value.
BULK DUMP : Receive Data Error	A MIDI message was received incorrectly.	If the same error message is displayed repeatedly, the problem lies with the MIDI messages that are being transmitted to the Fantom.
BULK DUMP : User Memory Write Protected	The Exclusive parameter (System Exclusive Protect) is turned ON, and Exclusive messages cannot be received.	Turn the Exclusive parameter OFF.
Data not found	The data for placement is not specified.	—
Destination Disk Incorrect	The operation you are attempting to execute does not support this disk.	Do not select this disk as the object of the operation.
Disk Full	The disk is full.	Either delete unneeded files, or prepare another disk.
Disk Not Ready	The disk is not ready.	Insert another disk.
Disk Read Error	An error occurred during read of the disk.	This disk cannot be used.
Disk Write Error	An error occurred during writing to the disk.	This disk cannot be used.
Empty Pattern	The Pattern has no data in it, so the Pattern Call message cannot be recorded in Step Recording.	—
File Format Error	The Fantom cannot handle this file.	—
File I/O Error	It was not possible to save / load a file.	Try the operation once again. If the same message appears, that file has been damaged. Delete the damaged file.
File Name Duplicate	A file with the same name already exists.	Delete the file bearing the same name from the disk, and if overwriting and saving the data, merely save the file. If you do not want to delete the file with the same name from the disk, either save the file with a different name or save it to a different disk.
File Not Found	The specified file was not found.	Insert the disk that contains the specified file, and try the operation once again.
File Read Error	The data is damaged, and cannot be loaded.	Do not use this file.
Master Disk	This disk is a master disk. Master disks cannot be used to save data or be formatted.	—
Memory No Room	Internal memory is full, preventing processing of the data.	Use “Erase” or “Delete” in Track Edit, or other means to delete unneeded data, reducing the amount of data in the song.
Microscope Memory Full	The data cannot be edited due to insufficient memory.	Delete unneeded data or use other steps to free up more memory on the disk.
MIDI Buffer Full	Due to an inordinate volume of MIDI messages received, the Fantom has failed to process them properly.	Reduce the amount of MIDI messages to be transmitted.
MIDI Communication Error	A problem has occurred with the MIDI cable connections.	Check that MIDI cables are not broken or pulled out.
Movable onto Bar Line Only	Beat Change events can be placed only on bar lines.	—
Playback Tempo Range Over	Tempo values exceed the allowable limit, and data is created in which the closest time available within the allowable range is specified.	—
Recording Parameter Error	You are attempting to begin recording after a looped segment.	You are attempting to begin recording within or before a looped segment.
Song Format Error	This song is damaged.	This song cannot be used.
Song Not Found	The selected song cannot be found.	—
Source Disk Incorrect	The operation you are attempting to execute does not support this disk.	Do not select this disk as the object of the operation.
Too Many Files	The maximum number of files that can be created has been exceeded.	Delete unneeded files.
Unformatted Disk	This disk cannot be used by the Fantom.	Format the disk on the Fantom.
Unknown Disk Error	A disk error of unknown causes has occurred.	Contact your dealer or a nearby Roland service center for service.
User Memory Damaged	The data in user memory has been lost.	Use the Factory Reset function to initialize the memory to the factory settings.
Write Protected	The floppy disk is write protected.	Provide a different disk that can be written.
You Cannot Copy This Message	This message cannot be copied.	—
You Cannot Erase This Message	This message cannot be erased.	—
You Cannot Move This Message	This message cannot be moved.	—
You Cannot Quick Format This Disk	It is not possible to format using "Quick Format Floppy Disk."	Format the disk using "Full Format Floppy Disk."
You Cannot Quick Play S-MRC Song	This is a SuperMRC song; it cannot be played back in Quick Play.	Save the data as an MRC Pro song.

About MIDI

MIDI (Musical Instruments Digital Interface) is a standard specification that allows musical data to be exchanged between electronic musical instruments and computers. MIDI With a MIDI cable connecting MIDI devices that are equipped with MIDI connectors, you can play multiple instruments with a single keyboard, have multiple MIDI instruments perform in ensemble, program the settings to change automatically to match the performance as the song progresses, and more.

If you mainly use the Fantom as a standalone keyboard instrument, you may really not need to know much at all about MIDI.

However, the following MIDI-related information is provided so you can play the Fantom using an external MIDI device, or master other advanced techniques.

About MIDI Connectors

The Fantom is equipped with the three types of MIDI connectors, each which works differently.

MIDI IN Connector

This connector receives MIDI messages that are transmitted from external MIDI devices. The Fantom can receive these messages to play notes or select sounds, etc.

MIDI OUT Connector

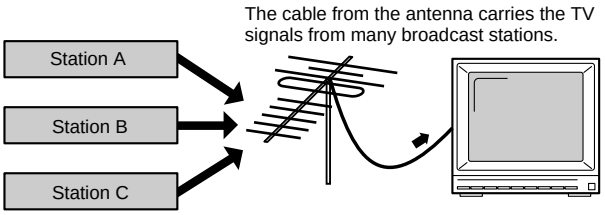
This connector transmits MIDI messages to external MIDI devices. The Fantom's MIDI OUT connector is used for sending the performance data of the keyboard controller section as well as data used for saving various settings and patterns.

MIDI THRU Connector

MIDI messages received at MIDI IN are re-transmitted without change from this connector to an external MIDI device. Use this in situations such as when you use multiple MIDI devices simultaneously.

MIDI Channels and Multi-timbral Sound Generators

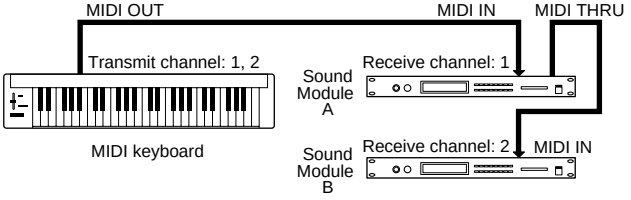
MIDI transmits many types of data over a single MIDI cable. This is made possible by the concept of **MIDI channels**. MIDI channels allow messages intended for a given instrument to be distinguished from messages intended for another instrument. In some ways, MIDI channels are similar to television channels. By changing the channel on a television set, you can view the programs that are being broadcast by different stations. In the same way, MIDI also allows a device to select the information intended for that device out of the variety of information that is being transmitted to it.



MIDI uses sixteen channels; 1 through 16. Set the receiving device so that it will receive only the channel that it needs to receive.

Example:

Set the Fantom to send Channel 1 and Channel 2, then set sound module A to receive only Channel 1 and sound module B only Channel 2. With this setup, you can get an ensemble performance, with, for example, a guitar sound from sound module A and bass from sound module B.



When used as a sound module, the Fantom can receive on up to sixteen MIDI channels. Sound modules like the Fantom which can receive multiple MIDI channels simultaneously to play different sounds on each channel are called **multi-timbral sound modules**.

MIDI Implementation

Model: Fantom
Date: Jul. 31, 2001
Version: 1.00

1. Receive data (Sound Generator Section)

■Channel Voice Messages

* Not received in Multitimbre mode or Performance mode when the Receive Switch parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.

●Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H

n = MIDI channel number: 0H - FH (ch.1 - 16)
kk = note number: 00H - 7FH (0 - 127)
vv = note off velocity: 00H - 7FH (0 - 127)

* Not received when the Envelope Mode parameter (PATCH / CONTROL and RHYTHM / CONTROL) is NO-SUS.

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
kk = note number: 00H - 7FH (0 - 127)
vv = note on velocity: 01H - 7FH (1 - 127)

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
kk = note number: 00H - 7FH (0 - 127)
vv = Polyphonic Key Pressure: 00H - 7FH (0 - 127)

* Not received in Multitimbre mode or Performance mode when the Receive Poly Key Pressure parameter (MULTITIMBRE or PERFORM / MIDI) is OFF.

●Control Change

* If the corresponding Controller number is selected for the Patch Control Source 1, 2, 3 or 4 parameter (PATCH / CONTROL), the corresponding effect will occur.
* If a Controller number that corresponds to the System Control Source 1, 2, 3 or 4 parameter (SYSTEM / CONTROLLER) is selected, the specified effect will apply if Patch Control Source 1, 2, 3 or 4 parameter (PATCH / CONTROL) is set to SYS-CTRL1, SYS-CTRL2, SYS-CTRL3 or SYS-CTRL4.

❍Bank Select (Controller number 0, 32)

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm, ll = Bank number: 00 00H - 7F 7FH (bank.1 - bank.16384)

* Not received in Multitimbre mode or Performance mode when the Receive Bank Select (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.
* The Performances, Multitimbre, Patches, and Rhythms corresponding to each Bank Select are as follows.
* The SRX series corresponding to each Bank Select are to see the SRX series owner's manual.

BANK SELECT MSB	BANK SELECT LSB	PROGRAM NUMBER	GROUP	NUMBER
000		001 – 128	GM Patch	001 – 256
:				
063		001 – 128	GM Patch	001 – 256
085	000	001 – 064	User Performance	001 – 064
	000	001 – 016	User Multitimbre	001 – 016
	064	001 – 064	Preset Performance	001 – 064
	064	001 – 016	Preset Multitimbre	001 – 016
086	000	001 – 016	User Rhythm	001 – 016
	071	001 – 016	Preset Rhythm	001 – 016
087	000	001 – 128	User Patch	001 – 128
	071	001 – 128	Preset Patch A	001 – 128
	072	001 – 128	Preset Patch B	001 – 128
	:		:	
088	000 – 001	001 – 128	SR–JV80–01 Rhythm	001 – 256
	002 – 003	001 – 128	SR–JV80–02 Rhythm	001 – 256
	:		:	
089	000 – 001	001 – 128	SR–JV80–01 Patch	001 – 256
	002 – 003	001 – 128	SR–JV80–02 Patch	001 – 256
	:		:	
092	000 –	001 –	SRX Rhythm	001 –
	:		:	
093	000 –	001 –	SRX Patch	001 –
	:		:	
120		001 – 057	GM Rhythm	001 – 009
121	000 –	001 – 128	GM Patch	001 – 256

❍Modulation (Controller number 1)

Status	2nd byte	3rd byte
BnH	01H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Modulation depth: 00H - 7FH (0 - 127)

* Not received in Multitimbre mode or Performance mode when the Receive Modulation parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.

❍Breath type (Controller number 2)

Status	2nd byte	3rd byte
BnH	02H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

❍Foot type (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

❍Portamento Time (Controller number 5)

Status	2nd byte	3rd byte
BnH	05H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Portamento Time: 00H - 7FH (0 - 127)

* In Multitimbre mode or Performance mode the Part Portament Time parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Data Entry (Controller number 6, 38)

Status	2nd byte	3rd byte
BnH	06H	mmH
BnH	26H	llH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm, ll = the value of the parameter specified by RPN / NRPN
mm = MSB, ll = LSB

❍Volume (Controller number 7)

Status	2nd byte	3rd byte
BnH	07H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Volume: 00H - 7FH (0 - 127)

* Not received in Multitimbre mode or Performance mode when the Receive Volume parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.
* In Multitimbre mode or Performance mode the Part Level parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Balance (Controller number 8)

Status	2nd byte	3rd byte
BnH	08H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Balance: 00H - 7FH (0 - 127)

❍Panpot (Controller number 10)

Status	2nd byte	3rd byte
BnH	0AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Panpot: 00H - 40H - 7FH (Left - Center - Right),

* Not received in Multitimbre mode or Performance mode when the Receive Pan parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.
* In Multitimbre mode or Performance mode the Part Pan parameter (PERFORM / PART) will change.

❍Expression (Controller number 11)

Status	2nd byte	3rd byte
BnH	0BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Expression: 00H - 7FH (0 - 127)

* Not received when Tone Receive Expression parameter (PATCH / CONTROL or RHYTHM / CONTROL) is OFF.
* Not received in Multitimbre mode or Performance mode when Receive Expression parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.

❍Hold 1 (Controller number 64)

Status	2nd byte	3rd byte
BnH	40H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127) 0-63 = OFF, 64-127 = ON

* Not received when Tone Receive Hold-1 parameter (PATCH / CONTROL or RHYTHM / CONTROL) is OFF.
* Not received in Multitimbre mode or Performance mode when Receive Hold-1 parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.

❍Portamento (Controller number 65)

Status	2nd byte	3rd byte
BnH	41H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

* In Multitimbre mode or Performance mode the Part Portamento Switch parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Sostenuto (Controller number 66)

Status	2nd byte	3rd byte
BnH	42H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

❍Soft (Controller number 67)

Status	2nd byte	3rd byte
BnH	43H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

❍Legato Foot Switch (Controller number 68)

Status	2nd byte	3rd byte
BnH	44H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON

* In Multitimbre mode or Performance mode the Part Legato Switch parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Hold-2 (Controller number 69)

Status	2nd byte	3rd byte
BnH	45H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

* A hold movement isntdone.'

❍Resonance (Controller number 71)

Status	2nd byte	3rd byte
BnH	47H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv= Resonance value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* In Multitimbre mode or Performance mode the Part Resonance Offset parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Release Time (Controller number 72)

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Release Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* In Multitimbre mode or Performance mode the Part Release Time Offset parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Attack time (Controller number 73)

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Attack time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63),

* In Multitimbre mode or Performance mode the Part Attack Time Offset parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Cutoff (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Cutoff value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Multitimbre mode or Performance mode the Part Cutoff Offset parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Decay Time (Controller number 75)

Status	2nd byte	3rd byte
BnH	4BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Decay Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Multitimbre mode or Performance mode the Part Decay Time Offset parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Vibrato Rate (Controller number 76)

Status	2nd byte	3rd byte
BnH	4CH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Rate value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Multitimbre mode or Performance mode the Part Vibrato Rate parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Vibrato Depth (Controller number 77)

Status	2nd byte	3rd byte
BnH	4DH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Depth Value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Multitimbre mode or Performance mode the Part Vibrato Depth parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍Vibrato Delay (Controller number 78)

Status	2nd byte	3rd byte
BnH	4EH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Vibrato Delay Value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

* In Multitimbre mode or Performance mode the Part Vibrato Delay parameter (MULTITIMBRE / PART or PERFORM / PART) will change.

❍General Purpose Controller 5 (Controller number 80)

Status	2nd byte	3rd byte
BnH	50H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

* The Tone Level parameter (PATCH / TVA) of Tone 1 will change.

❍General Purpose Controller 6 (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

* The Tone Level parameter (PATCH / TVA) of Tone 2 will change.

❍General Purpose Controller 7 (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

* The Tone Level parameter (PATCH / TVA) of Tone 3 will change.

❍General Purpose Controller 8 (Controller number 83)

Status	2nd byte	3rd byte
BnH	53H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

* The Tone Level parameter (PATCH / TVA) of Tone 4 will change.

❍Portamento control (Controller number 84)

Status	2nd byte	3rd byte
BnH	54H	kkH

n = MIDI channel number: 0H - FH (ch.1 - 16)
kk = source note number: 00H - 7FH (0 - 127)

* A Note-on received immediately after a Portamento Control message will change continuously in pitch, starting from the pitch of the Source Note Number.
* If a voice is already sounding for a note number identical to the Source Note Number, this voice will continue sounding (i.e., legato) and will, when the next Note-on is received, smoothly change to the pitch of that Note-on.
* The rate of the pitch change caused by Portamento Control is determined by the Portamento Time value.

❍Effect 1 (Reverb Send Level) (Controller number 91)

Status	2nd byte	3rd byte
BnH	5BH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Reverb Send Level: 00H - 7FH (0 - 127)

* In Multitimbre mode or Performance mode the Part Reverb Send Level parameter (MULTITIMBRE / EFFECTS GENERAL or PERFORM / EFFECTS GENERAL) will change.

❍Effect 3 (Chorus Send Level) (Controller number 93)

Status	2nd byte	3rd byte
BnH	5DH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Chorus Send Level: 00H - 7FH (0 - 127)

* In Multitimbre mode or Performance mode the Part Chorus Send Level parameter (MULTITIMBRE / EFFECTS GENERAL or PERFORM / EFFECTS GENERAL) will change.

❍RPN MSB/LSB (Controller number 100, 101)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm = upper byte (MSB) of parameter number specified by RPN
ll = lower byte (LSB) of parameter number specified by RPN

<<< RPN >>>
Control Changes include RPN (Registered Parameter Numbers), which are extended.
When using RPNs, first RPN (Controller numbers 100 and 101; they can be sent in any order) should be sent in order to select the parameter, then
Data Entry (Controller numbers 6 and 38) should be sent to set the value. Once RPN messages are received, Data Entry messages that is received at the same MIDI channel after that are recognized as changing toward the value of the RPN messages. In order not to make any mistakes, transmitting RPN Null is recommended after setting parameters you need.

This device receives the following RPNs.

RPN MSB, LSB	Data entry MSB, LSB	Notes
00H, 00H	mmH, llH	Pitch Bend Sensitivity mm: 00H - 18H (0 - 24 semitones) ll: ignored (processed as 00H) Up to 2 octave can be specified in semitone steps.
00H, 01H	mmH, llH	Channel Fine Tuning mm, ll: 20 00H - 40 00H - 60 00H (-4096 x 100 / 8192 - 0 - +4096 x 100 / 8192 cent)
00H, 02H	mmH, llH	Channel Coarse Tuning mm: 10H - 40H - 70H (-48 - 0 - +48 semitones) ll: ignored (processed as 00H)
00H, 05H	mmH, llH	Modularion Depth Range mm: 00 00H - 06 00H (0 - 16384 x 600 / 16384 cent)
7FH, 7FH	---, ---	RPN null RPN and NRPN will be set as "unspecified." Once this setting has been made, subsequent Parameter values that were previously set will not change. mm, ll: ignored

* In Multitimbre mode or Performance mode, the Part Bend Range parameter (MULTITIMBRE / PART or PERFORM / PART) will change.
* In Multitimbre mode or Performance mode, the Part Fine Tune parameter (MULTITIMBRE / PART or PERFORM / PART) will change.
* In Multitimbre mode or Performance mode, the Part Coarse Tune parameter (MULTITIMBRE / PART or PERFORM / PART) will change.
* Not received in Patch mode.

●Program Change

Status	2nd byte	
CnH	ppH	
n = MIDI channel number:		0H - FH (ch.1 - 16)
pp = Program number:		00H - 7FH (prog.1 - prog.128)

* Not received in Multitimbre mode or Performance mode when the Receive Program Change parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.

●Channel Pressure

Status	2nd byte	
DnH	vvH	
n = MIDI channel number:		0H - FH (ch.1 - 16)
vv = Channel Pressure:		00H - 7FH (0 - 127)

* Not received in Multitimbre mode or Performance mode when the Receive Channel Pressure parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.

●Pitch Bend Change

Status	2nd byte	3rd byte	
EnH	llH	mmH	
n = MIDI channel number:			0H - FH (ch.1 - 16)
mm, ll = Pitch Bend value:			00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)

* Not received when the Tone Receive Bender parameter (PATCH / CONTROL) is OFF.
* Not received in Multitimbre mode or Performance mode when the Receive Pitch Bend parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.

■Channel Mode Messages

* Not received in Performance mode or Multitimbre mode when the Receive Switch parameter (MULTITIMBRE / MIDI or PERFORM / MIDI) is OFF.

●All Sounds Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H

n = MIDI channel number: 0H - FH (ch.1 - 16)

* When this message is received, all notes currently sounding on the corresponding channel will be turned off.

●Reset All Controllers (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H

n = MIDI channel number: 0H - FH (ch.1 - 16)

* When this message is received, the following controllers will be set to their reset values.

Controller	Reset value
Pitch Bend Change	+/-0 (center)
Polyphonic Key Pressure	0 (off)
Channel Pressure	0 (off)
Modulation	0 (off)
Breath Type	0 (min)
Expression	127 (max) However the controller will be at minimum.
Hold 1	0 (off)
Sostenuto	0 (off)
Soft	0 (off)
Hold 2	0 (off)
RPN	unset; previously set data will not change
NRPN	unset; previously set data will not change

●All Notes Off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

n = MIDI channel number: 0H - FH (ch.1 - 16)

* When All Notes Off is received, all notes on the corresponding channel will be turned off. However, if Hold 1 or Sostenuto is ON, the sound will be continued until these are turned off.

●OMNI OFF (Controller number 124)

Status	2nd byte	3rd byte
BnH	7CH	00H

n = MIDI channel number: 0H - FH (ch.1 - 16)

* The same processing will be carried out as when All Notes Off is received.

●OMNI ON (Controller number 125)

Status	2nd byte	3rd byte
BnH	7DH	00H

n = MIDI channel number: 0H - FH (ch.1 - 16)

* The same processing will be carried out as when All Notes Off is received. OMNI ON will not be turned on.

●MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm = mono number: 00H - 10H (0 - 16)

* The same processing will be carried out as when All Notes Off is received.
* In Multitimbre mode or Performance mode, the Part Mono/Poly parameter (MULTITIMBRE/PART or PERFORM/PART) will change.

●POLY (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H

n = MIDI channel number: 0H - FH (ch.1 - 16)

* The same processing will be carried out as when All Notes Off is received.
* In Multitimbre mode or Performance mode, the Part Mono/Poly parameter (MULTITIMBRE/PART or PERFORM/PART) will change.

■System Realtime Message

●Active Sensing

Status
FEH

* When Active Sensing is received, the unit will begin monitoring the intervals of all further messages. While monitoring, if the interval between messages exceeds 420 ms, the same processing will be carried out as when All Sounds Off, All Notes Off and Reset All Controllers are received, and message interval monitoring will be halted.

■System Exclusive Message

Status	Data byte	Status
F0H	iiH, ddH, ...,eeH	F7H

F0H: System Exclusive Message status
ii = ID number: an ID number (manufacturer ID) to indicate the manufacturer whose Exclusive message this is. RolandsmanufacturerIDis41H.'
ID numbers 7EH and 7FH are extensions of the MIDI standard; Universal Non-realtime Messages (7EH) and Universal Realtime Messages (7FH).
dd,...,ee = data: 00H - 7FH (0 - 127)
F7H: EOX (End Of Exclusive)

Of the System Exclusive messages received by this device, the Universal Non-realtime messages and the Universal Realtime messages and the Data Request (RQ1) messages and the Data Set (DT1) messages will be set automatically.

●Universal Non-realtime System Exclusive Messages

❍Identity Request Message

Status	Data byte	Status
F0H	7EH, dev, 06H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH, 7FH)
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* When this message is received, Identity Reply message (p. 73) will be transmitted.

❍GM1 System On

Status	Data byte	Status
F0H	7EH, 7FH, 09H, 01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
01H	Sub ID#2 (General MIDI 1 On)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will turn to the Multitimbre mode.
* Not received when the Receive GM1 System On parameter (SYSTEM/MIDI) is OFF.

❍GM2 System On

Status	Data byte	Status
F0H	7EH 7FH 09H 03H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
03H	Sub ID#2 (General MIDI 2 On)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will turn to the Multitimbre mode.
* Not received when the Receive GM2 System On parameter (SYSTEM/MIDI) is OFF.

❍GM System Off

Status	Data byte	Status
F0H	7EH, 7F, 09H, 02H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (General MIDI Message)
02H	Sub ID#2 (General MIDI Off)
F7H	EOX (End Of Exclusive)

* When this messages is received, this instrument will return to the Performance mode.

●Universal Realtime System Exclusive Messages

❍Master Volume

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 01H, llH, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
01H	Sub ID#2 (Master Volume)
llH	Master Volume lower byte
mmH	Master Volume upper byte
F7H	EOX (End Of Exclusive)

* The lower byte (llH) of Master Volume will be handled as 00H.
* The Master Level parameter (SYSTEM / GENERAL) will change.

❍Master Fine Tuning

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 03H, llH, mmH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
03H	Sub ID#2 (Master Fine Tuning)
llH	Master Fine Tuning LSB
mmH	Master Fine Tuning MSB
F7H	EOX (End Of Exclusive)

mm, ll: 00 00H - 40 00H - 7F 7FH (-100 - 0 - +99.9 [cents])

* The Master Tune parameter (SYSTEM / GENERAL) will change.

❍Master Coarse Tuning

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 04H, llH, mmH	F7

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
04H	Sub ID#2 (Master Coarse Tuning)
llH	Master Coarse Tuning LSB
mmH	Master Coarse Tuning MSB
F7H	EOX (End Of Exclusive)
llH:	ignored (processed as 00H)
mmH:	28H - 40H - 58H (-24 - 0 - +24 [semitones])

* The Master Key Shift parameter (SYSTEM / GENERAL) will change.

●Global Parameter Control

* Not received in Patch mode.

❍Reverb Parameters

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 05H, 01H, 01H, 01H, 01H, 01H, ppH, vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
05H	Sub ID#2 (Global Parameter Control)
01H	Slot path length
01H	Parameter ID width
01H	Value width
01H	Slot path MSB
01H	Slot path LSB (Effect 0101: Reverb)
ppH	Parameter to be controlled.
vvH	Value for the parameter. pp=0 Reverb Type vv = 00H Small Room vv = 01H Medium Room vv = 02H Large Room vv = 03H Medium Hall vv = 04H Large Hall vv = 08H Plate pp=1 Reverb Time vv = 00H - 7FH 0 - 127
F7H	EOX (End Of Exclusive)

❍Chorus Parameters

Status	Data byte	Status
F0H	7FH, 7FH, 04H, 05H, 01H, 01H, 01H, 01H, 02H, ppH, vvH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
04H	Sub ID#1 (Device Control)
05H	Sub ID#2 (Global Parameter Control)
01H	Slot path length
01H	Parameter ID width
01H	Value width
01H	Slot path MSB
02H	Slot path LSB (Effect 0102: Chorus)
ppH	Parameter to be controlled.
vvH	Value for the parameter. pp=0 Chorus Type vv=0 Chorus1 vv=1 Chorus2 vv=2 Chorus3 vv=3 Chorus4 vv=4 FB Chorus vv=5 Flanger pp=1 Mod Rate vv= 00H - 7FH 0 - 127 pp=2 Mod Depth vv = 00H - 7FH 0 - 127 pp=3 Feedback vv = 00H - 7FH 0 - 127 pp=4 Send To Reverb vv = 00H - 7FH 0 - 127
F7H	EOX (End Of Exclusive)

❍Channel Pressure

Status	Data byte	Status
F0H	7FH, 7FH, 09H, 01H, 0nH, ppH, rrH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (Controller Destination Setting)
01H	Sub ID#2 (Channel Pressure)
0nH	MIDI Channel (00 - 0F)
ppH	Controlled parameter
rrH	Controlled range pp=0 Pitch Control rr = 28H - 58H -24 - +24 [semitones] pp=1 Filter Cutoff Control rr = 00H - 7FH -9600 - +9450 [cents] pp=2 Amplitude Control rr = 00H - 7FH 0 - 200% pp=3 LFO Pitch Depth rr = 00H - 7FH 0 - 600 [cents] pp=4 LFO Filter Depth rr = 00H - 7FH 0 - 2400 [cents] pp=5 LFO Amplitude Depth rr = 00H - 7FH 0 - 100%
F7H	EOX (End Of Exclusive)

❍Controller

Status	Data byte	Status
F0H	7FH, 7FH, 09H, 03H, 0nH, ccH, ppH, rrH	F7H

Byte	Explanation
F0H	Exclusive status
7FH	ID number (universal realtime message)
7FH	Device ID (Broadcast)
09H	Sub ID#1 (Controller Destination Setting)
03H	Sub ID#2 (Control Change)
0nH	MIDI Channel (00 - 0F)
ccH	Controller number (01 - 1F, 40 - 5F)
ppH	Controlled parameter
rrH	Controlled range
	pp=0 Pitch Control
	rr = 28H - 58H -24 - +24 [semitones]
	pp=1 Filter Cutoff Control
	rr = 00H - 7FH -9600 - +9450 [cents]
	pp=2 Amplitude Control
	rr = 00H - 7FH 0 - 200%
	pp=3 LFO Pitch Depth
	rr = 00H - 7FH 0 - 600 [cents]
	pp=4 LFO Filter Depth
	rr = 00H - 7FH 0 - 2400 [cents]
	pp=5 LFO Amplitude Depth
	rr = 00H - 7FH 0 - 100%
F7H	EOX (End Of Exclusive)

❍Scale/Octave Tuning Adjust

Status	Data byte	Status
F0H	7EH, 7FH, 08H, 08H, ffH, ggH, hhH, ssH...	F7

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
7FH	Device ID (Broadcast)
08H	Sub ID#1 (MIDI Tuning Standard)
08H	Sub ID#2 (scale / octave tuning 1-byte form)
ffH	Channel / Option byte 1
	bits 0 to 1 = channel 15 to 16
	bit 2 to 6 = Undefined
ggH	Channel byte 2
	bits 0 to 6 = channel 8 to 14
hhH	Channel byte 3
	bits 0 to 6 = channel 1 to 7
ssH	12 byte tuning offset of 12 semitones from C to B
	00H = -64 [cents]
	40H = 0 [cents] (equal temperament)
	7FH = +63 [cents]
F7H	EOX (End Of Exclusive)

❍Key-based Instrument Controllers

Status	Data byte	Status
F0H	7FH, 7FH, 0AH, 01H, 0nH, kkH, nnH, vvH	F7H

Byte	Explanation	
F0H	Exclusive status	
7FH	ID number (universal realtime message)	
7FH	Device ID (Broadcast)	
0AH	Sub ID#1 (Key-Based Instrument Control)	
01H	Sub ID#2 (Controller)	
0nH	MIDI Channel (00 - 0FH)	
kkH	Key Number	
nnH	Control Number	
vvH	Value	
	nn=07H Level	
	vv = 00H - 7FH	0 - 200% (Relative)
	nn=0AH	Pan
	vv = 00H - 7FH	Left - Right (Absolute)
	nn=5BH	Reverb Send
	vv = 00H - 7FH	0 - 127 (Absolute)
	nn=5D	Chorus Send
	vv = 00H - 7FH	0 - 127 (Absolute)
:	:	
F7	EOX (End Of Exclusive)	

* This parameter affects drum instruments only.

●Data Transmission

This instrument can use exclusive messages to exchange many varieties of internal settings with other devices.
The model ID of the exclusive messages used by this instrument is 00H 10H.

❍Data Request 1RQ1 (11H)

This message requests the other device to transmit data. The address and size indicate the type and amount of data that is requested.
When a Data Request message is received, if the device is in a state in which it is able to transmit data, and if the address and size are appropriate, the requested data is transmitted as a Data Set 1 (DT1) message. If the conditions are not met, nothing is transmitted.

Status	data byte	status
F0H	41H, dev, 00H, 10H, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Remarks
F0H	Exclusive status
41H	ID number (Roland)
dev	device ID (dev: 10H - 1FH, 7FH)
00H	model ID #1 (Fantom)
10H	model ID #2 (Fantom)
11H	command ID (RQ1)
aaH	address MSB
bbH	address
ccH	address
ddH	address LSB
ssH	size MSB
ttH	size
uuH	size
vvH	size LSB
sum	checksum
F7H	EOX (End Of Exclusive)

* The size of data that can be transmitted at one time is fixed for each type of data. And data requests must be made with a fixed starting address and size. Refer to the address and size given in "Parameter Address Map" (p. 77).
* For the checksum, refer to (p. 97).
* Not received when the Receive Exclusive parameter (SYSTEM / MIDI) is OFF.

❍Data set 1DT1 (12H)

Status	Data byte	Status
F0H	41H, dev, 00H, 10H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H - 1FH, 7FH)
00H	Model ID #1 (Fantom)
10H	Model ID #2 (Fantom)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the data to be sent
bbH	Address: upper middle byte of the starting address of the data to be sent
ccH	Address: lower middle byte of the starting address of the data to be sent
ddH	Address LSB: lower byte of the starting address of the data to be sent.
eeH	Data: the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in "Parameter Address Map" (p. 77).
* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.
* Regarding the checksum, please refer to (p. 97)
* Not received when the Receive Exclusive parameter (SYSTEM / MIDI) is OFF.

❍**Data set 1DT1 (12H)**

Status	Data byte	Status
F0H	41H, dev, 42H, 12H, aaH, bbH, ccH, ddH, ... eeH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H - 1FH, 7FH)
42H	Model ID (GS)
12H	Command ID (DT1)
aaH	Address MSB:upper byte of the starting address of the transmitted data
bbH	Address:middle byte of the starting address of the transmitted data
ccH	Address LSB:lower byte of the starting address of the transmitted data
ddH	Data: the actual data to be transmitted. Multiple bytes of data are transmitted starting from the address.
:	:
eeH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in "Parameter Address Map" (p. 77).
* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.
* Regarding the checksum, please refer to (p. 97)
* Not received when the Receive Exclusive parameter (SYSTEM / MIDI) is OFF.

2. Data Transmission (Sound Generator Section)

■Channel Voice Messages

●Note off

Status	2nd byte	3rd byte
8nH	kkH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
kk = note number:	00H - 7FH (0 - 127)	
vv = note off velocity:	00H - 7FH (0 - 127)	

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
kk = note number:	00H - 7FH (0 - 127)	
vv = note on velocity:	01H - 7FH (1 - 127)	

●Control Change

* By selecting a controller number that corresponds to the setting of parameters of controllers (/C1–/C4 Assign, and so on), the Fantom can transmit any control change message.

❍**Bank Select (Controller number 0, 32)**

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
mm, ll = Bank number:	00 00H - 7F 7FH (bank.1 - bank.16384)	

* These messages are transmitted when Patch, Rhythm Set, Multitimbre or Performance is selected. But not transmitted when Transmit Program Change or Transmit Bank Select parameter (SYSTEM / MIDI) is OFF.
* In Performance mode, these messages are not transmitted when External Bank Select MSB or External PC Number parameter (PERFORMANCE / ZONE) is ---.
* Although with the Fantom you can select the Bank Select messages to be transmitted, be sure to refer to the Program Change Map on (p. 66) for the Bank Select messages transmitted when the Fantom is select a Patch, Rhythm Set, Multitimbre or Performance.
* The Bank Select Numbers corresponding to SRX series should be referred to the SRX series ownersmanual.'

❍**Modulation (Controller number 1)**

Status	2nd byte	3rd byte
BnH	01H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Modulation depth:	00H - 7FH (0 - 127)	

❍**Breath type (Controller number 2)**

Status	2nd byte	3rd byte
BnH	02H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Control value:	00H - 7FH (0 - 127)	

❍**Portamento Time (Controller number 5)**

Status	2nd byte	3rd byte
BnH	05H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Portamento Time:	00H - 7FH (0 - 127)	

❍**Data Entry (Controller number 6, 38)**

Status	2nd byte	3rd byte
BnH	06H	mmH
BnH	26H	llH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm, ll = the value of the parameter specified by RPN / NRPN
mm = MSB, ll = LSB

* When execute the Data Transfer, Data Entry messages will transmit.

❍**Volume (Controller number 7)**

Status	2nd byte	3rd byte
BnH	07H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Volume:	00H - 7FH (0 - 127)	

* In Performance mode, these messages are not transmitted when External Level parameter (PERFORMANCE / ZONE) is ---.

❍**Panpot (Controller number 10)**

Status	2nd byte	3rd byte
BnH	0AH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Panpot:	00H - 40H - 7FH (Left - Center - Right),	

* In Performance mode, these messages are not transmitted when External Pan parameter (PERFORMANCE ZONE) is ---.

❍**Expression (Controller number 11)**

Status	2nd byte	3rd byte
BnH	0BH	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Expression:	00H - 7FH (0 - 127)	

❍**Hold 1 (Controller number 64)**

Status	2nd byte	3rd byte
BnH	40H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Control value:	00H - 7FH (0 - 127) 0-63 = OFF, 64-127 = ON	

* When Continuous Hold Pedal parameter (SYSTEM / CONTROLLER) is OFF, just only 00H (0FF) and 7FH (0N) can be send as the control value.

❍**Portamento (Controller number 65)**

Status	2nd byte	3rd byte
BnH	41H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv = Control value:	00H - 7FH (0 - 127) 0 - 63 = OFF, 64 - 127 = ON	

❍**Resonance (Controller number 71)**

Status	2nd byte	3rd byte
BnH	47H	vvH
n = MIDI channel number:	0H - FH (ch.1 - 16)	
vv= Resonance value (relative change):	00H - 40H - 7FH (-64 - 0 - +63)	

❍Release Time (Controller number 72)

Status	2nd byte	3rd byte
BnH	48H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Release Time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍Attack time (Controller number 73)

Status	2nd byte	3rd byte
BnH	49H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Attack time value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍Cutoff (Controller number 74)

Status	2nd byte	3rd byte
BnH	4AH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Cutoff value (relative change): 00H - 40H - 7FH (-64 - 0 - +63)

❍General Purpose Controller 5 (Controller number 80)

Status	2nd byte	3rd byte
BnH	50H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

❍General Purpose Controller 6 (Controller number 81)

Status	2nd byte	3rd byte
BnH	51H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

❍General Purpose Controller 7 (Controller number 82)

Status	2nd byte	3rd byte
BnH	52H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

❍General Purpose Controller 8 (Controller number 83)

Status	2nd byte	3rd byte
BnH	53H	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Control value: 00H - 7FH (0 - 127)

❍Portamento control (Controller number 84)

Status	2nd byte	3rd byte
BnH	54H	kkH

n = MIDI channel number: 0H - FH (ch.1 - 16)
kk = source note number: 00H - 7FH (0 - 127)

❍RPN MSB/LSB (Controller number 100, 101)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm = upper byte (MSB) of parameter number specified by RPN
ll = lower byte (LSB) of parameter number specified by RPN

<<< RPN >>>
When execute the Data Transfer, Program Change, Data Entry, and following RPN messages will transmit.
Control Changes include RPN (Registered Parameter Numbers), which are extended.
When using RPNs, first RPN (Controller numbers 100 and 101; they can be sent in any order) should be sent in order to select the parameter, then
Data Entry (Controller numbers 6 and 38) should be sent to set the value. Once RPN messages are received, Data Entry messages that is received at the same MIDI channel after that are recognized as changing toward the value of the RPN messages. In order not to make any mistakes, transmitting RPN Null is recommended after setting parameters you need.

This device transmits the following RPNs.

RPN MSB, LSB	Data entry MSB, LSB	Notes
00H, 00H	mmH, llH	Pitch Bend Sensitivity mm: 00H - 18H (0 - 24 semitones) ll: ignored (processed as 00H)
00H, 01H	mmH, llH	Channel Fine Tuning mm, ll: 20 00H - 40 00H - 60 00H (-4096 x 100 / 8192 - 0 - +4096 x 100 / 8192 cent)
00H, 02H	mmH, llH	Channel Coarse Tuning mm: 10H - 40H - 70H (-48 - 0 - +48 semitones) ll: ignored (processed as 00H)
00H, 05H	mmH, llH	Modulation Depth Range mm, ll: 00 00H - 06 00H (0 - 16384 x 600 / 16384 cent)
7FH, 7FH	---, ---	RPN null RPN and NRPN will be set as "unspecified." Once this setting has been made, subsequent

●Program Change

Status	2nd byte
CnH	ppH

n = MIDI channel number:0H - FH (ch.1 - 16)
pp = Program number:00H - 7FH (prog.1 - prog.128)

* These messages are transmitted when Patch, Rhythm Set, Multitimbre or Performance is selected. But not transmitted when Transmit Program Change parameter (SYSTEM / MIDI) is OFF.
* In Performance mode, these messages are not transmitted when External PC Num parameter (PERFORMANCE / ZONE) is ---.

●Channel Pressure

Status	2nd byte
DnH	vvH

n = MIDI channel number: 0H - FH (ch.1 - 16)
vv = Channel Pressure: 00H - 7FH (0 - 127)

●Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm, ll = Pitch Bend value: 00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)

■Channel Mode Messages

●MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

n = MIDI channel number: 0H - FH (ch.1 - 16)
mm = mono number: 00H - 10H (0 - 16)

●POLY (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H

n = MIDI channel number: 0H - FH (ch.1 - 16)

■System Realtime Messages

●Active Sensing

Status
FEH

* This message is transmitted at intervals of approximately 250 msec.
* This message is not sent when Transmit Active Sensing parameter (SYSTEM / MIDI) is OFF.

■System Exclusive Messages

Universal Non-realtime System Exclusive Message" and Data Set 1 (DT1) are the only System Exclusive messages transmitted by the Fantom.

●Universal Non-realtime System Exclusive Message

❍Identity Reply Message

Receiving Identity Request Message, the Fantom send this message.

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 10H, 01H, 02H, 02H, 03H, 03H, 00H, 00H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (dev: 10H - 1FH)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
10H 01H	Device family code
02H 02H	Device family number code
03H 03H 00H 00H	Software revision level
F7H	EOX (End of Exclusive)

●Data Transmission

❍Data set 1DT1 (12H)

Status	Data byte	Status
F0H	41H, dev, 00H, 10H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 00H - 1FH, 7FH)
00H	Model ID #1 (Fantom)
10H	Model ID #2 (Fantom)
12H	Command ID (DT1)
aaH	Address MSB:upper byte of the starting address of the data to be sent
bbH	Address:upper middle byte of the starting address of the data to be sent
ccH	Address:lower middle byte of the starting address of the data to be sent
ddH	Address LSB:lower byte of the starting address of the data to be sent.
eeH	Data: the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in "Parameter Address Map" (p. 77).

* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.

3. Data reception (Sequencer Section)

3.1 Messages recorded during recording

■Channel Voice Messages

●Note Off

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	
kk=note number:	00H - 7FH (0 - 127)	
vv=note off velocity:	00H - 7FH (0 - 127)	

* Not received when the Note parameter(Recording Select window) is OFF.

●Note on

Status	2nd byte	3rd byte
9nH	kkH	vvH
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	
kk=note number:	00H - 7FH (0 - 127)	
vv=note on velocity:	01H - 7FH (1 - 127)	

* Not received when the Note parameter(Recording Select window) is OFF.

●Polyphonic Aftertouch

Status	2nd byte	3rd byte
AnH	kkH	vvH
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	
kk=note number:	00H - 7FH (0 - 127)	
vv=Polyphonic Aftertouch:	00H - 7FH (0 - 127)	

* Not received when the Poly Afertouch parameter(Recording Select window) is OFF.

●Control Change

Status	2nd byte	3rd byte
BnH	kkH	vvH
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	
kk=Control number:	00H - 78H (0 - 120)	
vv=value:	00H - 7FH (0 - 127)	

* Not received when the Control Change parameter(Recording Select window) is OFF.

●Program Change

Status	2nd byte
CnH	ppH
n=MIDI channel number:	0H - FH (ch.1 - ch.16)
pp=Program number:	00H - 7FH (prog.1 - prog.128)

* Not received when the Program Change parameter(Recording Select window) is OFF.

●Channel Aftertouch

Status	2nd byte
DnH	vvH
n=MIDI channel number:	0H - FH (ch.1 - ch.16)
vv=Channel Aftertouch:	00H - 7FH (0 - 127)

* Not received when the Channel Aftertouch parameter(Recording Select window) is OFF.

●Pitch Bend Change

Status	2nd byte	3rd byte
EnH	llH	mmH
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	
mm, ll=Pitch Bend value:	00 00H - 40 00H - 7F 7FH (-8192 - 0 - +8191)	

* Not received when the Pitch Bend parameter (Recording Select window) is OFF.

■Channel Mode messages

●All Sound Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	

●Reset All Controller (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	

●Omni Off (Controller number 124)

Status	2nd byte	3rd byte
BnH	7CH	00H
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	

* The same processing will be done as when an All Note Off message is received.

●Omni On (Controller number 125)

Status	2nd byte	3rd byte
BnH	7DH	00H
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	

* The same processing will be done as when an All Note Off message is received.

●Mono (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	
mm=mono number:	00H - 10H (0 - 16)	

* The same processing will be done as when an All Note Off message is received.

●Poly (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H
n=MIDI channel number:	0H - FH (ch.1 - ch.16)	

* The same processing will be done as when an All Note Off message is received.

■System Exclusive Messages

Status	Data byte	Status
F0H	iiH, ddH, ..., eeH	F7H

F0H: System Exclusive message status

ii=ID number: This is the ID number (manufacturer ID) that specifies the manufacturer whose exclusive message this is. Roland's manufacturer ID is 41H. ID numbers 7EH and 7FH are defined in an expansion of the MIDI standard as Universal Non-real-time messages (7EH) and Universal Realtime Messages (7FH).

dd,..., ee = data: 00H - 7FH (0 - 127)

F7H: EOX (End of System Exclusive)

* Not received when the System Exclusive parameter (Recording Select window) is OFF.

* MIDI Machine Control and MIDI Time code is not recorded.(Refer to "1.3 Messages acknowledged for synchronization")

3.2 Messages not recorded during recording

■Channel mode messages

●Local On/Off (Controller number 122)

Status	2nd byte	3rd byte
BnH	7AH	vvH

n=MIDI channel number: 0H - FH (ch.1 - ch.16)

vv=Value: 00H, 7FH (Local Off, Local On)

●All notes off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

n=MIDI channel number: 0H - FH (ch.1 - ch.16)

* When an All Note Off message is received, all notes of the corresponding channel that are on will be sent Note Off's, and the resulting Note Off messages will be recorded.

3.3 Messages acknowledged for synchronization

■System Common messages

●Tune Request

Status
F6H

●MIDI Time Code Quarter Frame Messages

MIDI Time Code Quarter Frame Messages can be transmitted while the sequencer is running (Playing or Recording) if the Sync Mode parameter(SYSTEM / SEQUENCER) is MASTER and MTC Sync Output parameter(SYSTEM / SEQUENCER) is ON. The transmitted time counts are summed to MTC Offset Time parameter(SYSTEM / SEQUENCER) as the song top is "00:00:00:00."
The sequencer synchronizes with the time counts which are summed to MTC Offset Time parameter(SYSTEM / SEQUENCER) as the song top is "00:00:00:00" if the Sync Mode parameter(SYSTEM / SEQUENCER) is SLAVE(MTC).

Status	Second
F1H	mmH (= 0nnndddd)

nnn = Message type :
0 = Frame count LS nibble
1 = Frame count MS nibble
2 = Seconds count LS nibble
3 = Seconds count MS nibble
4 = Minutes count LS nibble
5 = Minutes count MS nibble
6 = Hours count LS nibble
7 = Hours count MS nibble
dddd = 4 bit nibble data : h - FH (0 - 15)

Bit Field is assigned as follows.

Frame Count	xxxyyyyy	
xxx	Reserved (000)	
yyyyy	Frame No.(0-29)	
Seconds Count	xxyyyyyy	
	xx	Reserved (00)
	yyyyyy	Seconds (0-59)
Minutes Count	xxyyyyyy	
	xx	Reserved (00)
	yyyyyy	Minutes (0-59)
Hours Count	xyyzzzzz	
	x	Reserved (0)
	yy	Time Code type
	0 = 24 Frames / Sec	
	1 = 25 Frames / Sec	
	2 = 30 Frames / Sec (Drop Frame)	
	3 = 30 Frames / Sec (Non Drop Frame	
	zzzzz	Hours (0-23)

●Song Position Pointer

Status	2nd byte	3rd byte
F2H	mmH	llH

mm, ll=value: 00 00H - 7F 7FH (0 - 16383)

■System Realtime Messages

●Timing Clock

Status
F8H

* Received when Sync Mode parameter(SYSTEM / SEQUENCER) is set to MASTER.

●Start

Status
FAH

* Received when Sync Mode parameter(SYSTEM / SEQUENCER) is set to MASTER or REMOTE.

●Continue

Status
FBH

* Received when Sync Mode parameter(SYSTEM / SEQUENCER) is set to MASTER or REMOTE.

●Stop

Status
FCH

* Received when Sync Mode parameter(SYSTEM / SEQUENCER) is set to MASTER or REMOTE.

■System Exclusive Message

●MIDI Machine Control (MMC)

* Received when the MMC Mode parameter(SYSTEM / SEQUENCER) is SLAVE.

❍STOP (MCS)

Status	Data byte	Status
F0H	7FH, dev, 06H, 01H	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
01H	STOP (MCS)
F7H	EOX (End of Exclusive)

❍DEFERRED PLAY (MCS)

Status	Data byte	Status
F0H	7FH, dev, 06H, 03H	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
03H	DEFERRED PLAY (MCS)
F7H	EOX (End of Exclusive)

❍LOCATE (MCP)

❍Format2---LOCATE [TARGET]

Status	Data byte	Status
F0H	7FH, dev, 06H, 44H, 06H, 01H, hrH, mnH, scH, frH, ffH	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
44H	LOCATE (MCP)
06H	Byte count
01H	"TARGET" sub-Command
hrH	Standard Time Specification with subframes (type**ff**)
mnH	
scH	
frH	
ffH	
F7H	EOX (End of Exclusive)

4. Data transmission (Sequencer Section)

4.1 Messages transmitted during playing

Recorded messages are transmitted during playback.

4.2 Soft Thru setting

Messages (except System Common and System Realtime Messages) that are received are then sent out when Soft Thru parameter (SYSTEM / SEQUENCER) is switched to ON.

4.3 Messages that are generated and transmitted

4.3.1 Messages Appearing When Synchronizing with Other Devices

■System Common Messages

* Sent when Sync Output parameter(SYSTEM / SEQUENCER) is set to ON.

●Song Position Pointer

Status	2nd byte	3rd byte
F2H	mmH	llH
mm, ll=value:	00 00H - 7F 7FH (0 - 16383)	

■System Realtime Messages

* Sent when Sync Output parameter(SYSTEM / SEQUENCER) is set to ON.

●Timing Clock

Status
F8H

●Start

Status
FAH

●Continue

Status
FBH

●Stop

Status
FCH

●Quarter Frame Messages

Status	2nd byte
F1H	mmH (= 0nnndddd)

* Sent when Sync Mode parameter(SYSTEM / SEQUENCER) is set to MASTER and MTC Sync Output parameter(SYSTEM / SEQUENCER) is set to ON. Furthermore, sending a Quarter Frame Message with "00h00m00s00f00" at the beginning of the song adds the MTC Offset Time parameter(SYSTEM / SEQUENCER).

■System Exclusive Message

●MIDI Time code

❍Full Message

Full Messages are used, which encode the complete time into a single message.
This message transmitted when the song position moves.

Status	Data Byte	Status
F0H, 7FH xxH, 01H, 01H, hrH, mnH, scH, frH		F7H

F0H, 7FH :	Realtime Universal System Exclusive Header
xxH :	7F (Device ID)
01H :	sub-ID #1 (MIDI Time code)
01H :	sub-ID #2 (Full Message)
hrH :	hours and type: 0 yy zzzzz
yy type:	
	00 = 24 Flame / sec
	01 = 25 Flame / sec
	10 = 30 Flame / sec
	11 = 30 Flame / sec
zzzzz :	Hours (00 - 23)
mnH :	Minutes (00 - 59)
scH :	Seconds (00 - 59)
frH :	Frames (00 - 29)
F7H :	EOX (End of Exclusive)

●MIDI Machine Control (MMC)

* Not received when the MMC Mode parameter(SYSTEM / SEQUENCER) is Master.

❍STOP (MCS)

Status	Data byte	Status
F0H	7FH, dev, 06H, 01H	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
01H	STOP (MCS)
F7H	EOX (End of Exclusive)

❍DEFFERRED PLAY (MCS)

Status	Data byte	Status
F0H	7FH, dev, 06H, 03H	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
03H	DEFERRED PLAY (MCS)
F7H	EOX (End of Exclusive)

❍LOCATE (MCP)

❍Format2---LOCATE [TARGET]

Status	Data byte	Status
F0H	7FH, dev, 06H, 44H, 06H, 01H, hrH, mnH, scH, frH, ffH	F7H

Byte	Remarks
F0H	Exclusive status
7FH	Universal System Exclusive Realtime Header
7FH	Device ID
06H	MMC command message
44H	LOCATE (MCP)
06H	Byte count
01H	"TARGET" sub-Command
hrH	Standard Time Specification with subframes (type**ff**)
mnH	
scH	
frH	
ffH	
F7H	EOX (End of Exclusive)

5. Parameter Address Map

* Transmission of "#" marked address is diviedd to some packets. For example, ABH in hexadecimal notation will be divied to 0AH and 0BH, and is sent/received in this order.

* "<*>" marked adddress or parameters are ignored when the Fantom received them.

1. Fantom (ModelID = 00H 10H)

Start Address	Description
01 00 00 00	Setup
02 00 00 00	System
10 00 00 00	Temporary Performance
11 00 00 00	Temporary Patch/Rhythm (Performance Mode Part 1)
11 20 00 00	Temporary Patch/Rhythm (Performance Mode Part 2)
:	:
14 60 00 00	Temporary Patch/Rhythm (Performance Mode Part 16)
19 00 00 00	Temporary Multitimbre
1A 00 00 00	Temporary Patch/Rhythm (Multitimbre Mode Part 1)
1A 20 00 00	Temporary Patch/Rhythm (Multitimbre Mode Part 2)
:	:
1D 60 00 00	Temporary Patch/Rhythm (Multitimbre Mode Part 16)
1F 00 00 00	Temporary Patch/Rhythm (Patch Mode)
20 00 00 00	User Performance (01)
20 01 00 00	User Performance (02)
:	:
20 3F 00 00	User Performance (64)
30 00 00 00	User Patch (001)
30 01 00 00	User Patch (002)
:	:
30 7F 00 00	User Patch (128)
40 00 00 00	User Rhythm (001)
40 10 00 00	User Rhythm (002)
:	:
41 70 00 00	User Rhythm (016)
50 00 00 00	User Multitimbre (01)
50 01 00 00	User Multitimbre (02)
:	:
50 0F 00 00	User Multitimbre (16)

❍System

Offset Address	Description
00 00 00	System Common
00 02 00	System EQ
00 40 00	System Controller

❍Temporary Patch/Rhythm

Offset Address	Description
00 00 00	Temporary Patch
10 00 00	Temporary Rhythm

❍Performance

Offset Address	Description
00 00 00	Performance Common
00 02 00	Performance Common MFX1
00 04 00	Performance Common Chorus
00 06 00	Performance Common Reverb
00 08 00	Performance Common MFX2
00 0A 00	Performance Common MFX3
00 10 00	Performance MIDI (Channel 1)
00 11 00	Performance MIDI (Channel 2)
:	:
00 1F 00	Performance MIDI (Channel 16)
00 20 00	Performance Part (Part 1)
00 21 00	Performance Part (Part 2)
:	:
00 2F 00	Performance Part (Part 16)
00 50 00	Performance Zone (Channel 1)
00 51 00	Performance Zone (Channel 2)
:	:
00 5F 00	Performance Zone (Channel 16)
00 60 00	Performance Controller

❍Multitimbre

Offset Address	Description
00 00 00	Multitimbre Common
00 02 00	Multitimbre Common MFX1
00 04 00	Multitimbre Common Chorus
00 06 00	Multitimbre Common Reverb
00 08 00	Multitimbre Common MFX2
00 0A 00	Multitimbre Common MFX3
00 10 00	Multitimbre MIDI (Channel 1)
00 11 00	Multitimbre MIDI (Channel 2)
:	:
00 1F 00	Multitimbre MIDI (Channel 16)
00 20 00	Multitimbre Part (Part 1)
00 21 00	Multitimbre Part (Part 2)
:	:
00 2F 00	Multitimbre Part (Part 16)

❍Patch

Offset Address	Description
00 00 00	Patch Common
00 02 00	Patch Common MFX
00 04 00	Patch Common Chorus
00 06 00	Patch Common Reverb
00 10 00	Patch TMT (Tone Mix Table)
00 20 00	Patch Tone (Tone 1)
00 22 00	Patch Tone (Tone 2)
00 24 00	Patch Tone (Tone 3)
00 26 00	Patch Tone (Tone 4)
00 60 00	Patch Controller

❍Rhythm

Offset Address	Description
00 00 00	Rhythm Common
00 02 00	Rhythm Common MFX
00 04 00	Rhythm Common Chorus
00 06 00	Rhythm Common Reverb
00 10 00	Rhythm Tone (Key # 21)
00 12 00	Rhythm Tone (Key # 22)
:	:
01 3E 00	Rhythm Tone (Key # 108)
00 40 00	Rhythm Controller

❍Setup

Offset Address		Description	
00 00	0000 0aaa	Sound Mode PERFORM, PATCH, MULTI, GM1, GM2, GS	(0 – 5)
00 01	0aaa aaaa	Multitimbre Bank Select MSB (CC# 0)	(0 – 127)
00 02	0aaa aaaa	Multitimbre Bank Select LSB (CC# 32)	(0 – 127)
00 03	0aaa aaaa	Multitimbre Program Number (PC)	(0 – 127)
00 04	0aaa aaaa	Performance Bank Select MSB (CC# 0)	(0 – 127)
00 05	0aaa aaaa	Performance Bank Select LSB (CC# 32)	(0 – 127)
00 06	0aaa aaaa	Performance Program Number (PC)	(0 – 127)
00 07	0aaa aaaa	Patch Bank Select MSB (CC# 0)	(0 – 127)
00 08	0aaa aaaa	Patch Bank Select LSB (CC# 32)	(0 – 127)
00 09	0aaa aaaa	Patch Program Number (PC)	(0 – 127)
00 0A	0000 000a	MFX Switch BYPASS, ON	(0 – 1)
00 0B	0000 000a	Chorus Switch OFF, ON	(0 – 1)
00 0C	0000 000a	Reverb Switch OFF, ON	(0 – 1)
00 0D	0000 aaaa	Transpose Value −5 – +6	(59 – 70)
00 0E	0000 0aaa	Octave Shift −3 – +3	(61 – 67)
00 00 00 0F	Total Size		

❍System Common

Offset Address		Description	
# 00 00	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Master Tune	(24 – 2024) –100.0 – 100.0 [cent]
00 04	00aa aaaa	Master Key Shift	(40 – 88) –24 – +24
00 05	0aaa aaaa	Master Level	(0 – 127)
00 06	0000 000a	Scale Tune Switch	(0 – 1) OFF, ON
00 07	0000 000a	Patch Remain	(0 – 1) OFF, ON
00 08	0000 000a	Mix/Parallel	(0 – 1) MIX, PARALLEL
00 09	000a aaaa	Performance Control Channel	(0 – 16) 1 – 16, OFF
00 0A	000a aaaa	Multitimbre Control Channel	(0 – 16) 1 – 16, OFF
00 0B	0000 aaaa	Patch Receive Channel	(0 – 15) 1 – 16
00 0C	0aaa aaaa	Patch Scale Tune for C	(0 – 127) –64 – +63
00 0D	0aaa aaaa	Patch Scale Tune for C#	(0 – 127) –64 – +63
00 0E	0aaa aaaa	Patch Scale Tune for D	(0 – 127) –64 – +63
00 0F	0aaa aaaa	Patch Scale Tune for D#	(0 – 127) –64 – +63
00 10	0aaa aaaa	Patch Scale Tune for E	(0 – 127) –64 – +63
00 11	0aaa aaaa	Patch Scale Tune for F	(0 – 127) –64 – +63
00 12	0aaa aaaa	Patch Scale Tune for F#	(0 – 127) –64 – +63
00 13	0aaa aaaa	Patch Scale Tune for G	(0 – 127) –64 – +63
00 14	0aaa aaaa	Patch Scale Tune for G#	(0 – 127) –64 – +63
00 15	0aaa aaaa	Patch Scale Tune for A	(0 – 127) –64 – +63
00 16	0aaa aaaa	Patch Scale Tune for A#	(0 – 127) –64 – +63
00 17	0aaa aaaa	Patch Scale Tune for B	(0 – 127) –64 – +63
00 18	0aaa aaaa	System Control 1 Source	(0 – 97) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT
00 19	0aaa aaaa	System Control 2 Source	(0 – 97) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT
00 1A	0aaa aaaa	System Control 3 Source	(0 – 97) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT
00 1B	0aaa aaaa	System Control 4 Source	(0 – 97) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT
00 1C	0000 000a	Receive Program Change	(0 – 1) OFF, ON
00 1D	0000 000a	Receive Bank Select	(0 – 1) OFF, ON
00 00 00 1E	Total Size		

❍System EQ

Offset Address		Description	
00 00	0000 000a	EQ Switch	(0 – 1) BYPASS, ON
00 01	0000 000a	EQ1 Low Frequency	(0 – 1) 200, 400 [Hz]
00 02	000a aaaa	EQ1 Low Gain	(0 – 30) –15 – +15
00 03	0000 00aa	EQ1 High Frequency	(0 – 2) 2000, 4000, 8000 [Hz]
00 04	000a aaaa	EQ1 High Gain	(0 – 30) –15 – +15
00 05	0000 000a	EQ2 Low Frequency	(0 – 1) 200, 400 [Hz]
00 06	000a aaaa	EQ2 Low Gain	(0 – 30) –15 – +15
00 07	0000 00aa	EQ2 High Frequency	(0 – 2) 2000, 4000, 8000 [Hz]
00 08	000a aaaa	EQ2 High Gain	(0 – 30) –15 – +15
00 09	0000 000a	EQ3 Low Frequency	(0 – 1) 200, 400 [Hz]
00 0A	000a aaaa	EQ3 Low Gain	(0 – 30) –15 – +15
00 0B	0000 00aa	EQ3 High Frequency	(0 – 2) 2000, 4000, 8000 [Hz]
00 0C	000a aaaa	EQ3 High Gain	(0 – 30) –15 – +15
00 0D	0000 000a	EQ4 Low Frequency	(0 – 1) 200, 400 [Hz]
00 0E	000a aaaa	EQ4 Low Gain	(0 – 30) –15 – +15
00 0F	0000 00aa	EQ4 High Frequency	(0 – 2) 2000, 4000, 8000 [Hz]
00 10	000a aaaa	EQ4 High Gain	(0 – 30) –15 – +15
00 00 00 11	Total Size		

❍System Controller

Offset Address		Description	
00 00	0000 000a	Transmit Program Change	(0 – 1) OFF, ON
00 01	0000 000a	Transmit Bank Select	(0 – 1) OFF, ON
00 02	0aaa aaaa	Keyboard Velocity	(0 – 127) REAL, 1 – 127
00 03	0000 00aa	Keyboard Sens	(0 – 2) LIGHT, MEDIUM, HEAVY
00 04	0aaa aaaa	Aftertouch Sens	(0 – 100)
00 05	000a aaaa	Patch Transmit Channel	(0 – 17) 1 – 16, RX–CH, OFF
00 06	0000 aaaa	Beam Sens	(1 – 10)
00 07	0000 000a	Hold Pedal Polarity	(0 – 1) STANDARD, REVERSE
00 08	0000 000a	Continuous Hold Pedal	(0 – 1) OFF, ON
00 09	0aaa aaaa	Pedal 1 Assign	(0 – 109) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, START/STOP, PUNCH–I/O, TAP–TEMPO, PROG–UP, PROG–DOWN, FAV–UP, FAV–DOWN, ARP–SW, PTN–SW
00 0A	0000 000a	Pedal 1 Polarity	(0 – 1) STANDARD, REVERSE
00 0B	0aaa aaaa	Pedal 2 Assign	(0 – 109) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, START/STOP, PUNCH–I/O, TAP–TEMPO, PROG–UP, PROG–DOWN, FAV–UP, FAV–DOWN, ARP–SW, PTN–SW
00 0C	0000 000a	Pedal 2 Polarity	(0 – 1) STANDARD, REVERSE
00 00 00 0D	Total Size		

❍Performance Common

Offset Address		Description	
00 00	0aaa aaaa	Performance Name 1	(32 – 127) 32 – 127 [ASCII]
00 01	0aaa aaaa	Performance Name 2	(32 – 127) 32 – 127 [ASCII]
00 02	0aaa aaaa	Performance Name 3	(32 – 127) 32 – 127 [ASCII]
00 03	0aaa aaaa	Performance Name 4	(32 – 127) 32 – 127 [ASCII]
00 04	0aaa aaaa	Performance Name 5	(32 – 127) 32 – 127 [ASCII]
00 05	0aaa aaaa	Performance Name 6	(32 – 127) 32 – 127 [ASCII]
00 06	0aaa aaaa	Performance Name 7	(32 – 127) 32 – 127 [ASCII]
00 07	0aaa aaaa	Performance Name 8	(32 – 127) 32 – 127 [ASCII]
00 08	0aaa aaaa	Performance Name 9	(32 – 127) 32 – 127 [ASCII]
00 09	0aaa aaaa	Performance Name 10	(32 – 127) 32 – 127 [ASCII]
00 0A	0aaa aaaa	Performance Name 11	(32 – 127) 32 – 127 [ASCII]
00 0B	0aaa aaaa	Performance Name 12	(32 – 127) 32 – 127 [ASCII]
00 0C	00aa aaaa	Solo Part Select	(0 – 32) OFF, 1 – 16, 17 – 32<*>
00 0D	000a aaaa	MFX Control Channel	(0 – 16) 1 – 16, OFF
00 0E	0000 000a	MFX Control MIDI1<*>	(0 – 1) OFF, ON
00 0F	0000 000a	MFX Control MIDI2<*>	(0 – 1) OFF, ON
00 10	0aaa aaaa	Voice Reserve 1	(0 – 64) 0 – 63, FULL
00 11	0aaa aaaa	Voice Reserve 2	(0 – 64) 0 – 63, FULL
00 12	0aaa aaaa	Voice Reserve 3	(0 – 64) 0 – 63, FULL
00 13	0aaa aaaa	Voice Reserve 4	(0 – 64) 0 – 63, FULL
00 14	0aaa aaaa	Voice Reserve 5	(0 – 64) 0 – 63, FULL
00 15	0aaa aaaa	Voice Reserve 6	(0 – 64) 0 – 63, FULL
00 16	0aaa aaaa	Voice Reserve 7	(0 – 64) 0 – 63, FULL
00 17	0aaa aaaa	Voice Reserve 8	(0 – 64) 0 – 63, FULL
00 18	0aaa aaaa	Voice Reserve 9	(0 – 64) 0 – 63, FULL
00 19	0aaa aaaa	Voice Reserve 10	(0 – 64) 0 – 63, FULL
00 1A	0aaa aaaa	Voice Reserve 11	(0 – 64) 0 – 63, FULL
00 1B	0aaa aaaa	Voice Reserve 12	(0 – 64) 0 – 63, FULL
00 1C	0aaa aaaa	Voice Reserve 13	(0 – 64)

			0 – 63, FULL
	00 1D	0aaa aaaa	Voice Reserve 14 (0 – 64)
			0 – 63, FULL
	00 1E	0aaa aaaa	Voice Reserve 15 (0 – 64)
			0 – 63, FULL
	00 1F	0aaa aaaa	Voice Reserve 16 (0 – 64)
			0 – 63, FULL
	00 20	0aaa aaaa	Voice Reserve 17<*> (0 – 64)
			0 – 63, FULL
	00 21	0aaa aaaa	Voice Reserve 18<*> (0 – 64)
			0 – 63, FULL
	00 22	0aaa aaaa	Voice Reserve 19<*> (0 – 64)
			0 – 63, FULL
	00 23	0aaa aaaa	Voice Reserve 20<*> (0 – 64)
			0 – 63, FULL
	00 24	0aaa aaaa	Voice Reserve 21<*> (0 – 64)
			0 – 63, FULL
	00 25	0aaa aaaa	Voice Reserve 22<*> (0 – 64)
			0 – 63, FULL
	00 26	0aaa aaaa	Voice Reserve 23<*> (0 – 64)
			0 – 63, FULL
	00 27	0aaa aaaa	Voice Reserve 24<*> (0 – 64)
			0 – 63, FULL
	00 28	0aaa aaaa	Voice Reserve 25<*> (0 – 64)
			0 – 63, FULL
	00 29	0aaa aaaa	Voice Reserve 26<*> (0 – 64)
			0 – 63, FULL
	00 2A	0aaa aaaa	Voice Reserve 27<*> (0 – 64)
			0 – 63, FULL
	00 2B	0aaa aaaa	Voice Reserve 28<*> (0 – 64)
			0 – 63, FULL
	00 2C	0aaa aaaa	Voice Reserve 29<*> (0 – 64)
			0 – 63, FULL
	00 2D	0aaa aaaa	Voice Reserve 30<*> (0 – 64)
			0 – 63, FULL
	00 2E	0aaa aaaa	Voice Reserve 31<*> (0 – 64)
			0 – 63, FULL
	00 2F	0aaa aaaa	Voice Reserve 32<*> (0 – 64)
			0 – 63, FULL
	00 30	00aa aaaa	MFX Source (0 – 32)
			PERFORM, 1 – 16, 17 – 32<*>
	00 31	00aa aaaa	MFX2 Source<*> (0 – 32)
			PERFORM, 1 – 32
	00 32	00aa aaaa	MFX3 Source<*> (0 – 32)
			PERFORM, 1 – 32
	00 33	00aa aaaa	Chorus Source (0 – 32)
			PERFORM, 1 – 16, 17 – 32<*>
	00 34	00aa aaaa	Reverb Source (0 – 32)
			PERFORM, 1 – 16, 17 – 32<*>
00 00 00 35			Total Size

❍Performance Common MFX

Offset Address		Description	
	00 00	0aaa aaaa	MFX Type (0 – 127)
	00 01	0aaa aaaa	MFX Dry Send Level (0 – 127)
	00 02	0aaa aaaa	MFX Chorus Send Level (0 – 127)
	00 03	0aaa aaaa	MFX Reverb Send Level (0 – 127)
	00 04	0000 00aa	MFX Output Assign (0 – 3)
			A, B, C<*>, D<*>
	00 05	0aaa aaaa	MFX Control 1 Source (0 – 101)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND, AFT, SYS1 – SYS4
	00 06	0aaa aaaa	MFX Control 1 Sens (1 – 127)
			–63 – +63
	00 07	0aaa aaaa	MFX Control 2 Source (0 – 101)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND, AFT, SYS1 – SYS4
	00 08	0aaa aaaa	MFX Control 2 Sens (1 – 127)
			–63 – +63
	00 09	0aaa aaaa	MFX Control 3 Source (0 – 101)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND, AFT, SYS1 – SYS4
	00 0A	0aaa aaaa	MFX Control 3 Sens (1 – 127)
			–63 – +63
	00 0B	0aaa aaaa	MFX Control 4 Source (0 – 101)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND, AFT, SYS1 – SYS4
	00 0C	0aaa aaaa	MFX Control 4 Sens (1 – 127)
			–63 – +63
	00 0D	000a aaaa	MFX Control Assign 1 (0 – 16)
			OFF, 1 – 16
	00 0E	000a aaaa	MFX Control Assign 2 (0 – 16)
			OFF, 1 – 16
	00 0F	000a aaaa	MFX Control Assign 3 (0 – 16)
			OFF, 1 – 16
	00 10	000a aaaa	MFX Control Assign 4 (0 – 16)
			OFF, 1 – 16
#	00 11	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 1 (12768 – 52768)
			–20000 – +20000
#	00 15	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 2 (12768 – 52768)
			–20000 – +20000
#	00 19	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 3 (12768 – 52768)
			–20000 – +20000
#	00 1D	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 4 (12768 – 52768)
			–20000 – +20000
#	00 21	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 5 (12768 – 52768)
			–20000 – +20000
#	00 25	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 6 (12768 – 52768)
			–20000 – +20000
#	00 29	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 7 (12768 – 52768)
			–20000 – +20000
#	00 2D	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 8 (12768 – 52768)
			–20000 – +20000
#	00 31	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 9 (12768 – 52768)
			–20000 – +20000
#	00 35	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 10 (12768 – 52768)
			–20000 – +20000
#	00 39	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 11 (12768 – 52768)
			–20000 – +20000
#	00 3D	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 12 (12768 – 52768)
			–20000 – +20000
#	00 41	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 13 (12768 – 52768)
			–20000 – +20000
#	00 45	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 14 (12768 – 52768)
			–20000 – +20000
#	00 49	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 15 (12768 – 52768)
			–20000 – +20000
#	00 4D	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 16 (12768 – 52768)
			–20000 – +20000
#	00 51	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 17 (12768 – 52768)
			–20000 – +20000
#	00 55	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 18 (12768 – 52768)
			–20000 – +20000
#	00 59	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 19 (12768 – 52768)
			–20000 – +20000
#	00 5D	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 20 (12768 – 52768)
			–20000 – +20000
#	00 61	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 21 (12768 – 52768)
			–20000 – +20000
#	00 65	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 22 (12768 – 52768)
			–20000 – +20000
#	00 69	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 23 (12768 – 52768)
			–20000 – +20000
#	00 6D	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 24 (12768 – 52768)
			–20000 – +20000
#	00 71	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 25 (12768 – 52768)
			–20000 – +20000
#	00 75	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 26 (12768 – 52768)
			–20000 – +20000
#	00 79	0000 aaaa 0000 bbbb 0000 cccc	
		0000 dddd	MFX Parameter 27 (12768 – 52768)

			−20000 – +20000
# 00 7D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 28	(12768 – 52768)
			−20000 – +20000
# 01 01	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 29	(12768 – 52768)
			−20000 – +20000
# 01 05	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 30	(12768 – 52768)
			−20000 – +20000
# 01 09	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 31	(12768 – 52768)
			−20000 – +20000
# 01 0D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 32	(12768 – 52768)
			−20000 – +20000
00 00 01 11	Total Size		

❍Performance Common Chorus

Offset Address	Description		
00 00	0000 aaaa	Chorus Type	(0 – 3)
00 01	0aaa aaaa	Chorus Level	(0 – 127)
00 02	0000 00aa	Chorus Output Assign	(0 – 3) A, B, C<*>, D<*>
00 03	0000 00aa	Chorus Output Select	(0 – 2) MAIN, REV, MAIN+REV
# 00 04	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 1	(12768 – 52768) −20000 – +20000
# 00 08	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 2	(12768 – 52768) −20000 – +20000
# 00 0C	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 3	(12768 – 52768) −20000 – +20000
# 00 10	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 4	(12768 – 52768) −20000 – +20000
# 00 14	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 5	(12768 – 52768) −20000 – +20000
# 00 18	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 6	(12768 – 52768) −20000 – +20000
# 00 1C	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 7	(12768 – 52768) −20000 – +20000
# 00 20	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 8	(12768 – 52768) −20000 – +20000
# 00 24	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 9	(12768 – 52768) −20000 – +20000
# 00 28	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 10	(12768 – 52768) −20000 – +20000
# 00 2C	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 11	(12768 – 52768) −20000 – +20000
# 00 30	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Chorus Parameter 12	(12768 – 52768) −20000 – +20000
00 00 00 34	Total Size		

❍Performance Common Reverb

Offset Address	Description		
00 00	0000 aaaa	Reverb Type	(0 – 5)
00 01	0aaa aaaa	Reverb Level	(0 – 127)
00 02	0000 00aa	Reverb Output Assign	(0 – 3) A, B, C<*>, D<*>
# 00 03	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 1	(12768 – 52768) −20000 – +20000
# 00 07	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 2	(12768 – 52768) −20000 – +20000
# 00 0B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 3	(12768 – 52768) −20000 – +20000
# 00 0F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 4	(12768 – 52768) −20000 – +20000
# 00 13	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 5	(12768 – 52768) −20000 – +20000
# 00 17	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 6	(12768 – 52768) −20000 – +20000
# 00 1B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 7	(12768 – 52768) −20000 – +20000
# 00 1F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 8	(12768 – 52768) −20000 – +20000
# 00 23	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 9	(12768 – 52768) −20000 – +20000
# 00 27	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 10	(12768 – 52768) −20000 – +20000
# 00 2B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 11	(12768 – 52768) −20000 – +20000
# 00 2F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 12	(12768 – 52768) −20000 – +20000
# 00 33	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 13	(12768 – 52768) −20000 – +20000
# 00 37	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 14	(12768 – 52768) −20000 – +20000
# 00 3B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 15	(12768 – 52768) −20000 – +20000
# 00 3F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 16	(12768 – 52768) −20000 – +20000
# 00 43	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 17	(12768 – 52768) −20000 – +20000
# 00 47	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 18	(12768 – 52768) −20000 – +20000
# 00 4B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 19	(12768 – 52768) −20000 – +20000
# 00 4F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 20	(12768 – 52768) −20000 – +20000
00 00 00 53	Total Size		

❍Performance MIDI

Offset Address		Description	
00 00	0000 000a	Receive Program Change	(0 – 1) OFF, ON
00 01	0000 000a	Receive Bank Select	(0 – 1) OFF, ON
00 02	0000 000a	Receive Bender	(0 – 1) OFF, ON
00 03	0000 000a	Receive Polyphonic Key Pressure	(0 – 1) OFF, ON
00 04	0000 000a	Receive Channel Pressure	(0 – 1) OFF, ON
00 05	0000 000a	Receive Modulation	(0 – 1) OFF, ON
00 06	0000 000a	Receive Volume	(0 – 1) OFF, ON
00 07	0000 000a	Receive Pan	(0 – 1) OFF, ON
00 08	0000 000a	Receive Expression	(0 – 1) OFF, ON
00 09	0000 000a	Receive Hold–1	(0 – 1) OFF, ON
00 0A	0000 000a	Phase Lock	(0 – 1) OFF, ON
00 0B	0000 0aaa	Velocity Curve Type	(0 – 4) OFF, 1 – 4
00 00 00 0C	Total Size		

❍Performance Part

Offset Address		Description	
00 00	0000 aaaa	Receive Channel	(0 – 15) 1 – 16
00 01	0000 000a	Receive Switch	(0 – 1) OFF, ON
00 02	0000 000a	Receive MIDI1<*>	(0 – 1) OFF, ON
00 03	0000 000a	Receive MIDI2<*>	(0 – 1) OFF, ON
00 04	0aaa aaaa	Patch Bank Select MSB (CC# 0)	(0 – 127)
00 05	0aaa aaaa	Patch Bank Select LSB (CC# 32)	(0 – 127)
00 06	0aaa aaaa	Patch Program Number (PC)	(0 – 127)
00 07	0aaa aaaa	Part Level (CC# 7)	(0 – 127)
00 08	0aaa aaaa	Part Pan (CC# 10)	(0 – 127) L64 – 63R
00 09	0aaa aaaa	Part Coarse Tune (RPN# 2)	(16 – 112) –48 – +48
00 0A	0aaa aaaa	Part Fine Tune (RPN# 1)	(14 – 114) –50 – +50
00 0B	0000 00aa	Part Mono/Poly (MONO ON/POLY ON)	(0 – 2) MONO, POLY, PATCH
00 0C	0000 00aa	Part Legato Switch (CC# 68)	(0 – 2) OFF, ON, PATCH
00 0D	000a aaaa	Part Pitch Bend Range (RPN# 0)	(0 – 25) 0 – 24, PATCH
00 0E	0000 00aa	Part Portamento Switch (CC# 65)	(0 – 2) OFF, ON, PATCH
# 00 0F	0000 aaaa 0000 bbbb	Part Portamento Time (CC# 5)	(0 – 128) 0 – 127, PATCH
00 11	0aaa aaaa	Part Cutoff Offset (CC# 74)	(0 – 127) –64 – +63
00 12	0aaa aaaa	Part Resonance Offset (CC# 71)	(0 – 127) –64 – +63
00 13	0aaa aaaa	Part Attack Time Offset (CC# 73)	(0 – 127) –64 – +63
00 14	0aaa aaaa	Part Release Time Offset (CC# 72)	(0 – 127) –64 – +63
00 15	0000 0aaa	Part Octave Shift	(61 – 67) –3 – +3
00 16	0aaa aaaa	Part Velocity Sens Offset	(1 – 127) –63 – +63
00 17	0aaa aaaa	Keyboard Range Lower	(0 – 127) C–1 – UPPER
00 18	0aaa aaaa	Keyboard Range Upper	(0 – 127) LOWER – G9
00 19	0aaa aaaa	Keyboard Fade Width Lower	(0 – 127)
00 1A	0aaa aaaa	Keyboard Fade Width Upper	(0 – 127)
00 1B	0000 000a	Mute Switch	(0 – 1) OFF, MUTE
00 1C	0aaa aaaa	Part Dry Send Level	(0 – 127)
00 1D	0aaa aaaa	Part Chorus Send Level (CC# 93)	(0 – 127)
00 1E	0aaa aaaa	Part Reverb Send Level (CC# 91)	(0 – 127)
00 1F	0000 aaaa	Part Output Assign	(0 – 13) MFX, A, B, C<*>, D<*>, 1, 2, 3, 4, 5<*>, 6<*>, 7<*>, 8<*>, PATCH
00 20	0000 00aa	Part Output MFX Select	(0 – 2) MFX1, MFX2, MFX3
00 21	0aaa aaaa	Part Decay Time Offset (CC# 75)	(0 – 127) –64 – +63
00 22	0aaa aaaa	Part Vibrato Rate (CC# 76)	(0 – 127) –64 – +63
00 23	0aaa aaaa	Part Vibrato Depth (CC# 77)	(0 – 127) –64 – +63
00 24	0aaa aaaa	Part Vibrato Delay (CC# 78)	(0 – 127) –64 – +63
00 25	0aaa aaaa	Part Scale Tune for C	(0 – 127) –64 – +63
00 26	0aaa aaaa	Part Scale Tune for C#	(0 – 127) –64 – +63
00 27	0aaa aaaa	Part Scale Tune for D	(0 – 127) –64 – +63
00 28	0aaa aaaa	Part Scale Tune for D#	(0 – 127) –64 – +63
00 29	0aaa aaaa	Part Scale Tune for E	(0 – 127) –64 – +63
00 2A	0aaa aaaa	Part Scale Tune for F	(0 – 127) –64 – +63
00 2B	0aaa aaaa	Part Scale Tune for F#	(0 – 127) –64 – +63
00 2C	0aaa aaaa	Part Scale Tune for G	(0 – 127) –64 – +63
00 2D	0aaa aaaa	Part Scale Tune for G#	(0 – 127) –64 – +63
00 2E	0aaa aaaa	Part Scale Tune for A	(0 – 127) –64 – +63
00 2F	0aaa aaaa	Part Scale Tune for A#	(0 – 127) –64 – +63
00 30	0aaa aaaa	Part Scale Tune for B	(0 – 127) –64 – +63
00 00 00 31	Total Size		

❍Performance Zone

Offset Address		Description	
00 00	0000 aaaa	Transmit Channel	(0 – 15) 1 – 16
00 01	0000 000a	Internal Switch	(0 – 1) OFF, ON
00 02	0000 000a	External Switch	(0 – 1) OFF, ON
# 00 03	0000 aaaa 0000 bbbb	External Bank Select MSB (CC# 0)	(0 – 128) 0 – 127, NO–SEND
00 05	0aaa aaaa	External Bank Select LSB (CC# 32)	(0 – 127)
# 00 06	0000 aaaa 0000 bbbb	External Program Number (PC)	(0 – 128) 0 – 127, NO–SEND
# 00 08	0000 aaaa 0000 bbbb	External Level (CC# 7)	(0 – 128) 0 – 127, NO–SEND
# 00 0A	0000 aaaa 0000 bbbb	External Pan (CC# 10)	(0 – 128) L64 – 63R, NO–SEND
00 0C	0aaa aaaa	Keyboard Range Lower	(0 – 127) C–1 – UPPER
00 0D	0aaa aaaa	Keyboard Range Upper	(0 – 127) LOWER – G9
00 0E	0000 000a	Control Bender	(0 – 1) OFF, ON
00 0F	0000 000a	Control Aftertouch	(0 – 1) OFF, ON
00 10	0000 000a	Control Modulation	(0 – 1) OFF, ON
00 11	0000 000a	Control Hold Pedal	(0 – 1) OFF, ON
00 12	0000 000a	Control Pedal 1	(0 – 1) OFF, ON
00 13	0000 000a	Control Pedal 2	(0 – 1) OFF, ON
00 00 00 14	Total Size		

❍Performance Controller

Offset Address		Description	
00 00	0000 000a	Beam Switch	(0 – 1) OFF, ON
00 01	0aaa aaaa	Beam Assign	(0 – 112) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, NOTE, OCT–UP, OCT–DOWN, START/STOP, TAP–TEMPO, ARP–SW, ARP–VAR, ARP–ACCNT, ARP–SHFFL, ARP–OCT–UP, ARP–OCT–DOWN, PTN–SW, PTN–ACCNT, PTN–SHFFL
00 02	0000 000a	Beam Polarity	(0 – 1) STANDARD, REVERSE
00 03	0aaa aaaa	Beam Range Lower	(0 – 127)
00 04	0aaa aaaa	Beam Range Upper	(0 – 127)
00 05	0000 aaaa	Beam Zone Number	(0 – 15) ZONE1 – ZONE16
00 06	0aaa aaaa	Knob 1 Assign	(0 – 104) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, ARP–VAR, ARP–ACCNT, ARP–SHFFL, ARP–OCT, PTN–ACCNT, PTN–SHFFL
00 07	0000 aaaa	Knob 1 Zone Number	(0 – 15) ZONE1 – ZONE16
00 08	0aaa aaaa	Knob 2 Assign	(0 – 104) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, ARP–VAR, ARP–ACCNT, ARP–SHFFL, ARP–OCT, PTN–ACCNT, PTN–SHFFL
00 09	0000 aaaa	Knob 2 Zone Number	(0 – 15) ZONE1 – ZONE16
00 0A	0aaa aaaa	Knob 3 Assign	(0 – 104)

			OFF, CC01 – CC31, CC33 – CC95,
			BEND, AFT, TEMPO,
			ARP–VAR, ARP–ACCNT, ARP–SHFFL,
			ARP–OCT,
			PTN–ACCNT, PTN–SHFFL
00 0B	0000 aaaa	Knob 3 Zone Number	(0 – 15)
			ZONE1 – ZONE16
00 0C	0aaa aaaa	Knob 4 Assign	(0 – 104)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND, AFT, TEMPO,
			ARP–VAR, ARP–ACCNT, ARP–SHFFL,
			ARP–OCT,
			PTN–ACCNT, PTN–SHFFL
00 0D	0000 aaaa	Knob 4 Zone Number	(0 – 15)
			ZONE1 – ZONE16
00 0E	0aaa aaaa	Switch 1 Assign	(0 – 108)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND–UP, BEND–DOWN, AFT,
			OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN,
			TAP–TEMPO, MONO/POLY,
			ARP–HOLD, PTN–HOLD,
			ZONE–INT–SW, ZONE–EXT–SW
00 0F	0000 000a	Switch 1 Assign Mode	(0 – 1)
			MOMENTARY, LATCH
00 10	0000 aaaa	Switch 1 Zone Number	(0 – 15)
			ZONE1 – ZONE16
00 11	0aaa aaaa	Switch 2 Assign	(0 – 108)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND–UP, BEND–DOWN, AFT,
			OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN,
			TAP–TEMPO, MONO/POLY,
			ARP–HOLD, PTN–HOLD,
			ZONE–INT–SW, ZONE–EXT–SW
00 12	0000 000a	Switch 2 Assign Mode	(0 – 1)
			MOMENTARY, LATCH
00 13	0000 aaaa	Switch 2 Zone Number	(0 – 15)
			ZONE1 – ZONE16
00 14	0aaa aaaa	Switch 3 Assign	(0 – 108)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND–UP, BEND–DOWN, AFT,
			OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN,
			TAP–TEMPO, MONO/POLY,
			ARP–HOLD, PTN–HOLD,
			ZONE–INT–SW, ZONE–EXT–SW
00 15	0000 000a	Switch 3 Assign Mode	(0 – 1)
			MOMENTARY, LATCH
00 16	0000 aaaa	Switch 3 Zone Number	(0 – 15)
			ZONE1 – ZONE16
00 17	0aaa aaaa	Switch 4 Assign	(0 – 108)
			OFF, CC01 – CC31, CC33 – CC95,
			BEND–UP, BEND–DOWN, AFT,
			OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN,
			TAP–TEMPO, MONO/POLY,
			ARP–HOLD, PTN–HOLD,
			ZONE–INT–SW, ZONE–EXT–SW
00 18	0000 000a	Switch 4 Assign Mode	(0 – 1)
			MOMENTARY, LATCH
00 19	0000 aaaa	Switch 4 Zone Number	(0 – 15)
			ZONE1 – ZONE16
00 1A	0000 000a	Arpeggio Switch	(0 – 1)
			OFF, ON
00 1B	0000 000a	Arpeggio Hold	(0 – 1)
			OFF, ON
00 1C	0aaa aaaa	Arpeggio Style	(0 – 127)
			1 – 128
00 1D	0aaa aaaa	Arpeggio Variation	(0 – 127)
			1 – 128
00 1E	0aaa aaaa	Arpeggio Motif	(0 – 9)
			UP, DOWN, UP&DOWN, RANDOM,
			NOTE–ORDER, GLISSANDO, CHORD,
			AUTO1, AUTO2, PHRASE
00 1F	0aaa aaaa	Arpeggio Accent Rate	(0 – 100)
00 20	0aaa aaaa	Arpeggio Shuffle Rate	(0 – 100)
00 21	0000 000a	Arpeggio Shuffle Resolution	(0 – 1)
			16TH, 8TH
00 22	0aaa aaaa	Arpeggio Keyboard Velocity	(0 – 127)
			REAL, 1 – 127
00 23	0000 0aaa	Arpeggio Octave Range	(61 – 67)
			–3 – +3
00 24	0000 000a	Arpeggio Key Trigger	(0 – 1)
			OFF, ON
00 25	0000 aaaa	Arpeggio Zone Number	(0 – 15)
			ZONE1 – ZONE16
00 26	0000 000a	Pattern Switch	(0 – 1)
			OFF, ON
00 27	0000 000a	Pattern Hold	(0 – 1)
			OFF, ON
00 28	0aaa aaaa	Pattern Style	(0 – 127)
			1 – 128
00 29	0aaa aaaa	Pattern Accent Rate	(0 – 100)
00 2A	0aaa aaaa	Pattern Shuffle Rate	(0 – 100)
00 2B	0000 000a	Pattern Shuffle Resolution	(0 – 1)
			16TH, 8TH
00 2C	0aaa aaaa	Pattern Keyboard Velocity	(0 – 127)
			REAL, 1 – 127
00 2D	0aaa aaaa	Pattern Note Assign	(0 – 127)
			C–1 – G9
00 2E	0000 000a	Pattern Key Trigger	(0 – 1)
			OFF, ON
00 2F	0000 aaaa	Pattern Zone Number	(0 – 15)
			ZONE1 – ZONE16
00 30	0000 000a	Sequencer Tempo Override	(0 – 1)
			OFF, ON
# 00 31	0000 aaaa		
	0000 bbbb	Overriding Tempo	(20 – 250)
			120 – 250
00 00 00 33	Total Size		

❍Multitimbre Common

Offset Address		Description	
00 00	0aaa aaaa	Multitimbre Name 1	(32 – 127)
			32 – 127 [ASCII]
00 01	0aaa aaaa	Multitimbre Name 2	(32 – 127)
			32 – 127 [ASCII]
00 02	0aaa aaaa	Multitimbre Name 3	(32 – 127)
			32 – 127 [ASCII]
00 03	0aaa aaaa	Multitimbre Name 4	(32 – 127)
			32 – 127 [ASCII]
00 04	0aaa aaaa	Multitimbre Name 5	(32 – 127)
			32 – 127 [ASCII]
00 05	0aaa aaaa	Multitimbre Name 6	(32 – 127)
			32 – 127 [ASCII]
00 06	0aaa aaaa	Multitimbre Name 7	(32 – 127)
			32 – 127 [ASCII]
00 07	0aaa aaaa	Multitimbre Name 8	(32 – 127)
			32 – 127 [ASCII]
00 08	0aaa aaaa	Multitimbre Name 9	(32 – 127)
			32 – 127 [ASCII]
00 09	0aaa aaaa	Multitimbre Name 10	(32 – 127)
			32 – 127 [ASCII]
00 0A	0aaa aaaa	Multitimbre Name 11	(32 – 127)
			32 – 127 [ASCII]
00 0B	0aaa aaaa	Multitimbre Name 12	(32 – 127)
			32 – 127 [ASCII]
00 0C	00aa aaaa	Solo Part Select	(0 – 32)
			OFF, 1 – 16, 17 – 32<*>
00 0D	000a aaaa	MFX Control Channel	(0 – 16)
			1 – 16, OFF
00 0E	0000 000a	MFX Control MIDI1<*>	(0 – 1)
			OFF, ON
00 0F	0000 000a	MFX Control MIDI2<*>	(0 – 1)
			OFF, ON
00 10	0aaa aaaa	Voice Reserve 1	(0 – 64)
			0 – 63, FULL
00 11	0aaa aaaa	Voice Reserve 2	(0 – 64)
			0 – 63, FULL
00 12	0aaa aaaa	Voice Reserve 3	(0 – 64)
			0 – 63, FULL
00 13	0aaa aaaa	Voice Reserve 4	(0 – 64)
			0 – 63, FULL
00 14	0aaa aaaa	Voice Reserve 5	(0 – 64)
			0 – 63, FULL
00 15	0aaa aaaa	Voice Reserve 6	(0 – 64)
			0 – 63, FULL
00 16	0aaa aaaa	Voice Reserve 7	(0 – 64)
			0 – 63, FULL
00 17	0aaa aaaa	Voice Reserve 8	(0 – 64)
			0 – 63, FULL
00 18	0aaa aaaa	Voice Reserve 9	(0 – 64)
			0 – 63, FULL
00 19	0aaa aaaa	Voice Reserve 10	(0 – 64)
			0 – 63, FULL
00 1A	0aaa aaaa	Voice Reserve 11	(0 – 64)
			0 – 63, FULL
00 1B	0aaa aaaa	Voice Reserve 12	(0 – 64)
			0 – 63, FULL
00 1C	0aaa aaaa	Voice Reserve 13	(0 – 64)
			0 – 63, FULL
00 1D	0aaa aaaa	Voice Reserve 14	(0 – 64)
			0 – 63, FULL
00 1E	0aaa aaaa	Voice Reserve 15	(0 – 64)
			0 – 63, FULL
00 1F	0aaa aaaa	Voice Reserve 16	(0 – 64)
			0 – 63, FULL
00 20	0aaa aaaa	Voice Reserve 17<*>	(0 – 64)
			0 – 63, FULL
00 21	0aaa aaaa	Voice Reserve 18<*>	(0 – 64)
			0 – 63, FULL
00 22	0aaa aaaa	Voice Reserve 19<*>	(0 – 64)
			0 – 63, FULL
00 23	0aaa aaaa	Voice Reserve 20<*>	(0 – 64)
			0 – 63, FULL
00 24	0aaa aaaa	Voice Reserve 21<*>	(0 – 64)
			0 – 63, FULL
00 25	0aaa aaaa	Voice Reserve 22<*>	(0 – 64)
			0 – 63, FULL
00 26	0aaa aaaa	Voice Reserve 23<*>	(0 – 64)
			0 – 63, FULL
00 27	0aaa aaaa	Voice Reserve 24<*>	(0 – 64)
			0 – 63, FULL
00 28	0aaa aaaa	Voice Reserve 25<*>	(0 – 64)
			0 – 63, FULL
00 29	0aaa aaaa	Voice Reserve 26<*>	(0 – 64)
			0 – 63, FULL
00 2A	0aaa aaaa	Voice Reserve 27<*>	(0 – 64)
			0 – 63, FULL
00 2B	0aaa aaaa	Voice Reserve 28<*>	(0 – 64)
			0 – 63, FULL
00 2C	0aaa aaaa	Voice Reserve 29<*>	(0 – 64)
			0 – 63, FULL
00 2D	0aaa aaaa	Voice Reserve 30<*>	(0 – 64)
			0 – 63, FULL
00 2E	0aaa aaaa	Voice Reserve 31<*>	(0 – 64)
			0 – 63, FULL
00 2F	0aaa aaaa	Voice Reserve 32<*>	(0 – 64)
			0 – 63, FULL
00 30	00aa aaaa	MFX Source	(0 – 32)
			PERFORM, 1 – 16, 17 – 32<*>
00 31	00aa aaaa	MFX2 Source<*>	(0 – 32)
			PERFORM, 1 – 32
00 32	00aa aaaa	MFX3 Source<*>	(0 – 32)
			PERFORM, 1 – 32
00 33	00aa aaaa	Chorus Source	(0 – 32)
			PERFORM, 1 – 16, 17 – 32<*>
00 34	00aa aaaa	Reverb Source	(0 – 32)
			PERFORM, 1 – 16, 17 – 32<*>
00 00 00 35	Total Size		

❍Multitimbre Common MFX

Offset Address	Description	
00 00	0aaa aaaa	MFX Type (0 – 127)
00 01	0aaa aaaa	MFX Dry Send Level (0 – 127)
00 02	0aaa aaaa	MFX Chorus Send Level (0 – 127)
00 03	0aaa aaaa	MFX Reverb Send Level (0 – 127)
00 04	0000 00aa	MFX Output Assign (0 – 3) A, B, C<*>, D<*>
00 05	0aaa aaaa	MFX Control 1 Source (0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 06	0aaa aaaa	MFX Control 1 Sens (1 – 127) −63 – +63
00 07	0aaa aaaa	MFX Control 2 Source (0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 08	0aaa aaaa	MFX Control 2 Sens (1 – 127) −63 – +63
00 09	0aaa aaaa	MFX Control 3 Source (0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens (1 – 127) −63 – +63
00 0B	0aaa aaaa	MFX Control 4 Source (0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens (1 – 127) −63 – +63
00 0D	000a aaaa	MFX Control Assign 1 (0 – 16) OFF, 1 – 16
00 0E	000a aaaa	MFX Control Assign 2 (0 – 16) OFF, 1 – 16
00 0F	000a aaaa	MFX Control Assign 3 (0 – 16) OFF, 1 – 16
00 10	000a aaaa	MFX Control Assign 4 (0 – 16) OFF, 1 – 16
# 00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1 (12768 – 52768) −20000 – +20000
# 00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2 (12768 – 52768) −20000 – +20000
# 00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3 (12768 – 52768) −20000 – +20000
# 00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4 (12768 – 52768) −20000 – +20000
# 00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5 (12768 – 52768) −20000 – +20000
# 00 25	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 6 (12768 – 52768) −20000 – +20000
# 00 29	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 7 (12768 – 52768) −20000 – +20000
# 00 2D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 8 (12768 – 52768) −20000 – +20000
# 00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9 (12768 – 52768) −20000 – +20000
# 00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10 (12768 – 52768) −20000 – +20000
# 00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11 (12768 – 52768) −20000 – +20000
# 00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 12 (12768 – 52768) −20000 – +20000
# 00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13 (12768 – 52768) −20000 – +20000
# 00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14 (12768 – 52768) −20000 – +20000
# 00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15 (12768 – 52768) −20000 – +20000
# 00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16 (12768 – 52768) −20000 – +20000
# 00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17 (12768 – 52768) −20000 – +20000
# 00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18 (12768 – 52768) −20000 – +20000
# 00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19 (12768 – 52768) −20000 – +20000
# 00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20 (12768 – 52768) −20000 – +20000
# 00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 21 (12768 – 52768) −20000 – +20000
# 00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22 (12768 – 52768) −20000 – +20000
# 00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23 (12768 – 52768) −20000 – +20000
# 00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24 (12768 – 52768) −20000 – +20000
# 00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25 (12768 – 52768) −20000 – +20000
# 00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26 (12768 – 52768) −20000 – +20000
# 00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27 (12768 – 52768) −20000 – +20000
# 00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28 (12768 – 52768) −20000 – +20000
# 01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29 (12768 – 52768) −20000 – +20000
# 01 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 30 (12768 – 52768) −20000 – +20000
# 01 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 31 (12768 – 52768) −20000 – +20000
# 01 0D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 32 (12768 – 52768) −20000 – +20000
00 00 01 11	Total Size	

❍Multitimbre Common Chorus

Offset Address	Description	
00 00	0000 aaaa	Chorus Type (0 – 3)
00 01	0aaa aaaa	Chorus Level (0 – 127)
00 02	0000 00aa	Chorus Output Assign (0 – 3) A, B, C<*>, D<*>
00 03	0000 00aa	Chorus Output Select (0 – 2) MAIN, REV, MAIN+REV
# 00 04	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 1 (12768 – 52768) −20000 – +20000
# 00 08	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 2 (12768 – 52768) −20000 – +20000
# 00 0C	0000 aaaa 0000 bbbb	

	0000 cccc			
	0000 dddd	Chorus Parameter 3	(12768 – 52768)	
			–20000 – +20000	
# 00 10	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 4	(12768 – 52768)	
			–20000 – +20000	
# 00 14	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 5	(12768 – 52768)	
			–20000 – +20000	
# 00 18	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 6	(12768 – 52768)	
			–20000 – +20000	
# 00 1C	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 7	(12768 – 52768)	
			–20000 – +20000	
# 00 20	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 8	(12768 – 52768)	
			–20000 – +20000	
# 00 24	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 9	(12768 – 52768)	
			–20000 – +20000	
# 00 28	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 10	(12768 – 52768)	
			–20000 – +20000	
# 00 2C	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 11	(12768 – 52768)	
			–20000 – +20000	
# 00 30	0000 aaaa			
	0000 bbbb			
	0000 cccc			
	0000 dddd	Chorus Parameter 12	(12768 – 52768)	
			–20000 – +20000	
00 00 00 34	Total Size			

❍Multitimbre Common Reverb

Offset Address	Description		
00 00	0000 aaaa	Reverb Type	(0 – 5)
00 01	0aaa aaaa	Reverb Level	(0 – 127)
00 02	0000 00aa	Reverb Output Assign	(0 – 3)
			A, B, C<*>, D<*>
# 00 03	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 1	(12768 – 52768)
			–20000 – +20000
# 00 07	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 2	(12768 – 52768)
			–20000 – +20000
# 00 0B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 3	(12768 – 52768)
			–20000 – +20000
# 00 0F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 4	(12768 – 52768)
			–20000 – +20000
# 00 13	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 5	(12768 – 52768)
			–20000 – +20000
# 00 17	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 6	(12768 – 52768)
			–20000 – +20000
# 00 1B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 7	(12768 – 52768)
			–20000 – +20000
# 00 1F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 8	(12768 – 52768)
			–20000 – +20000
# 00 23	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 9	(12768 – 52768)
			–20000 – +20000
# 00 27	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 10	(12768 – 52768)
			–20000 – +20000
# 00 2B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 11	(12768 – 52768)
			–20000 – +20000
# 00 2F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 12	(12768 – 52768)
			–20000 – +20000
# 00 33	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 13	(12768 – 52768)
			–20000 – +20000
# 00 37	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 14	(12768 – 52768)
			–20000 – +20000
# 00 3B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 15	(12768 – 52768)
			–20000 – +20000
# 00 3F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 16	(12768 – 52768)
			–20000 – +20000
# 00 43	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 17	(12768 – 52768)
			–20000 – +20000
# 00 47	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 18	(12768 – 52768)
			–20000 – +20000
# 00 4B	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 19	(12768 – 52768)
			–20000 – +20000
# 00 4F	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	Reverb Parameter 20	(12768 – 52768)
			–20000 – +20000
00 00 00 53	Total Size		

❍Multitimbre MIDI

Offset Address	Description		
00 00	0000 000a	Receive Program Change	(0 – 1)
			OFF, ON
00 01	0000 000a	Receive Bank Select	(0 – 1)
			OFF, ON
00 02	0000 000a	Receive Bender	(0 – 1)
			OFF, ON
00 03	0000 000a	Receive Polyphonic Key Pressure	(0 – 1)
			OFF, ON
00 04	0000 000a	Receive Channel Pressure	(0 – 1)
			OFF, ON
00 05	0000 000a	Receive Modulation	(0 – 1)
			OFF, ON
00 06	0000 000a	Receive Volume	(0 – 1)
			OFF, ON
00 07	0000 000a	Receive Pan	(0 – 1)
			OFF, ON
00 08	0000 000a	Receive Expression	(0 – 1)
			OFF, ON
00 09	0000 000a	Receive Hold–1	(0 – 1)
			OFF, ON
00 0A	0000 000a	Phase Lock	(0 – 1)
			OFF, ON
00 0B	0000 0aaa	Velocity Curve Type	(0 – 4)
			OFF, 1 – 4
00 00 00 0C	Total Size		

❍Multitimbre Part

Offset Address	Description		
00 00	0000 aaaa	Receive Channel	(0 – 15)
			1 – 16
00 01	0000 000a	Receive Switch	(0 – 1)
			OFF, ON
00 02	0000 000a	Receive MIDI1<*>	(0 – 1)
			OFF, ON
00 03	0000 000a	Receive MIDI2<*>	(0 – 1)
			OFF, ON
00 04	0aaa aaaa	Patch Bank Select MSB (CC# 0)	(0 – 127)
00 05	0aaa aaaa	Patch Bank Select LSB (CC# 32)	(0 – 127)
00 06	0aaa aaaa	Patch Program Number (PC)	(0 – 127)
00 07	0aaa aaaa	Part Level (CC# 7)	(0 – 127)
00 08	0aaa aaaa	Part Pan (CC# 10)	(0 – 127)
			L64 – 63R
00 09	0aaa aaaa	Part Coarse Tune (RPN# 2)	(16 – 112)
			–48 – +48
00 0A	0aaa aaaa	Part Fine Tune (RPN# 1)	(14 – 114)
			–50 – +50
00 0B	0000 00aa	Part Mono/Poly (MONO ON/POLY ON)	(0 – 2)
			MONO, POLY, PATCH

	00 0C	0000 00aa	Part Legato Switch (CC# 68) (0 – 2) OFF, ON, PATCH
	00 0D	000a aaaa	Part Pitch Bend Range (RPN# 0) (0 – 25) 0 – 24, PATCH
	00 0E	0000 00aa	Part Portamento Switch (CC# 65) (0 – 2) OFF, ON, PATCH
#	00 0F	0000 aaaa	
		0000 bbbb	Part Portamento Time (CC# 5) (0 – 128) 0 – 127, PATCH
	00 11	0aaa aaaa	Part Cutoff Offset (CC# 74) (0 – 127) –64 – +63
	00 12	0aaa aaaa	Part Resonance Offset (CC# 71) (0 – 127) –64 – +63
	00 13	0aaa aaaa	Part Attack Time Offset (CC# 73) (0 – 127) –64 – +63
	00 14	0aaa aaaa	Part Release Time Offset (CC# 72) (0 – 127) –64 – +63
	00 15	0000 0aaa	Part Octave Shift (61 – 67) –3 – +3
	00 16	0aaa aaaa	Part Velocity Sens Offset (1 – 127) –63 – +63
	00 17	0aaa aaaa	Keyboard Range Lower (0 – 127) C–1 – UPPER
	00 18	0aaa aaaa	Keyboard Range Upper (0 – 127) LOWER – G9
	00 19	0aaa aaaa	Keyboard Fade Width Lower (0 – 127)
	00 1A	0aaa aaaa	Keyboard Fade Width Upper (0 – 127)
	00 1B	0000 000a	Mute Switch (0 – 1) OFF, MUTE
	00 1C	0aaa aaaa	Part Dry Send Level (0 – 127)
	00 1D	0aaa aaaa	Part Chorus Send Level (CC# 93) (0 – 127)
	00 1E	0aaa aaaa	Part Reverb Send Level (CC# 91) (0 – 127)
	00 1F	0000 aaaa	Part Output Assign (0 – 13) MFX, A, B, C<*>, D<*>, 1, 2, 3, 4, 5<*>, 6<*>, 7<*>, 8<*>, PATCH
	00 20	0000 00aa	Part Output MFX Select (0 – 2) MFX1, MFX2, MFX3
	00 21	0aaa aaaa	Part Decay Time Offset (CC# 75) (0 – 127) –64 – +63
	00 22	0aaa aaaa	Part Vibrato Rate (CC# 76) (0 – 127) –64 – +63
	00 23	0aaa aaaa	Part Vibrato Depth (CC# 77) (0 – 127) –64 – +63
	00 24	0aaa aaaa	Part Vibrato Delay (CC# 78) (0 – 127) –64 – +63
	00 25	0aaa aaaa	Part Scale Tune for C (0 – 127) –64 – +63
	00 26	0aaa aaaa	Part Scale Tune for C# (0 – 127) –64 – +63
	00 27	0aaa aaaa	Part Scale Tune for D (0 – 127) –64 – +63
	00 28	0aaa aaaa	Part Scale Tune for D# (0 – 127) –64 – +63
	00 29	0aaa aaaa	Part Scale Tune for E (0 – 127) –64 – +63
	00 2A	0aaa aaaa	Part Scale Tune for F (0 – 127) –64 – +63
	00 2B	0aaa aaaa	Part Scale Tune for F# (0 – 127) –64 – +63
	00 2C	0aaa aaaa	Part Scale Tune for G (0 – 127) –64 – +63
	00 2D	0aaa aaaa	Part Scale Tune for G# (0 – 127) –64 – +63
	00 2E	0aaa aaaa	Part Scale Tune for A (0 – 127) –64 – +63
	00 2F	0aaa aaaa	Part Scale Tune for A# (0 – 127) –64 – +63
	00 30	0aaa aaaa	Part Scale Tune for B (0 – 127) –64 – +63
00 00 00 31	Total Size		

❍Patch Common

Offset Address	Description	
00 00	0aaa aaaa	Patch Name 1 (32 – 127) 32 – 127 [ASCII]
00 01	0aaa aaaa	Patch Name 2 (32 – 127) 32 – 127 [ASCII]
00 02	0aaa aaaa	Patch Name 3 (32 – 127) 32 – 127 [ASCII]
00 03	0aaa aaaa	Patch Name 4 (32 – 127) 32 – 127 [ASCII]
00 04	0aaa aaaa	Patch Name 5 (32 – 127) 32 – 127 [ASCII]
00 05	0aaa aaaa	Patch Name 6 (32 – 127) 32 – 127 [ASCII]
00 06	0aaa aaaa	Patch Name 7 (32 – 127) 32 – 127 [ASCII]
00 07	0aaa aaaa	Patch Name 8 (32 – 127) 32 – 127 [ASCII]
00 08	0aaa aaaa	Patch Name 9 (32 – 127) 32 – 127 [ASCII]
00 09	0aaa aaaa	Patch Name 10 (32 – 127) 32 – 127 [ASCII]
00 0A	0aaa aaaa	Patch Name 11 (32 – 127) 32 – 127 [ASCII]
00 0B	0aaa aaaa	Patch Name 12 (32 – 127) 32 – 127 [ASCII]
00 0C	0aaa aaaa	Patch Category (0 – 127)
00 0D	0000 000a	Tone Type<*> (0 – 1) 4TONES, MULTI–PARTIAL
00 0E	0aaa aaaa	Patch Level (0 – 127)
00 0F	0aaa aaaa	Patch Pan (0 – 127) L64 – 63R
00 10	0000 000a	Patch Priority (0 – 1) LAST, LOUDEST
00 11	0aaa aaaa	Patch Coarse Tune (16 – 112) –48 – +48
00 12	0aaa aaaa	Patch Fine Tune (14 – 114) –50 – +50
00 13	0000 0aaa	Octave Shift (61 – 67) –3 – +3
00 14	0000 00aa	Stretch Tune Depth (0 – 3) OFF, 1 – 3
00 15	0aaa aaaa	Analog Feel (0 – 127)
00 16	0000 000a	Mono/Poly (0 – 1) MONO, POLY
00 17	0000 000a	Legato Switch (0 – 1) OFF, ON
00 18	0000 000a	Legato Retrigger (0 – 1) OFF, ON
00 19	0000 000a	Portamento Switch (0 – 1) OFF, ON
00 1A	0000 000a	Portamento Mode (0 – 1) NORMAL, LEGATO
00 1B	0000 000a	Portamento Type (0 – 1) RATE, TIME
00 1C	0000 000a	Portamento Start (0 – 1) PITCH, NOTE
00 1D	0aaa aaaa	Portamento Time (0 – 127)
00 1E	0000 000a	Patch Clock Source (0 – 1) PATCH, SYSTEM
# 00 1F	0000 aaaa	
	0000 bbbb	Patch Tempo (20 – 250)
00 21	0000 000a	One Shot Mode<*> (0 – 1) OFF, ON
00 22	0aaa aaaa	Cutoff Offset (1 – 127) –63 – +63
00 23	0aaa aaaa	Resonance Offset (1 – 127) –63 – +63
00 24	0aaa aaaa	Attack Time Offset (1 – 127) –63 – +63
00 25	0aaa aaaa	Release Time Offset (1 – 127) –63 – +63
00 26	0aaa aaaa	Velocity Sens Offset (1 – 127) –63 – +63
00 27	0000 aaaa	Patch Output Assign (0 – 13) MFX, A, B, C<*>, D<*>, 1, 2, 3, 4, 5<*>, 6<*>, 7<*>, 8<*>, TONE
00 28	0000 000a	TMT Control Switch (0 – 1) OFF, ON
00 29	00aa aaaa	Pitch Bend Range Up (0 – 48)
00 2A	00aa aaaa	Pitch Bend Range Down (0 – 48)
00 2B	0aaa aaaa	Matrix Control 1 Source (0 – 109) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT–ENV, TVF–ENV, TVA–ENV
00 2C	00aa aaaa	Matrix Control 1 Destination 1 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 2D	0aaa aaaa	Matrix Control 1 Sens 1 (1 – 127) –63 – +63
00 2E	00aa aaaa	Matrix Control 1 Destination 2 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 2F	0aaa aaaa	Matrix Control 1 Sens 2 (1 – 127) –63 – +63
00 30	00aa aaaa	Matrix Control 1 Destination 3 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 31	0aaa aaaa	Matrix Control 1 Sens 3 (1 – 127) –63 – +63
00 32	00aa aaaa	Matrix Control 1 Destination 4 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
00 33	0aaa aaaa	Matrix Control 1 Sens 4 (1 – 127) –63 – +63
00 34	0aaa aaaa	Matrix Control 2 Source (0 – 109) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT–ENV, TVF–ENV, TVA–ENV

	00 35	00aa aaaa	Matrix Control 2 Destination 1 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 36	0aaa aaaa	Matrix Control 2 Sens 1 (1 – 127) –63 – +63
	00 37	00aa aaaa	Matrix Control 2 Destination 2 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 38	0aaa aaaa	Matrix Control 2 Sens 2 (1 – 127) –63 – +63
	00 39	00aa aaaa	Matrix Control 2 Destination 3 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 3A	0aaa aaaa	Matrix Control 2 Sens 3 (1 – 127) –63 – +63
	00 3B	00aa aaaa	Matrix Control 2 Destination 4 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 3C	0aaa aaaa	Matrix Control 2 Sens 4 (1 – 127) –63 – +63
	00 3D	0aaa aaaa	Matrix Control 3 Source (0 – 109) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT–ENV, TVF–ENV, TVA–ENV
	00 3E	00aa aaaa	Matrix Control 3 Destination 1 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 3F	0aaa aaaa	Matrix Control 3 Sens 1 (1 – 127) –63 – +63
	00 40	00aa aaaa	Matrix Control 3 Destination 2 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 41	0aaa aaaa	Matrix Control 3 Sens 2 (1 – 127) –63 – +63
	00 42	00aa aaaa	Matrix Control 3 Destination 3 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 43	0aaa aaaa	Matrix Control 3 Sens 3 (1 – 127) –63 – +63
	00 44	00aa aaaa	Matrix Control 3 Destination 4 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 45	0aaa aaaa	Matrix Control 3 Sens 4 (1 – 127) –63 – +63
	00 46	0aaa aaaa	Matrix Control 4 Source (0 – 109) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4, VELOCITY, KEYFOLLOW, TEMPO, LFO1, LFO2, PIT–ENV, TVF–ENV, TVA–ENV
	00 47	00aa aaaa	Matrix Control 4 Destination 1 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 48	0aaa aaaa	Matrix Control 4 Sens 1 (1 – 127) –63 – +63
	00 49	00aa aaaa	Matrix Control 4 Destination 2 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 4A	0aaa aaaa	Matrix Control 4 Sens 2 (1 – 127) –63 – +63
	00 4B	00aa aaaa	Matrix Control 4 Destination 3 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 4C	0aaa aaaa	Matrix Control 4 Sens 3 (1 – 127) –63 – +63
	00 4D	00aa aaaa	Matrix Control 4 Destination 4 (0 – 33) OFF, PCH, CUT, RES, LEV, PAN, DRY, CHO, REV, PIT–LFO1, PIT–LFO2, TVF–LFO1, TVF–LFO2, TVA–LFO1, TVA–LFO2, PAN–LFO1, PAN–LFO2, LFO1–RATE, LFO2–RATE, PIT–ATK, PIT–DCY, PIT–REL, TVF–ATK, TVF–DCY, TVF–REL, TVA–ATK, TVA–DCY, TVA–REL, TMT, FXM, MFX1, MFX2, MFX3, MFX4
	00 4E	0aaa aaaa	Matrix Control 4 Sens 4 (1 – 127) –63 – +63
00 00 00 4F			Total Size

❍Patch Common MFX

Offset Address		Description
00 00	0aaa aaaa	MFX Type (0 – 127)
00 01	0aaa aaaa	MFX Dry Send Level (0 – 127)
00 02	0aaa aaaa	MFX Chorus Send Level (0 – 127)
00 03	0aaa aaaa	MFX Reverb Send Level (0 – 127)
00 04	0000 00aa	MFX Output Assign (0 – 3) A, B, C<*>, D<*>
00 05	0aaa aaaa	MFX Control 1 Source (0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 06	0aaa aaaa	MFX Control 1 Sens (1 – 127) –63 – +63
00 07	0aaa aaaa	MFX Control 2 Source (0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 08	0aaa aaaa	MFX Control 2 Sens (1 – 127) –63 – +63
00 09	0aaa aaaa	MFX Control 3 Source (0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens (1 – 127) –63 – +63
00 0B	0aaa aaaa	MFX Control 4 Source (0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens (1 – 127) –63 – +63
00 0D	000a aaaa	MFX Control Assign 1 (0 – 16) OFF, 1 – 16
00 0E	000a aaaa	MFX Control Assign 2 (0 – 16) OFF, 1 – 16
00 0F	000a aaaa	MFX Control Assign 3 (0 – 16) OFF, 1 – 16
00 10	000a aaaa	MFX Control Assign 4 (0 – 16) OFF, 1 – 16
# 00 11	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 1 (12768 – 52768) –20000 – +20000
# 00 15	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 2 (12768 – 52768) –20000 – +20000
# 00 19	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 3 (12768 – 52768) –20000 – +20000
# 00 1D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 4 (12768 – 52768) –20000 – +20000
# 00 21	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 5 (12768 – 52768) –20000 – +20000
# 00 25	0000 aaaa 0000 bbbb 0000 cccc	

	0000 dddd	MFX Parameter 6	(12768 – 52768) –20000 – +20000
00 29	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 7	(12768 – 52768) –20000 – +20000
00 2D	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 8	(12768 – 52768) –20000 – +20000
00 31	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 9	(12768 – 52768) –20000 – +20000
00 35	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 10	(12768 – 52768) –20000 – +20000
00 39	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 11	(12768 – 52768) –20000 – +20000
00 3D	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 12	(12768 – 52768) –20000 – +20000
00 41	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 13	(12768 – 52768) –20000 – +20000
00 45	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 14	(12768 – 52768) –20000 – +20000
00 49	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 15	(12768 – 52768) –20000 – +20000
00 4D	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 16	(12768 – 52768) –20000 – +20000
00 51	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 17	(12768 – 52768) –20000 – +20000
00 55	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 18	(12768 – 52768) –20000 – +20000
00 59	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 19	(12768 – 52768) –20000 – +20000
00 5D	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 20	(12768 – 52768) –20000 – +20000
00 61	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 21	(12768 – 52768) –20000 – +20000
00 65	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 22	(12768 – 52768) –20000 – +20000
00 69	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 23	(12768 – 52768) –20000 – +20000
00 6D	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 24	(12768 – 52768) –20000 – +20000
00 71	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 25	(12768 – 52768) –20000 – +20000
00 75	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 26	(12768 – 52768) –20000 – +20000
00 79	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 27	(12768 – 52768) –20000 – +20000
00 7D	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 28	(12768 – 52768) –20000 – +20000
01 01	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 29	(12768 – 52768) –20000 – +20000
01 05	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 30	(12768 – 52768) –20000 – +20000
01 09	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 31	(12768 – 52768) –20000 – +20000
01 0D	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	MFX Parameter 32	(12768 – 52768) –20000 – +20000
00 00 01 11	Total Size		

❍Patch Common Chorus

Offset Address		Description	
00 00	0000 aaaa	Chorus Type	(0 – 3)
00 01	0aaa aaaa	Chorus Level	(0 – 127)
00 02	0000 00aa	Chorus Output Assign	(0 – 3) A, B, C<*>, D<*>
00 03	0000 00aa	Chorus Output Select	(0 – 2) MAIN, REV, MAIN+REV
00 04	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 1	(12768 – 52768) –20000 – +20000
00 08	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 2	(12768 – 52768) –20000 – +20000
00 0C	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 3	(12768 – 52768) –20000 – +20000
00 10	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 4	(12768 – 52768) –20000 – +20000
00 14	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 5	(12768 – 52768) –20000 – +20000
00 18	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 6	(12768 – 52768) –20000 – +20000
00 1C	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 7	(12768 – 52768) –20000 – +20000
00 20	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 8	(12768 – 52768) –20000 – +20000
00 24	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 9	(12768 – 52768) –20000 – +20000
00 28	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 10	(12768 – 52768) –20000 – +20000
00 2C	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 11	(12768 – 52768) –20000 – +20000
00 30	0000 aaaa 0000 bbbb 0000 cccc		
	0000 dddd	Chorus Parameter 12	(12768 – 52768) –20000 – +20000
00 00 00 34	Total Size		

❍Patch Common Reverb

Offset Address		Description	
00 00	0000 aaaa	Reverb Type	(0 – 5)
00 01	0aaa aaaa	Reverb Level	(0 – 127)
00 02	0000 00aa	Reverb Output Assign	(0 – 3) A, B, C<*>, D<*>
#00 03	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 1	(12768 – 52768) –20000 – +20000
#00 07	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 2	(12768 – 52768) –20000 – +20000
#00 0B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 3	(12768 – 52768) –20000 – +20000
#00 0F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 4	(12768 – 52768) –20000 – +20000
#00 13	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 5	(12768 – 52768) –20000 – +20000
#00 17	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 6	(12768 – 52768) –20000 – +20000
#00 1B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 7	(12768 – 52768) –20000 – +20000
#00 1F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 8	(12768 – 52768) –20000 – +20000
#00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 9	(12768 – 52768) –20000 – +20000
#00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 10	(12768 – 52768) –20000 – +20000
#00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 11	(12768 – 52768) –20000 – +20000
#00 2F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 12	(12768 – 52768) –20000 – +20000
#00 33	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 13	(12768 – 52768) –20000 – +20000
#00 37	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 14	(12768 – 52768) –20000 – +20000
#00 3B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 15	(12768 – 52768) –20000 – +20000
#00 3F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 16	(12768 – 52768) –20000 – +20000
#00 43	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 17	(12768 – 52768) –20000 – +20000
#00 47	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 18	(12768 – 52768) –20000 – +20000
#00 4B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 19	(12768 – 52768) –20000 – +20000
#00 4F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 20	(12768 – 52768) –20000 – +20000
00 00 00 53	Total Size		

❍Patch TMT (Tone Mix Table)

Offset Address		Description	
00 00	0000 aaaa	Structure Type 1 & 2	(0 – 9) 1 – 10
00 01	0000 00aa	Booster 1 & 2	(0 – 3) 0, +6, +12, +18 [dB]
00 02	0000 aaaa	Structure Type 3 & 4	(0 – 9) 1 – 10
00 03	0000 00aa	Booster 3 & 4	(0 – 3) 0, +6, +12, +18 [dB]
00 04	0000 00aa	TMT Velocity Control	(0 – 2) OFF, ON, RANDOM
00 05	0000 000a	TMT1 Tone Switch	(0 – 1) OFF, ON
00 06	0aaa aaaa	TMT1 Keyboard Range Lower	(0 – 127) C–1 – UPPER
00 07	0aaa aaaa	TMT1 Keyboard Range Upper	(0 – 127) LOWER – G9
00 08	0aaa aaaa	TMT1 Keyboard Fade Width Lower	(0 – 127)
00 09	0aaa aaaa	TMT1 Keyboard Fade Width Upper	(0 – 127)
00 0A	0aaa aaaa	TMT1 Velocity Range Lower	(1 – 127) 1 – UPPER
00 0B	0aaa aaaa	TMT1 Velocity Range Upper	(1 – 127) LOWER – 127
00 0C	0aaa aaaa	TMT1 Velocity Fade Width Lower	(0 – 127)
00 0D	0aaa aaaa	TMT1 Velocity Fade Width Upper	(0 – 127)
00 0E	0000 000a	TMT2 Tone Switch	(0 – 1) OFF, ON
00 0F	0aaa aaaa	TMT2 Keyboard Range Lower	(0 – 127) C–1 – UPPER
00 10	0aaa aaaa	TMT2 Keyboard Range Upper	(0 – 127) LOWER – G9
00 11	0aaa aaaa	TMT2 Keyboard Fade Width Lower	(0 – 127)
00 12	0aaa aaaa	TMT2 Keyboard Fade Width Upper	(0 – 127)
00 13	0aaa aaaa	TMT2 Velocity Range Lower	(1 – 127) 1 – UPPER
00 14	0aaa aaaa	TMT2 Velocity Range Upper	(1 – 127) LOWER – 127
00 15	0aaa aaaa	TMT2 Velocity Fade Width Lower	(0 – 127)
00 16	0aaa aaaa	TMT2 Velocity Fade Width Upper	(0 – 127)
00 17	0000 000a	TMT3 Tone Switch	(0 – 1) OFF, ON
00 18	0aaa aaaa	TMT3 Keyboard Range Lower	(0 – 127) C–1 – UPPER
00 19	0aaa aaaa	TMT3 Keyboard Range Upper	(0 – 127) LOWER – G9
00 1A	0aaa aaaa	TMT3 Keyboard Fade Width Lower	(0 – 127)
00 1B	0aaa aaaa	TMT3 Keyboard Fade Width Upper	(0 – 127)
00 1C	0aaa aaaa	TMT3 Velocity Range Lower	(1 – 127) 1 – UPPER
00 1D	0aaa aaaa	TMT3 Velocity Range Upper	(1 – 127) LOWER – 127
00 1E	0aaa aaaa	TMT3 Velocity Fade Width Lower	(0 – 127)
00 1F	0aaa aaaa	TMT3 Velocity Fade Width Upper	(0 – 127)
00 20	0000 000a	TMT4 Tone Switch	(0 – 1) OFF, ON
00 21	0aaa aaaa	TMT4 Keyboard Range Lower	(0 – 127) C–1 – UPPER
00 22	0aaa aaaa	TMT4 Keyboard Range Upper	(0 – 127) LOWER – G9
00 23	0aaa aaaa	TMT4 Keyboard Fade Width Lower	(0 – 127)
00 24	0aaa aaaa	TMT4 Keyboard Fade Width Upper	(0 – 127)
00 25	0aaa aaaa	TMT4 Velocity Range Lower	(1 – 127) 1 – UPPER
00 26	0aaa aaaa	TMT4 Velocity Range Upper	(1 – 127) LOWER – 127
00 27	0aaa aaaa	TMT4 Velocity Fade Width Lower	(0 – 127)
00 28	0aaa aaaa	TMT4 Velocity Fade Width Upper	(0 – 127)
00 00 00 29	Total Size		

❍Patch Tone

Offset Address		Description	
00 00	0aaa aaaa	Tone Level	(0 – 127)
00 01	0aaa aaaa	Tone Coarse Tune	(16 – 112) –48 – +48
00 02	0aaa aaaa	Tone Fine Tune	(14 – 114) –50 – +50
00 03	000a aaaa	Tone Random Pitch Depth	(0 – 30) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200
00 04	0aaa aaaa	Tone Pan	(0 – 127) L64 – 63R
00 05	000a aaaa	Tone Pan Keyfollow	(54 – 74) –100 – +100
00 06	00aa aaaa	Tone Random Pan Depth	(0 – 63)
00 07	0aaa aaaa	Tone Alternate Pan Depth	(1 – 127) L63 – 63R
00 08	0000 000a	Tone Env Mode	(0 – 1) NO–SUS, SUSTAIN
00 09	0000 00aa	Tone Delay Mode	(0 – 3) NORMAL, HOLD, KEY–OFF–NORMAL, KEY–OFF–DECAY
#00 0A	0000 aaaa 0000 bbbb	Tone Delay Time	(0 – 149) 0 – 127, MUSICAL–NOTES
00 0C	0aaa aaaa	Tone Dry Send Level	(0 – 127)

	00 0D	0aaa aaaa	Tone Chorus Send Level (MFX) (0 – 127)
	00 0E	0aaa aaaa	Tone Reverb Send Level (MFX) (0 – 127)
	00 0F	0aaa aaaa	Tone Chorus Send Level (non MFX) (0 – 127)
	00 10	0aaa aaaa	Tone Reverb Send Level (non MFX) (0 – 127)
	00 11	0000 aaaa	Tone Output Assign (0 – 12) MFX, A, B, C<*>, D<*>, 1, 2, 3, 4, 5<*>, 6<*>, 7<*>, 8<*>
	00 12	0000 000a	Tone Receive Bender (0 – 1) OFF, ON
	00 13	0000 000a	Tone Receive Expression (0 – 1) OFF, ON
	00 14	0000 000a	Tone Receive Hold–1 (0 – 1) OFF, ON
	00 15	0000 000a	Tone Receive Pan Mode (0 – 1) CONTINUOUS, KEY–ON
	00 16	0000 000a	Tone Redamper Switch (0 – 1) OFF, ON
	00 17	0000 00aa	Tone Control 1 Switch 1 (0 – 2) OFF, ON, REVERSE
	00 18	0000 00aa	Tone Control 1 Switch 2 (0 – 2) OFF, ON, REVERSE
	00 19	0000 00aa	Tone Control 1 Switch 3 (0 – 2) OFF, ON, REVERSE
	00 1A	0000 00aa	Tone Control 1 Switch 4 (0 – 2) OFF, ON, REVERSE
	00 1B	0000 00aa	Tone Control 2 Switch 1 (0 – 2) OFF, ON, REVERSE
	00 1C	0000 00aa	Tone Control 2 Switch 2 (0 – 2) OFF, ON, REVERSE
	00 1D	0000 00aa	Tone Control 2 Switch 3 (0 – 2) OFF, ON, REVERSE
	00 1E	0000 00aa	Tone Control 2 Switch 4 (0 – 2) OFF, ON, REVERSE
	00 1F	0000 00aa	Tone Control 3 Switch 1 (0 – 2) OFF, ON, REVERSE
	00 20	0000 00aa	Tone Control 3 Switch 2 (0 – 2) OFF, ON, REVERSE
	00 21	0000 00aa	Tone Control 3 Switch 3 (0 – 2) OFF, ON, REVERSE
	00 22	0000 00aa	Tone Control 3 Switch 4 (0 – 2) OFF, ON, REVERSE
	00 23	0000 00aa	Tone Control 4 Switch 1 (0 – 2) OFF, ON, REVERSE
	00 24	0000 00aa	Tone Control 4 Switch 2 (0 – 2) OFF, ON, REVERSE
	00 25	0000 00aa	Tone Control 4 Switch 3 (0 – 2) OFF, ON, REVERSE
	00 26	0000 00aa	Tone Control 4 Switch 4 (0 – 2) OFF, ON, REVERSE
	00 27	0000 00aa	Wave Group Type (0 – 3) INT, SR–JV80, SRX, SAMPLE<*>
#	00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Group ID (0 – 16384) OFF, 1 – 16384
#	00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Number L (Mono) (0 – 16384) OFF, 1 – 16384
#	00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Wave Number R (0 – 16384) OFF, 1 – 16384
	00 34	0000 00aa	Wave Gain (0 – 3) –6, 0, +6, +12 [dB]
	00 35	0000 000a	Wave FXM Switch (0 – 1) OFF, ON
	00 36	0000 00aa	Wave FXM Color (0 – 3) 1 – 4
	00 37	000a aaaa	Wave FXM Depth (0 – 16)
	00 38	0000 000a	Wave Tempo Sync (0 – 1) OFF, ON
	00 39	00aa aaaa	Wave Pitch Keyfollow (44 – 84) –200 – +200
	00 3A	000a aaaa	Pitch Env Depth (52 – 76) –12 – +12
	00 3B	0aaa aaaa	Pitch Env Velocity Sens (1 – 127) –63 – +63
	00 3C	0aaa aaaa	Pitch Env Time 1 Velocity Sens (1 – 127) –63 – +63
	00 3D	0aaa aaaa	Pitch Env Time 4 Velocity Sens (1 – 127) –63 – +63
	00 3E	000a aaaa	Pitch Env Time Keyfollow (54 – 74) –100 – +100
	00 3F	0aaa aaaa	Pitch Env Time 1 (0 – 127)
	00 40	0aaa aaaa	Pitch Env Time 2 (0 – 127)
	00 41	0aaa aaaa	Pitch Env Time 3 (0 – 127)
	00 42	0aaa aaaa	Pitch Env Time 4 (0 – 127)
	00 43	0aaa aaaa	Pitch Env Level 0 (1 – 127) –63 – +63
	00 44	0aaa aaaa	Pitch Env Level 1 (1 – 127) –63 – +63
	00 45	0aaa aaaa	Pitch Env Level 2 (1 – 127) –63 – +63
	00 46	0aaa aaaa	Pitch Env Level 3 (1 – 127) –63 – +63
	00 47	0aaa aaaa	Pitch Env Level 4 (1 – 127) –63 – +63
	00 48	0000 0aaa	TVF Filter Type (0 – 6) OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
	00 49	0aaa aaaa	TVF Cutoff Frequency (0 – 127)
	00 4A	00aa aaaa	TVF Cutoff Keyfollow (44 – 84) –200 – +200
	00 4B	0000 0aaa	TVF Cutoff Velocity Curve (0 – 7) FIXED, 1 – 7
	00 4C	0aaa aaaa	TVF Cutoff Velocity Sens (1 – 127) –63 – +63
	00 4D	0aaa aaaa	TVF Resonance (0 – 127)
	00 4E	0aaa aaaa	TVF Resonance Velocity Sens (1 – 127) –63 – +63
	00 4F	0aaa aaaa	TVF Env Depth (1 – 127) –63 – +63
	00 50	0000 0aaa	TVF Env Velocity Curve (0 – 7) FIXED, 1 – 7
	00 51	0aaa aaaa	TVF Env Velocity Sens (1 – 127) –63 – +63
	00 52	0aaa aaaa	TVF Env Time 1 Velocity Sens (1 – 127) –63 – +63
	00 53	0aaa aaaa	TVF Env Time 4 Velocity Sens (1 – 127) –63 – +63
	00 54	000a aaaa	TVF Env Time Keyfollow (54 – 74) –100 – +100
	00 55	0aaa aaaa	TVF Env Time 1 (0 – 127)
	00 56	0aaa aaaa	TVF Env Time 2 (0 – 127)
	00 57	0aaa aaaa	TVF Env Time 3 (0 – 127)
	00 58	0aaa aaaa	TVF Env Time 4 (0 – 127)
	00 59	0aaa aaaa	TVF Env Level 0 (0 – 127)
	00 5A	0aaa aaaa	TVF Env Level 1 (0 – 127)
	00 5B	0aaa aaaa	TVF Env Level 2 (0 – 127)
	00 5C	0aaa aaaa	TVF Env Level 3 (0 – 127)
	00 5D	0aaa aaaa	TVF Env Level 4 (0 – 127)
	00 5E	000a aaaa	Bias Level (54 – 74) –100 – +100
	00 5F	0aaa aaaa	Bias Position (0 – 127) C–1 – G9
	00 60	0000 00aa	Bias Direction (0 – 3) LOWER, UPPER, LOWER&UPPER, ALL
	00 61	0000 0aaa	TVA Level Velocity Curve (0 – 7) FIXED, 1 – 7
	00 62	0aaa aaaa	TVA Level Velocity Sens (1 – 127) –63 – +63
	00 63	0aaa aaaa	TVA Env Time 1 Velocity Sens (1 – 127) –63 – +63
	00 64	0aaa aaaa	TVA Env Time 4 Velocity Sens (1 – 127) –63 – +63
	00 65	000a aaaa	TVA Env Time Keyfollow (54 – 74) –100 – +100
	00 66	0aaa aaaa	TVA Env Time 1 (0 – 127)
	00 67	0aaa aaaa	TVA Env Time 2 (0 – 127)
	00 68	0aaa aaaa	TVA Env Time 3 (0 – 127)
	00 69	0aaa aaaa	TVA Env Time 4 (0 – 127)
	00 6A	0aaa aaaa	TVA Env Level 1 (0 – 127)
	00 6B	0aaa aaaa	TVA Env Level 2 (0 – 127)
	00 6C	0aaa aaaa	TVA Env Level 3 (0 – 127)
	00 6D	0000 aaaa	LFO1 Wave Form (0 – 10) SIN, TRI, SAW–UP, SAW–DW, SQR, RND, BEND–UP, BEND–DW, TRP, S&H CHS
#	00 6E	0000 aaaa 0000 bbbb	LFO1 Rate (0 – 149) 0 – 127, MUSICAL–NOTES
	00 70	0000 0aaa	LFO1 Offset (0 – 4) –100, –50, 0, +50, +100
	00 71	0aaa aaaa	LFO1 Rate Detune (0 – 127)
	00 72	0aaa aaaa	LFO1 Delay Time (0 – 127)
	00 73	000a aaaa	LFO1 Delay Time Keyfollow (54 – 74) –100 – +100
	00 74	0000 00aa	LFO1 Fade Mode (0 – 3) ON–IN, ON–OUT, OFF–IN, OFF–OUT
	00 75	0aaa aaaa	LFO1 Fade Time (0 – 127)
	00 76	0000 000a	LFO1 Key Trigger (0 – 1) OFF, ON
	00 77	0aaa aaaa	LFO1 Pitch Depth (1 – 127) –63 – +63
	00 78	0aaa aaaa	LFO1 TVF Depth (1 – 127) –63 – +63
	00 79	0aaa aaaa	LFO1 TVA Depth (1 – 127) –63 – +63
	00 7A	0aaa aaaa	LFO1 Pan Depth (1 – 127) –63 – +63
	00 7B	0000 aaaa	LFO2 Wave Form (0 – 10) SIN, TRI, SAW–UP, SAW–DW, SQR, RND, BEND–UP, BEND–DW, TRP, S&H CHS
#	00 7C	0000 aaaa 0000 bbbb	LFO2 Rate (0 – 149) 0 – 127, MUSICAL–NOTES
	00 7E	0000 0aaa	LFO2 Offset (0 – 4) –100, –50, 0, +50, +100
	00 7F	0aaa aaaa	LFO2 Rate Detune (0 – 127)
	01 00	0aaa aaaa	LFO2 Delay Time (0 – 127)
	01 01	000a aaaa	LFO2 Delay Time Keyfollow (54 – 74) –100 – +100
	01 02	0000 00aa	LFO2 Fade Mode (0 – 3) ON–IN, ON–OUT, OFF–IN, OFF–OUT
	01 03	0aaa aaaa	LFO2 Fade Time (0 – 127)
	01 04	0000 000a	LFO2 Key Trigger (0 – 1) OFF, ON
	01 05	0aaa aaaa	LFO2 Pitch Depth (1 – 127) –63 – +63
	01 06	0aaa aaaa	LFO2 TVF Depth (1 – 127) –63 – +63
	01 07	0aaa aaaa	LFO2 TVA Depth (1 – 127) –63 – +63
	01 08	0aaa aaaa	LFO2 Pan Depth (1 – 127) –63 – +63
00 00 01 09			Total Size

❍Patch Controller

Offset Address		Description	
00 00	0000 000a	Beam Switch	(0 – 1) OFF, ON
00 01	0aaa aaaa	Beam Assign	(0 – 109) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, NOTE, OCT–UP, OCT–DOWN, START/STOP, TAP–TEMPO, ARP–SW, ARP–VAR, ARP–ACCNT, ARP–SHFFL, ARP–OCT–UP, ARP–OCT–DOWN
00 02	0000 000a	Beam Polarity	(0 – 1) STANDARD, REVERSE
00 03	0aaa aaaa	Beam Range Lower	(0 – 127)
00 04	0aaa aaaa	Beam Range Upper	(0 – 127)
00 05	0aaa aaaa	Knob 1 Assign	(0 – 102) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, ARP–VAR, ARP–ACCNT, ARP–SHFFL, ARP–OCT
00 06	0aaa aaaa	Knob 2 Assign	(0 – 102) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, ARP–VAR, ARP–ACCNT, ARP–SHFFL, ARP–OCT
00 07	0aaa aaaa	Knob 3 Assign	(0 – 102) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, ARP–VAR, ARP–ACCNT, ARP–SHFFL, ARP–OCT
00 08	0aaa aaaa	Knob 4 Assign	(0 – 102) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, ARP–VAR, ARP–ACCNT, ARP–SHFFL, ARP–OCT
00 09	0aaa aaaa	Switch 1 Assign	(0 – 105) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN, TAP–TEMPO, MONO/POLY, ARP–HOLD
00 0A	0000 000a	Switch 1 Assign Mode	(0 – 1) MOMENTARY, LATCH
00 0B	0aaa aaaa	Switch 2 Assign	(0 – 105) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN, TAP–TEMPO, MONO/POLY, ARP–HOLD
00 0C	0000 000a	Switch 2 Assign Mode	(0 – 1) MOMENTARY, LATCH
00 0D	0aaa aaaa	Switch 3 Assign	(0 – 105) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN, TAP–TEMPO, MONO/POLY, ARP–HOLD
00 0E	0000 000a	Switch 3 Assign Mode	(0 – 1) MOMENTARY, LATCH
00 0F	0aaa aaaa	Switch 4 Assign	(0 – 105) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN, TAP–TEMPO, MONO/POLY, ARP–HOLD
00 10	0000 000a	Switch 4 Assign Mode	(0 – 1) MOMENTARY, LATCH
00 11	0000 000a	Arpeggio Switch	(0 – 1) OFF, ON
00 12	0000 000a	Arpeggio Hold	(0 – 1) OFF, ON
00 13	0aaa aaaa	Arpeggio Style	(0 – 127) 1 – 128
00 14	0aaa aaaa	Arpeggio Variation	(0 – 127) 1 – 128
00 15	0aaa aaaa	Arpeggio Motif	(0 – 9) UP, DOWN, UP&DOWN, RANDOM, NOTE–ORDER, GLISSANDO, CHORD, AUTO1, AUTO2, PHRASE
00 16	0aaa aaaa	Arpeggio Accent Rate	(0 – 100)
00 17	0aaa aaaa	Arpeggio Shuffle Rate	(0 – 100)
00 18	0000 000a	Arpeggio Shuffle Resolution	(0 – 1) 16TH, 8TH
00 19	0aaa aaaa	Arpeggio Keyboard Velocity	(0 – 127) REAL, 1 – 127
00 1A	0000 0aaa	Arpeggio Octave Range	(61 – 67) –3 – +3
00 1B	0000 000a	Arpeggio Key Trigger	(0 – 1) OFF, ON
00 00 00 1C	Total Size		

❍Rhythm Common

Offset Address		Description	
00 00	0aaa aaaa	Rhythm Name 1	(32 – 127) 32 – 127 [ASCII]
00 01	0aaa aaaa	Rhythm Name 2	(32 – 127) 32 – 127 [ASCII]
00 02	0aaa aaaa	Rhythm Name 3	(32 – 127) 32 – 127 [ASCII]
00 03	0aaa aaaa	Rhythm Name 4	(32 – 127) 32 – 127 [ASCII]
00 04	0aaa aaaa	Rhythm Name 5	(32 – 127) 32 – 127 [ASCII]
00 05	0aaa aaaa	Rhythm Name 6	(32 – 127) 32 – 127 [ASCII]
00 06	0aaa aaaa	Rhythm Name 7	(32 – 127) 32 – 127 [ASCII]
00 07	0aaa aaaa	Rhythm Name 8	(32 – 127) 32 – 127 [ASCII]
00 08	0aaa aaaa	Rhythm Name 9	(32 – 127) 32 – 127 [ASCII]
00 09	0aaa aaaa	Rhythm Name 10	(32 – 127) 32 – 127 [ASCII]
00 0A	0aaa aaaa	Rhythm Name 11	(32 – 127) 32 – 127 [ASCII]
00 0B	0aaa aaaa	Rhythm Name 12	(32 – 127) 32 – 127 [ASCII]
00 0C	0aaa aaaa	Rhythm Level	(0 – 127)
00 0D	0000 000a	Rhythm Clock Source	(0 – 1) RHYTHM, SYSTEM
# 00 0E	0000 aaaa		
	0000 bbbb	Rhythm Tempo	(20 – 250)
00 10	0000 000a	One Shot Mode	(0 – 1) OFF, ON
00 11	0000 aaaa	Rhythm Output Assign	(0 – 13) MFX, A, B, C<*>, D<*>, 1, 2, 3, 4, 5<*>, 6<*>, 7<*>, 8<*>, TONE
00 00 00 12	Total Size		

❍Rhythm Common MFX

Offset Address		Description	
00 00	0aaa aaaa	MFX Type	(0 – 127)
00 01	0aaa aaaa	MFX Dry Send Level	(0 – 127)
00 02	0aaa aaaa	MFX Chorus Send Level	(0 – 127)
00 03	0aaa aaaa	MFX Reverb Send Level	(0 – 127)
00 04	0000 00aa	MFX Output Assign	(0 – 3) A, B, C<*>, D<*>
00 05	0aaa aaaa	MFX Control 1 Source	(0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 06	0aaa aaaa	MFX Control 1 Sens	(1 – 127) –63 – +63
00 07	0aaa aaaa	MFX Control 2 Source	(0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 08	0aaa aaaa	MFX Control 2 Sens	(1 – 127) –63 – +63
00 09	0aaa aaaa	MFX Control 3 Source	(0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 0A	0aaa aaaa	MFX Control 3 Sens	(1 – 127) –63 – +63
00 0B	0aaa aaaa	MFX Control 4 Source	(0 – 101) OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, SYS1 – SYS4
00 0C	0aaa aaaa	MFX Control 4 Sens	(1 – 127) –63 – +63
00 0D	000a aaaa	MFX Control Assign 1	(0 – 16) OFF, 1 – 16
00 0E	000a aaaa	MFX Control Assign 2	(0 – 16) OFF, 1 – 16
00 0F	000a aaaa	MFX Control Assign 3	(0 – 16) OFF, 1 – 16
00 10	000a aaaa	MFX Control Assign 4	(0 – 16) OFF, 1 – 16
# 00 11	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 1	(12768 – 52768) –20000 – +20000
# 00 15	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 2	(12768 – 52768) –20000 – +20000
# 00 19	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 3	(12768 – 52768) –20000 – +20000
# 00 1D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 4	(12768 – 52768) –20000 – +20000
# 00 21	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 5	(12768 – 52768) –20000 – +20000
# 00 25	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 6	(12768 – 52768) –20000 – +20000
# 00 29	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 7	(12768 – 52768) –20000 – +20000
# 00 2D	0000 aaaa		
	0000 bbbb		
	0000 cccc		
	0000 dddd	MFX Parameter 8	(12768 – 52768) –20000 – +20000

#	00 31	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 9	(12768 – 52768) –20000 – +20000
#	00 35	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 10	(12768 – 52768) –20000 – +20000
#	00 39	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 11	(12768 – 52768) –20000 – +20000
#	00 3D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 12	(12768 – 52768) –20000 – +20000
#	00 41	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 13	(12768 – 52768) –20000 – +20000
#	00 45	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 14	(12768 – 52768) –20000 – +20000
#	00 49	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 15	(12768 – 52768) –20000 – +20000
#	00 4D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 16	(12768 – 52768) –20000 – +20000
#	00 51	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 17	(12768 – 52768) –20000 – +20000
#	00 55	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 18	(12768 – 52768) –20000 – +20000
#	00 59	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 19	(12768 – 52768) –20000 – +20000
#	00 5D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 20	(12768 – 52768) –20000 – +20000
#	00 61	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 21	(12768 – 52768) –20000 – +20000
#	00 65	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 22	(12768 – 52768) –20000 – +20000
#	00 69	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 23	(12768 – 52768) –20000 – +20000
#	00 6D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 24	(12768 – 52768) –20000 – +20000
#	00 71	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 25	(12768 – 52768) –20000 – +20000
#	00 75	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 26	(12768 – 52768) –20000 – +20000
#	00 79	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 27	(12768 – 52768) –20000 – +20000
#	00 7D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 28	(12768 – 52768) –20000 – +20000
#	01 01	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 29	(12768 – 52768) –20000 – +20000
#	01 05	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 30	(12768 – 52768) –20000 – +20000
#	01 09	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 31	(12768 – 52768) –20000 – +20000
#	01 0D	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	MFX Parameter 32	(12768 – 52768) –20000 – +20000
	00 00 01 11	Total Size		

❍Rhythm Common Chorus

Offset Address		Description	
00 00	0000 aaaa	Chorus Type	(0 – 3)
00 01	0aaa aaaa	Chorus Level	(0 – 127)
00 02	0000 00aa	Chorus Output Assign	(0 – 3) A, B, C<*>, D<*>
00 03	0000 00aa	Chorus Output Select	(0 – 2) MAIN, REV, MAIN+REV
# 00 04	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 1	(12768 – 52768) –20000 – +20000
# 00 08	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 2	(12768 – 52768) –20000 – +20000
# 00 0C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 3	(12768 – 52768) –20000 – +20000
# 00 10	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 4	(12768 – 52768) –20000 – +20000
# 00 14	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 5	(12768 – 52768) –20000 – +20000
# 00 18	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 6	(12768 – 52768) –20000 – +20000
# 00 1C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 7	(12768 – 52768) –20000 – +20000
# 00 20	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 8	(12768 – 52768) –20000 – +20000
# 00 24	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 9	(12768 – 52768) –20000 – +20000
# 00 28	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 10	(12768 – 52768) –20000 – +20000
# 00 2C	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 11	(12768 – 52768) –20000 – +20000
# 00 30	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Chorus Parameter 12	(12768 – 52768) –20000 – +20000
00 00 00 34	Total Size		

❍Rhythm Common Reverb

Offset Address		Description	
00 00	0000 aaaa	Reverb Type	(0 – 5)
00 01	0aaa aaaa	Reverb Level	(0 – 127)
00 02	0000 00aa	Reverb Output Assign	(0 – 3) A, B, C<*>, D<*>
# 00 03	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 1	(12768 – 52768) –20000 – +20000
# 00 07	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 2	(12768 – 52768) –20000 – +20000
# 00 0B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 3	(12768 – 52768) –20000 – +20000

#	Offset Address		Description	
	00 0F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 4	(12768 – 52768) –20000 – +20000
#	00 13	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 5	(12768 – 52768) –20000 – +20000
#	00 17	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 6	(12768 – 52768) –20000 – +20000
#	00 1B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 7	(12768 – 52768) –20000 – +20000
#	00 1F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 8	(12768 – 52768) –20000 – +20000
#	00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 9	(12768 – 52768) –20000 – +20000
#	00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 10	(12768 – 52768) –20000 – +20000
#	00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 11	(12768 – 52768) –20000 – +20000
#	00 2F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 12	(12768 – 52768) –20000 – +20000
#	00 33	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 13	(12768 – 52768) –20000 – +20000
#	00 37	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 14	(12768 – 52768) –20000 – +20000
#	00 3B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 15	(12768 – 52768) –20000 – +20000
#	00 3F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 16	(12768 – 52768) –20000 – +20000
#	00 43	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 17	(12768 – 52768) –20000 – +20000
#	00 47	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 18	(12768 – 52768) –20000 – +20000
#	00 4B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 19	(12768 – 52768) –20000 – +20000
#	00 4F	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Reverb Parameter 20	(12768 – 52768) –20000 – +20000
	00 00 00 53	Total Size		

❍Rhythm Tone

Offset Address	Description	
00 00	0aaa aaaa	Tone Name 1	(32 – 127) 32 – 127 [ASCII]
00 01	0aaa aaaa	Tone Name 2	(32 – 127) 32 – 127 [ASCII]
00 02	0aaa aaaa	Tone Name 3	(32 – 127) 32 – 127 [ASCII]
00 03	0aaa aaaa	Tone Name 4	(32 – 127) 32 – 127 [ASCII]
00 04	0aaa aaaa	Tone Name 5	(32 – 127) 32 – 127 [ASCII]
00 05	0aaa aaaa	Tone Name 6	(32 – 127) 32 – 127 [ASCII]
00 06	0aaa aaaa	Tone Name 7	(32 – 127) 32 – 127 [ASCII]
00 07	0aaa aaaa	Tone Name 8	(32 – 127) 32 – 127 [ASCII]
00 08	0aaa aaaa	Tone Name 9	(32 – 127) 32 – 127 [ASCII]
00 09	0aaa aaaa	Tone Name 10	(32 – 127) 32 – 127 [ASCII]
00 0A	0aaa aaaa	Tone Name 11	(32 – 127) 32 – 127 [ASCII]
00 0B	0aaa aaaa	Tone Name 12	(32 – 127) 32 – 127 [ASCII]
00 0C	0000 000a	Assign Type	(0 – 1) MULTI, SINGLE
00 0D	000a aaaa	Mute Group	(0 – 31) OFF, 1 – 31
00 0E	0aaa aaaa	Tone Level	(0 – 127)
00 0F	0aaa aaaa	Tone Coarse Tune	(0 – 127) C–1 – G9
00 10	0aaa aaaa	Tone Fine Tune	(14 – 114) –50 – +50
00 11	000a aaaa	Tone Random Pitch Depth	(0 – 30) 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200
00 12	0aaa aaaa	Tone Pan	(0 – 127) L64 – 63R
00 13	00aa aaaa	Tone Random Pan Depth	(0 – 63)
00 14	0aaa aaaa	Tone Alternate Pan Depth	(1 – 127) L63 – 63R
00 15	0000 000a	Tone Env Mode	(0 – 1) NO–SUS, SUSTAIN
00 16	0aaa aaaa	Tone Dry Send Level	(0 – 127)
00 17	0aaa aaaa	Tone Chorus Send Level	(0 – 127)
00 18	0aaa aaaa	Tone Reverb Send Level	(0 – 127)
00 19	0aaa aaaa	Tone Chorus Send Level (non MFX)	(0 – 127)
00 1A	0aaa aaaa	Tone Reverb Send Level (non MFX)	(0 – 127)
00 1B	0000 aaaa	Tone Output Assign	(0 – 12) MFX, A, B, C<*>, D<*>, 1, 2, 3, 4, 5<*>, 6<*>, 7<*>, 8<*>
00 1C	00aa aaaa	Tone Pitch Bend Range	(0 – 48)
00 1D	0000 000a	Tone Receive Expression	(0 – 1) OFF, ON
00 1E	0000 000a	Tone Receive Hold–1	(0 – 1) OFF, ON
00 1F	0000 000a	Tone Receive Pan Mode	(0 – 1) CONTINUOUS, KEY–ON
00 20	0000 00aa	WMT Velocity Control	(0 – 2) OFF, ON, RANDOM
00 21	0000 000a	WMT1 Wave Switch	(0 – 1) OFF, ON
00 22	0000 00aa	WMT1 Wave Group Type	(0 – 3) INT, SR–JV80, SRX, SAMPLE<*>
# 00 23	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Group ID	(0 – 16384) OFF, 1 – 16384
# 00 27	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Number L (Mono)	(0 – 16384) OFF, 1 – 16384
# 00 2B	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT1 Wave Number R	(0 – 16384) OFF, 1 – 16384
00 2F	0000 00aa	WMT1 Wave Gain	(0 – 3) –6, 0, +6, +12 [dB]
00 30	0000 000a	WMT1 Wave FXM Switch	(0 – 1) OFF, ON
00 31	0000 00aa	WMT1 Wave FXM Color	(0 – 3) 1 – 4
00 32	000a aaaa	WMT1 Wave FXM Depth	(0 – 16)
00 33	0000 000a	WMT1 Wave Tempo Sync	(0 – 1) OFF, ON
00 34	0aaa aaaa	WMT1 Wave Coarse Tune	(16 – 112) –48 – +48
00 35	0aaa aaaa	WMT1 Wave Fine Tune	(14 – 114) –50 – +50
00 36	0aaa aaaa	WMT1 Wave Pan	(0 – 127) L64 – 63R
00 37	0000 000a	WMT1 Wave Random Pan Switch	(0 – 1) OFF, ON
00 38	0000 00aa	WMT1 Wave Alternate Pan Switch	(0 – 2) OFF, ON, REVERSE
00 39	0aaa aaaa	WMT1 Wave Level	(0 – 127)
00 3A	0aaa aaaa	WMT1 Velocity Range Lower	(1 – 127) 1 – UPPER
00 3B	0aaa aaaa	WMT1 Velocity Range Upper	(1 – 127) LOWER – 127
00 3C	0aaa aaaa	WMT1 Velocity Fade Width Lower	(0 – 127)
00 3D	0aaa aaaa	WMT1 Velocity Fade Width Upper	(0 – 127)
00 3E	0000 000a	WMT2 Wave Switch	(0 – 1) OFF, ON
00 3F	0000 00aa	WMT2 Wave Group Type	(0 – 3) INT, SR–JV80, SRX, SAMPLE<*>
# 00 40	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Group ID	(0 – 16384) OFF, 1 – 16384
# 00 44	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Number L (Mono)	(0 – 16384) OFF, 1 – 16384
# 00 48	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	WMT2 Wave Number R	(0 – 16384) OFF, 1 – 16384

	00 4C	0000 00aa	WMT2 Wave Gain (0 – 3)
			–6, 0, +6, +12 [dB]
	00 4D	0000 000a	WMT2 Wave FXM Switch (0 – 1)
			OFF, ON
	00 4E	0000 00aa	WMT2 Wave FXM Color (0 – 3)
			1 – 4
	00 4F	000a aaaa	WMT2 Wave FXM Depth (0 – 16)
	00 50	0000 000a	WMT2 Wave Tempo Sync (0 – 1)
			OFF, ON
	00 51	0aaa aaaa	WMT2 Wave Coarse Tune (16 – 112)
			–48 – +48
	00 52	0aaa aaaa	WMT2 Wave Fine Tune (14 – 114)
			–50 – +50
	00 53	0aaa aaaa	WMT2 Wave Pan (0 – 127)
			L64 – 63R
	00 54	0000 000a	WMT2 Wave Random Pan Switch (0 – 1)
			OFF, ON
	00 55	0000 00aa	WMT2 Wave Alternate Pan Switch (0 – 2)
			OFF, ON, REVERSE
	00 56	0aaa aaaa	WMT2 Wave Level (0 – 127)
	00 57	0aaa aaaa	WMT2 Velocity Range Lower (1 – 127)
			1 – UPPER
	00 58	0aaa aaaa	WMT2 Velocity Range Upper (1 – 127)
			LOWER – 127
	00 59	0aaa aaaa	WMT2 Velocity Fade Width Lower (0 – 127)
	00 5A	0aaa aaaa	WMT2 Velocity Fade Width Upper (0 – 127)
	00 5B	0000 000a	WMT3 Wave Switch (0 – 1)
			OFF, ON
	00 5C	0000 00aa	WMT3 Wave Group Type (0 – 3)
			INT, SR–JV80, SRX, SAMPLE<*>
#	00 5D	0000 aaaa	
		0000 bbbb	
		0000 cccc	
		0000 dddd	WMT3 Wave Group ID (0 – 16384)
			OFF, 1 – 16384
#	00 61	0000 aaaa	
		0000 bbbb	
		0000 cccc	
		0000 dddd	WMT3 Wave Number L (Mono) (0 – 16384)
			OFF, 1 – 16384
#	00 65	0000 aaaa	
		0000 bbbb	
		0000 cccc	
		0000 dddd	WMT3 Wave Number R (0 – 16384)
			OFF, 1 – 16384
	00 69	0000 00aa	WMT3 Wave Gain (0 – 3)
			–6, 0, +6, +12 [dB]
	00 6A	0000 000a	WMT3 Wave FXM Switch (0 – 1)
			OFF, ON
	00 6B	0000 00aa	WMT3 Wave FXM Color (0 – 3)
			1 – 4
	00 6C	000a aaaa	WMT3 Wave FXM Depth (0 – 16)
	00 6D	0000 000a	WMT3 Wave Tempo Sync (0 – 1)
			OFF, ON
	00 6E	0aaa aaaa	WMT3 Wave Coarse Tune (16 – 112)
			–48 – +48
	00 6F	0aaa aaaa	WMT3 Wave Fine Tune (14 – 114)
			–50 – +50
	00 70	0aaa aaaa	WMT3 Wave Pan (0 – 127)
			L64 – 63R
	00 71	0000 000a	WMT3 Wave Random Pan Switch (0 – 1)
			OFF, ON
	00 72	0000 00aa	WMT3 Wave Alternate Pan Switch (0 – 2)
			OFF, ON, REVERSE
	00 73	0aaa aaaa	WMT3 Wave Level (0 – 127)
	00 74	0aaa aaaa	WMT3 Velocity Range Lower (1 – 127)
			1 – UPPER
	00 75	0aaa aaaa	WMT3 Velocity Range Upper (1 – 127)
			LOWER – 127
	00 76	0aaa aaaa	WMT3 Velocity Fade Width Lower (0 – 127)
	00 77	0aaa aaaa	WMT3 Velocity Fade Width Upper (0 – 127)
	00 78	0000 000a	WMT4 Wave Switch (0 – 1)
			OFF, ON
	00 79	0000 00aa	WMT4 Wave Group Type (0 – 3)
			INT, SR–JV80, SRX, SAMPLE<*>
#	00 7A	0000 aaaa	
		0000 bbbb	
		0000 cccc	
		0000 dddd	WMT4 Wave Group ID (0 – 16384)
			OFF, 1 – 16384
#	00 7E	0000 aaaa	
		0000 bbbb	
		0000 cccc	
		0000 dddd	WMT4 Wave Number L (Mono) (0 – 16384)
			OFF, 1 – 16384
#	01 02	0000 aaaa	
		0000 bbbb	
		0000 cccc	
		0000 dddd	WMT4 Wave Number R (0 – 16384)
			OFF, 1 – 16384
	01 06	0000 00aa	WMT4 Wave Gain (0 – 3)
			–6, 0, +6, +12 [dB]
	01 07	0000 000a	WMT4 Wave FXM Switch (0 – 1)
			OFF, ON
	01 08	0000 00aa	WMT4 Wave FXM Color (0 – 3)
			1 – 4
	01 09	000a aaaa	WMT4 Wave FXM Depth (0 – 16)
	01 0A	0000 000a	WMT4 Wave Tempo Sync (0 – 1)
			OFF, ON
	01 0B	0aaa aaaa	WMT4 Wave Coarse Tune (16 – 112)
			–48 – +48
	01 0C	0aaa aaaa	WMT4 Wave Fine Tune (14 – 114)
			–50 – +50
	01 0D	0aaa aaaa	WMT4 Wave Pan (0 – 127)
			L64 – 63R
	01 0E	0000 000a	WMT4 Wave Random Pan Switch (0 – 1)
			OFF, ON
	01 0F	0000 00aa	WMT4 Wave Alternate Pan Switch (0 – 2)
			OFF, ON, REVERSE
	01 10	0aaa aaaa	WMT4 Wave Level (0 – 127)
	01 11	0aaa aaaa	WMT4 Velocity Range Lower (1 – 127)
			1 – UPPER
	01 12	0aaa aaaa	WMT4 Velocity Range Upper (1 – 127)
			LOWER – 127
	01 13	0aaa aaaa	WMT4 Velocity Fade Width Lower (0 – 127)
	01 14	0aaa aaaa	WMT4 Velocity Fade Width Upper (0 – 127)
	01 15	000a aaaa	Pitch Env Depth (52 – 76)
			–12 – +12
	01 16	0aaa aaaa	Pitch Env Velocity Sens (1 – 127)
			–63 – +63
	01 17	0aaa aaaa	Pitch Env Time 1 Velocity Sens (1 – 127)
			–63 – +63
	01 18	0aaa aaaa	Pitch Env Time 4 Velocity Sens (1 – 127)
			–63 – +63
	01 19	0aaa aaaa	Pitch Env Time 1 (0 – 127)
	01 1A	0aaa aaaa	Pitch Env Time 2 (0 – 127)
	01 1B	0aaa aaaa	Pitch Env Time 3 (0 – 127)
	01 1C	0aaa aaaa	Pitch Env Time 4 (0 – 127)
	01 1D	0aaa aaaa	Pitch Env Level 0 (1 – 127)
			–63 – +63
	01 1E	0aaa aaaa	Pitch Env Level 1 (1 – 127)
			–63 – +63
	01 1F	0aaa aaaa	Pitch Env Level 2 (1 – 127)
			–63 – +63
	01 20	0aaa aaaa	Pitch Env Level 3 (1 – 127)
			–63 – +63
	01 21	0aaa aaaa	Pitch Env Level 4 (1 – 127)
			–63 – +63
	01 22	0000 0aaa	TVF Filter Type (0 – 6)
			OFF, LPF, BPF, HPF, PKG, LPF2, LPF3
	01 23	0aaa aaaa	TVF Cutoff Frequency (0 – 127)
	01 24	0000 0aaa	TVF Cutoff Velocity Curve (0 – 7)
			FIXED, 1 – 7
	01 25	0aaa aaaa	TVF Cutoff Velocity Sens (1 – 127)
			–63 – +63
	01 26	0aaa aaaa	TVF Resonance (0 – 127)
	01 27	0aaa aaaa	TVF Resonance Velocity Sens (1 – 127)
			–63 – +63
	01 28	0aaa aaaa	TVF Env Depth (1 – 127)
			–63 – +63
	01 29	0000 0aaa	TVF Env Velocity Curve Type (0 – 7)
			FIXED, 1 – 7
	01 2A	0aaa aaaa	TVF Env Velocity Sens (1 – 127)
			–63 – +63
	01 2B	0aaa aaaa	TVF Env Time 1 Velocity Sens (1 – 127)
			–63 – +63
	01 2C	0aaa aaaa	TVF Env Time 4 Velocity Sens (1 – 127)
			–63 – +63
	01 2D	0aaa aaaa	TVF Env Time 1 (0 – 127)
	01 2E	0aaa aaaa	TVF Env Time 2 (0 – 127)
	01 2F	0aaa aaaa	TVF Env Time 3 (0 – 127)
	01 30	0aaa aaaa	TVF Env Time 4 (0 – 127)
	01 31	0aaa aaaa	TVF Env Level 0 (0 – 127)
	01 32	0aaa aaaa	TVF Env Level 1 (0 – 127)
	01 33	0aaa aaaa	TVF Env Level 2 (0 – 127)
	01 34	0aaa aaaa	TVF Env Level 3 (0 – 127)
	01 35	0aaa aaaa	TVF Env Level 4 (0 – 127)
	01 36	0000 0aaa	TVA Level Velocity Curve (0 – 7)
			FIXED, 1 – 7
	01 37	0aaa aaaa	TVA Level Velocity Sens (1 – 127)
			–63 – +63
	01 38	0aaa aaaa	TVA Env Time 1 Velocity Sens (1 – 127)
			–63 – +63
	01 39	0aaa aaaa	TVA Env Time 4 Velocity Sens (1 – 127)
			–63 – +63
	01 3A	0aaa aaaa	TVA Env Time 1 (0 – 127)
	01 3B	0aaa aaaa	TVA Env Time 2 (0 – 127)
	01 3C	0aaa aaaa	TVA Env Time 3 (0 – 127)
	01 3D	0aaa aaaa	TVA Env Time 4 (0 – 127)
	01 3E	0aaa aaaa	TVA Env Level 1 (0 – 127)
	01 3F	0aaa aaaa	TVA Env Level 2 (0 – 127)
	01 40	0aaa aaaa	TVA Env Level 3 (0 – 127)
00 00 01 41	Total Size		

❍Rhythm Controller

Offset Address	Description	
00 00	0000 000a	Beam Switch (0 – 1)
		OFF, ON
00 01	0aaa aaaa	Beam Assign (0 – 106)
		OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, NOTE, OCT–UP, OCT–DOWN, START/STOP, TAP–TEMPO, PTN–SW, PTN–ACCNT, PTN–SHFFL
00 02	0000 000a	Beam Polarity (0 – 1)
		STANDARD, REVERSE
00 03	0aaa aaaa	Beam Range Lower (0 – 127)
00 04	0aaa aaaa	Beam Range Upper (0 – 127)
00 05	0aaa aaaa	Knob 1 Assign (0 – 100)
		OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, PTN–ACCNT, PTN–SHFFL
00 06	0aaa aaaa	Knob 2 Assign (0 – 100)
		OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, PTN–ACCNT, PTN–SHFFL
00 07	0aaa aaaa	Knob 3 Assign (0 – 100)
		OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, PTN–ACCNT, PTN–SHFFL
00 08	0aaa aaaa	Knob 4 Assign (0 – 100)
		OFF, CC01 – CC31, CC33 – CC95, BEND, AFT, TEMPO, PTN–ACCNT, PTN–SHFFL

	00 09	0aaa aaaa	Switch 1 Assign (0 – 104) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN, TAP–TEMPO, PTN–HOLD
	00 0A	0000 000a	Switch 1 Assign Mode (0 – 1) MOMENTARY, LATCH
	00 0B	0aaa aaaa	Switch 2 Assign (0 – 104) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN, TAP–TEMPO, PTN–HOLD
	00 0C	0000 000a	Switch 2 Assign Mode (0 – 1) MOMENTARY, LATCH
	00 0D	0aaa aaaa	Switch 3 Assign (0 – 104) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN, TAP–TEMPO, PTN–HOLD
	00 0E	0000 000a	Switch 3 Assign Mode (0 – 1) MOMENTARY, LATCH
	00 0F	0aaa aaaa	Switch 4 Assign (0 – 104) OFF, CC01 – CC31, CC33 – CC95, BEND–UP, BEND–DOWN, AFT, OCT–UP, OCT–DOWN, TRNS–UP, TRNS–DOWN, TAP–TEMPO, PTN–HOLD
	00 10	0000 000a	Switch 4 Assign Mode (0 – 1) MOMENTARY, LATCH
	00 11	0000 000a	Pattern Switch (0 – 1) OFF, ON
	00 12	0000 000a	Pattern Hold (0 – 1) OFF, ON
	00 13	0aaa aaaa	Pattern Style (0 – 127) 1 – 128
	00 14	0aaa aaaa	Pattern Accent Rate (0 – 100)
	00 15	0aaa aaaa	Pattern Shuffle Rate (0 – 100)
	00 16	0000 000a	Pattern Shuffle Resolution (0 – 1) 16TH, 8TH
	00 17	0aaa aaaa	Pattern Keyboard Velocity (0 – 127) REAL, 1 – 127
	00 18	0aaa aaaa	Pattern Note Assign (0 – 127) C–1 – G9
	00 19	0000 000a	Pattern Key Trigger (0 – 1) OFF, ON
00 00 00 1A	Total Size		

2. GS (Model ID = 42H)

❍System Parameter

Start Address		Description	
# 40 00 00	0000 aaaa 0000 bbbb 0000 cccc 0000 dddd	Master Tune	(24 – 2024) –100.0 – 100.0 [cent]
40 00 04	0aaa aaaa	Master Volume	(0 – 127)
40 00 05	0aaa aaaa	Master Key Shift	(40 – 88) –24 – +24 [semitone]
40 00 06	0aaa aaaa	Master Pan	(1 – 127) L63 – 63R
40 00 7F	0aaa aaaa	Mode Set	(0, 127) GS–RESET, GS–EXIT

❍Common Parameter

Start Address		Description	
40 01 10	0aaa aaaa	Voice Reserve 1	(0 – 24)
40 01 11	0aaa aaaa	Voice Reserve 2	(0 – 24)
40 01 12	0aaa aaaa	Voice Reserve 3	(0 – 24)
40 01 13	0aaa aaaa	Voice Reserve 4	(0 – 24)
40 01 14	0aaa aaaa	Voice Reserve 5	(0 – 24)
40 01 15	0aaa aaaa	Voice Reserve 6	(0 – 24)
40 01 16	0aaa aaaa	Voice Reserve 7	(0 – 24)
40 01 17	0aaa aaaa	Voice Reserve 8	(0 – 24)
40 01 18	0aaa aaaa	Voice Reserve 9	(0 – 24)
40 01 19	0aaa aaaa	Voice Reserve 10	(0 – 24)
40 01 1A	0aaa aaaa	Voice Reserve 11	(0 – 24)
40 01 1B	0aaa aaaa	Voice Reserve 12	(0 – 24)
40 01 1C	0aaa aaaa	Voice Reserve 13	(0 – 24)
40 01 1D	0aaa aaaa	Voice Reserve 14	(0 – 24)
40 01 1E	0aaa aaaa	Voice Reserve 15	(0 – 24)
40 01 1F	0aaa aaaa	Voice Reserve 16	(0 – 24)
40 01 30	0aaa aaaa	Reverb Macro	(0 – 7)
40 01 31	0aaa aaaa	Reverb Character	(0 – 7)
40 01 32	0aaa aaaa	Reverb Pre–LPF	(0 – 7)
40 01 33	0aaa aaaa	Reverb Level	(0 – 127)
40 01 34	0aaa aaaa	Reverb Time	(0 – 127)
40 01 35	0aaa aaaa	Reverb Delay Feedback	(0 – 127)
40 01 36	0aaa aaaa	Reverb Send Level to Chorus<*>	(0 – 127)
40 01 38	0aaa aaaa	Chorus Macro	(0 – 7)
40 01 39	0aaa aaaa	Chorus Pre–LPF	(0 – 7)
40 01 3A	0aaa aaaa	Chorus Level	(0 – 127)
40 01 3B	0aaa aaaa	Chorus Feedback	(0 – 127)
40 01 3C	0aaa aaaa	Chorus Delay	(0 – 127)
40 01 3D	0aaa aaaa	Chorus Rate	(0 – 127)
40 01 3E	0aaa aaaa	Chorus Depth	(0 – 127)
40 01 3F	0aaa aaaa	Chorus Send Level to Reverb	(0 – 127)

❍Part Parameter

Start Address		Description	
# 40 1x 00	0aaa aaaa 0aaa aaaa	Tone Number CC#00 Value Tone Number PC Value	(0 – 127) (0 – 127)
40 1x 02	0aaa aaaa	Rx. Channel	(0 – 16) 1 – 16, OFF
40 1x 03	0000 000a	Rx. Pitch Bend	(0 – 1) OFF, ON
40 1x 04	0000 000a	Rx. Channel Pressure	(0 – 1) OFF, ON
40 1x 05	0000 000a	Rx. Program Change	(0 – 1) OFF, ON
40 1x 06	0000 000a	Rx. Control Change	(0 – 1) OFF, ON
40 1x 07	0000 000a	Rx. Poly Pressure	(0 – 1) OFF, ON
40 1x 08	0000 000a	Rx. Note Message	(0 – 1) OFF, ON
40 1x 09	0000 000a	Rx. RPN	(0 – 1) OFF, ON
40 1x 0A	0000 000a	Rx. NRPN	(0 – 1) OFF, ON
40 1x 0B	0000 000a	Rx. Modulation	(0 – 1) OFF, ON
40 1x 0C	0000 000a	Rx. Volume	(0 – 1) OFF, ON
40 1x 0D	0000 000a	Rx. Panpot	(0 – 1) OFF, ON
40 1x 0E	0000 000a	Rx. Expression	(0 – 1) OFF, ON
40 1x 0F	0000 000a	Rx. Hold–1	(0 – 1) OFF, ON
40 1x 10	0000 000a	Rx. Portamento	(0 – 1) OFF, ON
40 1x 11	0000 000a	Rx. Sostenuto	(0 – 1) OFF, ON
40 1x 12	0000 000a	Rx. Soft	(0 – 1) OFF, ON
40 1x 13	0aaa aaaa	Mono / Poly Mode	(0 – 1) MODE, POLY
40 1x 14	0aaa aaaa	Assign Mode<*>	(0 – 2) SINGLE, LIMITED–MULTI, FULL–MULTI
40 1x 15	0aaa aaaa	Use for Rhythm Part	(0 – 2) OFF, MAP1, MAP2
40 1x 16	0aaa aaaa	Pitch Key Shift	(40 – 88) –24 – +24 [semitone]
# 40 1x 17	0000 aaaa 0000 bbbb	Pitch Offset Fine	(8 – 248) –12.0 – +12.0 [Hz]
40 1x 19	0aaa aaaa	Part Level (CC# 7)	(0 – 127)
40 1x 1A	0aaa aaaa	Velocity Sens Depth	(0 – 127) –64 – +63
40 1x 1B	0aaa aaaa	Velocity Sens Offset	(0 – 127) –64 – +63
40 1x 1C	0aaa aaaa	Part Panpot (CC# 10)	(0 – 127) RANDOM, L63 – 63R
40 1x 1D	0aaa aaaa	Keyboard Range Low	(0 – 127)
40 1x 1E	0aaa aaaa	Keyboard Range High	(0 – 127)
40 1x 1F	0aaa aaaa	CC1 Controller Number	(0 – 95)
40 1x 20	0aaa aaaa	CC2 Controller Number	(0 – 95)
40 1x 21	0aaa aaaa	Chorus Send Level (CC# 93)	(0 – 127)
40 1x 22	0aaa aaaa	Reverb Send Level (CC# 93)	(0 – 127)
40 1x 23	0000 000a	Rx. Bank Select<*>	(0 – 1) OFF, ON
40 1x 24	0000 000a	Rx. Bank Select LSB<*>	(0 – 1) OFF, ON
40 1x 30	0aaa aaaa	Tone Modify 1 (Vibrato Rate)	(0 – 127) –64 – +63
40 1x 31	0aaa aaaa	Tone Modify 2 (Vibrato Depth)	(0 – 127) –64 – +63
40 1x 32	0aaa aaaa	Tone Modify 3 (TVF Cutoff Freq.)	(0 – 127) –64 – +63
40 1x 33	0aaa aaaa	Tone Modify 4 (TVF Resonance)	(0 – 127) –64 – +63
40 1x 34	0aaa aaaa	Tone Modify 5 (TVF&TVA Env. Attack)	(0 – 127) –64 – +63
40 1x 35	0aaa aaaa	Tone Modify 6 (TVF&TVA Env. Decay)	(0 – 127) –64 – +63
40 1x 36	0aaa aaaa	Tone Modify 7 (TVF&TVA ENv. Release)	(0 – 127) –64 – +63
40 1x 37	0aaa aaaa	Tone Modify 8 (Vibrato Delay)	(0 – 127) –64 – +63
40 1x 40	0aaa aaaa	Scale Tuning C	(0 – 127) –64 – +63 [cent]
40 1x 41	0aaa aaaa	Scale Tuning C#	(0 – 127) –64 – +63 [cent]
40 1x 42	0aaa aaaa	Scale Tuning D	(0 – 127) –64 – +63 [cent]
40 1x 43	0aaa aaaa	Scale Tuning D#	(0 – 127) –64 – +63 [cent]
40 1x 44	0aaa aaaa	Scale Tuning E	(0 – 127) –64 – +63 [cent]
40 1x 45	0aaa aaaa	Scale Tuning F	(0 – 127) –64 – +63 [cent]
40 1x 46	0aaa aaaa	Scale Tuning F#	(0 – 127) –64 – +63 [cent]
40 1x 47	0aaa aaaa	Scale Tuning G	(0 – 127) –64 – +63 [cent]
40 1x 48	0aaa aaaa	Scale Tuning G#	(0 – 127) –64 – +63 [cent]

40 1x 49	0aaa aaaa	Scale Tuning A	(0 – 127) –64 – +63 [cent]
40 1x 4A	0aaa aaaa	Scale Tuning A#	(0 – 127) –64 – +63 [cent]
40 1x 4B	0aaa aaaa	Scale Tuning B	(0 – 127) –64 – +63 [cent]
40 2x 00	0aaa aaaa	Mod Pitch Control	(40 – 88) –24 – +24 [semitone]
40 2x 01	0aaa aaaa	Mod TVF Cutoff Control	(0 – 127) –9600 – +9600 [cent]
40 2x 02	0aaa aaaa	Mod Amplitude Control	(0 – 127) –100.0 – +100.0 [%]
40 2x 03	0aaa aaaa	Mod LFO1 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 04	0aaa aaaa	Mod LFO1 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 05	0aaa aaaa	Mod LFO1 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 06	0aaa aaaa	Mod LFO1 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 07	0aaa aaaa	Mod LFO2 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 08	0aaa aaaa	Mod LFO2 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 09	0aaa aaaa	Mod LFO2 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 0A	0aaa aaaa	Mod LFO2 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 10	0aaa aaaa	Bend Pitch Control	(64 – 88) 0 – 24 [semitone]
40 2x 11	0aaa aaaa	Bend TVF Cutoff Control	(0 – 127) –9600 – +9600 [cent]
40 2x 12	0aaa aaaa	Bend Amplitude Control	(0 – 127) –100.0 – +100.0 [%]
40 2x 13	0aaa aaaa	Bend LFO1 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 14	0aaa aaaa	Bend LFO1 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 15	0aaa aaaa	Bend LFO1 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 16	0aaa aaaa	Bend LFO1 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 17	0aaa aaaa	Bend LFO2 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 18	0aaa aaaa	Bend LFO2 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 19	0aaa aaaa	Bend LFO2 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 1A	0aaa aaaa	Bend LFO2 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 20	0aaa aaaa	CAf Pitch Control	(40 – 88) –24 – +24 [semitone]
40 2x 21	0aaa aaaa	CAf TVF Cutoff Control	(0 – 127) –9600 – +9600 [cent]
40 2x 22	0aaa aaaa	CAf Amplitude Control	(0 – 127) –100.0 – +100.0 [%]
40 2x 23	0aaa aaaa	CAf LFO1 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 24	0aaa aaaa	CAf LFO1 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 25	0aaa aaaa	CAf LFO1 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 26	0aaa aaaa	CAf LFO1 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 27	0aaa aaaa	CAf LFO2 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 28	0aaa aaaa	CAf LFO2 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 29	0aaa aaaa	CAf LFO2 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 2A	0aaa aaaa	CAf LFO2 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 30	0aaa aaaa	PAf Pitch Control	(40 – 88) –24 – +24 [semitone]
40 2x 31	0aaa aaaa	PAf TVF Cutoff Control	(0 – 127) –9600 – +9600 [cent]
40 2x 32	0aaa aaaa	PAf Amplitude Control	(0 – 127) –100.0 – +100.0 [%]
40 2x 33	0aaa aaaa	PAf LFO1 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 34	0aaa aaaa	PAf LFO1 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 35	0aaa aaaa	PAf LFO1 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 36	0aaa aaaa	PAf LFO1 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 37	0aaa aaaa	PAf LFO2 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 38	0aaa aaaa	PAf LFO2 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 39	0aaa aaaa	PAf LFO2 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 3A	0aaa aaaa	PAf LFO2 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 40	0aaa aaaa	CC1 Pitch Control	(40 – 88) –24 – +24 [semitone]
40 2x 41	0aaa aaaa	CC1 TVF Cutoff Control	(0 – 127) –9600 – +9600 [cent]
40 2x 42	0aaa aaaa	CC1 Amplitude Control	(0 – 127) –100.0 – +100.0 [%]
40 2x 43	0aaa aaaa	CC1 LFO1 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 44	0aaa aaaa	CC1 LFO1 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 45	0aaa aaaa	CC1 LFO1 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 46	0aaa aaaa	CC1 LFO1 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 47	0aaa aaaa	CC1 LFO2 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 48	0aaa aaaa	CC1 LFO2 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 49	0aaa aaaa	CC1 LFO2 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 4A	0aaa aaaa	CC1 LFO2 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 50	0aaa aaaa	CC2 Pitch Control	(40 – 88) –24 – +24 [semitone]
40 2x 51	0aaa aaaa	CC2 TVF Cutoff Control	(0 – 127) –9600 – +9600 [cent]
40 2x 52	0aaa aaaa	CC2 Amplitude Control	(0 – 127) –100.0 – +100.0 [%]
40 2x 53	0aaa aaaa	CC2 LFO1 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 54	0aaa aaaa	CC2 LFO1 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 55	0aaa aaaa	CC2 LFO1 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 56	0aaa aaaa	CC2 LFO1 TVA Depth	(0 – 127) 0 – 100.0 [%]
40 2x 57	0aaa aaaa	CC2 LFO2 Rate Control	(0 – 127) –10.0 – +10.0 [Hz]
40 2x 58	0aaa aaaa	CC2 LFO2 Pitch Control	(0 – 127) 0 – 600 [cent]
40 2x 59	0aaa aaaa	CC2 LFO2 TVF Depth	(0 – 127) 0 – 2400 [cent]
40 2x 5A	0aaa aaaa	CC2 LFO2 TVA Depth	(0 – 127) 0 – 100.0 [%]

x: BLOCK NUMBER (0-F)
Part 1 (MIDI ch = 1) x = 1
Part 2 (MIDI ch = 2) x = 2
: : :
Part 9 (MIDI ch = 9) x = 9
Part10 (MIDI ch = 10) x = 0
Part11 (MIDI ch = 11) x = A
Part12 (MIDI ch = 12) x = B
: : :
Part16 (MIDI ch = 16) x = F

❍Drum Setup Parameter

Start Address		Description	
41 m0 00	0aaa aaaa	Drum Map Name 1	(32 – 127) 32 – 127 [ASCII]
41 m0 01	0aaa aaaa	Drum Map Name 2	(32 – 127) 32 – 127 [ASCII]
41 m0 02	0aaa aaaa	Drum Map Name 3	(32 – 127) 32 – 127 [ASCII]
41 m0 03	0aaa aaaa	Drum Map Name 4	(32 – 127) 32 – 127 [ASCII]
41 m0 04	0aaa aaaa	Drum Map Name 5	(32 – 127) 32 – 127 [ASCII]
41 m0 05	0aaa aaaa	Drum Map Name 6	(32 – 127) 32 – 127 [ASCII]
41 m0 06	0aaa aaaa	Drum Map Name 7	(32 – 127) 32 – 127 [ASCII]
41 m0 07	0aaa aaaa	Drum Map Name 8	(32 – 127) 32 – 127 [ASCII]
41 m0 08	0aaa aaaa	Drum Map Name 9	(32 – 127) 32 – 127 [ASCII]
41 m0 09	0aaa aaaa	Drum Map Name 10	(32 – 127) 32 – 127 [ASCII]
41 m0 0A	0aaa aaaa	Drum Map Name 11	(32 – 127) 32 – 127 [ASCII]
41 m0 0B	0aaa aaaa	Drum Map Name 12	(32 – 127) 32 – 127 [ASCII]
41 m1 rr	0aaa aaaa	Play Note Number	(0 – 127)
41 m2 rr	0aaa aaaa	Level	(0 – 127)
41 m3 rr	0aaa aaaa	Assign Group Number	(0 – 127) NON, 1 – 127
41 m4 rr	0aaa aaaa	Panpot	(0 – 127) RAMDOM, L63 – 63R
41 m5 rr	0aaa aaaa	Reverb Send Level	(0 – 127) 0.0 – 1.0
41 m6 rr	0aaa aaaa	Chorus Send Level	(0 – 127) 0.0 – 1.0
41 m7 rr	0000 000a	Rx. Note Off	(0 – 1) OFF, ON
41 m8 rr	0000 000a	Rx. Note On	(0 – 1) OFF, ON

m: Map number (0 = MAP1, 1 = MAP2)
rr: drum part note number (00H-7FH)

■Decimal and Hexadecimal Table (An "H" is appended to the end of numbers in hexadecimal notation.)

In MIDI documentation, data values and addresses/sizes of Exclusive messages, etc. are expressed as hexadecimal values for each 7 bits.
The following table shows how these correspond to decimal numbers.

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

D: decimal
H: hexadecimal

* Decimal values such as MIDI channel, bank select, and program change are listed as one greater than the values given in the above table.
* A 7-bit byte can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128+bb.
* In the case of values which have a +/- sign, 00H = -64, 40H = +/-0, and 7FH = +63, so that the decimal expression would be 64 less than the value given in the above chart. In the case of two types, 00 00H = -8192, 40 00H = +/-0, and 7F 7FH = +8191. For example, if aa bbH were expressed as decimal, this would be aa bbH - 40 00H = aa x 128+bb - 64 x 128.
* Data marked "Use nibbled data" is expressed in hexadecimal in 4-bit units. A value expressed as a 2-byte nibble 0a 0bH has the value of a x 16+b.

<Example1> What is the decimal expression of 5AH?

From the preceding table, 5AH = 90

<Example2> What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits?

From the preceding table, since 12H = 18 and 34H = 52
18 x 128+52 = 2356

<Example3> What is the decimal expression of the nibbled value 0A 03 09 0D?

From the preceding table, since 0AH = 10, 03H = 3, 09H = 9, 0DH = 13
((10 x 16+3) x 16+9) x 16+13 = 41885

<Example4> What is the nibbled expression of the decimal value 1258?

```
16 ) 1258
16 )   78 ...10
16 )    4 ...14
        0 ... 4
```

Since from the preceding table, 0 = 00H, 4 = 04H, 14 = 0EH, 10 = 0AH, the result is: 00 04 0E 0AH.

■Examples of Actual MIDI Messages

<Example1> 92 3E 5F

9n is the Note-on status, and n is the MIDI channel number. Since 2H = 2, 3EH = 62, and 5FH = 95, this is a Note-on message with MIDI CH = 3, note number 62 (note name is D4), and velocity 95.

<Example2> CE 49

CnH is the Program Change status, and n is the MIDI channel number. Since EH = 14 and 49H = 73, this is a Program Change message with MIDI CH = 15, program number 74.

<Example3> EA 00 28

EnH is the Pitch Bend Change status, and n is the MIDI channel number. The 2nd byte (00H = 0) is the LSB and the 3rd byte (28H = 40) is the MSB, but Pitch Bend Value is a signed number in which 40 00H (= 64 x 12+80 = 8192) is 0, so this Pitch Bend Value is
28 00H - 40 00H = 40 x 12+80 - (64 x 12+80) = 5120 - 8192 = -3072
If the Pitch Bend Sensitivity is set to 2 semitones, -8192 (00 00H) will cause the pitch to change -200 cents, so in this case -200 x (-3072) ÷ (-8192) = -75 cents of Pitch Bend is being applied to MIDI channel 11.

<Example4> B3 64 00 65 00 06 0C 26 00 64 7F 65 7F

BnH is the Control Change status, and n is the MIDI channel number. For Control Changes, the 2nd byte is the control number, and the 3rd byte is the value. In a case in which two or more messages consecutive messages have the same status, MIDI has a provision called "running status" which allows the status byte of the second and following messages to be omitted. Thus, the above messages have the following meaning.

B3	64 00	MIDI ch.4, lower byte of RPN parameter number:	00H
(B3)	65 00	(MIDI ch.4) upper byte of RPN parameter number:	00H
(B3)	06 0C	(MIDI ch.4) upper byte of parameter value:	0CH
(B3)	26 00	(MIDI ch.4) lower byte of parameter value:	00H
(B3)	64 7F	(MIDI ch.4) lower byte of RPN parameter number:	7FH
(B3)	65 7F	(MIDI ch.4) upper byte of RPN parameter number:	7FH

In other words, the above messages specify a value of 0C 00H for RPN parameter number 00 00H on MIDI channel 4, and then set the RPN parameter number to 7F 7FH.

RPN parameter number 00 00H is Pitch Bend Sensitivity, and the MSB of the value indicates semitone units, so a value of 0CH = 12 sets the maximum pitch bend range to +/-12 semitones (1 octave). (On GS sound generators the LSB of Pitch Bend Sensitivity is ignored, but the LSB should be transmitted anyway (with a value of 0) so that operation will be correct on any device.)

Once the parameter number has been specified for RPN or NRPN, all Data Entry messages transmitted on that same channel will be valid, so after the desired value has been transmitted, it is a good idea to set the parameter number to 7F 7FH to prevent accidents. This is the reason for the (B3) 64 7F (B3) 65 7F at the end.

It is not desirable for performance data (such as Standard MIDI File data) to contain many events with running status as given in <Example 4>. This is because if playback is halted during the song and then rewound or fast-forwarded, the sequencer may not be able to transmit the correct status, and the sound generator will then misinterpret the data. Take care to give each event its own status.

It is also necessary that the RPN or NRPN parameter number setting and the value setting be done in the proper order. On some sequencers, events occurring in the same (or consecutive) clock may be transmitted in an order different than the order in which they were received. For this reason it is a good idea to slightly skew the time of each event (about 1 tick for TPQN = 96, and about 5 ticks for TPQN = 480).

* TPQN: Ticks Per Quarter Note

■Example of an Exclusive Message and Calculating a Checksum

Roland Exclusive messages (RQ1, DT1) are transmitted with a checksum at the end (before F7) to make sure that the message was correctly received. The value of the checksum is determined by the address and data (or size) of the transmitted Exclusive message.

●How to calculate the checksum (hexadecimal numbers are indicated by "H")

The checksum is a value derived by adding the address, size, and checksum itself and inverting the lower 7 bits.
Heresanexampleofhowthechecksumiscalculated.Wewillassumethatinthe Exclusivemessage wearetransmitting,theaddressisaabbccddHandthedataorsizeiseeffH.'

aa + bb + cc + dd + ee + ff = sum
sum ÷ 128 = quotient ... remainder
128 - remainder = checksum

<Example1> Setting CHORUS TYPE of PERFORMANCE COMMON to DELAY (DT1)

According to the "Parameter Address Map" (p. 77), the start address of Temporary Performance is 10 00 00 00H, the offset address of CHORUS at PERFORMANCE COMMON is 04 00H, and the address of CHORUS TYPE is 00 00H. Therefore the address of CHORUS TYPE of PERFORMANCE COMMON is;

```
   10 00 00 00H
         04 00H
+)       00 00H
   10 00 04 00H
```

DELAY has the value of 02H.
So the system exclusive message should be sent is;

F0	41	10	00 10	12	10 00 04 00	02	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status (2) ID (Roland) (3) Device ID (17)
(4) Model ID (Fantom) (5) Command ID (DT1) (6) End of Exclusive

Then calculate the checksum.

10H + 00H + 04H + 00H + 02H = 16 + 0 + 4 + 0 + 2 = 22 (sum)
22 (sum) ÷ 128 = 0 (quotient) ... 22 (remainder)
checksum = 128 - 22 (remainder) = 106 = 6AH

This means that F0 41 10 00 10 12 10 00 04 00 02 6A F7 is the message should be sent.

<Example2> Getting the data (RQ1) of Performance Part 3 in USER:03

According to the "Parameter Address Map" (p. 77), the start address of USER:03 is 20 02 00 00H, and the offset address of Performance Part 3 is 00 22 00H.
Therefore the start address of Performance Part 3 in USER:03 is;

```
   20 02 00 00H
+)    00 22 00H
   20 02 22 00H
```

As the size of Performance Part is 00 00 00 31H, the system exclusive message should be sent is;

F0	41	10	00 10	11	20 02 22 00	00 00 00 31	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status (2) ID (Roland) (3) Device ID (17)
(4) Model ID (Fantom) (5) Command ID (RQ1) (6) End of Exclusive

Then calculate the checksum.

20H + 02H + 22H + 00H + 00H + 00H + 00H + 31H = 32 + 2 + 34 + 0 + 0 + 0 + 0 + 49
= 117 (sum)
117 (sum) ÷ 128 = 0 (quotient) ... 117 (remainder)
checksum = 128 - 117 (remainder) = 11 = 0BH

This means that F0 41 10 00 10 11 20 02 22 00 00 00 00 31 0B F7 is the message should be sent.

<Example3> Getting Temporary Performance data (RQ1)

cf.) This operation is the same as Data Transfer function in Utility mode with "PERFORM" (Type parameter) and "TEMP: -PATCH" (Source parameter) options.

According to the "Parameter Address Map" (p. 77), the start address of Temporary Performance is assigned as following:

10 00 00 00H	Temporary Performance Common
:	
10 00 20 00H	Temporary Performance Part 1
:	
10 00 2F 00H	Temporary Performance Part 16
:	
10 00 60 00H	Temporary Performance Controller

As the data size of Performance Controller is 00 00 00 33H, summation of the size and the start address of Temporary Performance Controller will be;

```
   10 00 60 00H
+) 00 00 00 33H
   10 00 60 33H
```

And the size that have to be got should be;

```
   10 00 60 33H
-) 10 00 00 00H
   00 00 60 33H
```

Therefore the system exclusive message should be sent is;

F0	41	10	00 10	11	10 00 00 00	00 00 60 33	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status (2) ID (Roland) (3) Device ID (17)
(4) Model ID (Fantom) (5) Command ID (RQ1) (6) End of Exclusive

Calculating the checksum as shown in <Example 2>, we get a message of F0 41 10 6A 11 10 00 00 00 00 00 60 33 5D F7 to be transmitted.

<Example4> Getting data (RQ1) at once;

Temporary Performance data,
Temporary Patch data of whole part in Performance mode,
Temporary Rhythm data of whole part in Performance mode.

cf.) This operation is the same as Data Transfer function in Utility mode with "PERFORM" (Type parameter) and "TEMP: +PATCH" (Source parameter) options.

According to the "Parameter Address Map" (p. 77), the start address of the above all parameters is assigned as following:

10 00 00 00H	Temporary Performance
11 00 00 00H	Temporary Patch (Performance Mode Part 1)
11 10 00 00H	Temporary Rhythm (Performance Mode Part 1)
:	
14 60 00 00H	Temporary Patch (Performance Mode Part 16)
14 70 00 00H	Temporary Rhythm (Performance Mode Part 16)

The offset address of Rhythm is also assigned as follows:

00 00 00H	Rhythm Common
:	
00 10 00H	Rhythm Tone (Key # 21)
:	
01 3E 00H	Rhythm Tone (Key # 108)
:	
01 40 00H	Rhythm Controller

As the data size of Rhythm Controller is 00 00 00 1AH, summation of the size and the start address of Temporary Rhythm in Performance mode will be;

```
   14 70 00 00H
      01 40 00H
+) 00 00 00 1AH
   14 71 40 1AH
```

And the size that have to be got should be;

```
   14 71 40 1AH
-) 10 00 00 00H
   04 71 40 1AH
```

Therefore the system exclusive message should be sent is;

F0	41	10	00 10	11	10 00 00 00	04 71 40 1A	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive Status (2) ID (Roland) (3) Device ID (17)
(4) Model ID (Fantom) (5) Command ID (RQ1) (6) End of Exclusive

Calculating the checksum as shown in <Example 2>, we get a message of F0 41 10 00 10 11 10 00 00 00 04 71 40 1A 21 F7 to be transmitted.

■The Scale Tune Feature (address: 40 1x 40)

The scale Tune feature allows you to finely adjust the individual pitch of the notes from C through B. Though the settings are made while working with one octave, the fine adjustments will affect all octaves. By making the appropriate Scale Tune settings, you can obtain a complete variety of tuning methods other than equal temperament. As examples, three possible types of scale setting are explained below.

❍Equal Temperament

This method of tuning divides the octave into 12 equal parts. It is currently the most widely used form of tuning, especially in occidental music. On the Fantom, the default settings for the Scale Tune feature produce equal temperament.

❍Just Temperament (Tonic of C)

The principal triads resound much more beautifully than with equal temperament, but this benefit can only be obtained in one key. If transposed, the chords tend to become ambiguous. The example given involves settings for a key in which C is the keynote.

❍Arabian Scale

By altering the setting for Scale Tune, you can obtain a variety of other tunings suited for ethnic music. For example, the settings introduced below will set the unit to use the Arabian Scale.

Example Settings

Note name	Equal Temperament	Just Temperament (Key-tone C)	Arabian Scale
C	0	0	-6
C#	0	-8	+45
D	0	+4	-2
Eb	0	+16	-12
E	0	-14	-51
F	0	-2	-8
F#	0	-10	+43
G	0	+2	-4
G#	0	+14	+47
A	0	-16	0
Bb	0	+14	-10
B	0	-12	-49

The values in the table are given in cents. Convert these values to hexadecimal, and transmit them as Exclusive data.
For example, to set the tune (C-B) of the Part 1 Arabian Scale, send the following data:

F0 41 10 42 12 40 11 40 3A 6D 3E 34 0D 38 6B 3C 6F 40 36 0F 76 F7

■ASCII Code Table

Patch Name and Performance Name, etc., of MIDI data are described the ASCII code in the table below.

D	H	Char	D	H	Char	D	H	Char
32	20H	SP	64	40H	@	96	60H	`
33	21H	!	65	41H	A	97	61H	a
34	22H	"	66	42H	B	98	62H	b
35	23H	#	67	43H	C	99	63H	c
36	24H	$	68	44H	D	100	64H	d
37	25H	%	69	45H	E	101	65H	e
38	26H	&	70	46H	F	102	66H	f
39	27H	`	71	47H	G	103	67H	g
40	28H	(	72	48H	H	104	68H	h
41	29H	)	73	49H	I	105	69H	i
42	2AH	*	74	4AH	J	106	6AH	j
43	2BH	+	75	4BH	K	107	6BH	k
44	2CH	,	76	4CH	L	108	6CH	l
45	2DH	—	77	4DH	M	109	6DH	m
46	2EH	.	78	4EH	N	110	6EH	n
47	2FH	/	79	4FH	O	111	6FH	o
48	30H	0	80	50H	P	112	70H	p
49	31H	1	81	51H	Q	113	71H	q
50	32H	2	82	52H	R	114	72H	r
51	33H	3	83	53H	S	115	73H	s
52	34H	4	84	54H	T	116	74H	t
53	35H	5	85	55H	U	117	75H	u
54	36H	6	86	56H	V	118	76H	v
55	37H	7	87	57H	W	119	77H	w
56	38H	8	88	58H	X	120	78H	x
57	39H	9	89	59H	Y	121	79H	y
58	3AH	:	90	5AH	Z	122	7AH	z
59	3BH	;	91	5BH	[	123	7BH	{
60	3CH	<	92	5CH	\	124	7CH	|
61	3DH	=	93	5DH	]	125	7DH	}
62	3EH	>	94	5EH	^			
63	3FH	?	95	5FH	_			

D: decimal

H: hexadecimal

* "SP" is space.

<Bank Select and Program Change Correspondence Chart>

Patch

Group	Number	Bank Select		Program Number
		MSB	LSB	
USER	001–128	87	0	1–128
PR-A	001–128	87	71	1–128
PR-B	001–128	87	72	1–128
PR-C	001–128	87	73	1–128
PR-D	001–128	87	74	1–128
PR-E	001–128	87	75	1–128
GM(2)	001–256	121	0–	1–128
XP-A (SR-JV80-01)	001–128	89	0	1–128
	129–256	89	1	1–128
(SR-JV80-02)	001–128	89	2	1–128
	129–256	89	3	1–128
:	:	:	:	:
XP-B (SRX-01)	001–	93	0	1–
(SRX-02)	001–	93	1	1–
:	:	:	:	:
XP-C (SRX-01)	001–	93	0	1–
(SRX-02)	001–	93	1	1–
:	:	:	:	:

* *The XP groups vary depending on the Wave Expansion Board(s) you've installed. For information about an SRX series board, refer to the Owner's Manual that came with it.*

Rhythm Set

Group	Number	Bank Select		Program Number
		MSB	LSB	
USER	001–016	86	0	1–16
PRST	001–016	86	71	1–16
GM(2)	001–009	120	---	1–57
XP-A (SR-JV80-01)	001–128	88	0	1–128
	129–256	88	1	1–128
(SR-JV80-02)	001–128	88	2	1–128
	129–256	88	3	1–128
:	:	:	:	:
XP-B (SRX-01)	001–	92	0	1–
(SRX-02)	001–	92	1	1–
:	:	:	:	:
XP-C (SRX-01)	001–	92	0	1–
(SRX-02)	001–	92	1	1–
:	:	:	:	:

* *The XP groups vary depending on the Wave Expansion Board(s) you've installed. For information about an SRX series board, refer to the Owner's Manual that came with it.*

Multitimbre

Group	Number	Bank Select		Program Number
		MSB	LSB	
USER	01–16	85	0	1–16
PRST	01–16	85	64	1–16

* *To switch multitimbres, the external MIDI device's transmit channel needs to be matched up with the Multitimbre Control Channel of the Fantom. (Owner's Manual; p. 182)*

Performance

Group	Number	Bank Select		Program Number
		MSB	LSB	
USER	01–64	85	0	1–64
PRST	01–64	85	64	1–64

* *To switch multitimbres, the external MIDI device's transmit channel needs to be matched up with the Multitimbre Control Channel of the Fantom. (Owner's Manual; p. 182)*

(Sound Generator Section)
Model Fantom

MIDI Implementation Chart

Date : Jul. 31, 2001
Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1—16	1—16	
Channel	Changed	1—16	1—16	Memorized
Mode	Default	Mode 3	Mode 3	
	Messages	Mono, Poly	Mode 3, 4 (M = 1)	* 2
	Altered	**********		
Note Number :	True Voice	0—127 **********	0—127 0—127	
Velocity	Note On	O	O	
	Note Off	O	O	
After Touch	Key's	X	O *1	
	Channel's	O	O *1	
Pitch Bend		O	O *1	
Control Change	0, 32	O *1	O *1	Bank select
	1	O	O *1	Modulation
	2	O	O	Breath type
	4	O	O	Foot type
	5	O	O	Portamento time
	6, 38	O	O	Data entry
	7	O	O *1	Volume
	8	O	X	Balance
	10	O	O *1	Panpot
	11	O	O *1	Expression
	16	O	X	General purpose controller 1
	17	O	X	General purpose controller 2
	18	O	X	General purpose controller 3
	19	O	X	General purpose controller 4
	64	O	O *1	Hold 1
	65	O	O	Portamento
	66	O	O	Sostenuto
	67	O	O	Soft
	68	O	O	Legato foot switch
	69	O	O	Hold 2
	70	O	X	Sound variation
	71	O	O	Resonance
	72	O	O	Release time
	73	O	O	Attack time
	74	O	O	Cutoff
	75	O	O	Decay time
	76	O	O	Vibrato rate
	77	O	O	Vibrato depth
	78	O	O	Vibrato delay
	80	O	O (Tone 1 Level)	General purpose controller 5
	81	O	O (Tone 2 Level)	General purpose controller 6
	82	O	O (Tone 3 Level)	General purpose controller 7
	83	O	O (Tone 4 Level)	General purpose controller 8
	84	O	O	Portamento control
	91	O	O (Reverb)	General purpose effects 1
	92	O	X	Tremolo
	93	O	O (Chorus)	General purpose effects 3
	94	O	X	Celeste
	95	O	X	Phaser
	1—31, 64—95	O	O	CC1/2 (General purpose controller 1/2)
	1—31, 64—95	O	O	CC3/4 (General purpose controller 3/4)
	98, 99	X	X	NRPN LSB, MSB
	100, 101	O	O	RPN LSB, MSB
Program Change	: True Number	O *1 **********	O *1 0—127	Program No. 1—128
System Exclusive		O *3	O *1	
System Common	: Song Position	X	X	
	: Song Select	X	X	
	: Tune Request	X	X	
System Real Time	: Clock	X	X	
	: Commands	X	X	
Aux Messages	: All Sound Off	X	O	
	: Reset All Controllers	X	O	
	: Local On/Off	X	X	
	: All Notes Off	X	O (123—127)	
	: Active Sensing	O *1	O	
	: System Reset	X	X	
Notes		* 1 O X is selectable. * 2 Recognized as M=1 even if M›1. * 3 Transmits when Data Transfer is executed or RQ1 received.		

Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

O : Yes
X : No

(Sequencer Section) Date : Jul. 31, 2001

Model Fantom

MIDI Implementation Chart

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default	All channel	All channel	There is no specific basic channel.
	Changed	X	1—16	
Mode	Default	X	X	
	Messages	X	X	
	Altered	**********		
Note Number :	True Voice	0—127 **********	0—127 0—127	
Velocity	Note On	O	O	
	Note Off	O	O	
After Touch	Key's	O	O *1	
	Channel's	O	O *1	
Pitch Bend		O	O *1	
Control Change	0—119	O	O *1	
Program Change	: True Number	O **********	O *1 0—127	
System Exclusive		O	O *1	
System Common	: Quarter Frames	O *1	O *2	
	: Song Position	O *1	O *1	
	: Song Select	X	X	
	: Tune Request	O	O	
System Real Time	: Clock	O *1	O *1	
	: Commands	O *1	O *1	
Aux Messages	: All Sound Off	O	O	
	: Reset All Controllers	O	O	
	: Local On/Off	X *2	X	
	: All Notes Off	O *3	O (123—127) *3	
	: Active Sensing	O	O	
	: System Reset	X	X	
Notes		*1 O X is selectable. *2 Not stored/transmitted when received, but can be created and transmitted using Microscope. *3 Mode Messages (123—127) are recorded and transmitted, after all currently sounding notes are turned off. The All Note Message itself is not recorded or transmitted. However, it can be created in Microscope and transmitted.		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes

Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

MEMO

Roland Corporation

02780690 '02-3-A3-51N