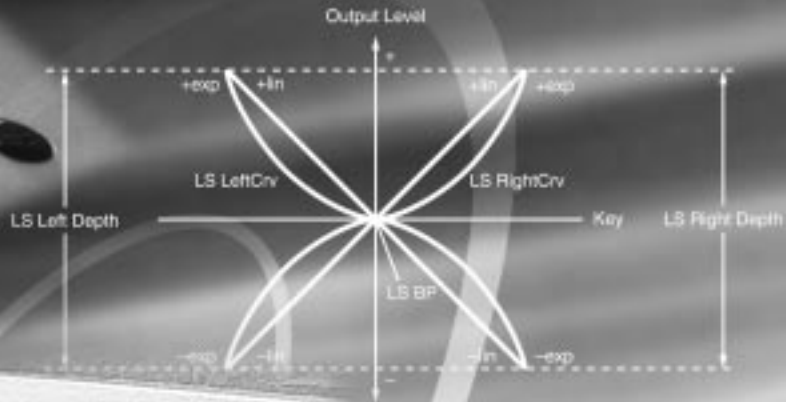
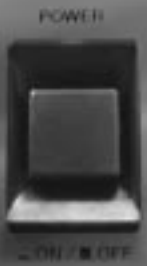


FSIR

TONE GENERATOR
FORMANT SHAPING/FM SYNTHESIS



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FSIR

TONE GENERATOR

FORMANT SHAPING/FM SYNTHESIS

DATA LIST

DATEN-LISTE

LISTE DE DONNÉES

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Performance List

Liste der Performances

Liste des performances

Internal

| No. | Performance Name | Category | No. | Performance Name | Category |
|-----|------------------|----------|-----|------------------|----------|
| 1 | Teck Hook | Ld | 65 | Fifths | Sc |
| 2 | Yes No | Se | 66 | Sweepers | Ld |
| 3 | Choir | Vo | 67 | Miracle | Fx |
| 4 | EP Wide | Pf | 68 | Platipus | Ld |
| 5 | Bleep | Co | 69 | Backin Organ | Or |
| 6 | B-Rave | Ba | 70 | LoFi Acid | Ba |
| 7 | Earth Lead | Ld | 71 | Zap ! | Se |
| 8 | Ensemble | St | 72 | JMichel | St |
| 9 | Full B3 | Or | 73 | Stab | Br |
| 10 | Nebulous | Pd | 74 | Legend Vibe | Cp |
| 11 | VocoTouch | Vo | 75 | Vox Move | Vo |
| 12 | Bassline 1 | Ba | 76 | Digital | Ba |
| 13 | Nu Suitcase | Pf | 77 | Siam Prayer | Et |
| 14 | StabbaBabb | Br | 78 | Mysterians | Fx |
| 15 | Dark | Se | 79 | Venus | Co |
| 16 | Dog Bytes | Sq | 80 | Drum Kit 2 | Dr |
| 17 | FundaBass | Ba | 81 | Lead Horn | Br |
| 18 | Magic Laugh | Se | 82 | Mouth Pop | Co |
| 19 | Breathy 5th | Vo | 83 | Hard String | Gt |
| 20 | Velvet Dyno | Pf | 84 | Baroque | Ld |
| 21 | Syncorgano | Ld | 85 | Swarm | Co |
| 22 | Acid King | Ba | 86 | Mitosis | Ld |
| 23 | Taxi Brass | Br | 87 | Moving | Fx |
| 24 | Moby II | Pd | 88 | Wind Pad | Pd |
| 25 | Nightmare | Fx | 89 | DistFeedback | Gt |
| 26 | Zansyo | Sc | 90 | EP Soft | Pf |
| 27 | Homy | Vo | 91 | Shooby Do | Vo |
| 28 | Optical | Ba | 92 | Furry Bell | Fx |
| 29 | Digi Clav | Pf | 93 | Spiral | Se |
| 30 | Relaxxx | Co | 94 | ChurchOrgan | Or |
| 31 | B3 Jazz Comp | Or | 95 | Accordion | Or |
| 32 | TekkSet | Dr | 96 | Drum Kit 3 | Dr |
| 33 | Strobe | Ba | 97 | CP Hard | Pf |
| 34 | HyperFuzz | Ba | 98 | Warm Galaxy | Pd |
| 35 | Sho | Fx | 99 | Superrarp | Sq |
| 36 | Kalimba | Et | 100 | Fetish | Ld |
| 37 | DX-Soft | Br | 101 | B3 Perc 3rd | Or |
| 38 | Technical | Ba | 102 | Funky Tech | Sc |
| 39 | Obie Strings | St | 103 | Fat Line | Sq |
| 40 | Caravan | Fx | 104 | Can You Give | Vo |
| 41 | Brassetra | Br | 105 | Snow Pixy | Sc |
| 42 | Snow Decay | Sc | 106 | Earth Wind | Pd |
| 43 | Bots | Fx | 107 | Prophet F | Fx |
| 44 | Plastic Bass | Ba | 108 | Obi Hornz | Br |
| 45 | Full Tines | Pf | 109 | Tremolo | Pf |
| 46 | Pompeii | Pd | 110 | Open | Se |
| 47 | To Warp | Se | 111 | Elise | Pd |
| 48 | BoomTchak | Dr | 112 | Drum Kit 9o9 | Dr |
| 49 | Compu Saw | Ba | 113 | Matze | Ba |
| 50 | Dirt Vocoder | Vo | 114 | Strat 7II | Gt |
| 51 | Lightyears | Vo | 115 | Morph | Fx |
| 52 | Nu Skool | Ld | 116 | Hollow | Ld |
| 53 | EtherGuitar | Gt | 117 | Heimdal | Pd |
| 54 | Bassline 2 | Ba | 118 | Zapper | Sc |
| 55 | Blazin' Jim | Or | 119 | LS Night | Or |
| 56 | Shaman | Vo | 120 | Spacious | St |
| 57 | Emperor II | Pd | 121 | Perc Arp | Sq |
| 58 | Da Comp | Sc | 122 | Spellbound | Sc |
| 59 | Starship | Pd | 123 | Trance Cosmo | Ld |
| 60 | Jungle Bass | Ba | 124 | Moon Bass | Ba |
| 61 | Vulcan | Sc | 125 | Manhattan | Sc |
| 62 | Sand Voice | Vo | 126 | Angel Bells | Pd |
| 63 | Hollywood | Co | 127 | Far West | Cp |
| 64 | Drum Kit 1 | Dr | 128 | Spacy Aaah | Vo |

Preset A

| No. | Performance Name | Category | No. | Performance Name | Category |
|-----|------------------|----------|-----|------------------|----------|
| 1 | Zap ! | Se | 65 | Pure | Fx |
| 2 | Shaman | Vo | 66 | Furry Bell | Fx |
| 3 | Nightmare | Fx | 67 | Replicant | Fx |
| 4 | Acid King | Ba | 68 | Miracle | Fx |
| 5 | Snow Decay | Sc | 69 | Swarm | Co |
| 6 | Hollywood | Co | 70 | Venus | Co |
| 7 | Yes No | Se | 71 | Relaxxx | Co |
| 8 | Fetish | Ld | 72 | Mouth Pop | Co |
| 9 | Platipus | Ld | 73 | R.P.M. | Co |
| 10 | Bots | Fx | 74 | Solstice | Co |
| 11 | Sho | Fx | 75 | Bleep | Co |
| 12 | Technical | Ba | 76 | Starship | Pd |
| 13 | Dirt Vocoder | Vo | 77 | SuperPad | Pd |
| 14 | Homy | Vo | 78 | Moby II | Pd |
| 15 | BeatBox | Dr | 79 | Spacy Pad | Pd |
| 16 | Magic Laugh | Se | 80 | Pompeii | Pd |
| 17 | VocoTouch | Vo | 81 | The Shadow | Pd |
| 18 | The Seeker | Vo | 82 | Earth Wind | Pd |
| 19 | Can You Give | Vo | 83 | Nebulous | Pd |
| 20 | Vox Morph | Vo | 84 | CineSweep | Pd |
| 21 | Vox Phase | Vo | 85 | Qwerty | Pd |
| 22 | F-Sweep | Vo | 86 | Warm Galaxy | Pd |
| 23 | The Vocoder | Vo | 87 | Octavian | Pd |
| 24 | Sand Voice | Vo | 88 | Fat Line | Sq |
| 25 | Everybody | Vo | 89 | Metallic | Sq |
| 26 | HyperFuzz | Ba | 90 | Superrarp | Sq |
| 27 | Dist Mini | Ba | 91 | Noble Metal | Sq |
| 28 | Strobe | Ba | 92 | Perc Arp | Sq |
| 29 | Digital | Ba | 93 | Dog Bytes | Sq |
| 30 | Power Key | Ba | 94 | Iron Man | Sq |
| 31 | Moon Bass | Ba | 95 | Hard Pulse | Sq |
| 32 | LoFi Acid | Ba | 96 | Zansyo | Sc |
| 33 | Funk Bass | Ba | 97 | Da Comp | Sc |
| 34 | Matze | Ba | 98 | Snow Pixy | Sc |
| 35 | Glass Harp | Ld | 99 | Fusion | Sc |
| 36 | Sweepers | Ld | 100 | Funk | Sc |
| 37 | Nu Skool | Ld | 101 | Manhattan | Sc |
| 38 | Syncorgano | Ld | 102 | Fifths | Sc |
| 39 | Mitosis | Ld | 103 | Vulcan | Sc |
| 40 | Trance Cosmo | Ld | 104 | Fluffy | Sc |
| 41 | Glider | Ld | 105 | Spellbound | Sc |
| 42 | Night | Se | 106 | VeloSweep | Sc |
| 43 | To Warp | Se | 107 | Raymond | Sc |
| 44 | Space Bomb | Se | 108 | Zapper | Sc |
| 45 | Open | Se | 109 | Harry | Sc |
| 46 | Dark | Se | 110 | Fast&Cheap | Sc |
| 47 | Walking Robo | Se | 111 | Funky Tech | Sc |
| 48 | Scaling | Se | 112 | Pluck Glass | Sc |
| 49 | Ghost | Se | 113 | Komodo | Sc |
| 50 | Saucer | Se | 114 | Suikinkutsu | Et |
| 51 | Force Field | Se | 115 | Gamelan | Et |
| 52 | Radio MW | Se | 116 | Thai Boxing | Et |
| 53 | 4-3-2-1 | Se | 117 | Siam Prayer | Et |
| 54 | Slow Attack | Se | 118 | EthnicPercs | Et |
| 55 | Spiral | Se | 119 | Mukkuri | Et |
| 56 | Morph | Fx | 120 | Kalimba | Et |
| 57 | Moving | Fx | 121 | Drum Kit 1 | Dr |
| 58 | Prophet F | Fx | 122 | Drum Kit 2 | Dr |
| 59 | Caravan | Fx | 123 | Drum Kit 3 | Dr |
| 60 | FormantSweep | Fx | 124 | Drum Kit 9o9 | Dr |
| 61 | Mysterians | Fx | 125 | TechBeat | Dr |
| 62 | DippeDut | Fx | 126 | BoomTchak | Dr |
| 63 | Glacial | Fx | 127 | TechKicks | Dr |
| 64 | Mizu Guitar | Fx | 128 | TekkSet | Dr |

Preset B

| No. | Performance Name | Category | No. | Performance Name | Category |
|-----|------------------|----------|-----|------------------|----------|
| 1 | Sweepy Voice | Vo | 65 | Perc Organ | Or |
| 2 | Breathy 5th | Vo | 66 | Dirty Organ | Or |
| 3 | Lightyears | Vo | 67 | ByonOrgan | Or |
| 4 | Vox Move | Vo | 68 | Blazin' Jim | Or |
| 5 | Vox Tron | Vo | 69 | Backin Organ | Or |
| 6 | Spacy Aaah | Vo | 70 | LS Night | Or |
| 7 | Celebration | Vo | 71 | Fat organ | Or |
| 8 | Choir | Vo | 72 | 70s Organ | Or |
| 9 | Human Woo | Vo | 73 | Jazz Organ | Or |
| 10 | Human lh | Vo | 74 | Full Organ | Or |
| 11 | Human Eh | Vo | 75 | The Lounge | Or |
| 12 | Human Oh | Vo | 76 | ChurchOrgan | Or |
| 13 | Shooby Do | Vo | 77 | Hard String | Gt |
| 14 | Full Tines | Pf | 78 | DX Jazz | Gt |
| 15 | DX Original | Pf | 79 | EtherGuitar | Gt |
| 16 | Dyno Rose | Pf | 80 | DistFeedback | Gt |
| 17 | EP 1980 | Pf | 81 | Strat 7II | Gt |
| 18 | Crystal Rose | Pf | 82 | Taxi Brass | Br |
| 19 | DX Phase | Pf | 83 | BrightFilter | Br |
| 20 | DX Classic | Pf | 84 | Lead Horn | Br |
| 21 | EP Reece | Pf | 85 | Bright | Br |
| 22 | Nu Suitcase | Pf | 86 | DX-Soft | Br |
| 23 | EP Wide | Pf | 87 | Brassetra | Br |
| 24 | Velvet Dyno | Pf | 88 | Oberhorn | Br |
| 25 | Tremolo | Pf | 89 | Obi Brass | Br |
| 26 | EP Soft | Pf | 90 | Obi Hornz | Br |
| 27 | Wurli Dirty | Pf | 91 | Swell | Br |
| 28 | Wurli Clean | Pf | 92 | Stab | Br |
| 29 | CP Hard | Pf | 93 | Quackz | Br |
| 30 | UprightPiano | Pf | 94 | StabbaBabb | Br |
| 31 | Clavmann | Pf | 95 | Fanfare | Br |
| 32 | BryteClavman | Pf | 96 | Wind Pad | Pd |
| 33 | Fat Clavmann | Pf | 97 | Dark Pad | Pd |
| 34 | Digi Clav | Pf | 98 | Thermal | Pd |
| 35 | Thin Clav | Pf | 99 | Spacewind | Pd |
| 36 | Optical | Ba | 100 | Elise | Pd |
| 37 | FundaBass | Ba | 101 | OB Pad | Pd |
| 38 | B-Rave | Ba | 102 | Reflection | Pd |
| 39 | Square Bass | Ba | 103 | Emperor II | Pd |
| 40 | Ethno Bass | Ba | 104 | Fat Pad | Pd |
| 41 | Bassline 1 | Ba | 105 | Polar | Pd |
| 42 | Bassline 2 | Ba | 106 | Sky Bells | Pd |
| 43 | JungleBass | Ba | 107 | Heimdal | Pd |
| 44 | Plastic Bass | Ba | 108 | Ice Score | Pd |
| 45 | Punch Bass | Ba | 109 | Solair | Pd |
| 46 | Compu Saw | Ba | 110 | Angel Bells | Pd |
| 47 | Dry Syn | Ba | 111 | Vesuvius | Pd |
| 48 | Earth Lead | Ld | 112 | Space Harp | Pd |
| 49 | Hollow | Ld | 113 | Ministry | Pd |
| 50 | Samplon | Ld | 114 | Ensemble | St |
| 51 | Noodles | Ld | 115 | Obie Strings | St |
| 52 | BigAssSynth | Ld | 116 | JMichel | St |
| 53 | Teck Hook | Ld | 117 | Mild | St |
| 54 | Sunhead | Ld | 118 | Spacious | St |
| 55 | Moonweed | Ld | 119 | Oktavstrgs | St |
| 56 | Tech Lead | Ld | 120 | Hit | En |
| 57 | Retronic | Ld | 121 | Accordion | Or |
| 58 | Formo Whistl | Ld | 122 | Sitar | Et |
| 59 | Baroque | Ld | 123 | Bag Pipe | Et |
| 60 | Full B3 | Or | 124 | Alloy | Cp |
| 61 | B3 Jazz Comp | Or | 125 | Tubular | Cp |
| 62 | B3 Perc 3rd | Or | 126 | Far West | Cp |
| 63 | J.Road | Or | 127 | Small Bell | Cp |
| 64 | Disto-Jam | Or | 128 | Legend Vibe | Cp |

Preset C

| No. | Performance Name | Category | No. | Performance Name | Category |
|-----|------------------|----------|-----|------------------|----------|
| 1 | UprightPiano | Pf | 65 | FM Lead Sax | Rd |
| 2 | FM Piano | Pf | 66 | FM Dbl Reed | Rd |
| 3 | EP Wide | Pf | 67 | Dark Clar | Rd |
| 4 | CP Hard | Pf | 68 | Moonweed | Ld |
| 5 | Velvet Dyno | Pf | 69 | Hollow | Ld |
| 6 | Clear EP | Pf | 70 | Tech Lead | Ld |
| 7 | DX Harpscd | Pf | 71 | Retronic | Ld |
| 8 | Digi Clav | Pf | 72 | HyperFuzz | Ba |
| 9 | 5th Piano | Pf | 73 | FM Piccolo | Pi |
| 10 | Glocken | Cp | 74 | FM Flute | Pi |
| 11 | MusicBox | Cp | 75 | RecoBell | Pi |
| 12 | Legend Vibe | Cp | 76 | FM PanFlute | Pi |
| 13 | Marimba | Cp | 77 | FM Bottle | Pi |
| 14 | Xylophon | Cp | 78 | Heavy Pipe | Pi |
| 15 | TubulBel | Cp | 79 | Whistle | Pi |
| 16 | Dulcimer | Cp | 80 | Ocarina | Pi |
| 17 | B3 Perc 3rd | Or | 81 | Earth Lead | Ld |
| 18 | B3 Jazz Comp | Or | 82 | Platipus | Ld |
| 19 | Old Rotary | Or | 83 | FM Lead | Ld |
| 20 | Full Organ | Or | 84 | FM Lead 2 | Ld |
| 21 | Dist Organ | Or | 85 | FM Lead 3 | Ld |
| 22 | Accordion | Or | 86 | FM Lead 4 | Ld |
| 23 | Chorus Harp | Or | 87 | Sunhead | Ld |
| 24 | ChurchOrgan | Or | 88 | Teck Hook | Ld |
| 25 | Nylon Guitar | Gt | 89 | Space Harp | Pd |
| 26 | Steel Guitar | Gt | 90 | Fat Pad | Pd |
| 27 | Jazz Guitar | Gt | 91 | Thermal | Pd |
| 28 | Clean Guitar | Gt | 92 | Nebulous | Pd |
| 29 | Mute Guitar | Gt | 93 | Qwerty | Pd |
| 30 | DistFeedback | Gt | 94 | FM Pad | Pd |
| 31 | Dist Guitar | Gt | 95 | Spacy Pad | Pd |
| 32 | Punch Bass | Ba | 96 | Spacewind | Pd |
| 33 | Aco Bass | Ba | 97 | Rain | Sc |
| 34 | Plastic Bass | Ba | 98 | Fifths | Sc |
| 35 | FM Slap | Ba | 99 | Crystal | Sc |
| 36 | Fretless | Ba | 100 | Atmospher | Sc |
| 37 | Pick Bass | Ba | 101 | Bright Ens | Pd |
| 38 | FM Slap 2 | Ba | 102 | Goblins | Sc |
| 39 | Bassline 1 | Ba | 103 | Harry | Sc |
| 40 | Compu Saw | Ba | 104 | Sci-Fi | Sc |
| 41 | Strobe | Ba | 105 | Sitar 2 | Et |
| 42 | Acid King | Ba | 106 | Suikinkutsu | Et |
| 43 | Power Key | Ba | 107 | Mukkuri | Et |
| 44 | 5th Funk | Ba | 108 | Kalimba | Et |
| 45 | DX Solo Str | St | 109 | Kalimba 2 | Et |
| 46 | Tremolo Str | St | 110 | Bag Pipe | Et |
| 47 | FM Pizz | St | 111 | Fiddle | Et |
| 48 | FM Harp | St | 112 | Shanai | Et |
| 49 | Spacious | St | 113 | TnklBell | Pc |
| 50 | FM Strings | En | 114 | Agogo | Pc |
| 51 | JMichel | St | 115 | SteelDrm | Pc |
| 52 | Ensemble | St | 116 | WoodBlok | Pc |
| 53 | Vox Morph | Vo | 117 | TaikoDrm | Pc |
| 54 | Vox Move | Vo | 118 | Hollywood | Co |
| 55 | Vox Phase | Vo | 119 | Bleep | Co |
| 56 | Hit | En | 120 | 4-3-2-1 | Se |
| 57 | FM Solo Tp | Br | 121 | DippeDut | Fx |
| 58 | Fanfare | Br | 122 | Glacial | Fx |
| 59 | DX-Soft | Br | 123 | Ice | Fx |
| 60 | Lead Horn | Br | 124 | Angle | Fx |
| 61 | Fr.Horn | Br | 125 | Shooby Do | Vo |
| 62 | FM Section | Br | 126 | Everybody | Vo |
| 63 | Bright | Br | 127 | Vox Move 2 | Vo |
| 64 | StabbaBabb | Br | 128 | Drum Kit 2 | Dr |

Voice List / Liste der Voices / Liste des voix

Program 1 ~ 64

| Bank | Pre A | | Pre B | | Pre C | | Pre D | | Pre E | | Pre F | | Pre G | |
|------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|-------|------------|
| PGM# | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name |
| 1 | Pf | Ballad EP | Et | BagPipe | Pf | FortePno 1 | Pf | Harpsi 8 | Cp | Dumbells | Gt | DX-AcstGt1 | Ba | BassNovo |
| 2 | Pf | Clavmann | Et | BagPipe-dl | Pf | FortePno 2 | Pf | Harpsi 9 | Cp | MellowBell | Gt | DX-AcstGt2 | Ba | BassResWp |
| 3 | Pf | Clavmann 2 | Et | Gamelan | Pf | MM-Piano 1 | Pf | HarpsiWire | Cp | Mini Bell | Gt | DX-AcstGt3 | Ba | Cutmandu |
| 4 | Pf | Digi Clav | Et | Gamelan2 | Pf | MM-Piano 2 | Pf | AD 1600s 1 | Cp | Child Bell | Gt | DX-AcstGt4 | Ba | DX-Bass 1 |
| 5 | Pf | DX7Classic | Et | Mukkuri | Pf | Pianotone1 | Pf | AD 1600s 2 | Cp | PPP Thing | Gt | DX-AcstGt5 | Ba | DX-Bass 2 |
| 6 | Pf | Mtrial Pno | Et | SuikinStr | Pf | Pianotone2 | Pf | AD 1900s | Cp | Stonemetal | Gt | GuitarBell | Ba | DX-Bass 3 |
| 7 | Pf | MtrialPno2 | Et | Thai Boxin | Pf | Pianotone3 | Pf | Caffeine | Cp | Syn Chime | Gt | LuteGuitar | Ba | DX-Bass 4 |
| 8 | Pf | MtrialPno3 | Et | ThumKalimb | Pf | 5thPiano 1 | Pf | RazorWire | Cp | Air Bell | Gt | DX-PickGt1 | Ba | DX-Bass 5 |
| 9 | Pf | Real Rose | Pc | Big-Gamlan | Pf | 5thPiano 2 | Pf | Cembalim | Cp | WrapRound | Gt | DX-PickGt2 | Ba | DX-Bass 6 |
| 10 | Pf | Rose Att | Pc | Eth-Drum1 | Pf | PrprdPiano | Pf | Cembalo | Cp | TempleBel1 | Gt | DX-PickGt3 | Ba | WireBass 1 |
| 11 | Pf | Rose Sft1 | Pc | Eth-Drum2 | Pf | Claviano | Pf | ElecHarpsi | Cp | TempleBel2 | Gt | DX-PickGt4 | Ba | WireBass 2 |
| 12 | Pf | Rose Sft2 | Se | Beep VoX | Pf | BrightPno1 | Pf | Syn Harpsi | Cp | TempleBel3 | Gt | DX-PickGt5 | Ba | HardDXBass |
| 13 | Pf | Suit Rose | Se | Dark | Pf | BrightPno2 | Pf | DX-Clavi 1 | Cp | TempleBel4 | Gt | DX-PickGt6 | Ba | SmakaBass |
| 14 | Pf | Velvt Rose | Se | ForceField | Pf | BrightPno3 | Pf | DX-Clavi 2 | Cp | TempleBel5 | Gt | DX-PickGt7 | Ba | AnaBass 1 |
| 15 | Pf | 4 Op Clav | Se | Ghost | Pf | Dark Piano | Pf | DX-Clavi 3 | Cp | DX-Dlcm 1 | Gt | DX-PickGt8 | Ba | AnaBass 2 |
| 16 | Cp | Da Comp | Se | Ghost2 | Pf | Digi Piano | Pf | DX-Clavi 4 | Cp | DX-Dlcm 2 | Gt | Synhalon | Ba | AnaBass 3 |
| 17 | Cp | Synth Bell | Se | Magic | Pf | PianoDrops | Pf | DX-Clavi 5 | Cp | DX-Dlcm 3 | Gt | Picksynth | Ba | 81Z Bass |
| 18 | Cp | Tabla | Se | Night | Pf | PowerPiano | Pf | DX-Clavi 6 | Cp | Frozetime | Gt | Compitar | Ba | DiscBass 1 |
| 19 | Or | B3JazzComp | Se | Open Fseq | Pf | CP70 1 | Pf | DX-Clavi 7 | Cp | MetalDlcmr | Gt | Stratish | Ba | DiscBass 2 |
| 20 | Or | B3Perc3rd | Se | RadioNoise | Pf | CP70 2 | Pf | MM-Clavi 1 | Cp | Silk Road | Gt | Banjitar | Ba | Hop Bass 1 |
| 21 | Or | DrawOrgn | Se | Reso SE | Pf | CP70 3 | Pf | MM-Clavi 2 | Or | Full Organ | Gt | Touch Mute | Ba | Hop Bass 2 |
| 22 | Or | DrawOrgn2 | Se | Saucer | Pf | EI.Grand 1 | Pf | MM-Clavi 3 | Or | DrawOrgan1 | Gt | Firenze | Ba | After 88 |
| 23 | Or | DrawOrgn3 | Se | Scaling SE | Pf | EI.Grand 2 | Pf | BrightClv1 | Or | DrawOrgan2 | Gt | Folknik | Ba | Cable Bass |
| 24 | Or | Fs-Organ | Se | Slow Atk | Pf | EI.Grand 3 | Pf | BrightClv2 | Or | DrawOrgan3 | Gt | FunkyPluck | Ba | Wood Rez |
| 25 | Or | Full Drawb | Se | SpaceBomb | Pf | EI.Grand 4 | Pf | BasoClavi | Or | DrawOrgan4 | Gt | Guitar Box | Ba | EazyAction |
| 26 | Or | Ham Organ | Se | WalkinRobo | Pf | MM-EIGnd 1 | Pf | ChorusClav | Or | DrawOrgan5 | Gt | Long Nail | Ba | ExciteBass |
| 27 | Or | OR-Right | Se | Warp1 | Pf | MM-EIGnd 2 | Pf | Clavecin | Or | DrawOrgan6 | Gt | Pianatar | Ba | PrkussBass |
| 28 | Or | Organ Fseq | Se | Warp2 | Pf | E.Piano 1 | Pf | Clavi Comp | Or | DrawOrgan7 | Gt | RhythmPluk | Ba | Flapstick |
| 29 | Or | The Lounge | Dr | 09 OpenHat | Pf | E.Piano 2 | Pf | ClaviExcel | Or | DrawOrgan8 | Gt | SteelyPick | Ba | Jackson |
| 30 | Gt | Jazz Gtr | Dr | 09ClHatBel | Pf | E.Piano 3 | Pf | ClaviPluck | Or | DrawOrgan9 | Gt | TiteGuitar | Ba | NipponBass |
| 31 | Gt | Stratmann | Dr | Beat BD | Pf | E.Piano 4 | Pf | ClaviStaff | Or | DrawOrgn10 | Gt | DX-JazzGt1 | Ba | Bass Knock |
| 32 | Ba | Acid King | Dr | Beat Cym | Pf | E.Piano 5 | Pf | Mute Clavi | Or | DrawOrgn11 | Gt | DX-JazzGt2 | Ba | Ana Stevie |
| 33 | Ba | Ana Bass | Dr | Beat SD | Pf | E.Piano 6 | Pf | Revinett | Or | DrawOrgn12 | Gt | DX-JazzGt3 | Ba | Munkhen |
| 34 | Ba | AttackBass | Dr | Beat Zap | Pf | E.Piano 7 | Pf | SkeltonClv | Or | DrawOrgn13 | Gt | DX-JazzGt4 | Ba | Perc Bass |
| 35 | Ba | B-Rave | Dr | Boom | Pf | E.Piano 8 | Cp | Celesta 1 | Or | DrawOrgn14 | Gt | DX-JazzGt5 | Ba | Remark |
| 36 | Ba | Bassline 1 | Dr | Choos | Pf | E.Piano 9 | Cp | Celesta 2 | Or | DrawOrgn15 | Gt | Guitorgan | Ba | SmoothBass |
| 37 | Ba | Bassline 2 | Dr | ClosedHat1 | Pf | E.Piano 10 | Cp | Celesta 3 | Or | DrawOrgn16 | Gt | DX-CIGt 1 | Ba | Ana Knock |
| 38 | Ba | BlegBass | Dr | ClosedHat2 | Pf | E.Piano 11 | Cp | Celesta 4 | Or | Organsynth | Gt | DX-CIGt 2 | Ba | Jaco Syn |
| 39 | Ba | DidgBass | Dr | DanceKick | Pf | E.Piano 12 | Cp | MM-Celesta | Or | ChorusOrgn | Gt | DX-CIGt 3 | Ba | Werksfunk |
| 40 | Ba | Dry Syn | Dr | FS-Kick1 | Pf | E.Piano 13 | Cp | Halloween | Or | RotaryOrgn | Gt | DX-CIGt 4 | Ba | ZedRubba |
| 41 | Ba | FM Bass | Dr | FS-Kick2 | Pf | E.Piano 14 | Cp | Glocken 1 | Or | CirkusOrgn | Gt | DX-CIGt 5 | St | DX-Violin1 |
| 42 | Ba | FundaBass | Dr | FS-Kick3 | Pf | E.Piano 15 | Cp | Glocken 2 | Or | JazzDrwbr | Gt | DX-CIGt 6 | St | DX-Violin2 |
| 43 | Ba | HyperFuzz | Dr | Hatty | Pf | E.Piano 16 | Cp | Glocken 3 | Or | Keyclick | Gt | DX-CIGt 7 | St | DX-Violin3 |
| 44 | Ba | JungleBass | Dr | Hihat | Pf | E.Piano 17 | Cp | Glocken 4 | Or | VibraOrgan | Gt | DX-CIGt 8 | St | DX-Violin4 |
| 45 | Ba | LoFiAcid | Dr | Nu Kick 1 | Pf | Aclectic | Cp | Glocken 5 | Or | Farf Out | Gt | DX-CIGt 9 | St | Violinz |
| 46 | Ba | Matze | Dr | Nu Kick 2 | Pf | DX-Road 1 | Cp | Glocken 6 | Or | Grinder | Gt | DX-CIGt 10 | St | DX-Viola 1 |
| 47 | Ba | Moon Bass | Dr | Nu Kick 3 | Pf | DX-Road 2 | Cp | HamerGlock | Or | JazzOrgan1 | Gt | DX-CIGt 11 | St | DX-Viola 2 |
| 48 | Ba | Phone Bass | Dr | Nu Snare 1 | Pf | DX-Road 3 | Cp | Magjlokk | Or | JazzOrgan2 | Gt | DX-CIGt 12 | St | DX-Viola 3 |
| 49 | Ba | PlastBass | Dr | Nu Snare 2 | Pf | DX-Road 4 | Cp | AnvilGlock | Or | PercOrgan1 | Gt | Buzzstring | St | DX-Cello 1 |
| 50 | Ba | PunchBass | Dr | Nu Snare 3 | Pf | DX-Road 5 | Cp | MetalGlock | Or | PercOrgan2 | Gt | DX-MuteGt1 | St | DX-Cello 2 |
| 51 | Ba | Syn Bass | Dr | Open Hat 1 | Pf | BrightEP 1 | Cp | Perc Glock | Or | PercOrgan3 | Gt | DX-MuteGt2 | St | DX-Cello 3 |
| 52 | Ba | Technical | Dr | Open Hat 2 | Pf | BrightEP 2 | Cp | Glokenring | Or | PercOrgan4 | Gt | DX-MuteGt3 | St | DX-Cello 4 |
| 53 | St | FairyStrgs | Dr | PowerKick | Pf | EP 1967 | Cp | SynGlock 1 | Or | PercOrgan5 | Gt | DX-MuteGt4 | St | Rosin |
| 54 | St | JMichel | Dr | Snare | Pf | EP 1970 | Cp | SynGlock 2 | Or | PercOrgan6 | Gt | Heavy Gage | St | DX-Str 1 |
| 55 | St | OB String | Dr | Tchak | Pf | EP 1980 | Cp | MusicBox 1 | Or | PercOrgan7 | Gt | DX-OvDrGt | St | DX-Str 2 |
| 56 | St | ResoStrgs | Dr | Tech BD | Pf | EP 1985 | Cp | MusicBox 2 | Or | PercOrgan8 | Gt | DX-DistGt1 | St | DX-Str 3 |
| 57 | St | Saws | Dr | Tech HH | Pf | Soft EP 1 | Cp | MusicBox 3 | Or | PercOrgan9 | Gt | DX-DistGt2 | St | DX-Str 4 |
| 58 | St | SloDu Saws | Dr | Tech Rim | Pf | Soft EP 2 | Cp | MusicBox 4 | Or | PercOrgn10 | Gt | DX-DistGt3 | St | DX-Str 5 |
| 59 | St | SS String | Dr | Tech SD | Pf | Soft EP 3 | Cp | MusicBox 5 | Or | PercOrgn11 | Gt | DX-DistGt4 | St | DX-Str 6 |
| 60 | St | SS String2 | Dr | TR Kick | Pf | Hard EP 1 | Cp | MusicBox 6 | Or | PercOrgn12 | Gt | DX-DistGt5 | St | DX-Str 7 |
| 61 | En | HitMtrial | Dr | TR Snare | Pf | Hard EP 2 | Cp | MusicBox 7 | Or | PercOrgn13 | Gt | Stortion1 | St | DX-Str 8 |
| 62 | Br | ANSweep | Sc | DigiSQ1R | Pf | Hard EP 3 | Cp | MusicBox 8 | Or | PercOrgn14 | Gt | Pluckoww | St | DX-Str 9 |
| 63 | Br | FS Brass | Sc | DigiSQ3 | Pf | Hard EP 4 | Cp | MusicBox 9 | Or | PercOrgn15 | Gt | Stortion2 | St | DX-Str 10 |
| 64 | Br | Hook | Sc | DogBytes | Pf | Clicky EP | Cp | MusicBox10 | Or | PercOrgn16 | Gt | FuzzGuitar | St | DX-Str 11 |

| Pre H | | Pre I | | Pre J | | Pre K | |
|-------|------------|-------|------------|-------|------------|-------|------------|
| Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name |
| Br | DX-Trpt 3 | Et | Ukabanjo | Co | Orch Chime | Fx | MM-Shock 1 |
| Br | DX-Trpt 4 | Et | Xango | Co | Pno+Flute | Fx | MM-Shock 2 |
| Br | DX-Trpt 5 | Et | Xanu | Co | StringTine | Fx | Wallop 1 |
| Br | DX-Trpt 6 | Et | Zimbalon | Co | Xylo+Brass | Fx | Wallop 2 |
| Br | SilverTrpt | Et | DX-Banjo | Ld | DX-SynLd 1 | Fx | Angel |
| Br | Solo Trpt | Et | Shamisen 1 | Ld | DX-SynLd 2 | Fx | BackSuir |
| Br | SynTrumpet | Et | Shamisen 2 | Ld | DX-SynLd 3 | Fx | Bird View |
| Br | Trumponica | Et | Shamisen 3 | Ld | DX-SynLd 4 | Fx | ChorusElms |
| Br | DX-Trb 1 | Et | DX-Koto | Ld | DX-SynLd 5 | Fx | DX-Stars |
| Br | DX-Trb 2 | Et | DX-Klmb 1 | Ld | DX-SynLd 6 | Fx | Electric |
| Br | DX-Trb 3 | Et | DX-Klmb 2 | Ld | DX-SynLd 7 | Fx | Evolution |
| Br | Mute Trb | Et | DX-Klmb 3 | Ld | DX-SynLd 8 | Fx | FM-Growth |
| Br | DX-Tuba 1 | Et | DX-Klmb 4 | Ld | DX-SynLd 9 | Fx | Paddawire |
| Br | DX-Tuba 2 | Et | DX-Klmb 5 | Ld | Pluck Lead | Fx | Fantasynt |
| Br | DX-Tuba 3 | Et | DX-Bagpipe | Ld | Perka Lead | Fx | Fluv Push |
| Br | DX-Horn | Et | DX-Fiddle | Ld | GuitsynLd | Fx | Fmilters |
| Br | Hornz | Et | African | Ld | DXSynLd 1 | Fx | Glassy |
| Br | Alps Horn | Et | Bali | Ld | DXSynLd 2 | Fx | Glastine |
| Br | BlunchHorn | Et | Tibetan | Ld | DXSynLd 3 | Fx | Glocker |
| Br | Horn Ens | Et | Charango | Ld | DXSynLd 4 | Fx | IceRevEcho |
| Br | MelowHorn1 | Et | Gamelan 1 | Ld | DXSynLd 5 | Fx | InitEnsmbL |
| Br | MelowHorn2 | Et | Gamelan 2 | Ld | DXSynLd 6 | Fx | MetalSweep |
| Br | SimpleHorn | Et | Gamelan 3 | Ld | DXSynLd 7 | Fx | SquareModd |
| Br | Syn Horns | Et | Kinzoku 1 | Ld | DXSynLd 8 | Fx | Mpndg Doom |
| Br | Vibra Horn | Et | Kinzoku 2 | Ld | SqueezeLd | Fx | Mystrian |
| Br | DX-Brass 1 | Et | ScotchTone | Ld | Mooganic | Fx | RepertRise |
| Br | DX-Brass 2 | Pc | DX-Agogo 1 | Ld | BrassLead1 | Fx | Space Trip |
| Br | Attack Brs | Pc | DX-Agogo 2 | Ld | BrassLead2 | Fx | Syn Rise |
| Br | Brasstring | Pc | DX-Bongo | Ld | BrassLead3 | Fx | Glider |
| Br | DX-BrsSec1 | Pc | Bongo | Ld | BrassLead4 | Sc | Anna DX |
| Br | DX-BrsSec2 | Pc | DX-Clave | Ld | Saw Lead | Sc | Analog-X |
| Br | MM-Brass 1 | Pc | DX-Perc | Ld | DX-SawLd 1 | Sc | DX-Atms 1 |
| Br | MM-Brass 2 | Pc | Block | Ld | DX-SawLd 2 | Sc | DX-Atms 2 |
| Br | MM-Brass 3 | Pc | Conga Drum | Ld | DX-Squar | Sc | DX-Bright1 |
| Br | 5th Brass | Pc | Cowbell | Ld | DX-VoiceLd | Sc | DX-Bright2 |
| Br | Blow Brass | Pc | Flexatone | Ld | DX-WahLead | Sc | 90 K |
| Br | Brass Sect | Pc | Glaeser | Ld | DXAttackLd | Sc | 200 K |
| Br | Chorus Brs | Pc | Log Drum | Ld | CaliopLd 1 | Sc | Arrow-X |
| Br | Fanfare | Pc | SmlShaker | Ld | CaliopLd 2 | Sc | Attacker |
| Br | Hard Brass | Pc | Metal | Ld | CaliopLd 3 | Sc | Harp Pad |
| Br | Sample Brs | Pc | Percud | Ld | Fifths 1 | Sc | ChiLight |
| Br | Single Brs | Pc | RefsrWhstl | Ld | Fifths 2 | Sc | Digi Calio |
| Br | ThickBrass | Pc | Seq Pluck | Ld | LdSubHarm | Sc | Digital |
| Br | TightBrs 1 | Pc | BigShaker | Ld | Buzzer | Sc | Distracted |
| Br | TightBrs 2 | Pc | Side Stick | Ld | Au Campo | Sc | FinerThing |
| Br | DX-SynBr 1 | Pc | Perkabell | Ld | Bass Lead | Sc | Fuji Stabs |
| Br | DX-SynBr 2 | Pc | Spoon | Ld | Comp Lead | Sc | TouchyEdgy |
| Br | DX-SynBr 3 | Pc | DX-StelCan | Ld | EadgbeLead | Sc | Metal Box |
| Br | DX-SynBr 4 | Pc | Steel Can | Ld | Flap Synth | Sc | MilkyWays |
| Br | DX-SynBr 5 | Pc | DX-StelDr1 | Ld | FretlessLd | Sc | New Elms |
| Br | DX-SynBr 6 | Pc | DX-StelDr2 | Ld | Giovanni | Sc | Pipebells |
| Br | DX-SynBr 7 | Pc | SteelDrum1 | Ld | HarmoSynth | Sc | Synsitar |
| Br | FilterHorn | Pc | SteelDrum2 | Ld | Lead Line | Sc | OctiLate |
| Br | SharpBrass | Pc | Steel Band | Ld | Lead Phone | Sc | NoBoKuto |
| Br | Synthorns | Pc | Jamaica | Ld | Lyle Lead | Sc | Syn Bright |
| Br | CS80-Brs 1 | Pc | Tambarin | Ld | PekingLead | Sc | Ting Voice |
| Br | CS80-Brs 2 | Pc | Triangle 1 | Ld | Puff Pipe | Sc | Bottlead |
| Br | Ana Poly | Pc | Triangle 2 | Ld | Reed Lead | Sc | WhapSynth |
| Br | AnaFatBrs | Pc | BellGliss1 | Ld | SingleLine | Se | DX-Fight |
| Br | AnalogBrs | Pc | BellGliss2 | Ld | Super DX | Se | Take Off |
| Br | Faze Brass | Pc | Twinkle | Ld | Sweep Lead | Se | DX-Helicpt |
| Br | Brassy | Pc | MetalBottl | Ld | Vibratoron | Se | Helicopter |
| Br | Court | Pc | NipponDrm1 | Ld | DX-Vocoder | Se | DX-Ship |
| Br | DX-FatBrs | Pc | NipponDrm2 | Ld | Winwood | Se | DX-Train |

Program 65 ~ 128

| Bank | Pre A | | Pre B | | Pre C | | Pre D | | Pre E | | Pre F | | Pre G | |
|-------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|--------------|-------------------|
| PGM# | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name |
| 65 | Br | ObiehornL | Sc | Fast&Cheap | Pf | Digitine | Cp | DX-Vibe 1 | Or | PercOrgn17 | Ba | DX-WoodBa1 | St | DX-Str 12 |
| 66 | Br | ObiehornR | Sc | Fmt-Pluck | Pf | Woody EP | Cp | DX-Vibe 2 | Or | XtraPerc | Ba | DX-WoodBa2 | St | DX-Str 13 |
| 67 | Br | Quackz | Sc | FunKey | Pf | Metaltime | Cp | DX-Vibe 3 | Or | Road Organ | Ba | DX-WoodBa3 | St | Quick Arco |
| 68 | Br | Stab | Sc | Funky Tech | Pf | Tinesquawk | Cp | DX-Vibe 4 | Or | Fluteorgan | Ba | DX-WoodBa4 | St | MidString1 |
| 69 | Br | Swell | Sc | Fusion | Pf | FullTine 1 | Cp | MM-Vibe 1 | Or | ClickNoise | Ba | DX-WoodBa5 | St | MidString2 |
| 70 | Pi | Kuchibue | Sc | Metallic | Pf | FullTine 2 | Cp | MM-Vibe 2 | Or | Novalis | Ba | DX-WoodBa6 | St | LowString1 |
| 71 | Ld | Dual Saws2 | Sc | NoiseDecay | Pf | Wurli EP | Cp | LFO Vibe | Or | TouchOrgan | Ba | DX-WoodBa7 | St | LowString2 |
| 72 | Ld | DualSquare | Sc | Raymond | Pf | Wurli Road | Cp | Vocal Vibe | Or | RockOrgan1 | Ba | DarkWodBa1 | St | MM-String |
| 73 | Ld | Earth Lead | Sc | SawSaw | Pf | Dark Wurli | Cp | Vibetron | Or | RockOrgan2 | Ba | DarkWodBa2 | St | DX-AnaSt 1 |
| 74 | Ld | Fetish | Sc | Snow Decay | Pf | Big Wurli | Cp | VibraPhone | Or | RockOrgan3 | Ba | BoogieBass | St | DX-AnaSt 2 |
| 75 | Ld | Glass Harp | Sc | Snow Pixy | Pf | Andrian | Cp | DX-Marimb1 | Or | RockOrgan4 | Ba | BassLegend | St | DX-AnaSt 3 |
| 76 | Ld | Glider | Sc | Spellbound | Pf | Blustig | Cp | DX-Marimb2 | Or | RockOrgan5 | Ba | DX-FngrBa1 | St | DX-SynSt 1 |
| 77 | Ld | Lead Saw | Sc | Syncorgano | Pf | Woodmetal | Cp | DX-Marimb3 | Or | RockOrgan6 | Ba | DX-FngrBa2 | St | DX-SynSt 2 |
| 78 | Ld | Mitosis | Sc | Thin Mini | Pf | CastePiano | Cp | DX-Marimb4 | Or | RockOrgan7 | Ba | DX-FngrBa3 | St | DX-SynSt 3 |
| 79 | Ld | Retronic | Sc | VeloSweep | Pf | Chorus EP | Cp | DX-Marimb5 | Or | RockOrgan8 | Ba | DX-FngrBa4 | St | DX-SynSt 4 |
| 80 | Ld | Score Pad | Sc | Vox Tron | Pf | BigJazzyEP | Cp | DX-Marimb6 | Or | RockOrgan9 | Ba | Fusit Bass | St | DX-SynSt 5 |
| 81 | Ld | Tech Lead | Sc | Zansyo | Pf | ClearEIPno | Cp | DX-Marimb7 | Or | RockOrgn10 | Ba | FingerPick | St | DX-SynSt 6 |
| 82 | Ld | Trance Csm | Sc | Zapper | Pf | NiteclubEP | Cp | TineMallet | Or | RockOrgn11 | Ba | HardFinger | St | DX-SynSt 7 |
| 83 | Ld | Voc Lead | Vo | Celebratn | Pf | CosaRosa | Cp | Thumbpick | Or | RockOrgn12 | Ba | Harm Bass | St | WarmStr 1 |
| 84 | Pd | Add Pad | Vo | Eh Human | Pf | DX-Ragtime | Cp | EchoMalet1 | Or | RockOrgn13 | Ba | Inorganic | St | WarmStr 2 |
| 85 | Pd | Beauty | Vo | FairyVoice | Pf | Digi Poly | Cp | EchoMalet2 | Or | RockOrgn14 | Ba | Nasty Bass | St | WarmStr 3 |
| 86 | Pd | Brasstra | Vo | FormSweep | Pf | Duke EP | Cp | EchoMalet3 | Or | RockOrgn15 | Ba | SkweekBass | St | WarmStr 4 |
| 87 | Pd | CineSweep | Vo | FS-Choir | Pf | DynoRoad | Cp | Congorimba | Or | Vox Organ | Ba | DX-PickBa1 | St | Afternoon |
| 88 | Pd | Fat Pad | Vo | FS-Sweep | Pf | Clavarpsi | Cp | Bamburimba | Or | SynOrgan 1 | Ba | DX-PickBa2 | St | Agitate |
| 89 | Pd | FormantPad | Vo | Homy | Pf | Wack EP | Cp | BrightMrb | Or | SynOrgan 2 | Ba | DX-PickBa3 | St | AnnaString |
| 90 | Pd | FormSweep1 | Vo | Human | Pf | HollowKeys | Cp | Guitarimba | Or | PlasticOrg | Ba | DX-PickBa4 | St | Bright Str |
| 91 | Pd | FormSweep2 | Vo | Ih Human | Pf | HonkyTonk1 | Cp | MellowMrb | Or | PipeOrgan1 | Ba | Bass Magic | St | General |
| 92 | Pd | FormSweep3 | Vo | Man_Eh | Pf | HonkyTonk2 | Cp | Metal Mrmb | Or | PipeOrgan2 | Ba | Chiff Bass | St | GentleMind |
| 93 | Pd | FormSweep4 | Vo | NoisyVce | Pf | PotlidKeyz | Cp | DX-Xylo 1 | Or | PipeOrgan3 | Ba | Comped EB | St | Gypsy |
| 94 | Pd | FS Moby II | Vo | Oh Human | Pf | Knock EP | Cp | DX-Xylo 2 | Or | PipeOrgan4 | Ba | Metal Bass | St | MaxiString |
| 95 | Pd | Heimdal | Vo | Shaman Woo | Pf | Knock Wack | Cp | DX-Xylo 3 | Or | PipeOrgan5 | Ba | Owl Bass | St | Michelle |
| 96 | Pd | LFO Pad | Vo | Spacy Aaah | Pf | Mark III | Cp | DX-Xylo 4 | Or | PipeOrgan6 | Ba | Pick Pluck | St | MoterDrive |
| 97 | Pd | Moving | Vo | Spacy FX | Pf | XtremeTine | Cp | DX-Xylo 5 | Or | PipeOrgan7 | Ba | Plektrumbs | St | ReverbStrg |
| 98 | Pd | Nebulous | Vo | SpacySweep | Pf | Mod EIPno | Cp | DX-Xylo 6 | Or | PipeOrgan8 | Ba | Wired Bass | St | StrMachine |
| 99 | Pd | OBx Pad | Vo | SweepyVce | Pf | 3D Road | Cp | Dual Xylo | Or | TheatreOrg | Ba | FretlesBa1 | St | Silk Hall |
| 100 | Pd | OBx Pad2 | Vo | VocoSweep | Pf | PinchedEP | Cp | Xylo Log | Or | SmallPipes | Ba | FretlesBa2 | St | Small Sect |
| 101 | Pd | Octavian | Vo | VocPhaseB | Pf | No Tines | Cp | Syn Xylo | Or | ChorusPipe | Ba | FretlesBa3 | St | Soft Bow |
| 102 | Pd | Paddy | Sq | AN Arp 1 | Pf | Old Jazz | Cp | Digi Xylo | Or | Wedding | Ba | FretlesBa4 | St | Soline |
| 103 | Pd | Qwerty | Sq | AN Arp 2 | Pf | Politti | Cp | DX-Bell 1 | Or | DX-Chrch 1 | Ba | FretlesBa5 | St | Violtron |
| 104 | Pd | Saws&Hold | Sq | Compu Saw | Pf | Pop Piano | Cp | DX-Bell 2 | Or | DX-Chrch 2 | Ba | SlapString | St | DX-PizzSt |
| 105 | Pd | Saws2 | Sq | DigiSQ1 | Pf | Prc EIPno | Cp | DX-Bell 3 | Or | BrightOrgn | Ba | Lite Slap | St | PizzString |
| 106 | Pd | SleepyPad | Sq | DigiSQ2 | Pf | Prds Piano | Cp | DX-Bell 4 | Or | TamePipe | Ba | RoundWound | St | DX-Harp 1 |
| 107 | Pd | Spacy Pad | Sq | Drw-EuroDr | Pf | Ratio Dob | Cp | DX-Bell 5 | Or | PuffOrgan1 | Ba | ImpactBass | St | DX-Harp 2 |
| 108 | Pd | Starship | Sq | Hard Pulse | Pf | ThinnerEP | Cp | DX-Bell 6 | Or | PuffOrgan2 | Ba | Afresh | St | DX-Harp 3 |
| 109 | Pd | SuperPad | Sq | Harry | Pf | Rezzo EP | Cp | DX-Bell 7 | Or | Late Down | Ba | WireString | St | Baroquen |
| 110 | Pd | SweepersVx | Sq | New Key | Pf | RubbaRoad | Cp | DX-Bell 8 | Or | SoftReedOr | Ba | Clakwire | St | Dbl Harp 1 |
| 111 | Pd | Tech Lead2 | Sq | Power Key | Pf | SawBellEP | Cp | DX-Bell 9 | Or | SteamOrgan | Ba | SuperBass1 | St | Dbl Harp 2 |
| 112 | Pd | The Seeker | Sq | RythmLoop2 | Pf | QuikPlayEP | Cp | DX-Bell 10 | Or | StreetOrgn | Ba | SuperBass2 | St | Apollon |
| 113 | Pd | The Shadow | Sq | Saw Pad | Pf | Loud Piano | Cp | DX-Bell 11 | Or | DX-Acrd 1 | Ba | DigiBass 1 | St | CembaHarp |
| 114 | Pd | Thermal | Sq | TekBass | Pf | Urban | Cp | DX-Bell 12 | Or | DX-Acrd 2 | Ba | DigiBass 2 | St | ElectrHarp |
| 115 | Pd | VocPhaseA | -- | FseqBase01 | Pf | Vics EP | Cp | SparklBell | Or | DX-Acrd 3 | Ba | Digit Bass | St | HarpStrum |
| 116 | Pd | Win Pad | -- | FseqBase02 | Pf | DX Classic | Cp | Wire Bell | Or | DX-Acrd 4 | Ba | Draft Bass | St | Lute Harp |
| 117 | Pd | Wind | -- | FseqBase03 | Pf | ToyPiano 1 | Cp | DualSparkl | Or | DX-Acrd 5 | Ba | Brainacus | St | Metal Harp |
| 118 | Fx | Caravan | -- | FseqBase04 | Pf | ToyPiano 2 | Cp | BellGlassy | Or | DX-Acrd 6 | Ba | DX-SynBa 1 | St | Orch Harp |
| 119 | Fx | DippeDut | -- | FseqBase05 | Pf | ToyPiano 3 | Cp | MM-Bell | Or | DX-TngAc | Ba | DX-SynBa 2 | St | Syn Harp |
| 120 | Fx | Furry Bell | -- | FseqBase06 | Pf | ToyPiano 4 | Cp | Crystal 1 | Or | DX-Hmnc 1 | Ba | DX-SynBa 3 | St | DX-Timpani |
| 121 | Fx | Glacial | -- | FseqBase07 | Pf | Plasticky | Cp | Crystal 2 | Or | DX-Hmnc 2 | Ba | DX-SynBa 4 | St | Timpanic! |
| 122 | Fx | Miracle | -- | FseqBase08 | Pf | Harpsi 1 | Cp | SoftBell 1 | Or | DX-Hmnc 3 | Ba | DX-SynBa 5 | St | Iron Timpa |
| 123 | Fx | MizuGuitar | -- | FseqBase09 | Pf | Harpsi 2 | Cp | SoftBell 2 | Or | DX-Hmnc 4 | Ba | DX-SynBa 6 | En | Ensemble |
| 124 | Fx | Morph | -- | FseqBase10 | Pf | Harpsi 3 | Cp | Bell Pluck | Or | Chromonica | Ba | DX-SynBa 7 | En | HallOrch 1 |
| 125 | Fx | Nightmare | -- | FseqBase11 | Pf | Harpsi 4 | Cp | Blow Bell | Or | FM-Hmnc 1 | Ba | DX-SynBa 8 | En | HallOrch 2 |
| 126 | Fx | RhythmLoop | -- | FseqBase12 | Pf | Harpsi 5 | Cp | Carillon | Or | FM-Hmnc 2 | Ba | DX-SynBa 9 | En | Orch Brass |
| 127 | Pd | Sho | -- | FseqBase13 | Pf | Harpsi 6 | Cp | BellKeyzis | Or | Bluesharp | Ba | AnalogBass | Br | DX-Trpt 1 |
| 128 | Fx | Spiral | -- | FseqBase14 | Pf | Harpsi 7 | Cp | Digi Log | Or | Buzzharp | Ba | Nharmonik | Br | DX-Trpt 2 |

| Pre H | | Pre I | | Pre J | | Pre K | |
|-------|------------|-------|------------|-------|------------|-------|------------|
| Ca | Voice Name | Ca | Voice Name | Ca | Voice Name | Ca | Voice Name |
| Br | RezAttack | Pc | Janpany | Pd | DrkSweeper | Se | Mobile |
| Br | FunkyRhytm | Pc | Nou | Pd | AnaBrsPad | Se | Motors |
| Br | Chiffhorns | Pc | Sumoh Drum | Pd | 8bitStrPad | Se | MotorCycle |
| Br | Juice | Pc | HandBell 1 | Pd | DX-ChoPad1 | Se | U Boat |
| Br | Kingdom | Pc | HandBell 2 | Pd | DX-ChoPad2 | Se | Ambulance |
| Br | PowerDrive | Pc | JingleBell | Pd | Bow Pad 1 | Se | Whiz By |
| Br | Rahool Brs | Pc | Light Year | Pd | Bow Pad 2 | Se | Out-Da-Way |
| Br | SyntiBrs | Pc | SlightBell | Pd | Bow Pad 3 | Se | Patrol Car |
| Br | UltraDrive | Pc | TracerBell | Pd | Glasssharp | Se | Sirens |
| Br | Warm Brass | Pc | MM-SynDr 1 | Pd | Wineglass | Se | DX-TelBusy |
| Rd | SopranoSax | Pc | MM-SynDr 2 | Pd | Ice Galaxy | Se | DX-TelCall |
| Rd | DX-ASax 1 | Pc | Click Kick | Pd | Ice Heaven | Se | DX-TelTone |
| Rd | DX-ASax 2 | Pc | Hexagon | Pd | Hit Pad 1 | Se | DX-TIRing1 |
| Rd | Alto Sax | Pc | Whapit | Pd | Hit Pad 2 | Se | DX-TIRing2 |
| Rd | DX-Tsax | Pc | Hi-Hat | Pd | SynBrsPad1 | Se | Bugs&Birds |
| Rd | TenorSax | Pc | Deep Snare | Pd | SynBrsPad2 | Se | DX-Insect1 |
| Rd | Tenorsaxes | Pc | DX-MtlSnr | Pd | SynBrsPad3 | Se | DX-Insect2 |
| Rd | Oboe 1 | Pc | Snapie | Pd | SynBrsPad4 | Se | DX-Piyo |
| Rd | Oboe 2 | Pc | Snare | Pd | SynBrsPad5 | Se | DX-Growl 1 |
| Rd | Oboe 3 | Pc | Soft Head | Pd | SynBrsPad6 | Se | DX-Growl 2 |
| Rd | Eng.Horn | Pc | StreetSD | Pd | SynBrsPad7 | Se | Animals |
| Rd | Bassoon | Pc | Tom Herz | Pd | Vector Pad | Se | DX-Wolf |
| Rd | DX-Clari 1 | Pc | DX-RevCym1 | Pd | Pada Perka | Se | ManEater |
| Rd | DX-Clari 2 | Pc | DX-RevCym2 | Pd | DX-MetalPd | Se | Alarm ! |
| Rd | Clari Solo | Vo | DX-Chorus1 | Pd | DX-SawPad | Se | Aura |
| Rd | Slow Clari | Vo | DX-Chorus2 | Pd | Anna Pad | Se | Chi-S&H |
| Rd | VibratoCla | Vo | DX-Chorus3 | Pd | Baroque | Se | Closing |
| Pi | Piccolo 1 | Vo | DX-Chorus4 | Pd | BrassyWarm | Se | Computer |
| Pi | Piccolo 2 | Vo | DX-Chorus5 | Pd | Bright Pad | Se | Crasher |
| Pi | DX-Flute 1 | Vo | DX-Chorus6 | Pd | Clavi Pad | Se | DX-BigBen |
| Pi | DX-Flute 2 | Vo | DX-Chorus7 | Pd | Digi Pad | Se | DX-Wave |
| Pi | DX-Flute 3 | Vo | DX-Chorus8 | Pd | Dispo Pad | Se | Descent |
| Pi | DX-Flute 4 | Vo | DX-Chorus9 | Pd | Ethereal | Se | Doppler |
| Pi | DX-Flute 5 | Vo | DX-Voice 1 | Pd | Film Pad | Se | Factory |
| Pi | DX-Flute 6 | Vo | DX-Voice 2 | Pd | Fl.Cloud | Se | GhostLine |
| Pi | DX-Flute 7 | Vo | MM-Voice 1 | Pd | Floating | Se | Heart Beat |
| Pi | Air Blower | Vo | MM-Voice 2 | Pd | Forest99 | Se | Imaging |
| Pi | MetalFlute | Vo | MM-Voice 3 | Pd | Gior Pad | Se | IronEcho 1 |
| Pi | Song Flute | Vo | MM-Voice 4 | Pd | GreenPeace | Se | IronEcho 2 |
| Pi | Recorder 1 | Vo | DbVoxFem | Pd | Grunge Pad | Se | MM-Fall |
| Pi | Recorder 2 | Vo | Fem Voice | Pd | Hyper Sqr | Se | MachineGun |
| Pi | Recorder 3 | Vo | Lady Vox | Pd | MM-Pretty | Se | MobbyDick |
| Pi | DX-PnFlute | Vo | Space Vox | Pd | MonsterPad | Se | On the Run |
| Pi | Harvest | Vo | Syn Vox | Pd | Orwell | Se | OuterLimit |
| Pi | Fuhppps! | Co | Bell+Pno 1 | Pd | PhaseSweep | Se | Perc Shot |
| Pi | DX-Bottle | Co | Bell+Pno 2 | Pd | Phasers | Se | Repeater |
| Pi | Quena | Co | Bell+Vibe1 | Pd | Glass Pad | Se | Jet Cars 1 |
| Pi | Whistle 1 | Co | Bell+Str | Pd | Sanctus | Se | Scorchers |
| Pi | Whistle 2 | Co | Bell+Vibe2 | Pd | StacHeaven | Se | Sci-Fi Too |
| Pi | Whistle 3 | Co | Cho+Marimb | Pd | Sweep Pad | Se | Jet Cars 2 |
| Pi | Sukiyaki | Co | Clavi+Bass | Pd | Water Log | Se | Speak-One |
| Pi | SambaWhstl | Co | DX-Ba+Lead | Pd | Spec-trail | Se | Stopper |
| Pi | Cosmowhist | Co | DX-HpSt | Pd | Whaser Pad | Se | Super Foot |
| Pi | DX-Ocrn 1 | Co | EP+Brass 1 | Pd | Whisper | Se | Talking DX |
| Pi | DX-Ocrn 2 | Co | EP+Brass 2 | Pd | WhistlePad | Se | Transport |
| Pi | DX-Ocrn 3 | Co | EP+Chime | Fx | DX-ScFi 1 | Se | Turn Table |
| Et | DX-Sitar 1 | Co | EP+Clavi | Fx | DX-ScFi 2 | Se | UfoTakeOff |
| Et | DX-Sitar 2 | Co | Elec Combi | Fx | DX-ScFi 3 | Se | Waterfall |
| Et | Ethre Four | Co | Glock+Brs | Fx | Image 1 | Se | Whik Shot |
| Et | India | Co | Glock+Pno | Fx | Image 2 | Se | Bubbles |
| Et | Juice Harp | Co | Harp+Flute | Fx | Laser 1 | Se | Yes Talk |
| Et | Syntholin | Co | Koto+Flute | Fx | Laser 2 | Se | Help me ! |
| Et | Pilgrim | Co | MalletHorn | Fx | Laser 3 | Se | Paranoir |
| Et | Tenjiku | Co | Mrbm+Gtr | Fx | Ri-zer | Se | Screamy |

Preset Fseq List
Liste der vorprogrammierten Formant Sequenzen
Liste des séquences de formant programmées “FSeqs”

| No. | Fseq Name | No. | Fseq Name | No. | Fseq Name |
|-----|-----------|-----|-----------|-----|-----------|
| 1 | ShoobyDo | 31 | 1BarBeat | 61 | ChowaUu |
| 2 | 2BarBeat | 32 | 1BrBeat2 | 62 | Everybd2 |
| 3 | D&B | 33 | Undo | 63 | Dodidowa |
| 4 | D&B Fill | 34 | RndArp4 | 64 | Check123 |
| 5 | 4BarBeat | 35 | VoclRtm2 | 65 | BranNewY |
| 6 | YouCanG | 36 | Reiyowha | 66 | BoomBoom |
| 7 | EBSayHey | 37 | RndArp5 | 67 | Hi=Woo |
| 8 | RtmSynth | 38 | VocalArp | 68 | FreeForm |
| 9 | VocalRtm | 39 | CanYouGi | 69 | FreqPad |
| 10 | WooWaPa | 40 | Pu-Yo | 70 | YouKnow |
| 11 | UoLha | 41 | Yaof | 71 | OldTech |
| 12 | FemRtm | 42 | MyaOh | 72 | B/M |
| 13 | ByonRole | 43 | ChuckRtm | 73 | MiniJngl |
| 14 | WowYeah | 44 | ILoveYou | 74 | EveryB-S |
| 15 | ListenVo | 45 | Jan-On | 75 | IYaan |
| 16 | YAMAHAFS | 46 | Welcome | 76 | Yeah |
| 17 | Laugh | 47 | One-Two | 77 | ThankYou |
| 18 | Laugh2 | 48 | Edokko | 78 | Yes=No |
| 19 | AreYouR | 49 | Everybdy | 79 | UnWaEDon |
| 20 | Oiyai | 50 | Uwau | 80 | MouthPop |
| 21 | OiaiUo | 51 | YEEAAH | 81 | Fire |
| 22 | UuWaUu | 52 | 4-3-2-1 | 82 | TBLine |
| 23 | Wao | 53 | Test123 | 83 | China |
| 24 | RndArp1 | 54 | CheckSnd | 84 | Aeiou |
| 25 | FiltrArp | 55 | ShavaDo | 85 | YaYeYiYo |
| 26 | RndArp2 | 56 | R-M-H-R | 86 | C7Seq |
| 27 | TechArp | 57 | HiSchool | 87 | SoundLib |
| 28 | RndArp3 | 58 | M.Blastr | 88 | IYaan2 |
| 29 | Voco-Seq | 59 | L&G Mayl | 89 | Relax |
| 30 | PopTech | 60 | Hellow | 90 | PSYAMAHA |

Control List

Liste der Steuerbefehle

Liste des contrôleurs

| Control Parameter (Destination) | Explanation | Notes |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| off | No control even if the source controller is operated. | |
| (Insertion Parameter 1) (Insertion Parameter 2) (Insertion Parameter 3) (Insertion Parameter 4) (Insertion Parameter 5) (Insertion Parameter 6) (Insertion Parameter 7) (Insertion Parameter 8) (Insertion Parameter 9) (Insertion Parameter 10) (Insertion Parameter 11) (Insertion Parameter 12) (Insertion Parameter 13) (Insertion Parameter 14) | The source controller controls insertion effect parameters. The parameters available depend on the selected insertion effect type. See the effect parameter list (page 13) for details. Nothing is controlled if (InsEF) appears on the display. | Controller operation directly controls the tone generator without affecting the edit buffer. (i.e. the "E" edit mark will not appear) |
| Send Insertion to Reverb | The source controller controls the Send Insertion To Reverb value. | |
| Send Insertion to Variation | The source controller controls the Send Insertion to Variation value. | |
| Volume | The source controller controls the PLAY-Volume(Part) value. | Controller operation controls the part parameters and therefore overwrites the edit buffer. (i.e. the "E" edit mark will appear) |
| Panpot | The source controller controls the PLAY-Pan(Part) value. | |
| Reverb Send | The source controller controls the PLAY-RevSend(Part) value. | |
| Variation Send | The source controller controls the PLAY-VarSend(Part) value. | |
| Filter Cutoff | The source controller controls the EDIT[PERFORM]-PART-Tone-Filter Freq value. | |
| Filter Resonance | The source controller controls the EDIT[PERFORM]-PART-Tone-Filter Reso value. | |
| Filter EG Depth | The source controller controls the EDIT[PERFORM]-PART-Tone-Fit EGDepth value. | |
| Attack Time | The source controller controls the EDIT[PERFORM]-PART-EG-Attack Time value. | |
| Decay Time | The source controller controls the EDIT[PERFORM]-PART-EG-Decay Time value. | |
| Release Time | The source controller controls the EDIT[PERFORM]-PART-EG-Release Time value. | |
| PEG Initial Level | The source controller controls the EDIT[PERFORM]-PART-EG-PEG InitLvl value. | |
| PEG Attack Time | The source controller controls the EDIT[PERFORM]-PART-EG-PEGAtakTime value. | |
| PEG Release Level | The source controller controls the EDIT[PERFORM]-PART-EG-PEG ReleLvl value. | |
| PEG Release Time | The source controller controls the EDIT[PERFORM]-PART-EG-PEGReleTime value. | |
| V/N Balance | The source controller controls the EDIT[PERFORM]-PART-Tone-V/N Balance value. | |
| Formant | The source controller controls the EDIT[PERFORM]-PART-Tone-Formant value. | |
| FM | The source controller controls the EDIT[PERFORM]-PART-Tone-FM value. | |
| Pitch Bias | The source controller has the same effect as pitch bend. For example, if Vcn depth is set to +2 then the maximum control value is + two semitones. If Vcn depth is set to +12 the maximum controllable pitch rise is one octave. | Controller operation directly controls the tone generator without affecting the edit buffer. (i.e. the "E" edit mark will not appear) |
| Amplitude EG Bias | The source controller controls Amplitude EG Bias. Sensitivity is set by the EDIT[VOICE]-OPERATOR-Sns-Amp EG Bias parameter. | |
| Frequency Bias | The source controller controls the operator center frequency. Sensitivity is set by the EDIT[VOICE]-OPERATOR-Sns-Freq Bias parameter. | |
| Voiced Band Width | The source controller controls voiced operator bandwidth. Sensitivity is set by the EDIT[VOICE]-OPERATOR-Sns-Width Bias (voiced) parameter. | |
| Unvoiced Band Width | The source controller controls unvoiced operator bandwidth. Sensitivity is set by the EDIT[VOICE]-OPERATOR-Sns-Width Bias (unvoiced) parameter. | |
| LFO1 pitch mod | The source controller applies LFO1 pitch modulation. The controller value is added to the sum of the EDIT[PERFORM]-PART-LFO1 Pmod and EDIT[VOICE]-COMMON-LFO1-PitchMod Dpt values. | |
| LFO1 amp mod | The source controller applies LFO1 amplitude modulation to the voice. The controller value is added to the EDIT[VOICE]-COMMON-LFO1-AmpMod Dpt value. | |
| LFO1 frequency mod | The source controller applies LFO1 frequency modulation to the operator center frequency. The controller value is added to the EDIT[VOICE]-COMMON-LFO1-FreqModDepth value. | |
| LFO1 filter mod | The source controller applies LFO1 cutoff frequency modulation to the voice. The controller value is added to the EDIT[VOICE]-COMMON-LFO1-FilterModDpt value. | |
| LFO1 Speed | The source controller controls LFO1 speed. The controller value is added to the sum of the EDIT[PERFORM]-PART-Tone-LFO1Speed and EDIT[VOICE]-COMMON-LFO1-Speed values. | |
| LFO2 filter mod | The source controller applies LFO2 cutoff frequency modulation to the voice. The controller value is added to the sum of the EDIT[PERFORM]-PART-Tone-LFO2 FitMod and EDIT[VOICE]-COMMON-LFO2-FilterModDpt values. | |
| LFO2 Speed | The source controller controls LFO2 speed. The controller value is added to the sum of the EDIT[PERFORM]-PART-Tone-LFO2 Speed and EDIT[VOICE]-COMMON-LFO2-Speed values. | |
| Fseq Speed | The source controller controls Fseq playback speed. The controller value is added to the EDIT[PERFORM]-COMMON-FSeq-Speed value. | |
| Formant scratch | The source controller directly controls Fseq playback. Effective when the EDIT[PERFORM]-COMMON-FSeq-Mode parameter is set to "scratch". | |

Effect Type List

Liste mit Effekt-Typen

Liste des type d'effets

Reverb

| Effect Type | Remarks |
|-------------|---------------------------------------------------------------------|
| No Effect | Turn off the effect. |
| Hall1 | Reverb simulating the acoustics of a hall. |
| Hall2 | |
| Room1 | Reverb simulating the acoustics of a room. |
| Room2 | |
| Room3 | |
| Stage1 | Reverb appropriate for a solo instrument. |
| Stage2 | |
| Plate | Reverb simulating a metal plate reverb device. |
| White Room | Unique short reverb with a slight initial delay. |
| Tunnel | Simulation of a cylindrical space extending to left and right. |
| Basement | Reverb with distinctive resonance following a slight initial delay. |
| Canyon | A hypothetical acoustic space which extends without limit. |
| Delay LCR | Three delay sounds L, R and C (center). |
| Delay L, R | Two delay sounds L and R, with two feedback delays. |
| Echo | Two delays L and R, with independent feedback delay for L and R. |
| CrossDelay | This effect crosses the feedback of two delays. |

Variation

| Effect Type | Remarks |
|-------------|-------------------------------------------------------------------------------------------------------------------------|
| No Effect | Turns off the effect. |
| Chorus | A standard chorus effect, adding natural spaciousness to the sound. |
| Celeste | An effect which uses a 3-phase LFO to add modulation and spaciousness to the sound. |
| Flanger | An effect reminiscent of a jet airplane taking off and landing. |
| Symphonic | A multi-stage version of CELESTE modulation. |
| Phaser1 | Cyclically changes the phase to modulate the sound. |
| Phaser2 | |
| Ens Detune | Chorus effect without modulation, created by adding a slightly pitch-shifted sound. |
| Rotary SP | Simulation of a rotary speaker. |
| Tremolo | An effect which cyclically modulates the volume. |
| Auto Pan | An effect which cyclically moves the sound between left/right and front/back. |
| Auto Wah | Cyclically changes the center frequency of a wah filter. |
| Touch Wah | Changes the center frequency of a wah filter according to the input level. |
| 3-Band EQ | EQ with equalization of LOW, MID and HIGH. |
| HM Enhncer | This effect adds new overtones to the input signal to make the sound stand out. |
| Noise Gate | Gates the input when the input signal falls below a specified level. |
| Compressor | Holds down the output when the input exceeds a specified level. Can also be used to add a sense of attack to the sound. |
| Distortion | Adds distortion with an edge to the sound. |
| Overdrive | Adds mild distortion to the sound. |
| Amp Sim | Simulation of a guitar amp. |
| Delay LCR | Three delay sounds L, R and C (center). |
| Delay L, R | Two delay sounds L and R, with two feedback delays. |
| Echo | Two delays L and R, with independent feedback delay for L and R. |
| CrossDelay | This effect crosses the feedback of two delays. |
| Karaoke | Echo for karaoke. |
| Hall | Reverb simulating the acoustics of a hall. |
| Room | Reverb simulating the acoustics of a room. |
| Stage | Reverb appropriate for a solo instrument. |
| Plate | Reverb simulating a metal plate reverb device. |

Insertion

| Effect Type | Remarks |
|-------------|-------------------------------------------------------------------------------------------------------------------------|
| Thru | Bypass without applying an effect. |
| Chorus | Conventional chorus effect which gives natural spaciousness to the sound. |
| Celeste | A three-phase LFO is used to give modulation and spaciousness to the sound. |
| Flanger | An effect reminiscent of a jet airplane taking off and landing. |
| Symphonic | A multi-stage version of CELESTE modulation. |
| Phaser1 | Cyclically changes the phase to modulate the sound. |
| Phaser2 | |
| Pitch Chng | This effect changes the pitch of the input signal. |
| Ens Detune | Chorus effect without modulation, created by adding a slightly pitch-shifted sound. |
| Rotary SP | Simulation of a rotary speaker. |
| 2WayRotary | |
| Tremolo | An effect which cyclically modulates the volume. |
| Auto Pan | An effect which cyclically moves the sound between left/right and front/back. |
| Ambience | An effect which adds spatial breadth by blurring the location of the sound. |
| A-Wah+Dist | Applies DISTORTION to the output of AUTO WAH to distort the sound. |
| A-Wah+Odrv | Applies OVERDRIVE to the output of AUTO WAH to distort the sound. |
| T-Wah+Dist | Applies OVERDRIVE to the output of TOUCH WAH to distort the sound. |
| T-Wah+Odrv | Changes the center frequency of a wah filter according to the input level. |
| Wah+DS+Dly | TOUCH WAH, DISTORTION and DELAY are connected in series. |
| Wah+OD+Dly | TOUCH WAH, OVERDRIVE and DELAY are connected in series. |
| Lo-Fi | Degrades the audio quality of the input signal. |
| 3-Band EQ | EQ with equalization of LOW, MID and HIGH. |
| HM Enhncer | This effect adds new overtones to the input signal to make the sound stand out. |
| Noise Gate | Gates the input when the input signal falls below a specified level. |
| Compressor | Holds down the output when the input exceeds a specified level. Can also be used to add a sense of attack to the sound. |
| Comp+Dist | Since a compressor is included in the first stage, distortion can be applied evenly, regardless of the input level. |
| Cmp+DS+Dly | COMPRESSOR, DISTORTION and DELAY are connected in series. |
| Cmp+OD+Dly | COMPRESSOR, OVERDRIVE and DELAY are connected in series. |
| Distortion | Adds distortion with an edge to the sound. |
| Dist+Delay | DISTORTION and DELAY are connected in series. |
| Overdrive | Adds mild distortion to the sound. |
| Odrv+Delay | OVERDRIVE and DELAY are connected in series. |
| Amp Sim | Simulation of a guitar amp. |
| Delay LCR | Three delay sounds L, R and C (center). |
| Delay L, R | Two delay sounds L and R, with two feedback delays. |
| Echo | Two delays L and R, with independent feedback delay for L and R. |
| CrossDelay | This effect crosses the feedback of two delays. |
| ER 1 | This effect isolates only the early reflection components of the reverb. |
| ER 2 | |
| Gate Rev | Simulation of gated reverb. |
| Revs Gate | Simulation of gated reverb played back in reverse. |

Effect Parameter List

Liste mit Effekt-Parametern

Liste des Paramètres d'effets

Param# matches the adress of a Paerformance Effect Parameter (mm, ll) found in MIDI data table <Table 1 >.

REVERB

No Effect

| | Range(Default) | Param# | Description |
|------------|----------------|--------|--------------------|
| Reverb Pan | L63- C -R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Hall1

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(2.0) | 50 | Reverb length (sec) |
| Diffusion | 0~10(10) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(14.3) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(315) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(5.6k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Rev Delay | 0.1~99.3(53.6) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(4) | 63 | Density of the reverberation |
| ER/Rev | E63>R-E=R-E<R63(E<R 5) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(1.0) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C -R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Hall2 Same parameters for Hall1

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(3.0) | 50 | Reverb length (sec) |
| Diffusion | 0~10(10) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(44.2) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(40) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(4.0k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Rev Delay | 0.1~99.3(44.2) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(3) | 63 | Density of the reverberation |
| ER/Rev | E63>R-E=R-E<R63(E<R36) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(1.0) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C -R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Room1 Same parameters for Hall1

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(1.4) | 50 | Reverb length (sec) |
| Diffusion | 0~10(8) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(19.0) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(355) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(9.0k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Rev Delay | 0.1~99.3(23.7) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(4) | 63 | Density of the reverberation |
| ER/Rev | E63>R-E=R-E<R63(E<R10) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(1.0) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C -R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Room2 Same parameters for Hall1

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(1.2) | 50 | Reverb length (sec) |
| Diffusion | 0~10(10) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(12.7) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(110) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(thru) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Rev Delay | 0.1~99.3(17.4) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(4) | 63 | Density of the reverberation |
| ER/Rev | E63>R-E=R-E<R63(E18>R) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.7) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C -R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Room3 Same parameters for Hall1

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(0.9) | 50 | Reverb length (sec) |
| Diffusion | 0~10(10) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(0.1) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(110) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(4.0k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Rev Delay | 0.1~99.3(14.3) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(4) | 63 | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E15>R) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.5) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Stage1 Same parameters for Hall1

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(1.5) | 50 | Reverb length (sec) |
| Diffusion | 0~10(10) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(25.3) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(45) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(7.0k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Rev Delay | 0.1~99.3(45.7) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(3) | 63 | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E 3>R) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.5) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+15) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Stage2 Same parameters for Hall1

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(1.0) | 50 | Reverb length (sec) |
| Diffusion | 0~10(10) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(0.1) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(thru) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(12.0k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Rev Delay | 0.1~99.3(45.7) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(4) | 63 | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E18>R) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.6) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+9) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Plate Same parameters for Hall1

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(1.8) | 50 | Reverb length (sec) |
| Diffusion | 0~10(5) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(11.1) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(40) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(10.0k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Rev Delay | 0.1~99.3(3.2) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(3) | 63 | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E=R) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.7) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+20) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

White Room

| | Range(Default) | Param# | Description |
|------------|-----------------------|--------|---------------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(0.4) | 50 | Reverb length (sec) |
| Diffusion | 0~10(5) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(0.1) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(70) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(1.6k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Width | 0.5~10.2(4.6) | 5A | Width of the simulated room (m) |
| Height | 0.5~20.2(20.2) | 5C | Height of the simulated room (m) |
| Depth | 0.5~30.2(30.2) | 5E | Depth of the simulated room (m) |
| Wall Vary | 0~30(6) | 60 | Wall surface of the simulated room (higher values produce more random reflections) |
| Rev Delay | 0.1~99.3(12.7) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(4) | 63 | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E=R) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.4) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+5) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Tunnel Same parameters for White Room

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|---------------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(2.3) | 50 | Reverb length (sec) |
| Diffusion | 0~10(6) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(15.8) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(thru) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(3.2k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Width | 0.5~10.2(9.1) | 5A | Width of the simulated room (m) |
| Height | 0.5~20.2(14.2) | 5C | Height of the simulated room (m) |
| Depth | 0.5~30.2(19.4) | 5E | Depth of the simulated room (m) |
| Wall Vary | 0~30(16) | 60 | Wall surface of the simulated room (higher values produce more random reflections) |
| Rev Delay | 0.1~99.3(31.6) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(4) | 63 | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E10>R) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(1.0) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+43) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Basement Same parameters for White Room

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|---------------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(0.8) | 50 | Reverb length (sec) |
| Diffusion | 0~10(6) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(4.8) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(thru) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(1.0k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Width | 0.5~10.2(7.2) | 5A | Width of the simulated room (m) |
| Height | 0.5~20.2(0.5) | 5C | Height of the simulated room (m) |
| Depth | 0.5~30.2(10.2) | 5E | Depth of the simulated room (m) |
| Wall Vary | 0~30(15) | 60 | Wall surface of the simulated room (higher values produce more random reflections) |
| Rev Delay | 0.1~99.3(50.5) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(3) | 63 | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E<R10) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(1.0) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(-28) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Canyon Same parameters for White Room

| | Range(Default) | Param# | Description |
|------------|------------------------|--------|---------------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(12.0) | 50 | Reverb length (sec) |
| Diffusion | 0~10(6) | 52 | Spread of the reverb |
| InitDelay | 0.1~200.0(99.3) | 54 | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(thru) | 56 | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(3.6k) | 58 | Frequency at which the low pass filter will cut the high range (Hz) |
| Width | 0.5~10.2(9.4) | 5A | Width of the simulated room (m) |
| Height | 0.5~20.2(17.1) | 5C | Height of the simulated room (m) |
| Depth | 0.5~30.2(25.8) | 5E | Depth of the simulated room (m) |
| Wall Vary | 0~30(13) | 60 | Wall surface of the simulated room (higher values produce more random reflections) |
| Rev Delay | 0.1~99.3(17.4) | 62 | Delay time from the early reflections until the reverberation (msec) |
| Density | 0~4(4) | 63 | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E<R 8) | 64 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.4) | 65 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+36) | 66 | Amount of feedback for the initial delay |
| Reverb Pan | L63- C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Delay LCR

| | Range(Default) | Param# | Description |
|-------------|-------------------|--------|-------------------------------------------------------------------------------|
| LchDelay | 0.1~1365.0(333.3) | 50 | Length of left channel delay (msec) |
| RchDelay | 0.1~1365.0(166.7) | 52 | Length of right channel delay (msec) |
| CchDelay | 0.1~1365.0(500.0) | 54 | Length of center channel delay (msec) |
| FB Delay | 0.1~1365.0(500.0) | 56 | Length of feedback delay (msec) |
| FB Level | -63~+63(+10) | 58 | Feedback amount |
| Cch Level | 0~127(100) | 5A | Volume of center channel |
| High Damp | 0.1~1.0(0.3) | 5C | High range attenuation (lower values cause the high range to decay faster) |
| EQ LowFreq | 32~2.0k(400) | 64 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 65 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(4.0k) | 66 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 67 | Gain with which the EQ will boost/cut the high range (dB) |
| Reverb Pan | L63~ C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Delay L,R

| | Range(Default) | Param# | Description |
|-------------|-------------------|--------|-------------------------------------------------------------------------------|
| LchDelay | 0.1~1365.0(250.0) | 50 | Length of left channel delay (msec) |
| RchDelay | 0.1~1365.0(375.0) | 52 | Length of right channel delay (msec) |
| FBDelay1 | 0.1~1365.0(375.2) | 54 | Length of feedback delay 1 (msec) |
| FBDelay2 | 0.1~1365.0(375.0) | 56 | Length of feedback delay 2 (msec) |
| FB Level | -63~+63(+23) | 58 | Amount of feedback |
| High Damp | 0.1~1.0(0.3) | 5A | High range attenuation (lower values cause the high range to decay faster) |
| EQ LowFreq | 32~2.0k(400) | 64 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 65 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(4.0k) | 66 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 67 | Gain with which the EQ will boost/cut the high range (dB) |
| Reverb Pan | L63~ C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

Echo

| | Range(Default) | Param# | Description |
|-------------|------------------|--------|-------------------------------------------------------------------------------|
| LchDelay1 | 0.1~682.0(220.0) | 50 | Length of first delay of left channel (msec) |
| Lch FB Lvl | -63~+63(+22) | 52 | Amount of feedback for left channel |
| RchDelay1 | 0.1~682.0(210.0) | 54 | Length of first delay of right channel (msec) |
| Rch FB Lvl | -63~+63(+21) | 56 | Amount of feedback for right channel |
| High Damp | 0.1~1.0(0.5) | 58 | High range attenuation (lower values cause the high range to decay faster) |
| LchDelay2 | 0.1~682.0(230.0) | 5A | Length of second delay of left channel (msec) |
| RchDelay2 | 0.1~682.0(235.0) | 5C | Length of second delay of right channel (msec) |
| Delay2 Lvl | 0~127(62) | 5E | Volume of second delay |
| EQ LowFreq | 32~2.0k(280) | 64 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(-6) | 65 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(6.3k) | 66 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(-1) | 67 | Gain with which the EQ will boost/cut the high range (dB) |
| Reverb Pan | L63~ C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

CrossDelay

| | Range(Default) | Param# | Description |
|-------------|------------------|--------|-------------------------------------------------------------------------------|
| L>R Delay | 0.1~682.0(365.0) | 50 | Delay time from left (input) to right (output) (msec) |
| R>L Delay | 0.1~682.0(365.0) | 52 | Delay time from right (input) to left (output) (msec) |
| FB Level | -63~+63(+24) | 54 | Amount of feedback |
| InputSelect | L,R,L&R(R) | 56 | Input select |
| High Damp | 0.1~1.0(0.5) | 58 | High range attenuation (lower values cause the high range to decay faster) |
| EQ LowFreq | 32~2.0k(355) | 64 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 65 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(6.3k) | 66 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(- 2) | 67 | Gain with which the EQ will boost/cut the high range (dB) |
| Reverb Pan | L63~ C ~R63 | 129 | Reverb Pan |
| Rev Return | 0~127 | 12A | ReverbReturn Level |

VARIATION

No Effect

| | Range(Default) | Param# | Description |
|-------------|----------------|--------|--------------------------------|
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0-127 | 12D | Variation Return Level |
| SendVar-Rev | 0-127 | 12E | Variation-to-Reverb Send Level |

Chorus

| | Range(Default) | Param# | Description |
|-------------|----------------------|--------|---------------------------------------------------------------------------------------------|
| LFO Freq | 0.000-43.21(0.229) | 68 | Delay modulation frequency (Hz) |
| LFO Depth | 0-127(46) | 6A | Delay modulation depth |
| FB Level | -63-+63(+28) | 6C | Level at which the delay output is returned to the input (negative values invert the phase) |
| Delay Ofst | 0.0-50.0(1.0) | 6E | Offset value for delay modulation (ms) |
| EQ LowFreq | 32-2.0k(200) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12-+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500-16.0k(6.3k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12-+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Mode | mono, stereo(stereo) | 104 | Mono/stereo selection for the input |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0-127 | 12D | Variation Return Level |
| SendVar-Rev | 0-127 | 12E | Variation-to-Reverb Send Level |

Celeste Same parameters for Chorus

| | Range(Default) | Param# | Description |
|-------------|----------------------|--------|---------------------------------------------------------------------------------------------|
| LFO Freq | 0.000-43.21(0.687) | 68 | Delay modulation frequency (Hz) |
| LFO Depth | 0-127(25) | 6A | Delay modulation depth |
| FB Level | -63-+63(+30) | 6C | Level at which the delay output is returned to the input (negative values invert the phase) |
| Delay Ofst | 0.0-50.0(12.2) | 6E | Offset value for delay modulation (ms) |
| EQ LowFreq | 32-2.0k(500) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12-+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500-16.0k(4.0k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12-+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Mode | mono, stereo(stereo) | 104 | Mono/stereo selection for the input |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0-127 | 12D | Variation Return Level |
| SendVar-Rev | 0-127 | 12E | Variation-to-Reverb Send Level |

Flanger

| | Range(Default) | Param# | Description |
|-------------|--------------------|--------|----------------------------------------------------------------------------|
| LFO Freq | 0.000-43.21(0.504) | 68 | Frequency of delay modulation (Hz) |
| LFO Depth | 0-127(30) | 6A | Depth of delay modulation |
| FB Level | -63-+63(+40) | 6C | Level at which delay output is returned to the input |
| Delay Ofst | 0.0-50.0(0.2) | 6E | Offset value for delay modulation (ms) |
| EQ LowFreq | 32-2.0k(200) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12-+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500-16.0k(6.3k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12-+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| LFO Phase | -180-+180(-180) | 102 | L/R phase difference of modulation waveform (no difference at 0 deg (=64)) |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0-127 | 12D | Variation Return Level |
| SendVar-Rev | 0-127 | 12E | Variation-to-Reverb Send Level |

Symphonic

| | Range(Default) | Param# | Description |
|-------------|--------------------|--------|--------------------------------------------------------------|
| LFO Freq | 0.000-43.21(0.458) | 68 | Frequency of delay modulation (Hz) |
| LFO Depth | 0-127(40) | 6A | Depth of delay modulation |
| Delay Ofst | 0.0-50.0(0.0) | 6C | Delay modulation offset value (ms) |
| EQ LowFreq | 32-2.0k(250) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12-+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500-16.0k(6.3k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12-+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0-127 | 12D | Variation Return Level |
| SendVar-Rev | 0-127 | 12E | Variation-to-Reverb Send Level |

Phaser1

| | Range(Default) | Param# | Description |
|-------------|----------------------|--------|-----------------------------------------------------------------------------------------------|
| LFO Freq | 0.000~43.21(0.916) | 68 | Frequency of phase modulation (Hz) |
| LFO Depth | 0~127(111) | 6A | Depth of phase modulation |
| Phase Shift | 0~127(76) | 6C | Phase shift offset value |
| FB Level | -63~+63(+51) | 6E | Level at which phaser output will be returned to the input (negative values invert the phase) |
| Stage | 4~10(6) | 7C | Number of phaser shifter stages |
| Diffuse | mono, stereo(stereo) | 7E | Diffusion |
| EQ LowFreq | 32~2.0k(280) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(6.3k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Phaser2

| | Range(Default) | Param# | Description |
|-------------|--------------------|--------|-----------------------------------------------------------------------------------------------|
| LFO Freq | 0.000~43.21(0.091) | 68 | Frequency of phase modulation (Hz) |
| LFO Depth | 0~127(127) | 6A | Depth of phase modulation |
| Phase Shift | 0~127(25) | 6C | Phase shift offset value |
| FB Level | -63~+63(+51) | 6E | Level at which phaser output will be returned to the input (negative values invert the phase) |
| Stage | 3~5(5) | 7C | Number of phaser shifter stages |
| LFO Phase | -180~+180(-180) | 100 | L/R phase difference in the modulation waveform (no difference at 0 deg (=64)) |
| EQ LowFreq | 32~2.0k(200) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(5.6k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Ens Detune

| | Range(Default) | Param# | Description |
|-------------|-----------------|--------|---------------------------------------------------------------|
| Detune | -50~+50(-30) | 68 | Amount by which the pitch will be detuned (cent) |
| InitDelayL | 0.0~50.0(1.0) | 6A | Length of left channel delay (msec) |
| InitDelayR | 0.0~50.0(3.0) | 6C | Length of right channel delay (msec) |
| EQ LowFreq | 32~2.0k(250) | 7C | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 7E | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(5.0k) | 100 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 102 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Rotary SP

| | Range(Default) | Param# | Description |
|-------------|--------------------|--------|--------------------------------------------------------------|
| LFO Freq | 0.000~43.21(2.335) | 68 | Rotation frequency of the speaker (Hz) |
| LFO Depth | 0~127(76) | 6A | Depth of modulation produced by speaker rotation |
| EQ LowFreq | 32~2.0k(250) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(5.0k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Tremolo

| | Range(Default) | Param# | Description |
|-------------|--------------------|--------|-----------------------------------------------------------------------------------|
| LFO Freq | 0.000~43.21(5.493) | 68 | Modulation frequency (Hz) |
| AM Depth | 0~127(60) | 6A | Amplitude modulation depth |
| PM Depth | 0~127(20) | 6C | Delay modulation depth |
| LFO Phase | -180~+180(+0) | 102 | L/R phase difference of the modulation waveform (no difference at 0 deg (=64)) |
| EQ LowFreq | 32~2.0k(280) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(2.0k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Mode | mono, stereo(mono) | 104 | Mono/stereo selection for the input |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Auto Pan

| | Range(Default) | Param# | Description |
|-------------|-----------------------------------------|--------|--------------------------------------------------------------|
| LFO Freq | 0.000~43.21(4.028) | 68 | Auto pan frequency (Hz) |
| L/R Depth | 0~127(127) | 6A | Left/right depth of panning |
| F/R Depth | 0~127(32) | 6C | Front/rear depth of panning |
| PAN Dir | L<->R, L>R, L<R, Lturn, Rturn, L/R(L/R) | 6E | Auto pan type (L<->R is sine wave, L/R is square wave) |
| EQ LowFreq | 32~2.0k(225) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(4.0k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+12) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Auto Wah

| | Range(Default) | Param# | Description |
|-------------|--------------------|--------|--------------------------------------------------------------|
| LFO Freq | 0.000~43.21(1.282) | 68 | Modulation frequency (Hz) |
| LFO Depth | 0~127(66) | 6A | Modulation depth |
| Cutoff Freq | 0~127(33) | 6C | Cutoff Frequency (Hz) |
| Resonance | 1.0~12.0(3.8) | 6E | Resonance |
| EQ LowFreq | 32~2.0k(280) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(5.0k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Touch Wah

| | Range(Default) | Param# | Description |
|-------------|-----------------|--------|--------------------------------------------------------------|
| Sensitivity | 0~127(46) | 68 | Sensitivity |
| Cutoff Freq | 0~127(28) | 6A | Cutoff Frequency (Hz) |
| Resonance | 1.0~12.0(2.3) | 6C | Resonance |
| EQ LowFreq | 32~2.0k(180) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 74 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(5.0k) | 76 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 78 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

3-Band EQ

| | Range(Default) | Param# | Description |
|-------------|--------------------|--------|-------------------------------------------------------------------|
| Low Freq | 50~2.0k(180) | 72 | Frequency at which the EQ will boost/cut the low range (Hz) |
| Low Gain | -12~+12(+ 0) | 68 | Amount of gain by which the EQ will boost/cut the low range (dB) |
| Mid Freq | 100~10.0k(1.0k) | 6A | Frequency at which the EQ will boost/cut the mid range (Hz) |
| Mid Gain | -12~+12(+ 0) | 6C | Amount of gain by which the EQ will boost/cut the mid range (dB) |
| Mid Q | 1.0~12.0(5.0) | 6E | Mid Q |
| High Freq | 500~16.0k(8.0k) | 74 | Frequency at which the EQ will boost/cut the high range (Hz) |
| High Gain | -12~+12(+ 0) | 70 | Amount of gain by which the EQ will boost/cut the high range (dB) |
| Mode | mono, stereo(mono) | 104 | Mono/stereo input mode selection |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

HM Enhncer

| | Range(Default) | Param# | Description |
|-------------|-----------------|--------|-----------------------------------------------------------------------------------------|
| HPFCutoff | 500~16.0k(5.6k) | 68 | Frequency at which the high pass filter will cut the low range of the effect sound (Hz) |
| Drive | 0~127(20) | 6A | Degree with which the exciter effect will be applied |
| Mix Level | 0~127(30) | 6C | Level at which the effect sound will be mixed into the dry sound |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Noise Gate

| | Range(Default) | Param# | Description |
|-------------|----------------|--------|---------------------------------------------------|
| Attack | 1~40(1) | 68 | Time until when the gate begins to open (msec) |
| Release | 10~680(140) | 6A | Time until the gate closes (msec) |
| Threshold | -72~-30(-45) | 6C | Input level at which the gate begins to open (dB) |
| OutputLevel | 0~127(50) | 6E | Output level |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Compressor

| | Range(Default) | Param# | Description |
|-------------|----------------|--------|-------------------------------------------------------------|
| Attack | 1~40(12) | 68 | Time until when the compressor begins to take effect (msec) |
| Release | 10~680(25) | 6A | Time until the compressor effect disappears (msec) |
| Threshold | -48~-6(-28) | 6C | Input level at which compression begins to be applied (dB) |
| Ratio | 1.0~20.0(5.0) | 6E | Compression ratio of the compressor |
| OutputLevel | 0~127(80) | 70 | Output level |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Distortion

| | Range(Default) | Param# | Description |
|-------------|------------------------|--------|----------------------------------------------------------------------------------------------------------------------|
| Drive | 0~127(60) | 68 | Degree of distortion |
| EQ LowFreq | 32~2.0k(180) | 6A | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 8) | 6C | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | 100~10.0k(1.1k) | 74 | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | -12~+12(+10) | 76 | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | 1.0~12.0(1.0) | 78 | EQ Mid Q |
| LPFCutoff | 1.0k~18.0k, thru(9.0k) | 6E | Frequency at which the filter will cut the high range (Hz) |
| Edge | 0~127(80) | 7C | Curve of distortion characteristics (sharp (127): distortion begins suddenly; mild (0): distortion begins gradually) |
| OutputLevel | 0~127(48) | 70 | Output level |
| Var Pan | L63- C -R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Overdrive Same parameters for Distortion

| | Range(Default) | Param# | Description |
|-------------|-----------------------|--------|---------------------------------------------------------------------------------------------------------------------|
| Drive | 0~127(29) | 68 | Degree of distortion |
| EQ LowFreq | 32~2.0k(315) | 6A | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 4) | 6C | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | 100~10.0k(1.2k) | 74 | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | -12~+12(+ 8) | 76 | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | 1.0~12.0(1.0) | 78 | EQ Mid Q |
| LPFCutoff | 1.0k~18.0k,thru(4.0k) | 6E | Frequency at which the filter will cut the high range (Hz) |
| Edge | 0~127(104) | 7C | Curve of distortion characteristics (sharp (127): distortion begins suddenly;mild (0): distortion begins gradually) |
| OutputLevel | 0~127(55) | 70 | Output level |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Amp Sim

| | Range(Default) | Param# | Description |
|-------------|----------------------------|--------|---------------------------------------------------------------------------------------------------------------------|
| Drive | 0~127(76) | 68 | Degree of distortion |
| Amp Type | off,stack,combo,tube(tube) | 6A | Select the type of amp to be simulated |
| LPFCutoff | 1.0k~18.0k,thru(2.5k) | 6C | Frequency at which the low pass filter will cut the high range (Hz) |
| Edge | 0~127(102) | 7C | Curve of distortion characteristics (sharp (127): distortion begins suddenly;mild (0): distortion begins gradually) |
| OutputLevel | 0~127(55) | 6E | Output level |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Delay LCR

| | Range(Default) | Param# | Description |
|-------------|-------------------|--------|-------------------------------------------------------------------------------|
| LchDelay | 0.1~1365.0(333.3) | 68 | Length of left channel delay (msec) |
| RchDelay | 0.1~1365.0(166.7) | 6A | Length of right channel delay (msec) |
| CchDelay | 0.1~1365.0(500.0) | 6C | Length of center channel delay (msec) |
| FB Delay | 0.1~1365.0(500.0) | 6E | Length of feedback delay (msec) |
| FB Level | -63~+63(+10) | 70 | Feedback amount |
| Cch Level | 0~127(100) | 72 | Volume of center channel |
| High Damp | 0.1~1.0(0.3) | 74 | High range attenuation (lower values cause the high range to decay faster) |
| EQ LowFreq | 32~2.0k(400) | 100 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 102 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(4.0k) | 104 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 106 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Delay L,R

| | Range(Default) | Param# | Description |
|-------------|-------------------|--------|-------------------------------------------------------------------------------|
| LchDelay | 0.1~1365.0(250.0) | 68 | Length of left channel delay (msec) |
| RchDelay | 0.1~1365.0(375.0) | 6A | Length of right channel delay (msec) |
| FBDelay1 | 0.1~1365.0(375.2) | 6C | Length of feedback delay 1 (msec) |
| FBDelay2 | 0.1~1365.0(375.0) | 6E | Length of feedback delay 2 (msec) |
| FB Level | -63~+63(+23) | 70 | Amount of feedback |
| High Damp | 0.1~1.0(0.3) | 72 | High range attenuation (lower values cause the high range to decay faster) |
| EQ LowFreq | 32~2.0k(400) | 100 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 102 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(4.0k) | 104 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(+ 0) | 106 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Echo

| | Range(Default) | Param# | Description |
|-------------|------------------|--------|-------------------------------------------------------------------------------|
| LchDelay1 | 0.1~682.0(220.0) | 68 | Length of first delay of left channel (msec) |
| Lch FB Lvl | -63~+63(+22) | 6A | Amount of feedback for left channel |
| RchDelay1 | 0.1~682.0(210.0) | 6C | Length of first delay of right channel (msec) |
| Rch FB Lvl | -63~+63(+21) | 6E | Amount of feedback for right channel |
| High Damp | 0.1~1.0(0.5) | 70 | High range attenuation (lower values cause the high range to decay faster) |
| LchDelay2 | 0.1~682.0(230.0) | 72 | Length of second delay of left channel (msec) |
| RchDelay2 | 0.1~682.0(235.0) | 74 | Length of second delay of right channel (msec) |
| Delay2 Lvl | 0~127(62) | 76 | Volume of second delay |
| EQ LowFreq | 32~2.0k(280) | 100 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(- 6) | 102 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(6.3k) | 104 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(- 1) | 106 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

CrossDelay

| | Range(Default) | Param# | Description |
|-------------|------------------|--------|-------------------------------------------------------------------------------|
| L>R Delay | 0.1~682.0(365.0) | 68 | Delay time from left (input) to right (output) (msec) |
| R>L Delay | 0.1~682.0(365.0) | 6A | Delay time from right (input) to left (output) (msec) |
| FB Level | -63~+63(+24) | 6C | Amount of feedback |
| InputSelect | L,R,L&R(R) | 6E | Input select |
| High Damp | 0.1~1.0(0.5) | 70 | High range attenuation (lower values cause the high range to decay faster) |
| EQ LowFreq | 32~2.0k(355) | 100 | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | -12~+12(+ 0) | 102 | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | 500~16.0k(6.3k) | 104 | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | -12~+12(- 2) | 106 | Gain with which the EQ will boost/cut the high range (dB) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Karaoke

| | Range(Default) | Param# | Description |
|-------------|-----------------------|--------|---------------------------------------------------------------------|
| DelayTime | 0.1~400.0(198.5) | 68 | DelayTime (msec) |
| FB Level | -63~+63(+33) | 6A | Amount of feedback |
| HPF Cutoff | thru,22~8.0k(thru) | 6C | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(5.0k) | 6E | Frequency at which the low pass filter will cut the high range (Hz) |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Hall

| | Range(Default) | Param# | Description |
|-------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(2.1) | 68 | Reverb length (sec) |
| Diffusion | 0~10(10) | 6A | Spread of the reverb |
| InitDelay | 0.1~200.0(12.7) | 6C | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(90) | 6E | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(5.6k) | 70 | Frequency at which the low pass filter will cut the high range (Hz) |
| Density | 0~4(2) | 7E | Density of the reverberation |
| ER/Rev | E63>R-E=R-E<R63(E14>R) | 100 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.8) | 102 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 104 | Amount of feedback for the initial delay |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Room Same parameters for Hall

| | Range(Default) | Param# | Description |
|-------------|-----------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(0.8) | 68 | Reverb length (sec) |
| Diffusion | 0~10(10) | 6A | Spread of the reverb |
| InitDelay | 0.1~200.0(25.3) | 6C | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(32) | 6E | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(5.6k) | 70 | Frequency at which the low pass filter will cut the high range (Hz) |
| Density | 0~4(2) | 7E | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E=R) | 100 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.8) | 102 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 104 | Amount of feedback for the initial delay |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Stage Same parameters for Hall

| | Range(Default) | Param# | Description |
|-------------|------------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(2.2) | 68 | Reverb length (sec) |
| Diffusion | 0~10(10) | 6A | Spread of the reverb |
| InitDelay | 0.1~200.0(25.3) | 6C | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(45) | 6E | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(10.0k) | 70 | Frequency at which the low pass filter will cut the high range (Hz) |
| Density | 0~4(2) | 7E | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E=R) | 100 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.6) | 102 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 104 | Amount of feedback for the initial delay |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

Plate Same parameters for Hall

| | Range(Default) | Param# | Description |
|-------------|-----------------------|--------|-------------------------------------------------------------------------------|
| ReverbTime | 0.3~30.0(2.8) | 68 | Reverb length (sec) |
| Diffusion | 0~10(10) | 6A | Spread of the reverb |
| InitDelay | 0.1~200.0(9.5) | 6C | Delay time until the early reflections (msec) |
| HPF Cutoff | thru,22~8.0k(50) | 6E | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | 1.0k~18.0k,thru(5.6k) | 70 | Frequency at which the low pass filter will cut the high range (Hz) |
| Density | 0~4(2) | 7E | Density of the reverberation |
| ER/Rev | E63>R~E=R~E<R63(E=R) | 100 | Level balance of the early reflections and the reverberation |
| High Damp | 0.1~1.0(0.5) | 102 | High range attenuation (lower values cause the high range to decay faster) |
| FB Level | -63~+63(+ 0) | 104 | Amount of feedback for the initial delay |
| Var Pan | L63~ C ~R63 | 12C | Variation Pan |
| Var Return | 0~127 | 12D | Variation Return Level |
| SendVar-Rev | 0~127 | 12E | Variation-to-Reverb Send Level |

INSERTION

Thru

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|----------------|--------|-----------|-----------------------------------|
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Chorus

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-----------------------|--------|-------------|---------------------------------------------------------------------------------------------|
| LFO Freq | *0.000-43.21(0.275) | 108 | I:LFO Freq | Delay modulation frequency (Hz) |
| LFO Depth | *0-127(62) | 10A | I:LFO Depth | Delay modulation depth |
| FB Level | *-63~+63(+15) | 10C | I:FB Level | Level at which the delay output is returned to the input (negative values invert the phase) |
| Delay Ofst | 0.0-50.0(8.0) | 10E | | Offset value for delay modulation (ms) |
| EQ LowFreq | *32-2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100-10.0k(1.8k) | 11C | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *-12~+12(+ 0) | 11E | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0-12.0(1.0) | 120 | I:EQ Mid Q | EQ Mid Q |
| EQ HiFreq | *500-16.0k(7.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Mode | *mono, stereo(mono) | 124 | I:Mode | Mono/stereo selection for the input |
| Dry/Wet | *D63>W,D=W,D<W63(D=W) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Celeste Same parameters for Chorus

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------------------------------|
| LFO Freq | *0.000-43.21(0.824) | 108 | I:LFO Freq | Delay modulation frequency (Hz) |
| LFO Depth | *0-127(28) | 10A | I:LFO Depth | Delay modulation depth |
| FB Level | *-63~+63(+ 0) | 10C | I:FB Level | Level at which the delay output is returned to the input (negative values invert the phase) |
| Delay Ofst | 0.0-50.0(1.0) | 10E | | Offset value for delay modulation (ms) |
| EQ LowFreq | *32-2.0k(110) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100-10.0k(2.0k) | 11C | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *-12~+12(- 2) | 11E | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0-12.0(1.0) | 120 | I:EQ Mid Q | EQ Mid Q |
| EQ HiFreq | *500-16.0k(7.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Mode | *mono, stereo(mono) | 124 | I:Mode | Mono/stereo selection for the input |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Flanger

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|----------------------------------------------------------------------------|
| LFO Freq | *0.000-43.21(0.504) | 108 | I:LFO Freq | Frequency of delay modulation (Hz) |
| LFO Depth | *0-127(30) | 10A | I:LFO Depth | Depth of delay modulation |
| FB Level | *-63~+63(+40) | 10C | I:FB Level | Level at which delay output is returned to the input |
| Delay Ofst | 0.0-50.0(0.2) | 10E | | Offset value for delay modulation (ms) |
| EQ LowFreq | *32-2.0k(200) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100-10.0k(1.8k) | 11C | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *-12~+12(+ 0) | 11E | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0-12.0(1.0) | 120 | I:EQ Mid Q | EQ Mid Q |
| EQ HiFreq | *500-16.0k(6.3k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| LFO Phase | -180~+180(-180) | 122 | | L/R phase difference of modulation waveform (no difference at 0 deg (=64)) |
| Dry/Wet | *D63>W,D=W,D<W63(D<W32) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Symphonic

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|--------------------------------------------------------------|
| LFO Freq | *0.000-43.21(0.458) | 108 | I:LFO Freq | Frequency of delay modulation (Hz) |
| LFO Depth | *0-127(40) | 10A | I:LFO Depth | Depth of delay modulation |
| Delay Ofst | 0.0-50.0(0.0) | 10C | | Delay modulation offset value (ms) |
| EQ LowFreq | *32-2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12-+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100-10.0k(4.0k) | 11C | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *-12-+12(- 3) | 11E | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0-12.0(1.0) | 120 | I:EQ Mid Q | EQ Mid Q |
| EQ HiFreq | *500-16.0k(6.3k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12-+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D<W32) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Phaser1

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|-----------------------------------------------------------------------------------------------|
| LFO Freq | *0.000-43.21(0.641) | 108 | I:LFO Freq | Frequency of phase modulation (Hz) |
| LFO Depth | *0-127(92) | 10A | I:LFO Depth | Depth of phase modulation |
| Phase Shift | 0-127(76) | 10C | | Phase shift offset value |
| FB Level | *-63-+63(+36) | 10E | I:FB Level | Level at which phaser output will be returned to the input (negative values invert the phase) |
| Stage | *4-12(6) | 11C | I:Stage | Number of phaser shifter stages |
| Diffuse | mono, stereo(stereo) | 11E | | Diffusion |
| EQ LowFreq | *32-2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12-+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500-16.0k(2.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12-+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D<W34) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Phaser2

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|-----------------------------------------------------------------------------------------------|
| LFO Freq | *0.000-43.21(0.091) | 108 | I:LFO Freq | Frequency of phase modulation (Hz) |
| LFO Depth | *0-127(127) | 10A | I:LFO Depth | Depth of phase modulation |
| Phase Shift | 0-127(25) | 10C | | Phase shift offset value |
| FB Level | *-63-+63(+51) | 10E | I:FB Level | Level at which phaser output will be returned to the input (negative values invert the phase) |
| Stage | *3-6(5) | 11C | I:Stage | Number of phaser shifter stages |
| LFO Phase | -180-+180(-180) | 120 | | L/R phase difference in the modulation waveform (no difference at 0 deg (=64)) |
| EQ LowFreq | *32-2.0k(200) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12-+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500-16.0k(5.6k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12-+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D<W32) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Pitch Chng

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|-------------------------------------------|
| Pitch | -24-+24(+ 0) | 108 | | Pitch change in semitone steps |
| InitDelay | 0.1-400.0(3.2) | 10A | | Delay length (msec) |
| Fine1 | -50-+50(+15) | 10C | | Fine pitch setting for first unit (cent) |
| Fine2 | -50-+50(-16) | 10E | | Fine pitch setting for second unit (cent) |
| FB Level | *-63-+63(+ 0) | 110 | I:FB Level | Amount of feedback |
| Pan1 | *L63- C ~R63(L63) | 11C | I:Pan1 | Panning of first unit |
| Out Level1 | *0-127(125) | 11E | I:OutLevel1 | Output level of first unit |
| Pan2 | *L63- C ~R63(R63) | 120 | I:Pan2 | Panning of second unit |
| Out Level2 | *0-127(127) | 122 | I:OutLevel2 | Output level of second unit |
| Dry/Wet | *D63>W,D=W,D<W63(D 3>W) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Ens Detune

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-----------------------|--------|-------------|--------------------------------------------------------------|
| Detune | -50~+50(-30) | 108 | | Amount by which the pitch will be detuned (cent) |
| InitDelayL | 0.0~50.0(1.0) | 10A | | Length of left channel delay (msec) |
| InitDelayR | 0.0~50.0(3.0) | 10C | | Length of right channel delay (msec) |
| EQ LowFreq | *32~2.0k(250) | 11C | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 0) | 11E | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500~16.0k(5.0k) | 120 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 122 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D=W) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Rotary SP

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|--------------------------------------------------------------|
| LFO Freq | *0.000~43.21(5.859) | 108 | I:LFO Freq | Rotation frequency of the speaker (Hz) |
| LFO Depth | *0~127(71) | 10A | I:LFO Depth | Depth of modulation produced by speaker rotation |
| EQ LowFreq | *32~2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(- 4) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100~10.0k(2.8k) | 11C | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *-12~+12(-12) | 11E | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0~12.0(2.4) | 120 | I:EQ Mid Q | EQ Mid Q |
| EQ HiFreq | *500~16.0k(7.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(-10) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

2WayRotary

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------------|
| Rotor Spd | *0.000~43.21(6.958) | 108 | I:Rotor Spd | Rotation frequency of the speaker (Hz) |
| Drive Low | *0~127(89) | 10A | I:Drive Low | Depth of modulation produced by low-range speaker rotation |
| Drive High | *0~127(62) | 10C | I:DriveHigh | Depth of modulation produced by high-range speaker rotation |
| Low/High | *L63>H,L=H,L<H63(L46>H) | 10E | I:Low/High | Volume balance between high-range speaker and low-range speaker |
| Mic Angle | 0~180(87) | 11E | | L/R angle of mics which pick up the output (°) |
| CrossFreq | 100~10.0k(700) | 11C | | Crossover frequency between high-range speaker and low-range speaker (Hz) |
| EQ LowFreq | *32~2.0k(110) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500~16.0k(3.2k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Tremolo

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|----------------------|--------|-------------|--------------------------------------------------------------------------------|
| LFO Freq | *0.000~43.21(1.831) | 108 | I:LFO Freq | Modulation frequency (Hz) |
| AM Depth | *0~127(112) | 10A | I:AM Depth | Amplitude modulation depth |
| PM Depth | *0~127(0) | 10C | I:PM Depth | Delay modulation depth |
| LFO Phase | -180~+180(+ 0) | 122 | | L/R phase difference of the modulation waveform (no difference at 0 deg (=64)) |
| EQ LowFreq | *32~2.0k(100) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100~10.0k(1.8k) | 11C | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *-12~+12(+ 0) | 11E | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0~12.0(1.0) | 120 | I:EQ Mid Q | EQ Mid Q |
| EQ HiFreq | *500~16.0k(7.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Mode | mono, stereo(stereo) | 124 | | Mono/stereo selection for the input |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Auto Pan

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|------------------------------------|--------|-------------|--------------------------------------------------------------|
| LFO Freq | *0.000-43.21(1.877) | 108 | I:LFO Freq | Auto pan frequency (Hz) |
| L/R Depth | *0-127(80) | 10A | I:L/R Depth | Left/right depth of panning |
| F/R Depth | *0-127(32) | 10C | I:F/R Depth | Front/rear depth of panning |
| PAN Dir | L<->R,L>R,L<R,Lturn,Rturn,L/R(L/R) | 10E | | Auto pan type (L<->R is sine wave, L/R is square wave) |
| EQ LowFreq | *32-2.0k(140) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100-10.0k(1.8k) | 11C | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *-12~+12(+ 0) | 11E | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0-12.0(1.0) | 120 | I:EQ Mid Q | EQ Mid Q |
| EQ HiFreq | *500-16.0k(6.3k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

Ambience

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|--------------------------|--------|-------------|--------------------------------------------------------------|
| Delay Time | 0.0-50.0(26.5) | 108 | | Delay length (ms) |
| Phase | *normal,inverse(inverse) | 10A | I:Phase | Invert the phase of the effect sound between L/R |
| EQ LowFreq | *32-2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 0) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500-16.0k(5.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(-10) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D<W10) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

A-Wah+Dist

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|--------------|---------------------------------------------------------------------|
| LFO Freq | *0.000-43.21(1.465) | 108 | I:LFO Freq | Modulation frequency (Hz) |
| LFO Depth | *0-127(84) | 10A | I:LFO Depth | Modulation Depth |
| Cutoff Freq | *0-127(46) | 10C | I:CutoffFreq | Cutoff Frequency (Hz) |
| Resonance | *1.0-12.0(3.4) | 10E | I:Resonance | Resonance |
| EQ LowFreq | *32-2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 2) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500-16.0k(4.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Drive | *0-127(60) | 11C | I:Drive | Degree of distortion |
| DS Low Gain | *-12~+12(+ 8) | 11E | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *-12~+12(+ 4) | 120 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| LPFCutoff | *1.0k-18.0k,thru(8.0k) | 122 | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| OutputLevel | *0-127(64) | 124 | I:Out Level | Output Level |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

A-Wah+Odrv Same parameters for A-Wah+Dist

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|--------------|---------------------------------------------------------------------|
| LFO Freq | *0.000-43.21(1.144) | 108 | I:LFO Freq | Modulation frequency (Hz) |
| LFO Depth | *0-127(64) | 10A | I:LFO Depth | Modulation Depth |
| Cutoff Freq | *0-127(32) | 10C | I:CutoffFreq | Cutoff Frequency (Hz) |
| Resonance | *1.0-12.0(2.3) | 10E | I:Resonance | Resonance |
| EQ LowFreq | *32-2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 2) | 114 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500-16.0k(4.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Drive | *0-127(16) | 11C | I:Drive | Degree of distortion |
| DS Low Gain | *-12~+12(+ 4) | 11E | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *-12~+12(+ 8) | 120 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| LPFCutoff | *1.0k-18.0k,thru(3.6k) | 122 | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| OutputLevel | *0-127(68) | 124 | I:Out Level | OutputLevel |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63- C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0-127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0-127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0-127 | 133 | | Insertion Dry Level |

T-Wah+Dist

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|--------------|--------------------------------------------------------------------------------|
| Sensitivity | *0~127(80) | 108 | I:Sens | Sensitivity at which the wah filter will change in response to the input level |
| Cutoff Freq | *0~127(18) | 10A | I:CutoffFreq | Offset value for the wah filter control frequency (Hz) |
| Resonance | *1.0~12.0(4.5) | 10C | I:Resonance | Bandwidth of the wah filter |
| Release | *10~680(170) | 126 | I:Release | Time until the wah filter is closed (msec) |
| EQ LowFreq | *32~2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 2) | 114 | I:EQLowGain | Amount of gain by which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500~16.0k(4.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Amount of gain by which the EQ will boost/cut the high range (dB) |
| Drive | *0~127(30) | 11C | I:Drive | (Distortion) Degree of distortion |
| DS Low Gain | *-12~+12(+ 8) | 11E | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *-12~+12(+10) | 120 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| LPFCutoff | *1.0k~18.0k,thru(9.0k) | 122 | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| OutputLevel | *0~127(72) | 124 | I:Out Level | OutputLevel |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

T-Wah+Odrv Same parameters for T-Wah+Dist

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|--------------|--------------------------------------------------------------------------------|
| Sensitivity | *0~127(61) | 108 | I:Sens | Sensitivity at which the wah filter will change in response to the input level |
| Cutoff Freq | *0~127(30) | 10A | I:CutoffFreq | Offset value for the wah filter control frequency (Hz) |
| Resonance | *1.0~12.0(4.1) | 10C | I:Resonance | Bandwidth of the wah filter |
| Release | *10~680(170) | 126 | I:Release | Time until the wah filter is closed (msec) |
| EQ LowFreq | *32~2.0k(250) | 112 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 2) | 114 | I:EQLowGain | Amount of gain by which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500~16.0k(4.0k) | 116 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(+ 0) | 118 | I:EQ HiGain | Amount of gain by which the EQ will boost/cut the high range (dB) |
| Drive | *0~127(15) | 11C | I:Drive | (Distortion) Degree of distortion |
| DS Low Gain | *-12~+12(+ 4) | 11E | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *-12~+12(+ 8) | 120 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| LPFCutoff | *1.0k~18.0k,thru(5.6k) | 122 | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| OutputLevel | *0~127(72) | 124 | I:Out Level | OutputLevel |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Wah+DS+Dly

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|--------------|---------------------------------------------------------------------|
| Sensitivity | *0~127(102) | 11C | I:Sens | Sensitivity |
| Cutoff Freq | *0~127(20) | 11E | I:CutoffFreq | Cutoff Frequency (Hz) |
| Resonance | *1.0~12.0(2.3) | 120 | I:Resonance | Resonance |
| Release | *10~680(75) | 122 | I:Release | Time until the wah filter is closed (msec) |
| Drive | *0~127(60) | 10E | I:Drive | Degree of distortion |
| OutputLevel | *0~127(53) | 110 | I:Out Level | OutputLevel |
| DS Low Gain | *-12~+12(+ 4) | 112 | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *-12~+12(+ 8) | 114 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| Delay | 0.1~1365.0(190.0) | 108 | | Delay time (msec) |
| FB Level | *-63~+63(+20) | 10A | I:FB Level | Feedback Level |
| Delay Mix | *0~127(30) | 10C | I:Delay Mix | Depth of delay effect |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Wah+OD+Dly Same parameters for Wah+DS+Dly

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|--------------|---------------------------------------------------------------------|
| Sensitivity | *0~127(80) | 11C | I:Sens | Sensitivity |
| Cutoff Freq | *0~127(35) | 11E | I:CutoffFreq | Cutoff Frequency (Hz) |
| Resonance | *1.0~12.0(3.0) | 120 | I:Resonance | Resonance |
| Release | *10~680(170) | 122 | I:Release | Time until the wah filter is closed (msec) |
| Drive | *0~127(16) | 10E | I:Drive | Degree of distortion |
| OutputLevel | *0~127(87) | 110 | I:Out Level | OutputLevel |
| DS Low Gain | *-12~+12(+ 0) | 112 | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *-12~+12(+ 0) | 114 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| Delay | 0.1~1365.0(160.0) | 108 | | Delay time (msec) |
| FB Level | *-63~+63(+20) | 10A | I:FB Level | Feedback Level |
| Delay Mix | *0~127(50) | 10C | I:Delay Mix | Depth of delay effect |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Lo-Fi

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|---------------------------------------|--------|-------------|---------------------------------------------------------------------|
| Smpl Freq | *48k~375(16.0k) | 108 | I:Smpl Freq | Sampling Frequency (Hz) |
| Word Length | *1~127(1) | 10A | I:Word Leng | Differential bit length of DPCM |
| Output Gain | *-6~+36(- 3) | 10C | I:Out Gain | Output Gain |
| LPFCutoff | *63~18.0k(thru) | 10E | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| LPF Reso | *1.0~12.0(2.9) | 112 | I:LPF Reso | Resonance of low pass filter |
| Filter | thru,pbass,radio,tel,clean,low(clean) | 110 | | Characteristics (quality) of low pass filter |
| Bit Assign | 0~6(1) | 114 | | Input signal depth of DPCM |
| Emphasis | off,on(off) | 116 | | Adjustment of high frequency response |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

3-Band EQ

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------|--------|-------------|-------------------------------------------------------------------|
| Low Freq | *50~2.0k(180) | 112 | I:Low Freq | Frequency at which the EQ will boost/cut the low range (Hz) |
| Low Gain | *-12~+12(+ 0) | 108 | I:Low Gain | Amount of gain by which the EQ will boost/cut the low range (dB) |
| Mid Freq | *100~10.0k(1.0k) | 10A | I:Mid Freq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| Mid Gain | *-12~+12(+ 0) | 10C | I:Mid Gain | Amount of gain by which the EQ will boost/cut the mid range (dB) |
| Mid Q | *1.0~12.0(5.0) | 10E | I:Mid Q | Mid Q |
| High Freq | *500~16.0k(8.0k) | 114 | I:High Freq | Frequency at which the EQ will boost/cut the high range (Hz) |
| High Gain | *-12~+12(+ 0) | 110 | I:High Gain | Amount of gain by which the EQ will boost/cut the high range (dB) |
| Mode | mono,sterео(mono) | 124 | | Mono/sterео input mode selection |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

HM Enhncer

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|------------------|--------|-------------|-----------------------------------------------------------------------------------------|
| HPFCutoff | *500~16.0k(5.6k) | 108 | I:HPFCutoff | Frequency at which the high pass filter will cut the low range of the effect sound (Hz) |
| Drive | *0~127(20) | 10A | I:Drive | Degree with which the exciter effect will be applied |
| Mix Level | *0~127(30) | 10C | I:Mix Level | Level at which the effect sound will be mixed into the dry sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Noise Gate

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|----------------|--------|-------------|---------------------------------------------------|
| Attack | *1~40(1) | 108 | I:Attack | Time until when the gate begins to open (msec) |
| Release | *10~680(140) | 10A | I:Release | Time until the gate closes (msec) |
| Threshold | *.72~-30(-45) | 10C | I:Threshold | Input level at which the gate begins to open (dB) |
| OutputLevel | *0~127(50) | 10E | I:Out Level | Output level |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Compressor

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|----------------|--------|-------------|-------------------------------------------------------------|
| Attack | *1~40(12) | 108 | I:Attack | Time until when the compressor begins to take effect (msec) |
| Release | *10~680(25) | 10A | I:Release | Time until the compressor effect disappears (msec) |
| Threshold | *.48~-6(-28) | 10C | I:Threshold | Input level at which compression begins to be applied (dB) |
| Ratio | *1.0~20.0(5.0) | 10E | I:Ratio | Compression ratio of the compressor |
| OutputLevel | *0~127(80) | 110 | I:Out Level | Output level |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Comp+Dist

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------|
| Attack | *1~40(7) | 11E | I:Attack | Time until the compression takes effect (msec) |
| Release | *10~680(25) | 120 | I:Release | Time until the compression finishes (msec) |
| Threshold | *.48~-6(-27) | 122 | I:Threshold | Input level at which the compression takes effect (dB) |
| Ratio | *1.0~20.0(7.0) | 124 | I:Ratio | Ratio of compressed level to input level |
| Drive | *0~127(60) | 108 | I:Drive | Degree of distortion |
| EQ LowFreq | *32~2.0k(250) | 10A | I:EQLowFreq | EQ low frequency (Hz) |
| EQ Low Gain | *.12~+12(+ 5) | 10C | I:EQLowGain | EQ low gain (dB) |
| EQMidFreq | *100~10.0k(4.0k) | 114 | I:EQMidFreq | EQ middle frequency (Hz) |
| EQ Mid Gain | *.12~+12(+ 8) | 116 | I:EQMidGain | EQ middle gain (dB) |
| EQ Mid Q | *1.0~12.0(1.0) | 118 | I:EQ Mid Q | EQ middle Q |
| LPF Cutoff | *1.0k~18.0k,thru(9.0k) | 10E | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| Edge | *0~127(120) | 11C | I:Edge | Sharpness of distorted sound |
| OutputLevel | *0~127(70) | 110 | I:Out Level | OutputLevel |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Cmp+DS+Dly

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------|
| Attack | *1~40(7) | 11C | I:Attack | Time until the compression takes effect (msec) |
| Release | *10~680(140) | 11E | I:Release | Time until the compression finishes (msec) |
| Threshold | *.48~-6(-32) | 120 | I:Threshold | Input level at which the compression takes effect (dB) |
| Ratio | *1.0~20.0(7.0) | 122 | I:Ratio | Ratio of compressed level to input level |
| Drive | *0~127(60) | 10E | I:Drive | Degree of distortion |
| OutputLevel | *0~127(51) | 110 | I:Out Level | OutputLevel |
| DS Low Gain | *.12~+12(+ 4) | 112 | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *.12~+12(+ 8) | 114 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| Delay | 0.1~1365.0(190.0) | 108 | | Delay time (msec) |
| FB Level | *.63~+63(+ 8) | 10A | I:FB Level | Feedback level |
| Delay Mix | *0~127(38) | 10C | I:Delay Mix | Depth of delay effect |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Cmp+OD+Dly Same parameters for Cmp+DS+Dly

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------|
| Attack | *1-40(7) | 11C | I:Attack | Time until the compression takes effect (msec) |
| Release | *10-680(25) | 11E | I:Release | Time until the compression finishes (msec) |
| Threshold | *.48~-6(-32) | 120 | I:Threshold | Input level at which the compression takes effect (dB) |
| Ratio | *1.0~20.0(5.0) | 122 | I:Ratio | Ratio of compressed level to input level |
| Drive | *0~127(18) | 10E | I:Drive | Degree of distortion |
| OutputLevel | *0~127(65) | 110 | I:Out Level | OutputLevel |
| DS Low Gain | *.12~+12(+ 4) | 112 | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *.12~+12(+ 5) | 114 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| Delay | 0.1~1365.0(190.0) | 108 | | Delay time (msec) |
| FB Level | *.63~+63(+10) | 10A | I:FB Level | Feedback level |
| Delay Mix | *0~127(50) | 10C | I:Delay Mix | Depth of delay effect |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Distortion

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------------------------------------------------------|
| Drive | *0~127(60) | 108 | I:Drive | Degree of distortion |
| EQ LowFreq | *32~2.0k(180) | 10A | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *.12~+12(+ 8) | 10C | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100~10.0k(1.1k) | 114 | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *.12~+12(+10) | 116 | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0~12.0(1.0) | 118 | I:EQ Mid Q | EQ Mid Q |
| LPFCutoff | *1.0k~18.0k,thru(9.0k) | 10E | I:LPFCutoff | Frequency at which the filter will cut the high range (Hz) |
| Edge | *0~127(80) | 11C | I:Edge | Curve of distortion characteristics (sharp (127): distortion begins suddenly;mild (0): distortion begins gradually) |
| OutputLevel | *0~127(65) | 110 | I:Out Level | Output level |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and the effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Dist+Delay

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------|
| Drive | *0~127(60) | 112 | I:Drive | Degree of distortion |
| DS Low Gain | *.12~+12(+ 8) | 116 | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *.12~+12(+10) | 118 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| LchDelay | 0.1~1365.0(50.0) | 108 | | Left channel delay (msec) |
| RchDelay | 0.1~1365.0(100.0) | 10A | | Right channel delay (msec) |
| FB Delay | 0.1~1365.0(200.0) | 10C | | Feedback delay (msec) |
| FB Level | *.63~+63(+20) | 10E | I:FB Level | Feedback Level |
| Delay Mix | *0~127(80) | 110 | I:Delay Mix | Depth of delay effect |
| OutputLevel | *0~127(42) | 114 | I:Out Level | OutputLevel |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Overdrive Same parameters for Distortion

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------------------------------------------------------|
| Drive | *0~127(29) | 108 | I:Drive | Degree of distortion |
| EQ LowFreq | *32~2.0k(315) | 10A | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *.12~+12(+ 4) | 10C | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQMidFreq | *100~10.0k(1.2k) | 114 | I:EQMidFreq | Frequency at which the EQ will boost/cut the mid range (Hz) |
| EQ Mid Gain | *.12~+12(+ 8) | 116 | I:EQMidGain | Gain with which the EQ will boost/cut the mid range (dB) |
| EQ Mid Q | *1.0~12.0(1.0) | 118 | I:EQ Mid Q | EQ Mid Q |
| LPFCutoff | *1.0k~18.0k,thru(4.0k) | 10E | I:LPFCutoff | Frequency at which the filter will cut the high range (Hz) |
| Edge | *0~127(104) | 11C | I:Edge | Curve of distortion characteristics (sharp (127): distortion begins suddenly;mild (0): distortion begins gradually) |
| OutputLevel | *0~127(80) | 110 | I:Out Level | Output level |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and the effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Odrv+Delay Same parameters for Dist+Delay

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|---------------------------------------------------------------------|
| Drive | *0~127(25) | 112 | I:Drive | Degree of distortion |
| DS Low Gain | *.12~+12(+ 4) | 116 | I:DSLowGain | Gain with which the distortion will boost/cut the low range (dB) |
| DS Mid Gain | *.12~+12(+ 8) | 118 | I:DSMidGain | Gain with which the distortion will boost/cut the middle range (dB) |
| LchDelay | 0.1~1365.0(50.0) | 108 | | Left channel delay (msec) |
| RchDelay | 0.1~1365.0(100.0) | 10A | | Right channel delay (msec) |
| FB Delay | 0.1~1365.0(200.0) | 10C | | Feedback Delay (msec) |
| FB Level | *.63~+63(+20) | 10E | I:FB Level | Feedback Level |
| Delay Mix | *0~127(64) | 110 | I:Delay Mix | Depth of delay effect |
| OutputLevel | *0~127(55) | 114 | I:Out Level | OutputLevel |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Amp Sim

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|----------------------------|--------|-------------|---------------------------------------------------------------------------------------------------------------------|
| Drive | *0~127(76) | 108 | I:Drive | Degree of distortion |
| Amp Type | off,stack,combo,tube(tube) | 10A | | Select the type of amp to be simulated |
| LPFCutoff | *1.0k~18.0k,thru(2.5k) | 10C | I:LPFCutoff | Select the type of amp to be simulated (Hz) |
| Edge | *0~127(102) | 11C | I:Edge | Curve of distortion characteristics (sharp (127): distortion begins suddenly;mild (0): distortion begins gradually) |
| OutputLevel | *0~127(80) | 10E | I:Out Level | Output level |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Delay LCR

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|-------------------------------------------------------------------------------|
| LchDelay | 0.1~1365.0(333.3) | 108 | | Length of left channel delay (msec) |
| RchDelay | 0.1~1365.0(166.7) | 10A | | Length of right channel delay (msec) |
| CchDelay | 0.1~1365.0(500.0) | 10C | | Length of center channel delay (msec) |
| FB Delay | 0.1~1365.0(500.0) | 10E | | Length of feedback delay (msec) |
| FB Level | *.63~+63(+10) | 110 | I:FB Level | Feedback amount |
| Cch Level | *0~127(100) | 112 | I:Cch Level | Volume of center channel |
| High Damp | 0.1~1.0(0.3) | 114 | | High range attenuation (lower values cause the high range to decay faster) |
| EQ LowFreq | *32~2.0k(400) | 120 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *.12~+12(+ 0) | 122 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500~16.0k(4.0k) | 124 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *.12~+12(+ 0) | 126 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D32>W) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Delay L,R

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|-------------------------------------------------------------------------------|
| LchDelay | 0.1~1365.0(250.0) | 108 | | Length of left channel delay (msec) |
| RchDelay | 0.1~1365.0(375.0) | 10A | | Length of right channel delay (msec) |
| FBDelay1 | 0.1~1365.0(375.2) | 10C | | Length of feedback delay 1 (msec) |
| FBDelay2 | 0.1~1365.0(375.0) | 10E | | Length of feedback delay 2 (msec) |
| FB Level | *.63~+63(+23) | 110 | I:FB Level | Amount of feedback |
| High Damp | 0.1~1.0(0.3) | 112 | | High range attenuation (lower values cause the high range to decay faster) |
| EQ LowFreq | *32~2.0k(400) | 120 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *.12~+12(+ 0) | 122 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500~16.0k(4.0k) | 124 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *.12~+12(+ 0) | 126 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D32>W) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Echo

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|-------------------------------------------------------------------------------|
| LchDelay1 | 0.1~682.0(220.0) | 108 | | Length of first delay of left channel (msec) |
| Lch FB Lvl | *-63~+63(+22) | 10A | I:Lch FBLvl | Amount of feedback for left channel |
| RchDelay1 | 0.1~682.0(210.0) | 10C | | Length of first delay of right channel (msec) |
| Rch FB Lvl | *-63~+63(+21) | 10E | I:Rch FBLvl | Amount of feedback for right channel |
| High Damp | 0.1~1.0(0.5) | 110 | | High range attenuation (lower values cause the high range to decay faster) |
| LchDelay2 | 0.1~682.0(230.0) | 112 | | Length of second delay of left channel (msec) |
| RchDelay2 | 0.1~682.0(235.0) | 114 | | Length of second delay of right channel (msec) |
| Delay2 Lvl | *0~127(62) | 116 | I:Delay2Lvl | Volume of second delay |
| EQ LowFreq | *32~2.0k(280) | 120 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(- 6) | 122 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500~16.0k(6.3k) | 124 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(- 1) | 126 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D32>W) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

CrossDelay

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|--------------------------------------------------------------------------------|
| L>R Delay | 0.1~682.0(365.0) | 108 | | Delay time from left (input) to right (output) (msec) |
| R>L Delay | 0.1~682.0(365.0) | 10A | | Delay time from right (input) to left (output) (msec) |
| FB Level | *-63~+63(+24) | 10C | I:FB Level | Amount of feedback |
| InputSelect | L,R,L&R(R) | 10E | | Input select |
| High Damp | 0.1~1.0(0.5) | 110 | | High range attenuation (lower values cause the high range to decay faster)) |
| EQ LowFreq | *32~2.0k(355) | 120 | I:EQLowFreq | Frequency at which the EQ will boost/cut the low range (Hz) |
| EQ Low Gain | *-12~+12(+ 0) | 122 | I:EQLowGain | Gain with which the EQ will boost/cut the low range (dB) |
| EQ HiFreq | *500~16.0k(6.3k) | 124 | I:EQ HiFreq | Frequency at which the EQ will boost/cut the high range (Hz) |
| EQ Hi Gain | *-12~+12(- 2) | 126 | I:EQ HiGain | Gain with which the EQ will boost/cut the high range (dB) |
| Dry/Wet | *D63>W,D=W,D<W63(D32>W) | 11A | I:Dry/Wet | Balance of the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

ER 1

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|------------------------------|--------|-------------|---------------------------------------------------------------------------------------|
| Early Type | S-H,L-H,rdm,rvs,plt,spr(S-H) | 108 | | Type of early reflections (small hall, large hall, random, reverse, plate, spring) |
| Room Size | 0.1~20.0(4.0) | 10A | | Room Size |
| Diffusion | 0~10(5) | 10C | | Diffusion |
| InitDelay | 0.1~200.0(9.5) | 10E | | Delay time until early reflections start (msec) |
| FB Level | *-63~+63(+10) | 110 | I:FB Level | Feedback Level |
| HPF Cutoff | *thru,22~8.0k(thru) | 112 | I:HPFCutoff | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | *1.0k~18.0k,thru(4.0k) | 114 | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| Liveness | 0~10(7) | 11C | | Emphasis in high frequencies |
| Density | 0~3(1) | 11E | | Density of early reflections |
| High Damp | 0.1~1.0(1.0) | 120 | | High range attenuation (lower values cause the high range to decay faster) |
| Dry/Wet | *D63>W,D=W,D<W63(D35>W) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

ER 2 Same parameters for ER 1

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|------------------------------|--------|-------------|---------------------------------------------------------------------------------------|
| Early Type | S-H,L-H,rdm,rvs,plt,spr(rdm) | 108 | | Type of early reflections (Small Hall, Large Hall, random, reverse, plate, spring) |
| Room Size | 0.1~20.0(2.0) | 10A | | Room Size |
| Diffusion | 0~10(8) | 10C | | Diffusion |
| InitDelay | 0.1~200.0(6.4) | 10E | | Delay time until early reflections start (msec) |
| FB Level | *-63~+63(+ 3) | 110 | I:FB Level | Feedback Level |
| HPF Cutoff | *thru,22~8.0k(thru) | 112 | I:HPFCutoff | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | *1.0k~18.0k,thru(12.0k) | 114 | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| Liveness | 0~10(5) | 11C | | Emphasis in high frequencies |
| Density | 0~3(3) | 11E | | Density of early reflections |
| High Damp | 0.1~1.0(1.0) | 120 | | High range attenuation (lower values cause the high range to decay faster) |
| Dry/Wet | *D63>W,D=W,D<W63(D35>W) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Gate Rev

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|-------------------------------------------------------------------------------|
| Gate Type | typeA,typeB(typeA) | 108 | | Gate Reverb Type |
| Room Size | 0.1~20.0(1.0) | 10A | | Room Size |
| Diffusion | 0~10(10) | 10C | | Diffusion |
| InitDelay | 0.1~200.0(0.1) | 10E | | Delay time until early reflections start (msec) |
| FB Level | *-63~+63(+ 0) | 110 | I:FB Level | Feedback Level |
| HPF Cutoff | *thru,22~8.0k(thru) | 112 | I:HPFCutoff | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | *1.0k~18.0k,thru(8.0k) | 114 | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| Liveness | 0~10(5) | 11C | | Emphasis in high frequencies |
| Density | 0~3(3) | 11E | | Density of early reflections |
| High Damp | 0.1~1.0(0.5) | 120 | | High range attenuation (lower values cause the high range to decay faster) |
| Dry/Wet | *D63>W,D=W,D<W63(D12>W) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

Revs Gate Same parameters for Gate Rev

| | Range(Default) | Param# | Ctrl Dest | Description |
|-------------|-------------------------|--------|-------------|-------------------------------------------------------------------------------|
| Gate Type | typeA,typeB(typeB) | 108 | | Gate Reverb Type |
| Room Size | 0.1~20.0(2.5) | 10A | | Room Size |
| Diffusion | 0~10(8) | 10C | | Diffusion |
| InitDelay | 0.1~200.0(4.8) | 10E | | Delay time until the early reflections (msec) |
| FB Level | *-63~+63(+ 0) | 110 | I:FB Level | Feedback Level |
| HPF Cutoff | *thru,22~8.0k(thru) | 112 | I:HPFCutoff | Frequency at which the high pass filter will cut the low range (Hz) |
| LPFCutoff | *1.0k~18.0k,thru(4.5k) | 114 | I:LPFCutoff | Frequency at which the low pass filter will cut the high range (Hz) |
| Liveness | 0~10(6) | 11C | | Emphasis in high frequencies |
| Density | 0~3(3) | 11E | | Density of early reflections |
| High Damp | 0.1~1.0(1.0) | 120 | | High range attenuation (lower values cause the high range to decay faster) |
| Dry/Wet | *D63>W,D=W,D<W63(D<W63) | 11A | I:Dry/Wet | Balance between the dry sound and effect sound |
| Ins Pan | L63~ C ~R63 | 130 | | Insertion Pan |
| SendIns-Rev | 0~127 | 131 | | Insertion-to-Reverb Send Level |
| SendIns-Var | 0~127 | 132 | | Insertion-to-Variation Send Level |
| InsDryLevel | 0~127 | 133 | | Insertion Dry Level |

MIDI Data Format

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

| Decimal | Hexadecimal | Binary |
|---------|-------------|-----------|
| 0 | 00 | 0000 0000 |
| 1 | 01 | 0000 0001 |
| 2 | 02 | 0000 0010 |
| 3 | 03 | 0000 0011 |
| 4 | 04 | 0000 0100 |
| 5 | 05 | 0000 0101 |
| 6 | 06 | 0000 0110 |
| 7 | 07 | 0000 0111 |
| 8 | 08 | 0000 1000 |
| 9 | 09 | 0000 1001 |
| 10 | 0A | 0000 1010 |
| 11 | 0B | 0000 1011 |
| 12 | 0C | 0000 1100 |
| 13 | 0D | 0000 1101 |
| 14 | 0E | 0000 1110 |
| 15 | 0F | 0000 1111 |
| 16 | 10 | 0001 0000 |
| 17 | 11 | 0001 0001 |
| 18 | 12 | 0001 0010 |
| 19 | 13 | 0001 0011 |
| 20 | 14 | 0001 0100 |
| 21 | 15 | 0001 0101 |
| 22 | 16 | 0001 0110 |
| 23 | 17 | 0001 0111 |
| 24 | 18 | 0001 1000 |
| 25 | 19 | 0001 1001 |
| 26 | 1A | 0001 1010 |
| 27 | 1B | 0001 1011 |
| 28 | 1C | 0001 1100 |
| 29 | 1D | 0001 1101 |
| 30 | 1E | 0001 1110 |
| 31 | 1F | 0001 1111 |
| 32 | 20 | 0010 0000 |
| 33 | 21 | 0010 0001 |
| 34 | 22 | 0010 0010 |
| 35 | 23 | 0010 0011 |
| 36 | 24 | 0010 0100 |
| 37 | 25 | 0010 0101 |
| 38 | 26 | 0010 0110 |
| 39 | 27 | 0010 0111 |
| 40 | 28 | 0010 1000 |
| 41 | 29 | 0010 1001 |
| 42 | 2A | 0010 1010 |
| 43 | 2B | 0010 1011 |
| 44 | 2C | 0010 1100 |
| 45 | 2D | 0010 1101 |
| 46 | 2E | 0010 1110 |
| 47 | 2F | 0010 1111 |
| 48 | 30 | 0011 0000 |
| 49 | 31 | 0011 0001 |
| 50 | 32 | 0011 0010 |
| 51 | 33 | 0011 0011 |
| 52 | 34 | 0011 0100 |
| 53 | 35 | 0011 0101 |
| 54 | 36 | 0011 0110 |
| 55 | 37 | 0011 0111 |
| 56 | 38 | 0011 1000 |
| 57 | 39 | 0011 1001 |
| 58 | 3A | 0011 1010 |
| 59 | 3B | 0011 1011 |
| 60 | 3C | 0011 1100 |
| 61 | 3D | 0011 1101 |
| 62 | 3E | 0011 1110 |
| 63 | 3F | 0011 1111 |

| Decimal | Hexadecimal | Binary |
|---------|-------------|-----------|
| 64 | 40 | 0100 0000 |
| 65 | 41 | 0100 0001 |
| 66 | 42 | 0100 0010 |
| 67 | 43 | 0100 0011 |
| 68 | 44 | 0100 0100 |
| 69 | 45 | 0100 0101 |
| 70 | 46 | 0100 0110 |
| 71 | 47 | 0100 0111 |
| 72 | 48 | 0100 1000 |
| 73 | 49 | 0100 1001 |
| 74 | 4A | 0100 1010 |
| 75 | 4B | 0100 1011 |
| 76 | 4C | 0100 1100 |
| 77 | 4D | 0100 1101 |
| 78 | 4E | 0100 1110 |
| 79 | 4F | 0100 1111 |
| 80 | 50 | 0101 0000 |
| 81 | 51 | 0101 0001 |
| 82 | 52 | 0101 0010 |
| 83 | 53 | 0101 0011 |
| 84 | 54 | 0101 0100 |
| 85 | 55 | 0101 0101 |
| 86 | 56 | 0101 0110 |
| 87 | 57 | 0101 0111 |
| 88 | 58 | 0101 1000 |
| 89 | 59 | 0101 1001 |
| 90 | 5A | 0101 1010 |
| 91 | 5B | 0101 1011 |
| 92 | 5C | 0101 1100 |
| 93 | 5D | 0101 1101 |
| 94 | 5E | 0101 1110 |
| 95 | 5F | 0101 1111 |
| 96 | 60 | 0110 0000 |
| 97 | 61 | 0110 0001 |
| 98 | 62 | 0110 0010 |
| 99 | 63 | 0110 0011 |
| 100 | 64 | 0110 0100 |
| 101 | 65 | 0110 0101 |
| 102 | 66 | 0110 0110 |
| 103 | 67 | 0110 0111 |
| 104 | 68 | 0110 1000 |
| 105 | 69 | 0110 1001 |
| 106 | 6A | 0110 1010 |
| 107 | 6B | 0110 1011 |
| 108 | 6C | 0110 1100 |
| 109 | 6D | 0110 1101 |
| 110 | 6E | 0110 1110 |
| 111 | 6F | 0110 1111 |
| 112 | 70 | 0111 0000 |
| 113 | 71 | 0111 0001 |
| 114 | 72 | 0111 0010 |
| 115 | 73 | 0111 0011 |
| 116 | 74 | 0111 0100 |
| 117 | 75 | 0111 0101 |
| 118 | 76 | 0111 0110 |
| 119 | 77 | 0111 0111 |
| 120 | 78 | 0111 1000 |
| 121 | 79 | 0111 1001 |
| 122 | 7A | 0111 1010 |
| 123 | 7B | 0111 1011 |
| 124 | 7C | 0111 1100 |
| 125 | 7D | 0111 1101 |
| 126 | 7E | 0111 1110 |
| 127 | 7F | 0111 1111 |

Additional Notes

* For example, 144 - 159(Decimal)/9nH/1001 0000 - 1001 1111(Binary) indicate the note-on messages for the channels 1 through 16 respectively. 176 - 191/BnH/1011 0000 - 1011 1111 indicate the control change messages for the channels 1 through 16 respectively. 192 - 207/CnH/1100 0000 - 1100 1111 indicate the program change messages for the channels 1 through 16 respectively. 240/FOH/1111 0000 is positioned at the beginning of data to indicate a system exclusive message. 247/F7H/1111 0111 is positioned at the end of the system exclusive message.

* aaH(Decimal)/0aaaaaa(Binary) indicates the data addresses. The data address consists of High, Mid and Low.

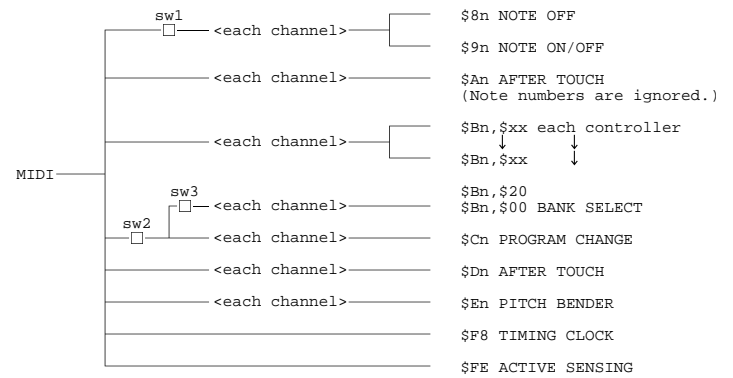
* bbH/0bbbbbbb indicates byte counts.

* ccH/0ccccccc indicates tcheck sums.

* ddH/0ddddddd indicates data/value.

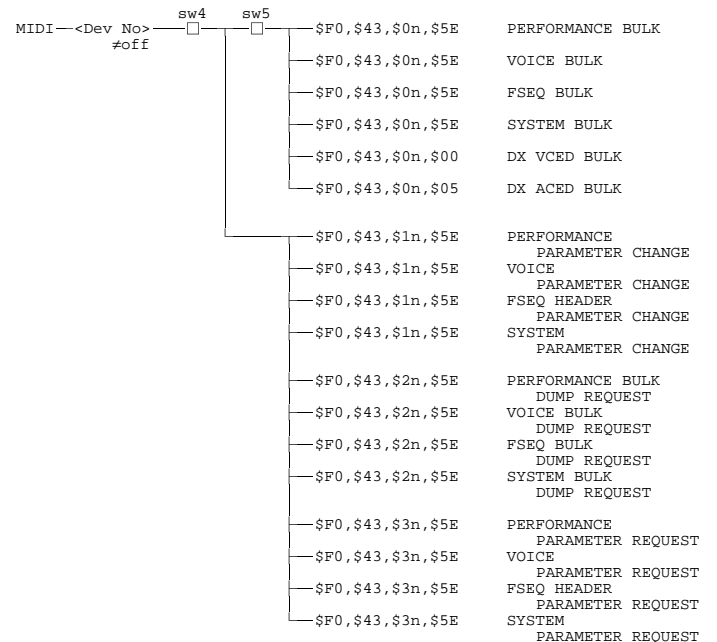
1.MIDI Reception/Transmission Block Diagrams

< MIDI Reception Conditions > 1/2



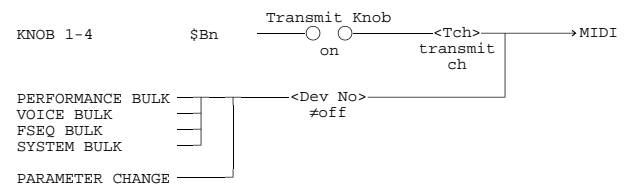
Note: sw1: Selected from among all, odd, and even in a MIDI setting (Receive Note).
sw2: Switched on with a MIDI setting (Receive Program Change = on).
sw3: Switched on with a MIDI setting (Receive Bank Select = on).

< MIDI Reception Conditions > 2/2



Note: sw4: Switched on with a MIDI setting (Receive System Exclusive = on).
sw5: Switched on with a MIDI setting (Receive Bulk Dump = on).

< MIDI Transmission Conditions >



2.Channel Messages

2.1 Transmission

2.1.1 Control Change

Assigned controller numbers are output when built-in knobs are turned.

| Cntrl# | Parameter | Data Range |
|-------------|-----------------|------------|
| 73 | Attack Time | 0-127 |
| 72 | Release Time | 0-127 |
| 1-31, 33-95 | Formant Control | 0-127 |
| 1-31, 33-95 | FM Control | 0-127 |
| 1-31, 33-95 | Knob 1 | 0-127 |
| 1-31, 33-95 | Knob 2 | 0-127 |
| 1-31, 33-95 | Knob 3 | 0-127 |
| 1-31, 33-95 | Knob 4 | 0-127 |

Note: Attack Time to FM Control are assigned to knobs with the upper LED lit. Knob 1 to 4 are assigned with the lower LED lit.

2.2 Reception

2.2.1 Note On/Off

2.2.1.1 Note Off

| | | |
|----------------|---|--------------|
| key range | = | C-2-G8 |
| velocity range | = | not received |

2.2.1.2 Note On / Off

| | | |
|----------------|---|----------------------|
| key range | = | C-2-G8 |
| velocity range | = | 0-127 (0 = Note off) |

2.2.2 Control Change

Parameters in the following table are controllable using MIDI. A part that can receive multiple channels operates by those channels in the received order.

| Cntrl# | Parameter | Data Range |
|-------------|-------------------|--------------|
| 0 | Bank Select MSB | 0-127 *1 |
| 32 | Bank Select LSB | 0-127 *1 |
| 1 | Modulation wheel | 0-127 |
| 5 | Portamento Time | 0-127 *2 |
| 6 | Data Entry | 0-127 *2, *3 |
| 7 | Volume | 0-127 *2, *4 |
| 10 | Pan | 0-127 *2, *4 |
| 11 | Expression | 0-127 |
| 64 | Sustain (Hold1) | 0, 127 |
| 65 | Portamento Switch | 0, 127 *2 |
| 71 | Harmonic Content | 0-127 *2 |
| 72 | Release Time | 0-127 *2 |
| 73 | Attack Time | 0-127 *2 |
| 74 | Brightness | 0-127 *2 |
| 91 | Reverb Send | 0-127 *2 |
| 93 | Variation Send | 0-127 *2 |
| 1-31, 33-95 | BC (default: 2) | 0-127 |
| 1-31, 33-95 | FC (default: 4) | 0-127 |
| 1-31, 33-95 | Formant Control | 0-127 *2 |
| 1-31, 33-95 | FM Control | 0-127 *2 |
| 1-31, 33-95 | Knob 1-4 | 0-127 |
| 1-31, 33-95 | MIDI Control 1-4 | 0-127 |
| 98 | NRPN LSB | 8-102 *3 |
| 99 | NRPN MSB | 1 *3 |
| 100 | RPN LSB | 0-2 *3 |
| 101 | RPN MSB | 0 *3 |

*1: Refer to "2.2.3 Program Change."

*2: Corresponding parameter values directly change with control changes, without using the control matrix. Those values become reference points for control changes routed by the control matrix, which are not reset by Reset All Controllers.

*3: Parameters that follow are controllable using NRPN or RPN messages.

| NRPN MSB LSB | Data Entry MSB | Part Parameter | Data Range |
|--------------|----------------|----------------|------------|
| 01H 08H | 00H-40H-7FH | LFO1 Speed | -64-+0-+63 |
| 01H 09H | 00H-40H-7FH | LFO1 Pmod | -64-+0-+63 |
| 01H 0AH | 00H-40H-7FH | LFO1 Delay | -64-+0-+63 |
| 01H 0BH | 00H-40H-7FH | LFO2 Speed | -64-+0-+63 |
| 01H 0CH | 00H-40H-7FH | LFO2 FltMod | -64-+0-+63 |
| 01H 20H | 00H-40H-7FH | Filter Freq | -64-+0-+63 |
| 01H 21H | 00H-40H-7FH | Filter Reso | -64-+0-+63 |
| 01H 63H | 00H-40H-7FH | Attack Time | -64-+0-+63 |
| 01H 64H | 00H-40H-7FH | Decay Time | -64-+0-+63 |
| 01H 66H | 00H-40H-7FH | ReleaseTime | -64-+0-+63 |
| RPN MSB LSB | Data Entry MSB | Part Parameter | Data Range |
| 00H 00H | 00H-18H | PB Range | +0, +1-+24 |
| | | PB Range Lo- | 1--24 |
| 00H 01H | 0FH-40H-70H | Detune | -64-+0-+63 |
| 00H 02H | 28H-40H-58H | Note Shift | -24-+0-+24 |

On reception of Pitch Bend Range, PB Range Lo is set to a minus value of received value.

*4: With "Program Change Mode = perform," Performance Volume and Pan are controllable using Performance Channel. With "Program Change Mode = multi," Performance Volume and Pan are controllable using Performance Channel while Part Volume and Pan are controllable using Part Receive Channel.

2.2.3 Program Change

On reception of Program Change, FS1R operates as follows.

Receives Program Change is received only in PLAY MODE.

In case "Receive Program Change = off" is selected in system setup, Bank Select and Program Change are not received. With "Receive Program Change = on" and "Receive Bank Select = off," Bank Select is not received. On reception of Program Change, a voice or performance program (1~128), depending on the Program Change Mode setting, from the current bank is selected.

With "Program Change Mode = perform," a performance program is selected using Performance Channel. With "Program Change Mode = multi," a performance program is selected using Performance Channel and a voice program is selected using Part Receive Channel.

Bank Select and Program Change data bytes are as follow.

| | | Bank No. MSB / LSB | PGM CNG No. |
|-------------|----------|-----------------------|----------------------------------|
| Voice | INTERNAL | 63 (\$3F) / 0 (\$00) | 1-128 (\$00-\$7F) ↓ ↓ ↓ |
| | PRESET A | 63 (\$3F) / 1 (\$01) | |
| | PRESET K | 63 (\$3F) / 11 (\$0B) | |
| Performance | INTERNAL | 63 (\$3F) / 64 (\$40) | 1-128 (\$00-\$7F) ↓ ↓ ↓ |
| | PRESET A | 63 (\$3F) / 65 (\$41) | |
| | PRESET B | 63 (\$3F) / 66 (\$42) | |
| | PRESET C | 63 (\$3F) / 67 (\$43) | |

BANK SELECT \$Bn, \$00, \$3F (MSB)
\$Bn, \$20, \$00-\$0B or \$40-\$43 (LSB)
PROGRAM CHANGE \$Cn, \$00-\$7F

Bank Select other than found in the above table is ignored. Thus, any bank selection does not take place and a following Program Change selects from the current bank that is not changed.

2.2.3.1 Performance Program Change

Bank Select or Program Change for a performance is received using Performance Channel, as follows.

1-16: Received only specified channel.
all: Received all channels (OMNI ON).
off: Not received.

2.2.3.2 Voice Program Change

Bank Select or Program Change for a voice is received using Part Receive Channel (Part Receive Channel to Part Receive Channel Max). With "Part Receive Channel = prfm," Part Receive Channel matches Performance Channel.

2.2.4 Pitch Bend Change

FS1R receives only Pitch Bend Change MSB. A part assigned with multiple channels can sound separately according to Pitch Bend Change on different channels.

2.2.5 After Touch

After Touch is received on Receive Channel (s) specified. A part assigned with multiple channels equivalently receives After Touch on different channels, giving priority to last reception of this message. The 3rd byte of Polyphonic After Touch is ignored and processed as Channel After Touch.

2.2.6 Channel Mode Message

| Cntrl# | Parameter | Data Range |
|--------|----------------------|------------|
| 120 | All Sound Off | 0 |
| 121 | Reset All Controller | 0 *1 |
| 123 | 11 Notes Off | 0 |
| 126 | Mono | 0 *2 |
| 127 | Pol | 0 |

*1 A default value for each message reception is as follows.

\$00 for Control Change other than Bank Select and After Touch. Control Changes set to route in the control matrix to affect part parameters have their corresponding part parameter values (last edited). Control Changes that can directly change parameters without the control matrix are not reset by Reset All Controllers, since their values are referred to by other Control Changes for the same parameters via the matrix.

Sustain = \$00 (off)
Expression = \$7F
RPN, NRPN = \$7F (Null)
Pitch Bend = \$00, \$40 (Center)

*2 The 3rd byte is ignored.

3. System Exclusive Message

3.1 Parameter Change and Parameter Request

FS1R transmits and receives its native parameter changes. FS1R also receives requests for parameter changes for corresponding parameters, when "Receive System Exclusive = on" is set and Device Number contained in System Exclusive messages matches the FS1R Device Number setting. On reception of a request, FS1R transmits out the requested parameter. FS1R receives a parameter constructed of 2 bytes (i.e. Fseq Speed Ratio) via an Address High.

Parameter Change

```

11110000 F0 Exclusive Status
01000011 43 YAMAHA ID
0001nmmn 1n Device Number
01011110 5E Model ID
0gggppppp gggppppp *Parameter Address High (H)
0mmmmmmmm mmmmmmmmm *Parameter Address Middle (M)
01111111 11111111 *Parameter Address Low (L)
0vvvvvvvv vvvvvvvvv Data Value MS 7bit
0vvvvvvvv vvvvvvvvv Data Value LS 7bit
11110111 F7 End of Exclusive
  
```

Parameter Request

```

11110000 F0 Exclusive Status
01000011 43 YAMAHA ID
0011nmmn 3n Device Number
01011110 5E Model ID
0gggppppp gggppppp *Parameter Address High (H)
0mmmmmmmm mmmmmmmmm *Parameter Address Middle (M)
01111111 11111111 *Parameter Address Low (L)
11110111 F7 End of Exclusive
  
```

```

*Parameter Address (H) (M) (L) Description
SYSTEM 00 00 11
PERFORM 10 mm 11 Performance Common
/VOICE 30 00 11 Performance Part 1
31 00 11 Performance Part 2
32 00 11 Performance Part 3
33 00 11 Performance Part 4
40 00 11 Part 1 Voice Common
60 00 11 Part 1 Voice Operator 1
: : :
07 11 Part 1 Voice Operator 8
: : :
43 00 11 Part 4 Voice Common
63 00 11 Part 4 Voice Operator 1
: : :
07 11 Part 4 Voice Operator 8
FSEQ 70 00 11 Fseq Header
  
```

mm = Parameter Number MSB
ll = Parameter Number LSB

See MIDI data tables <Table 1> to <table 4> for details.

3.2 Bulk Data

FS1R transmits and receives 4 kinds of bulk data (1~4, FS1R native) in addition to reception of Yamaha DX series' bulk data (5~6, VCED and ACED), with "Receive Bulk Dump = on" and Device Number contained in System Exclusive messages matches the FS1R Device Number setting. On reception of a request, FS1R transmits out the requested parameter change.

1. Performance bulk dump
2. Voice bulk dump
3. Fseq bulk dump
4. System bulk dump
5. DX Series VCED bulk dump
6. DX Series ACED bulk dump

3.2.1 FS1R Native Bulk Dump and Dump Request (1, 2, 3, 4)

FS1R Native Bulk Dump

```

11110000 F0 Exclusive Status
01000011 43 YAMAHA ID
0000nmmn 0n Device Number
01011110 5E Model ID
0bbbbbbb bbbbbbbb Byte Count High
0bbbbbbb bbbbbbbb Byte Count Low
0hhhhhhh hhhhhhhh *Address High (H)
0mmmmmmmm mmmmmmmmm *Address Middle (M)
01111111 11111111 *Address Low (L)
0ddddddd dddddddd Data
| | — Byte Count
0ddddddd dddddddd Data
0ccccccc cccccccc Check-sum
11110111 F7 End of Exclusive
  
```

The Data section matches "vv" in the MIDI data tables <Table 1> to <Table 4>. Check-sum is a value that makes "0" (zero) in lower 7 bits of an added value of Byte Count, Address, Data, and Check-sum itself.

Dump Request

```

11110000 F0 Exclusive Status
01000011 43 YAMAHA ID
0010nmmn 2n Device Number
01011110 5E Model ID
0hhhhhhh hhhhhhhh *Address High (H)
0mmmmmmmm mmmmmmmmm *Address Middle (M)
01111111 11111111 *Address Low (L)
11110111 F7 End of Exclusive
  
```

```

*Address (H) (M) (L) Description
SYSTEM 00 00 00
PERFORM 10 00 00 Current Performance Bulk
/VOICE 11 00 nn 1 Internal Performance Bulk
40 00 00 Part 1 Current Voice Bulk
: : :
43 00 00 Part 4 Current Voice Bulk
51 00 nn 1 Internal Voice Bulk
6b 00 nn FSeq Bulk
  
```

b = Bank 0:Current, 1:Internal
nn = Memory No.

See the MIDI data tables <Table 1> to <Table 4> for more information of Address and Byte Count. FSeq Bulk does not interpret Byte Count.

3.2.2 DX Series VCED and ACED Bulk Dump (5, 6)

```

11110000 F0
01000011 43
0000nmmn nmmn = Device Number
0tttttttt ttttttt = Format Number
0bbbbbbb bbbbbbbb = Byte Count High
0bbbbbbb bbbbbbbb = Byte Count Low
0ddddddd dddddddd = Data
| | — Byte Count
0ddddddd dddddddd = Data
0ccccccc cccccccc = Check-sum
11110111 F7
  
```

See the MIDI data table <Table 5> for more information of Format Number and Byte Count. VCED and ACED bulk data is received using the Part 1 Voice edit buffer. VCED data represents Voice data for Yamaha DX7 while ACED data represents additions to DX7's Voice data, which is available with DX7II, DX7S, and TX802.

4. Real Time Message

4.1 Active Sensing

a) Transmission
Not transmitted.

b) Reception
If an "FE" (Active Sensing status message) is received, FS1R starts to wait for next "FE." If the next message does not arrive in approximately 500 msec., FS1R mutes the notes currently sounding.

4.2 Timing Clock

a) Transmission
Not transmitted.

b) Reception
Received and used as sync clock when "Fseq Speed = midi (1/4,1/2,1/1,2/1,2/1,4/1)" is selected.

MIDI Data Tables

<Table 1> Performance Parameter

| | |
|-------------|--------------|
| Byte Count | |
| common | 80 |
| effect data | 112 |
| part data | 52 x 4 = 208 |
| ----- | |
| total | 400 |

Performance Common Parameter (Byte Count: 80 bytes)

F0 43 ln 5E 10 00 11 vv v7

| 11 | vv vv | Description |
|----|-------|----------------------------------------------------|
| 00 | 20-7F | NAME 0 |
| 01 | 20-7F | NAME 1 |
| 02 | 20-7F | NAME 2 |
| 03 | 20-7F | NAME 3 |
| 04 | 20-7F | NAME 4 |
| 05 | 20-7F | NAME 5 |
| 06 | 20-7F | NAME 6 |
| 07 | 20-7F | NAME 7 |
| 08 | 20-7F | NAME 8 |
| 09 | 20-7F | NAME 9 |
| 0A | 20-7F | NAME 10 |
| 0B | 20-7F | NAME 11 |
| 0C | | reserved |
| 0D | | reserved |
| 0E | 00-16 | CATEGORY |
| 0F | | reserved |
| 10 | 00-7F | performance volume |
| 11 | 01-7F | performance pan (L63-0-R63) |
| 12 | 00-30 | performance note shift (-24-0++24) |
| 13 | | reserved |
| 14 | 00-02 | individual out (0: off, 1: pre ins, 2: post ins) |
| 15 | 00-04 | FSEQ PART (0: off, 1-4: part) |
| 16 | 00-01 | FSEQ bank 0: int, 1: pre |
| 17 | 00-59 | FSEQ number int (0-5) , pre (0-89) |
| 18 | 00-7F | FSEQ Speed Ratio (10.0-500.0) / MIDI Clock (0-4) |
| | | MIDI Clock: 0: 1/4, 1: 1/2, 2: 1/1, 3: 2/1, 4: 4/1 |
| 1A | 00-7F | FSEQ start step offset (hi byte) |
| | 00-7F | FSEQ start step offset (lo byte) |
| 1C | 00-7F | FSEQ start step of loop point (hi byte) |
| | 00-7F | FSEQ start step of loop point (lo byte) |
| 1E | 00-7F | FSEQ end step of loop point (hi byte) |
| | 00-7F | FSEQ end step of loop point (lo byte) |
| 20 | 00-01 | FSEQ loop mode (0: one way, 1: round) |
| 21 | 01-02 | FSEQ play mode (1: scratch, 2: fseq) |
| 22 | 00-07 | FSEQ velocity sensitivity for tempo |
| 23 | 00-01 | FSEQ formant pitch mode |
| 24 | 00-01 | FSEQ key on trigger (0: first, 1: all) |
| 25 | | reserved |
| 26 | 00-63 | FSEQ formant sequence delay |
| 27 | 00-7F | FSEQ level velocity sensitivity (-64++63) |
| 28 | 00-0F | controller 1 part switch [----pppp] |
| | ↓ | ↓ |
| 2F | 00-0F | controller 8 part switch [----pppp] |
| 30 | 00-7F | controller 1 source switch (bitmap-high) |
| 31 | 00-7F | controller 1 source switch (bitmap-low) |
| | ↓ | ↓ |
| 32 | 00-7F | controller 8 source switch (bitmap-high) |
| 3F | 00-7F | controller 8 source switch (bitmap-low) |
| 40 | 00-2F | controller 1 destination |
| | ↓ | ↓ |
| 47 | 00-2F | controller 8 destination |
| 48 | 00-7F | controller 1 depth (-64++63) |
| | ↓ | ↓ |
| 4F | 00-7F | controller 8 depth (-64++63) |

Performance Effect Parameter (Byte Count: 112 bytes)

F0 43 ln 5E 10 mm 11 vv v7

| mm 11 | vv vv | Description |
|-------|-------|------------------|
| 00 50 | 00-7F | Reverb parameter |
| | 00-7F | Same as above. |
| 00 52 | 00-7F | Same as above. |
| | 00-7F | Same as above. |
| 00 54 | 00-7F | Same as above. |
| | 00-7F | Same as above. |
| 00 56 | 00-7F | Same as above. |
| | 00-7F | Same as above. |
| 00 58 | 00-7F | Same as above. |
| | 00-7F | Same as above. |
| 00 5A | 00-7F | Same as above. |
| | 00-7F | Same as above. |
| 00 5C | 00-7F | Same as above. |
| | 00-7F | Same as above. |
| 00 5E | 00-7F | Same as above. |
| | 00-7F | Same as above. |
| 00 60 | 00-7F | Same as above. |

| | | | |
|-------|-------|-----------------------------|--------------------------------|
| 00 61 | 00-7F | Reverb parameter | (See "Effect Parameter List.") |
| 00 62 | 00-7F | Same as above. | Same as above. |
| 00 63 | 00-7F | Same as above. | Same as above. |
| 00 64 | 00-7F | Same as above. | Same as above. |
| 00 65 | 00-7F | Same as above. | Same as above. |
| 00 66 | 00-7F | Same as above. | Same as above. |
| 00 67 | 00-7F | Same as above. | Same as above. |
| 00 68 | 00-7F | Variation parameter | (See "Effect Parameter List.") |
| | 00-7F | Same as above. | Same as above. |
| 00 6A | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 6C | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 6E | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 70 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 72 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 74 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 76 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 78 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 7A | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 7C | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 00 7E | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 00 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 02 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 04 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 06 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 08 | 00-7F | Insertion parameter | (See "Effect Parameter List.") |
| | 00-7F | Same as above. | Same as above. |
| 01 0A | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 0C | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 0E | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 10 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 12 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 14 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 16 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 18 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 1A | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 1C | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 1E | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 20 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 22 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 24 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 26 | 00-7F | Same as above. | Same as above. |
| | 00-7F | Same as above. | Same as above. |
| 01 28 | 00-10 | Reverb type | (See "Effect Type List.") |
| 01 29 | 01-7F | Reverb pan | L63...C...R63 (1..64..127) |
| 01 2A | 00-7F | Reverb return | |
| 01 2B | 00-1C | Variation type | (See "Effect Type List.") |
| 01 2C | 01-7F | Variation pan | L63...C...R63 (1..64..127) |
| 01 2D | 00-7F | Variation return | |
| 01 2E | 00-7F | Send Variation to Reverb | |
| 01 2F | 00-28 | Insertion type | (See "Effect Type List.") |
| 01 30 | 01-7F | Insertion pan | L63...C...R63 (1..64..127) |
| 01 31 | 00-7F | Send insertion to Reverb | |
| 01 32 | 00-7F | Send insertion to Variation | |
| 01 33 | 00-7F | Insertion level | |
| 01 34 | 34-4C | EQ low gain | -12++12 [dB] |
| 01 35 | 04-28 | EQ low frequency | 32-2000 [Hz] |
| 01 36 | 01-78 | EQ low Q | 0.1-12.0 |
| 01 37 | 00-01 | EQ low shape | 00: shelving, 01: peaking |
| 01 38 | 34-4C | EQ mid gain | -12++12 [dB] |
| 01 39 | 0E-36 | EQ mid frequency | 100-10.0 [kHz] |
| 01 3A | 01-78 | EQ mid Q | 0.1-12.0 |

| | | | |
|-------|-------|-------------------|---------------------------|
| 01 3B | 34-4C | EQ high gain | -12+12 [dB] |
| 01 3C | 1C-3A | EQ high frequency | 0.5-16.0 [kHz] |
| 01 3D | 01-78 | EQ high Q | 0.1-12.0 |
| 01 3E | 00-01 | EQ high shape | 00: shelving, 01: peaking |
| 01 3F | | reserved | |

| | | |
|----|-------|------------------------------------------|
| 0E | 00-16 | CATEGORY |
| 0F | | reserved |
| 10 | 00-05 | COMMON LFO1 - waveform |
| 11 | 00-63 | COMMON LFO1 - speed |
| 12 | 00-63 | COMMON LFO1 - delay |
| 13 | 00-01 | COMMON LFO1 - key sync |
| 14 | | reserved |
| 15 | 00-63 | COMMON LFO1 - pitch modulation depth |
| 16 | 00-63 | COMMON LFO1 - amplitude modulation depth |
| 17 | 00-63 | COMMON LFO1 - frequency modulation depth |
| 18 | 00-05 | COMMON LFO2 - waveform |
| 19 | 00-7F | COMMON LFO2 - speed |

Performance Part Parameter (Byte Count : 52 x 4 = 208 bytes)

F0 43 ln 5E 3p 00 11 vv vv F7 p = 0..3 (Part1..3)

| ll | vv vv | Description | | | |
|----|---------------|-------------------------------|-------------------------------------------|-------|-------------------|
| 00 | 00-20 | NOTE RESERVE | 0-32 | 1C | 00-03 |
| 01 | 00-0C | BANK NUMBER | off, Int, PrA-PrK | 1D | 00-01 |
| 02 | 00-7F | PROGRAM NUMBER | 0-127 | 1E | 00-30 |
| 03 | 00-0F, 7F | Rcv CHANNEL MAX | A1-A16, off | 1F | 00-64 |
| 04 | 00-0F, 10, 7F | Rcv CHANNEL | A1-A16, pfm, off | 20 | 00-64 |
| 05 | 00-01 | MONO/POLY MODE | 0:MONO,1:POLY | 21 | 00-64 |
| 06 | 00-03 | MONO PRIORITY | 0: last, 1: top, 2: bottom, 3: first | 22 | 00-64 |
| 07 | 00-01 | FilterSw | 0: off, 1: on | 23 | 00-63 |
| 08 | 00-30 | NOTE SHIFT | -24+24 [semitones] | 24 | 00-63 |
| 09 | 00-7F | DETUNE | -64+63 | 25 | 00-63 |
| 0A | 00-7F | VOICED/UNVOICED BALANCE | -64+63 | 26 | 00-63 |
| 0B | 00-7F | VOLUME | 0-127 | 27 | 00-07 |
| 0C | 00-7F | VELOCITY SENSE DEPTH | 0-127 | 28 | 00-01 |
| 0D | 00-7F | VELOCITY SENSE OFFSET | 0-127 | 29 | 00-7F |
| 0E | 00-7F | PAN | Rnd, L63...C...R63 (0: random, 1-64 -127) | 2A | 00-01 |
| 0F | 00-7F | NOTE LIMIT LOW | C-2-G8 | 2B | 00-7F |
| 10 | 00-7F | NOTE LIMIT HIGH | C-2-G8 | 2C | 00-57 |
| 11 | 00-7F | DRY LEVEL | 0-127 | 2D | 00-0F |
| 12 | 00-7F | VARIATION SEND | 0-127 | 2E | 00-0F |
| 13 | 00-7F | REVERB SEND | 0-127 | 2F | 00-0F |
| 14 | 00-01 | INSERTION SW | off/on | 30 | 00-0F |
| 15 | 00-7F | LFO1 RATE | -64+63 | 31 | 00-0F |
| 16 | 00-7F | LFO1 PITCH MOD DEPTH | -64+63 | 32 | 00-0F |
| 17 | 00-7F | LFO1 DELAY | -64+63 | 33 | 00-0F |
| 18 | 00-7F | FILTER CUTOFF FREQ | -64+63 | 34 | 00-0F |
| 19 | 00-7F | FILTER RESONANCE | -64+63 | 35 | |
| 1A | 00-7F | EG ATTACK TIME | -64+63 | ↓ | |
| 1B | 00-7F | EG DECAY TIME | -64+63 | 3A | |
| 1C | 00-7F | EG RELEASE TIME | -64+63 | 3B | 00-03 |
| 1D | 00-7F | FORMANT | -64+63 | 3C | 00-07 |
| 1E | 00-7F | FM | -64+63 | 3D | 00-07 |
| 1F | 00-7F | FILTER EG DEPTH | -64+63 | 3E | 00-64 |
| 20 | 00-7F | PITCH EG INITIAL LEVEL | -64+63 | 3F | |
| 21 | 00-7F | PITCH EG ATTACK TIME | -64+63 | 40 | 00-03/00-01/00-07 |
| 22 | 00-7F | PITCH EG RELEASE LEVEL | -64+63 | ↓ | |
| 23 | 00-7F | PITCH EG RELEASE TIME | -64+63 | ↓ | |
| 24 | 00-01/00-01 | PORTAMENTO SWITCH/MODE | | 44 | ↓ |
| | | bit0: off/on | | 45 | 00-7F |
| | | bit1: 0: fingerd, 1: fulltime | | 49 | ↓ |
| 25 | 00-7F | PORTAMENTO TIME | 0-127 | 40-7F | |
| 26 | 10-58 | PITCH BEND RANGE HIGH | -48+24 | 4A | 00-03/00-01/00-07 |
| 27 | 10-58 | PITCH BEND RANGE LOW | -48+24 | ↓ | |
| 28 | 00-64 | PAN SCALING | 0-100 | ↓ | |
| 29 | 00-63 | PAN LFO DEPTH | 0-99 | 4E | ↓ |
| 2A | 01-7F | VELOCITY LIMIT LOW | 1-127 | 4F | 00-7F |
| 2B | 01-7F | VELOCITY LIMIT HIGH | 1-127 | ↓ | |
| 2C | 00-7F | EXPRESSION LOW LIMIT | 0-127 | 53 | 00-7F |
| 2D | 00-01 | SUSTAIN Rcv SW | off/on | 54 | 00-05 |
| 2E | 00-7F | LFO2 RATE | -64+63 | 55 | 00-74 |
| 2F | 00-7F | LFO2 MOD DEPTH | -64+63 | 56 | 00-0E |
| 30 | | Reserved | | 57 | 00-7F |
| 31 | | Reserved | | 58 | 00-0E |
| 32 | | Reserved | | 59 | 00-63 |
| 33 | | Reserved | | 5A | 00-63 |
| | | | | 5B | 00-7F |
| | | | | 5C | 00-7F |
| | | | | 5D | 00-18 |
| | | | | 5E | |
| | | | | ↓ | |
| | | | | 63 | |
| | | | | 64 | 00-7F |
| | | | | 65 | 00-64 |
| | | | | 66 | 00-64 |
| | | | | 67 | 00-64 |
| | | | | 68 | 00-64 |
| | | | | 69 | 00-63 |
| | | | | 6A | 00-63 |
| | | | | 6B | 00-63 |
| | | | | 6C | 00-63 |
| | | | | 6D | |
| | | | | 6E | 00-07/00-07 |
| | | | | 6F | |

<Table 2> Voice Parameter

| | |
|------------|--------------|
| Byte Count | |
| Common | 112 |
| OP data | 62 x 8 = 496 |
| ----- | |
| total | 608 |

Voice Common Parameter (Byte Count: 112 bytes)

F0 43 ln 5E 4p 00 11 vv vv F7 p = 0..3 (Part1..3)

| ll | vv vv | Description |
|----|-------|-------------|
| 00 | 20-7F | NAME 0 |
| 01 | 20-7F | NAME 1 |
| 02 | 20-7F | NAME 2 |
| 03 | 20-7F | NAME 3 |
| 04 | 20-7F | NAME 4 |
| 05 | 20-7F | NAME 5 |
| 06 | 20-7F | NAME 6 |
| 07 | 20-7F | NAME 7 |
| 08 | 20-7F | NAME 8 |
| 09 | 20-7F | NAME 9 |
| 0A | | reserved |
| 0B | | reserved |
| 0C | | reserved |
| 0D | | reserved |

Voice Voiced Parameter

(Byte Count : 35 bytes / op)

| FO | 43 | ln | 5E | 6p | mm | ll | vv | vv | F7 | p = 0..3 (Part1..3), m = 0..7 (OP1..8) |
|----|----|----|-------|----|-------|----|-------|----|----|--------------------------------------------------------------------------------|
| 11 | | | | | | | vv | | | Description |
| 00 | | | 00-01 | | 00-30 | | | | | VOICED oscillator key sync/transpose [-sttttt] |
| 01 | | | 00-1F | | | | | | | VOICED oscillator frequency - coarse |
| 02 | | | 00-7F | | | | | | | VOICED oscillator frequency - fine |
| 03 | | | 00-63 | | | | | | | VOICED oscillator frequency - note scaling |
| 04 | | | 00-0E | | 00-07 | | | | | VOICED oscillator bw bias sense (-7-7) /spectral form [-llllfff] |
| 05 | | | 00-01 | | 00-07 | | 00-07 | | | VOICED oscillator mode/spectral skirt/ Operator fseq track number [-msssmn] |
| 06 | | | 00-63 | | | | | | | VOICED oscillator freq. ratio of band spectrum |
| 07 | | | 00-1E | | | | | | | VOICED oscillator detune |
| 08 | | | 00-64 | | | | | | | VOICED oscillator frequency EG - initial value |
| 09 | | | 00-64 | | | | | | | VOICED oscillator frequency EG - attack value |
| 0A | | | 00-63 | | | | | | | VOICED oscillator frequency EG - attack time |
| 0B | | | 00-63 | | | | | | | VOICED oscillator frequency EG - decay time |
| 0C | | | 00-63 | | | | | | | VOICED EG - level1 |
| 0D | | | 00-63 | | | | | | | VOICED EG - level2 |
| 0E | | | 00-63 | | | | | | | VOICED EG - level3 |
| 0F | | | 00-63 | | | | | | | VOICED EG - level4 |
| 10 | | | 00-63 | | | | | | | VOICED EG - time1 |
| 11 | | | 00-63 | | | | | | | VOICED EG - time2 |
| 12 | | | 00-63 | | | | | | | VOICED EG - time3 |
| 13 | | | 00-63 | | | | | | | VOICED EG - time4 |
| 14 | | | 00-63 | | | | | | | VOICED EG - hold time |
| 15 | | | 00-07 | | | | | | | VOICED EG - time scaling |
| 16 | | | 00-63 | | | | | | | VOICED level scaling - total level |
| 17 | | | 00-63 | | | | | | | VOICED level scaling - break point (A-1-C8) |
| 18 | | | 00-63 | | | | | | | VOICED level scaling - left depth |
| 19 | | | 00-63 | | | | | | | VOICED level scaling - right depth |
| 1A | | | 00-03 | | | | | | | VOICED level scaling - left curve (0:-lin, 1:-exp, 2:+exp, 3:+lin) |
| 1B | | | 00-03 | | | | | | | VOICED level scaling - right curve (0:-lin, 1:-exp, 2:+exp, 3:+lin) |
| 1C | | | | | | | | | | reserved |
| 1D | | | | | | | | | | reserved |
| 1E | | | | | | | | | | reserved |
| 1F | | | 00-0E | | 00-07 | | | | | VOICED - freq bias sense/pitch mod sense fbs : (-7-7) [-bbbbmm] |
| 20 | | | 00-07 | | 00-0E | | | | | VOICED - freq mod sense/freq velocity sense fvs : (-7-7) [-ffvvvv] |
| 21 | | | 00-07 | | 00-0E | | | | | VOICED - amp mod sense/amp velocity sense vs : (-7-7) [-aaavvv] |
| 22 | | | 00-0E | | | | | | | VOICED - EG bias sense (-7-7) |

<Table 3> Fseq Parameter

| FO | 43 | ln | 5E | 70 | 00 | ll | vv | vv | F7 | |
|----|----|----|----|----|----|----|----|-------|----|-----------------------------------------------------|
| | | | | | | | | | | Header Parameter |
| | | | | | | | ll | vv | vv | Description |
| | | | | | | | 00 | 20-7F | | NAME 0 |
| | | | | | | | 01 | 20-7F | | NAME 1 |
| | | | | | | | 02 | 20-7F | | NAME 2 |
| | | | | | | | 03 | 20-7F | | NAME 3 |
| | | | | | | | 04 | 20-7F | | NAME 4 |
| | | | | | | | 05 | 20-7F | | NAME 5 |
| | | | | | | | 06 | 20-7F | | NAME 6 |
| | | | | | | | 07 | 20-7F | | NAME 7 |
| | | | | | | | 08 | | | reserved |
| | | | | | | | 09 | | | reserved |
| | | | | | | | 0A | | | reserved |
| | | | | | | | 0B | | | reserved |
| | | | | | | | 0C | | | reserved |
| | | | | | | | 0D | | | reserved |
| | | | | | | | 0E | | | reserved |
| | | | | | | | 0F | | | reserved |
| | | | | | | | 10 | 00-7F | | Fseq - start step of loop point (hi byte) |
| | | | | | | | | | | Fseq - start step of loop point (lo byte) |
| | | | | | | | 12 | 00-7F | | Fseq - end step of loop point (hi byte) |
| | | | | | | | | | | Fseq - end step of loop point (lo byte) |
| | | | | | | | 14 | 00-01 | | Fseq - loop mode (0: one way, 1: round) |
| | | | | | | | 15 | 00-7F | | Fseq - speed adjust |
| | | | | | | | 16 | 00-07 | | Fseq - velocity sensitivity for tempo |
| | | | | | | | 17 | 00-01 | | Fseq - formant pitch mode 0: pitch, 1: non-pitch |
| | | | | | | | 18 | 00-7F | | Fseq - formant note assign |
| | | | | | | | 19 | 00-7E | | Fseq - formant pitch tuning (-63-63) |
| | | | | | | | 1A | 00-63 | | Fseq - formant sequence delay |
| | | | | | | | 1B | 00-03 | | Fseq - frame data format |
| | | | | | | | 1C | | | *1 reserved |
| | | | | | | | 1D | | | reserved |
| | | | | | | | 1E | 00-7F | | RMTC - end step of valid data (hi byte) |
| | | | | | | | | | | RMTC - end step of valid data (lo byte) |
| | | | | | | | | | | *1 frame data format |
| | | | | | | | | | | 0: total of frames 128 |
| | | | | | | | | | | 1: total of frames 256 |
| | | | | | | | | | | 2: total of frames 384 |
| | | | | | | | | | | 3: total of frames 512 |

Voice Unvoiced Parameter

(Byte Count : 27 bytes / op)

| FO | 43 | ln | 5E | 6p | mm | ll | vv | vv | F7 | p = 0..3 (Part1..3), m = 0..7 (OP1..8) |
|----|----|----|-------|----|-------|----|----|----|----|--------------------------------------------------------------------------|
| 11 | | | | | | | vv | | | Description |
| 23 | | | 00-30 | | | | | | | UNVOICED formant pitch - transpose |
| 24 | | | 00-02 | | 00-15 | | | | | UNVOICED formant pitch - mode /coarse [-mmccccc] |
| 25 | | | 00-7F | | | | | | | UNVOICED formant pitch - fine |
| 26 | | | 00-63 | | | | | | | UNVOICED formant pitch - note scaling |
| 27 | | | 00-63 | | | | | | | UNVOICED formant shape - band width |
| 28 | | | 00-0E | | | | | | | UNVOICED formant shape - bw bias sense (-7-7) |
| 29 | | | 00-07 | | 00-07 | | | | | UNVOICED formant resonance / formant skirt /nskt [-rrrsss] |
| 2A | | | 00-64 | | | | | | | UNVOICED frequency EG - initial value |
| 2B | | | 00-64 | | | | | | | UNVOICED frequency EG - attack value |
| 2C | | | 00-63 | | | | | | | UNVOICED frequency EG - attack time |
| 2D | | | 00-63 | | | | | | | UNVOICED frequency EG - decay time |
| 2E | | | 00-63 | | | | | | | UNVOICED level |
| 2F | | | 00-0E | | | | | | | UNVOICED level - key scaling |
| 30 | | | 00-63 | | | | | | | UNVOICED EG - level1 |
| 31 | | | 00-63 | | | | | | | UNVOICED EG - level2 |
| 32 | | | 00-63 | | | | | | | UNVOICED EG - level3 |
| 33 | | | 00-63 | | | | | | | UNVOICED EG - level4 |
| 34 | | | 00-63 | | | | | | | UNVOICED EG - time1 |
| 35 | | | 00-63 | | | | | | | UNVOICED EG - time2 |
| 36 | | | 00-63 | | | | | | | UNVOICED EG - time3 |
| 37 | | | 00-63 | | | | | | | UNVOICED EG - time4 |
| 38 | | | 00-63 | | | | | | | UNVOICED EG - hold time |
| 39 | | | 00-07 | | | | | | | UNVOICED EG - time scaling |
| 3A | | | 00-0E | | | | | | | UNVOICED - freq bias sense nfbs : (-7-7) [----bbbb] |
| 3B | | | 00-07 | | 00-0E | | | | | UNVOICED - freq mod sense/freq velocity sense nfvs : (-7-7) [-ffvvvv] |
| 3C | | | 00-07 | | 00-0E | | | | | UNVOICED - amp mod sense/amp velocity sense nvs : (-7-7) [-aaavvv] |
| 3D | | | 00-0E | | | | | | | UNVOICED - EG bias sense (-7-7) |

Frame Parameter

| ll | vv | Description |
|----|-------|---------------------------------------------|
| 10 | 00-7F | Fseq - fundamental pitch (hi byte) |
| 11 | 00-7F | Fseq - fundamental pitch (lo byte) |
| 12 | 00-7F | Fseq - voiced formant frequency (hi byte) |
| ↓ | ↓ | ↓ |
| 19 | 00-7F | Fseq - voiced formant frequency (hi byte) |
| 20 | 00-7F | Fseq - voiced formant frequency (lo byte) |
| ↓ | ↓ | ↓ |
| 21 | 00-7F | Fseq - voiced formant frequency (lo byte) |
| 22 | 00-7F | Fseq - voiced formant level |
| ↓ | ↓ | ↓ |
| 29 | 00-7F | Fseq - voiced formant level |
| 2A | 00-7F | Fseq - unvoiced formant frequency (hi byte) |
| ↓ | ↓ | ↓ |
| 31 | 00-7F | Fseq - unvoiced formant frequency (hi byte) |
| 32 | 00-7F | Fseq - unvoiced formant frequency (lo byte) |
| ↓ | ↓ | ↓ |
| 39 | 00-7F | Fseq - unvoiced formant frequency (lo byte) |
| 3A | 00-7F | Fseq - unvoiced formant level |
| ↓ | ↓ | ↓ |
| 41 | 00-7F | Fseq - unvoiced formant level |

<Table 4> System Parameter (Byte Count: 76 bytes)

| l1 | vv | Description | |
|----|--------------|-----------------------------------------------|------------------------------------------------|
| 00 | 00-7F | master tuning | (-64~+63) |
| 01 | | reserved | |
| 02 | | ↓ | |
| 03 | | reserved | |
| 04 | | reserved | |
| 05 | | reserved | |
| 06 | 00-7F | master note shift | (-64~+63) |
| 07 | 00-04 | dump interval | (50 msec ... 300 msec) |
| 08 | 00-01 | program change mode | (0: pfm, 1: multi) |
| 09 | 00-10,7F | performance channel | |
| 0A | | reserved | (00-0F: 1-16, 10: all, 7F: off) |
| 0B | 00-01 | knob control mode | (0:abs, 1:rel) |
| 0C | | reserved | |
| 0D | 00-03 | BC curve | (0:thru, 1-3) |
| 0E | 00-04 | velocity curve | (thru, sft1, sft2, wid, hrd) (default:thru) |
| 0F | | reserved | |
| 10 | 00-01 | Rx Excl. (Not changed with Parameter Change.) | |
| 11 | 00-02 | note event receive sw | (0-2: all/odd/even) |
| 12 | 00-01 | bank select receive sw | |
| 13 | 00-01 | program change receive sw | |
| 14 | 00-01 | knob receive sw | (0-1: off/on) |
| 15 | 00-01 | knob transmit sw | (0-1: off/on) |
| 16 | 01-1F, 21-5F | KN1 control number | (default: 16) |
| 17 | 01-1F, 21-5F | KN2 control number | (default: 17) |
| 18 | 01-1F, 21-5F | KN3 control number | (default: 18) |
| 19 | 01-1F, 21-5F | KN4 control number | (default: 19) |
| 1A | 01-1F, 21-5F | MC1 control number | (default: 20) |
| 1B | 01-1F, 21-5F | MC2 control number | (default: 21) |
| 1C | 01-1F, 21-5F | MC3 control number | (default: 22) |
| 1D | 01-1F, 21-5F | MC4 control number | (default: 13) |
| 1E | 01-1F, 21-5F | FC control number | (default: 4) |
| 1F | 01-1F, 21-5F | BC control number | (default: 2) |
| 20 | 01-1F, 21-5F | Formant control number | (default: 80) |
| 21 | 01-1F, 21-5F | FM control number | (default: 81) |
| 22 | 00-7F | play sound 1 note | |
| 23 | 00-7F | play sound 1 velocity | (0: off) |
| 24 | 00-7F | play sound 2 note | |
| 25 | 00-7F | play sound 2 velocity | (0: off) |
| 26 | 00-7F | play sound 3 note | |
| 27 | 00-7F | play sound 3 velocity | (0: off) |
| 28 | 00-7F | play sound 4 note | |
| 29 | 00-7F | play sound 4 velocity | (0: off) |
| 2A | | not used | |
| 2B | | not used | |
| 2C | | not used | |
| 2D | | not used | |
| 2E | | not used | |
| 2F | | not used | |
| 30 | | not used | |
| 31 | | not used | |
| 32 | | not used | |
| 33 | | not used | |
| 34 | | not used | |
| 35 | | not used | |
| 36 | | not used | |
| 37 | | not used | |
| 38 | | not used | |
| 39 | | not used | |
| 3A | | not used | |
| 3B | | not used | |
| 3C | | not used | |
| 3D | | not used | |
| 3E | | not used | |
| 3F | | not used | |
| 40 | | not used | |
| 41 | | not used | |
| 42 | | not used | |
| 43 | | not used | |
| 44 | | not used | |
| 45 | | not used | |

Bulk Dump does not change the following.

| | | | |
|----|---|-------------------|--|
| 46 | 0 | fseq init command | |
|----|---|-------------------|--|

Bulk Dump and Parameter Change do not change the following, ignoring Parameter Request.

| | | | |
|----|-----------|------------------------------------------------------------------|--|
| 47 | 00-01 | memory allocation (0:128Voice/0FSeq, 1:64Voice/6FSeq) | |
| 48 | 00-07 | LCD contrast | |
| 49 | 00-10, 7F | system exclusive device number (0-0F: 1-16, 10: all, 7F: off) | |
| 4A | 00-01 | bulk dump protect on/off switch (0-1:off/on) | |
| 4B | | not used | |

<Table 5> DX Bulk Data

FS1R can partly receive VCED or ACED bulk data for Yamaha DX series.
 Since not all parameters and their value ranges for DX series are compatible to FS1R, it automatically converts received DX bulk data into FS1R native data for original DX sound reproduction to be available. ACED bulk data is not interpreted until its following VCED bulk data is received.

DX Bulk Data

| | | |
|------------|----------|---------------------------|
| F0 | 11110000 | F0 |
| 43 | 01000011 | 43 |
| nnnn | 0000nnnn | nnnn = Device Number |
| tttttt | 0ttttttt | tttttt = Format No. |
| bbbbbbb | 0bbbbbbb | bbbbbbb = Byte Count High |
| bbbbbbb | 0bbbbbbb | bbbbbbb = Byte Count Low |
| ddddddd | 0ddddddd | ddddddd = Data |
| Byte Count | | |
| Byte Count | 0ddddddd | ddddddd = Data |
| Byte Count | 0ccccccc | ccccccc = Check-sum |
| Byte Count | 11110111 | F7 |

| | | |
|----------------------------------|----|--------------------------|
| Format No. | 00 | VCED (Voice Edit Buffer) |
| 05 ACED (Additional Edit Buffer) | | |

| | | |
|--------------|----------|-------------------------------|
| Byte Count 1 | 55 bytes | VCED (Voice Edit Buffer) |
| | 49 bytes | ACED (Additional Edit Buffer) |

VCED and ACED parameters (data structures) are as follow.

Parameter (Data) is described in the order of Parameter Group # to Parameter#.

| Parameter Group # | g | h | | |
|-------------------|----|----|-------------------------------|-------|
| | 00 | 00 | VCED (Voice Edit Buffer) | 0-127 |
| | 00 | 01 | VCED (Voice Edit Buffer) | 0-26 |
| | 06 | 00 | ACED (Additional Edit Buffer) | 0-73 |

DX Voice Parameter (Data) - VCED format (Byte Count : 155 bytes)

| Parameter Group# | Parameter# | Data Range | Description |
|------------------|-------------------------|------------|----------------|
| g h | OP6 OP5 OP4 OP3 OP2 OP1 | | |
| 00 00 | 00 15 2A 3F 54 69 | 00-63 | EG rate1 |
| 00 00 | 01 16 2B 40 55 6A | 00-63 | EG rate2 |
| 00 00 | 02 17 2C 41 56 6B | 00-63 | EG rate3 |
| 00 00 | 03 18 2D 42 57 6C | 00-63 | EG rate4 |
| 00 00 | 04 19 2E 43 58 6D | 00-63 | EG le1e11 |
| 00 00 | 05 1A 2F 44 59 6E | 00-63 | EG le1e12 |
| 00 00 | 06 1B 30 45 5A 6F | 00-63 | EG le1e13 |
| 00 00 | 07 1C 31 46 5B 70 | 00-63 | EG le1e14 |
| 00 00 | 08 1D 32 47 5C 71 | 00-63 | Break Point |
| 00 00 | 09 1E 33 48 5D 72 | 00-63 | Left Depth |
| 00 00 | 0A 1F 34 49 5E 73 | 00-63 | Right Depth |
| 00 00 | 0B 20 35 4A 5F 74 | 00-03 | Left Curve |
| 00 00 | 0C 21 36 4B 60 75 | 00-03 | Right Curve |
| 00 00 | 0D 22 37 4C 61 76 | 00-07 | Rate Scaling |
| 00 00 | 0E 23 38 4D 62 77 | 00-03 | AMS |
| 00 00 | 0F 24 39 4E 63 78 | 00-07 | Touch Sens |
| 00 00 | 10 25 3A 4F 64 79 | 00-63 | Total Level |
| 00 00 | 11 26 3B 50 65 7A | 00-01 | Freq Mode |
| 00 00 | 12 27 3C 51 66 7B | 00-1F | Freq Course |
| 00 00 | 13 28 3D 52 67 7C | 00-63 | Freq Fine |
| 00 00 | 14 29 3E 53 68 7D | 00-0E | Detune |
| 00 00 | | 7E | PEG Rate1 |
| 00 00 | | 7F | PEG Rate2 |
| 00 01 | | 00 | PEG Rate3 |
| 00 01 | | 01 | PEG Rate4 |
| 00 01 | | 02 | PEG Level1 |
| 00 01 | | 03 | PEG Level2 |
| 00 01 | | 04 | PEG Level3 |
| 00 01 | | 05 | PEG Level4 |
| 00 01 | | 06 | Algorithm 1-36 |
| 00 01 | | 07 | Feedback |
| 00 01 | | 08 | OSC Sync |
| 00 01 | | 09 | LFO Speed |
| 00 01 | 0A | 00-63 | LFO Delay |
| 00 01 | 0B | 00-63 | PMD |
| 00 01 | 0C | 00-63 | AMD |
| 00 01 | 0D | 00-01 | LFO Key Sync |
| 00 01 | 0E | 00-05 | LFO Wave |
| 00 01 | 0F | 00-07 | PMS |
| 00 01 | 10 | 00-2F | Transpose |
| 00 01 | 11 | 25-58 | Voice Name |
| 00 01 | 12 | 25-58 | Voice Name |
| 00 01 | 13 | 25-58 | Voice Name |
| 00 01 | 14 | 25-58 | Voice Name |
| 00 01 | 15 | 25-58 | Voice Name |
| 00 01 | 16 | 25-58 | Voice Name |
| 00 01 | 17 | 25-58 | Voice Name |
| 00 01 | 18 | 25-58 | Voice Name |
| 00 01 | 19 | 25-58 | Voice Name |
| 00 01 | 1A | 25-58 | Voice Name |

DX Voice Additional Parameter - ACED format(Byte Count : 49 bytes)

| Param Group# | Parameter# | Data | Description |
|--------------|------------|-------|------------------|
| 06 00 | 00 | | not used |
| 06 00 | 01 | | not used |
| 06 00 | 02 | | not used |
| 06 00 | 03 | | not used |
| 06 00 | 04 | | not used |
| 06 00 | 05 | | not used |
| 06 00 | 06 | 00-07 | OP6 AMS |
| 06 00 | 07 | 00-07 | OP5 AMS |
| 06 00 | 08 | 00-07 | OP4 AMS |
| 06 00 | 09 | 00-07 | OP3 AMS |
| 06 00 | 0A | 00-07 | OP2 AMS |
| 06 00 | 0B | 00-07 | OP1 AMS |
| 06 00 | 0C | 00-03 | PEG Range |
| 06 00 | 0D | | not used |
| 06 00 | 0E | 00-01 | PEG Vel Switch |
| 06 00 | 0F | | not used |
| 06 00 | 10 | | not used |
| 06 00 | 11 | | not used |
| 06 00 | 12 | | not used |
| 06 00 | 13 | | not used |
| 06 00 | 14 | | not used |
| 06 00 | 15 | | not used |
| 06 00 | 16 | | not used |
| 06 00 | 17 | | not used |
| 06 00 | 18 | | not used |
| 06 00 | 19 | | not used |
| 06 00 | 1A | | not used |
| 06 00 | 1B | | not used |
| 06 00 | 1C | | not used |
| 06 00 | 1D | | not used |
| 06 00 | 1E | | not used |
| 06 00 | 1F | | not used |
| 06 00 | 20 | | not used |
| 06 00 | 21 | | not used |
| 06 00 | 22 | | not used |
| 06 00 | 23 | | not used |
| 06 00 | 24 | | not used |
| 06 00 | 25 | | not used |
| 06 00 | 26 | 00-07 | PEG Rate Scaling |
| 06 00 | 40 | | not used |
| 06 00 | 41 | | not used |
| 06 00 | 42 | | not used |
| 06 00 | 43 | | not used |
| 06 00 | 44 | | not used |
| 06 00 | 45 | | not used |
| 06 00 | 46 | | not used |
| 06 00 | 47 | | not used |
| 06 00 | 48 | | not used |
| 06 00 | 49 | | not used |

| Function | Transmitted | Recognized | Remarks | |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Basic Channel | Default Changed | X X | 1-16 1-16 | Memorized |
| Mode | Default Messages Altered | X X ***** | 3, 4 3, 4 X | Memorized |
| Note Number | True Voice | X ***** | 0-127 | |
| Velocity | Note ON Note OFF | X X | O 9nH, v=1-127 O 9nH, v=0 | |
| After Touch | Key's Ch's | X X | O *1 O | |
| Pitch Bend | | X | O *2 | |
| Control Change | 0, 32 1 7, 10, 11, 64 5, 65 71, 74 72, 73 91, 93 16-19 2, 4, 13, 20-22 80, 81 6, 98-101 120 121 | X X X X X X X O *3 X O *3 X X X | O *2 O O O O O O O *3 O *3 O *3 O O O O | Bank Select Modulation Wheel Vol, Pan, Exp, Sus Portamento Ctrl Sound Control Release, Attack Rev, Var Send Knob1-4 Control BC, FC, MC4, MC1-3 Formant, FM Ctrl Data Entry All Sound Off Reset All Ctrls |
| Program Change | True # | X ***** | O 0-127 *2 O 0-127 | |
| System Exclusive | | O | O *2 | |
| System Common | Song Pos. Song Sel. Tune | X X X | X X X | |
| System Real Time | Clock Commands | X X | O *4 X | |
| Aux Messages | Local ON/OFF All Notes OFF Active Sense Reset | X X X X | X O O X | |
| Notes | *1 Ignore Note number. *2 Receive if switch is on. *3 Assignable to 1-31,33-95. *4 Receive if Fseq Speed is set to midi. | | | |

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

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

O : YES
 X : NO

