

General MIDI

Back to your file. It is time to dig a little deeper into MIDI and your SMF in order to discover what can be manipulated, changed and modified.

One of the most basic elements of any MIDI file (SMF) is the palette of timbres, or instrument sounds, that are used. This is another standard component of the MIDI specification, called General MIDI.

When you first played the MIDI file you downloaded, you were asked what timbres, or sounds, made up the arrangement. Are there pianos, horns, strings, drums, new and unusual synthesized sounds that you have never heard before? Whatever sounds you find contained in an SMF, they all come from a part of the MIDI specification called General MIDI. General MIDI is a standard set of sounds devised by the MIDI Manufacturers Association (MMA). It is an important part of the standard that some consider a major benefit and others despise.

If you carefully investigated the sounds in your sound card, or the set of QuickTime musical instruments on your Macintosh, then you have a good understanding of what GM provides. General MIDI is a standard set of 128 sounds, plus drum kits. This set of sounds is divided into groups of eight, or octets, by family/type of sound (see Figure 6.2 for a complete list of the various instrument groups contained in GM).

GM Program List			
1 : GrandPno	33 : WoodBass	65 : SprnoSax	97 : Rain
2 : BritePno	34 : FngrBass	66 : Alto Sax	98 : SoundTrk
3 : El.Grand	35 : PickBass	67 : TenorSax	99 : Crystal
4 : HnkyTonk	36 : Fretless	68 : Bari Sax	100 : Atmosphr
5 : ElPiano1	37 : SlapBas1	69 : Oboe	101 : Bright
6 : ElPiano2	38 : SlapBas2	70 : EnglHorn	102 : Goblin
7 : Harpsich	39 : SynBass1	71 : Bassoon	103 : Echoes
8 : Clavinet	40 : SynBass2	72 : Clarinet	104 : SciFi
9 : Celesta	41 : Violin	73 : Piccolo	105 : Sitar
10 : Glocken	42 : Viola	74 : Flute	106 : Banjo
11 : MusicBox	43 : Cello	75 : Recorder	107 : Shamisen
12 : Vibes	44 : Contra	76 : PanFlute	108 : Koto
13 : Marimba	45 : TremStrg	77 : Bottle	109 : Kalimba
14 : Xylophon	46 : Pizzicto	78 : Shakuchi	110 : Bagpipe
15 : TubulBel	47 : Harp	79 : Whistle	111 : Fiddle
16 : Dulcimer	48 : Timpani	80 : Ocarina	112 : Shanai
17 : DrawOrgn	49 : Ensmble1	81 : SquareLd	113 : TnkIBell
18 : PercOrgn	50 : Ensmble2	82 : Saw Ld	114 : Agogo
19 : RockOrgn	51 : SynStrg1	83 : CaliopLd	115 : Stl Drum
20 : ChrcOrgn	52 : SynStrg2	84 : Chiff Ld	116 : WoodBlok
21 : ReedOrgn	53 : AahChoir	85 : CharanLd	117 : TaikoDrm
22 : Acordion	54 : OohChoir	86 : UoiceLd	118 : MelodTom
23 : Harmnica	55 : SynChoir	87 : Fifth Ld	119 : SynthTom
24 : TangoAcd	56 : Orch Hit	88 : Bass & Ld	120 : RevCymb1
25 : NylonGtr	57 : Trumpet	89 : NewAgePd	121 : FretNoiz
26 : SteelGtr	58 : Trombone	90 : Warm Pd	122 : BrthNoiz
27 : Jazz Gtr	59 : Tuba	91 : PolySyPd	123 : Seashore
28 : CleanGtr	60 : MuteTrum	92 : Choir Pd	124 : Tweet
29 : Mute Gtr	61 : FrenchHr	93 : Bowed Pd	125 : Telephone
30 : Ovrdrive	62 : BrasSect	94 : Metal Pd	126 : Helicptr
31 : Distortd	63 : SynBras1	95 : Halo Pd	127 : Applause
	64 : SynBras2	96 : Sweep Pd	128 : Gunshot

Figure 6.2 General MIDI Sound List



In addition, GM includes a definition for a drum kit, called a map. The drum kits (starting at GM129), are all mapped, or laid out, the same way. Each drum kit includes 52 drum sounds, and each sound is assigned a specific location, or key, on which it is to be heard.

NOTE	General MIDI Drum Map
	Kick Drum 1
C2	Side Stick
	Snare Drum 1
	Hand Clap
	Snare Drum 2
	Low Tom 2
	Closed High-hat (EXC1)
	Low Tom 1
	Pedal High-hat (EXC1)
	Mid Tom 2
	Open High-hat 2 (EXC1)
B2	Mid Tom 1
	High Tom 2
C3	Crash Cymbal 1
	High Tom 1
	Ride Cymbal 1
	Chinese Cymbal
	Ride Bell
	Tambourine
	Splash Cymbal
	Cowbell
	Crash Cymbal 2
	Vibra-slap
B3	Ride Cymbal 2
	High Bongo
C4	Low Bongo
	Mute High Conga
	Open High Conga
	Low Conga
	High Timbale
	Low Timbale
	High Agogo
	Low Agogo
	Cabasa
	Maracas
B4	Short High Whistle (EXC2)
	Long Low Whistle (EXC2)
C5	Short Guiro (EXC3)
	Long Guiro (EXC3)
	Claves
	High Wood Block
	Low Wood Block
	Mute Cuica (EXC4)
	Open Cuica (EXC4)
	Mute Triangle (EXC5)
	Open Triangle (EXC5)
	Shaker
B5	Jingle Bell
	Bell Tree
C6	Castanets
	Mute Surdo (EXC6)
	Open Surdo (EXC6)

Figure 6.3 General MIDI Drum Map

Why is General MIDI so important? It provides a standard set of synthesized sounds with which composers, arrangers, computer game makers and multimedia producers can write music. Couldn't these folks always write with synthesizers and share their work? Yes, but they could not be assured that anyone playing their composition would hear what they wrote as they arranged it.

Keyboards, sound cards, synthesizers and other MIDI instruments are voiced for distinction. Every keyboard manufacturer is trying to outdo the other with the newest, latest, greatest and most unique sound. This keeps electronic music fresh and interesting. At the same time it sells instruments.