File Structure

Addr	
00	selection header
7F	
80	master table
FF	
mt	map table
gt	glyph table

Selection Header

Addr	
00	magic value $55 ('U')
01	magic value $38 ('8')
02	magic value $2F ('/')
03	magic value $4D ('M')
04	family name length
05	
...	family name (null-padded)
7A	
7B	null terminator
7C	family ID (low)
7D	family ID (high)
7E	style
7F	point size

Master Table

Addr	
80	glyph table offset (page address)
81	glyph table offset (bank address)
82	glyph count (low)
83	glyph count (high)
84	map table offset (page address)
85	map table offset (bank address)
86	map count (low)
87	map count (high)
88	map index for native 0x00 - 0x3F (low)
89	map index for native 0x00 - 0x3F (high)
8A	map index for native 0x40 - 0x7F (low)
8B	map index for native 0x40 - 0x7F (high)
8C	map index for native 0x80 - 0xBF (low)
8D	map index for native 0x80 - 0xBF (high)
8E	map index for native 0xC0 - 0xFF (low)
8F	map index for native 0xC0 - 0xFF (high)
90	map index for U+0000 - U+003F (low)
91	map index for U+0000 - U+003F (high)
...	...
CE	map index for U+07C0 - U+07FF (low)
CF	map index for U+07C0 - U+07FF (high)
D0	map index for U+0000 - U+0FFF (low)
D1	map index for U+0000 - U+0FFF (high)
...	...
EE	map index for U+F000 - U+FFFF (low)
EF	map index for U+F000 - U+FFFF (high)
F0	map index for U+000000-03FFFF (low)
F1	map index for U+000000-03FFFF (high)
...	...
FA	map index for U+140000-17FFFF (low)
FB	map index for U+140000-17FFFF (high)
FC	line ascent
FD	line descent
FE	line gap
FF	line height

Map Table

Addr		Note
mt	map header	map table must start at page boundary
...	...	
mt+4(mc-1)	map header	map zero
mo[0]	map data	must be the empty map
...	...	
mo[mc-1]	map data	

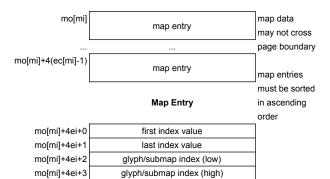## Map Header

Addr	
mt+4mi+0	map offset (byte address)
mt+4mi+1	map offset (page address low)
mt+4mi+2	map offset (page address high)
mt+4mi+3	number of entries

Map Data

Addr		Note
mo[mi]	map entry	map data may not cross page boundary
...	...	
mo[mi]+4(ec[mi]-1)	map entry	map entries must be sorted in ascending order

Map Entry

Addr	
mo[mi]+4ei+0	first index value
mo[mi]+4ei+1	last index value
mo[mi]+4ei+2	glyph/submap index (low)
mo[mi]+4ei+3	glyph/submap index (high)

Glyph Table

Addr		Note
gt	glyph record	glyph table must start at page boundary
...	...	
gt+4(gc-1)	glyph record	glyph zero
bo[0]	bitmap record	must be the notdef glyph
...	...	
bo[gc-1]	bitmap record	

Glyph Record

Addr	
gt+4gi+0	bitmap offset (byte address)
gt+4gi+1	bitmap offset (page address low)
gt+4gi+2	bitmap offset (page address high)
gt+4gi+3	advance width

Bitmap Record

Addr		Note
bo[gi]+0	y offset (signed)	bitmap record
bo[gi]+1	x offset (signed)	may not cross
bo[gi]+2	height	page boundary
bo[gi]+3	width	
bo[gi]+4	bitmap data (max length 252 bytes)	