

Enemy Data

Enemy Pointers

0x24262: Pointer to enemy address low byte (B9 4C C1).

0x2434C: Enemy address pointer low byte.

D8 DD 18 47 72 87

C1 E6 03 11 38 69 87 A4 b9 E3 E4 08 11 36 59 62 63 9D C8 F6 12 1B

40 6D 9B

C8 D9 03

Simply insert the value as the low byte for the address.

0x24267: Pointer to enemy address high byte (B9 6E C1).

0x2436E: Enemy address pointer high byte.

C1 C1 C2 C2 C2

C2 C2 C3 C3 C3 C3 C3 C3 C3 C3 C4 C4 C4 C4 C4 C4 C4 C4 C5 C5

C5 C5 C5

C5 C5 C6

Insert as high byte for pointer.

0x2426D: Determines the page to load the enemy data from. (04)

Enemy Addresses

All bytes until FF are sprites for that level

<u>BEGIN</u>	<u>END (FF)</u>	<u>LEVEL</u>	<u>REPEAT</u>	<u>MAP NUMBER</u>
0x243D8	0x243FE	W1-4	W6-4	60
0x243FF	0x24417	W4-4		61
0x24418	0x24446	W2-4	W5-4	62
0x24447	0x24471	W3-4		63
0x24472	0x24486	W7-4		64
0x24487	0x244C0	W8-4		65
0x244C1	0x244E5	W3-3		20
0x244E6	0x24502	W8-3		21
0x24503	0x24510	W4-1		22
0x24511	0x24537	W6-2		23
0x24538	0x24568	W3-1		24
0x24569	0x24586	W1-1		25
0x24587	0x245A3	W1-3	W5-3	26
0x245A4	0x245B8	W2-3	W7-3	27
0x245B9	0x245E3	W2-1		28
0x245E4	0x24607	W5-1		2A
0x24608	0x24610	Sky Bonus Area (Day)		2B
0x24611	0x24635	W4-3		2C
0x24636	0x24658	W6-3		2D
0x24659	0x24661	W6-1		2E
0x24662	0x24662	W4-2 Warp Zone		2F
0x24663	0x2469C	W8-1		30
0x2469D	0x246C7	W5-2		31
0x246C8	0x246F5	W8-2		32
0x246F6	0x24711	W7-1		33
0x24712	0x2471A	Sky Bonus Area (Night)		34
0x2471B	0x2473F	W3-2		35
0x24740	0x2476C	W1-2		C0
0x2476D	0x2479A	W4-2		C1
0x2479B	0x247C7	Underground Bonus Area		C2
0x247C8	0x247D8	Underwater Bonus Area		00
0x247D9	0x24802	W2-2	W7-2	01
0x24803	0x24816	W8-4 Underwater		02

Enemy Format

Byte 1

Byte 2

X X X X Y Y Y Y - P H E E E E E E

The first byte of a sprite determines its coordinates

X X X X Y Y Y Y

X=X-Coordinate: Self explanatory.

0000=Leftmost coordinate of page

1111=Rightmost coordinate of page

Y=Y-Coordinate: If the Y-Coordinate is beyond 1101 (0x0E), the sprite data changes.

0000=Highest possible coordinate

1101=Lowest possible coordinate

1110=Pipe Pointer*

111100000000-111111111111=Page Skip

The enemy data for a level ends when the XY byte is FF.

The second byte of a sprite determines the sprites itself

P H E E E E E E

P=New Page Flag: Determines whether the object is the first one to appear on a new page/screen.

0=No

1=Yes

H=After W5-3: Makes the sprite available only after W5-3

0=No

1=Yes

E=Enemy: List of sprites (in hex)

00=Green Koopa Troopa

01=Red Koopa Troopa (Walks off Floors)

02=Buzzy Beetle

03=Red Koopa Troopa (Stays on Floor)

04=Green Koopa Troopa (Doesn't Move)

05=Hammer Bros.

06=Goomba

07=Bloober

08=Bullet Bill

09=Yellow Koopa Paratroopa (Doesn't Move)

0A=Green Cheep-cheep (Slow)

0B=Red Cheep-cheep (Fast)

0C=Podoboo

0D=Pirhana Plant

0E=Green Koopa Paratroopa (Leaping)

0F=Red Koopa Troopa (Down then Up)

10=Green Koopa Troopa (Left then Right)

11=Lakitu

12=Spiny (Not recommended for direct use)

13=DO NOT USE

14=Red Flying Cheep-cheep (Generator)

15=Bowser's Fire (Generator)

16=Fireworks Generator

17=Bullet Bill/Cheep-cheep Generator

18-1A=DO NOT USE

1B=Fire Bar (Clockwise)

1C=Fast Fire Bar (Clockwise)

1D=Fire Bar (Counter-Clockwise)

1E=Fast Fire Bar (Counter-Clockwise)

1F=Long Fire Bar (Clockwise)

20-23=DO NOT USE

24=Lift (Balance)
 25=Lift (Down then Up)
 26=Lift (Up)
 27=Lift (Down)
 28=Lift (Left then Right)
 29=Lift (Fall)
 2A=Lift (Right)
 2B=Short Lift (Up)
 2C=Short Lift (Down)
 2D=Bowser
 2E-33=DO NOT USE
 34=Warp Zone
 35=Toad
 36=DO NOT USE
 37=2 Goombas (V=10)
 38=3 Goombas (V=10)
 39=2 Goombas (V=6)
 3A=3 Goombas (V=6)
 3B=2 Green Koopa Troopas (V=10)
 3C=3 Green Koopa Troopas (V=10)
 3D=2 Green Koopa Troopas (V=6)
 3E=3 Green Koopa Troopas (V=6)
 3F=DO NOT USE

***Pipe Pointers**

Pipe pointers are odd in the fact that they require 3 bytes.

(byte 1)	(byte 2)	(byte 3)
X X X X 1 1 1 0	- N M M M M M M M	- W W W P P P P P

The first byte of a pipe pointer determines its coordinates

X X X X 1 1 1 0

X=X-Coordinate: Can be anything.

The second byte determines the map pointer.

N M M M M M M M

N=New Page Flag: Works the same way as sprites.

M=Map Pointer: The Map Number of the level.

The third byte determines the page.

W W W P P P P P

W=World Active: This determines the world that the pipe pointer works on. The value 0x00 is world 1 and 0x07 is world 8. If a pipe pointer appears before the world active number, then it is ignored.

P=Page Pointer: The page pointer determines the screen in which Mario will appear after entering the pipe. The actual position is about 2 blocks above the ground and 2 blocks to the right of the left of the screen.