Sprite Graphics

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TMS9918 Video Display Processor
TMS9918 Video Display Processor
TMS9918 Pattern Generation

BASE ADDRESS

PATTERN NAME TABLE

M

N

PATTERN GENERATOR TABLE

8M

PATTERN =M

(8 BYTES)

8M + 7

PATTERN PLANE

PATTERN POSITION 0

PATTERN POSITION 1

32 POSITIONS

PATTERN "N"

24 POSITIONS

PATTERN POSITION 767

PATTERN POSITION 31

2046

2047
TMS9918 Sprite Attribute Table Entry

- **BYTE**
  - **0**
    - **VERTICAL POSITION**
  - **1**
    - **HORIZONTAL POSITION**
  - **2**
    - **NAME**
  - **3**
    - **EARLY CLOCK BIT**
    - **COLOR CODE**
Basic Operation

For each line,

- Fetch color palette
- Fetch tiles
- Fetch tile bitmaps
- Read sprite location data for 64 sprites
- Save and prioritize up to 8 visible sprites
Palettes: Groups of 16 colors selected from \( \approx 60 \)

Name Table: Tile numbers

Attribute Table: Extra tile color information

Pattern Table: Tile bitmaps
A Sprite Attribute Table Entry

64 sprites max; 8 per line max

<table>
<thead>
<tr>
<th>Y coordinate</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tile (bitmap) number</td>
<td></td>
</tr>
<tr>
<td>Vertical Flip</td>
<td>Horizontal Flip</td>
</tr>
<tr>
<td>X coordinate</td>
<td></td>
</tr>
</tbody>
</table>

Tiles are $2 \times 8$ bytes each. First 8 are bitmaps of LSB color value, next 8 are next color bit.
References


NES Development http://nesdev.parodius.com

NES Palette Generator http://nesdev.parodius.com/kevin_palette.txt

