

# Adding Extended Tiles to apoplexy

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## Preamble

This document describes how to add extended tiles to level editor apoplexy. The process requires adding images and modifying code. Native PoP1 executables, such as SDLPoP and MININIM, can be used with apoplexy.<sup>1</sup> These implementations - compatible replacements - can add unique functionalities and/or graphics to custom tiles that are not available in the original DOS game. Examples of such extended tiles are SDLPoP's fake tiles, MININIM's big poison potion, and *Secrets of the Citadel's* shadow potion. If a native PoP1 executable is present in apoplexy's prince/ directory, the extended tiles screen becomes accessible. Hold down Ctrl when clicking a tile, or press "x" or use the "back" (select) gamepad button. The extended tiles screen has room for a whopping 480 tiles total (12 tabs x 40 tiles). Version 3.0 of apoplexy presents 12 extended tiles. Each tile, be it regular, custom or extended, has a foreground (foretable; group) and a modifier (backtable; attribute).<sup>2</sup>

## License

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<sup>1</sup> [http://www.popot.org/documentation/documents/Native\\_PoP1\\_Executables\\_and\\_apoplexy.pdf](http://www.popot.org/documentation/documents/Native_PoP1_Executables_and_apoplexy.pdf)

<sup>2</sup> To simplify things, this document does not go into the random bits and modifier of the foreground.

## Adding Tiles

Let's assume we want to add an extended tile that uses foreground 10 and modifier 7. In the original DOS game, all tiles in group 10 are potions, so most likely - but not necessarily - this extended tile is a unique potion.

### 1. Creating Images

Creating images is the most unappealing step, perhaps in particular for programmers. Images of all PoP1 (for DOS) tiles reside in the `png/dungeon/` and `png/palace/` directories. For our example, we need to add:

- `png/dungeon/d_10_7.png`
- `png/dungeon/d_sel_10_7.png`
- `png/palace/p_10_7.png`
- `png/palace/p_sel_10_7.png`

Looking through the tiles that are already available should tell you what needs to be done. These are all transparent images of 120 by 155 pixels. Regular tiles have green borders and selections (`#00ff00`), while extended tiles use magenta (`#ff00ff`).

There are two main ways to take on this task: either construct the new images using already available images, or create and modify screenshots of the extended tile in action. For the latter, apoplexy's custom tiles screen may be useful.

If the appearance of the extended tile does not reveal its unique functionality, you're advised to add an indicative marker. (An example is the loose tile's down arrow. See `png/dungeon/d_11_0.png`.)

### 2. Updating Tabs

The extended tiles screen contains miniature previews of tiles. For our example, we will add the tile to the left most tab(s). Modify:

- `png/sdlpop/dungeon_1.png`
- `png/sdlpop/palace_1.png`

Simply paste scaled versions of the tile images you created earlier.

### 3. Modifying Code

Level editor apoplexy has a single source file with over 30,000 lines of code, with a ShowImage() function that spans almost 6,000 lines. The latter is the result of software rot/legacy code: it was initially designed to edit merely PoP1 for DOS levels. The example code below assumes the miniature preview was added on the 5th spot from the left; first row, first tab. The following should allow you to quickly find the places that require code modifications and additions.

You may be adding extended tiles to make apoplexy compatible with a new SDLPoP release. If you are, update:

```
#define COMPATIBLE_SDLPOP_VERSION "1.16"
```

For our example, we created (and will load) four new images.

Increase this value by 4:

```
case 1: iNrToPreLoad = <value>; break;
```

Add global variables:

```
SDL_Texture *imgd10_7[2 + 2];
```

```
SDL_Texture *imgp10_7[2 + 2];
```

*(You can find a proper location by searching for similar entries.)*

In InitScreen(), add:

```
PreLoadSet (PNG_DUNGEON, 'd', "10_7", imgd10_7);
```

```
PreLoadSet (PNG_PALACE, 'p', "10_7", imgp10_7);
```

*(You can find a proper location by searching for similar entries under "Preload all other images.")*

In UseTileSDLPoP(), add:

```
case 5: SetLocation (iRoom, iLocation, 10, 7, -1, -1, -1); break;
```

In ShowSDLPoP(), add:

```
case 5: iThing = 10; iMod1 = 7; break;
```

In ShowImage(), search for "case 217:" and add:

```
if ((iTile == 10) && (iMod1 == 7))  
    { dest.x = TILESX5; dest.y = TILESX1; }
```

*(For our example, under "/\* First row. \*/".)*

In ShowImage(), search for "positions" and add:

```
if ((iThing == 10) && (iModifier[0] == 7))  
    ShowPos (loc, dest, iLocation, imgd10_7, imgp10_7, "");
```

Questions?

Either e-mail to [info@popot.org](mailto:info@popot.org) or visit the Princed forum:  
<http://forum.princed.org/>