

PS2 Half-life decals differ from PC's decals in some things:

- 1) PS2 decal's palette contains color data in all elements;
- 2) PS2 decals have several LODs, which are switched accordingly to distance of viewpoint (longer distance – lower res LOD is used). This helps to save console's performance;

PS2 Half-life Decal (PHD) general file structure is shown on fig. 1.

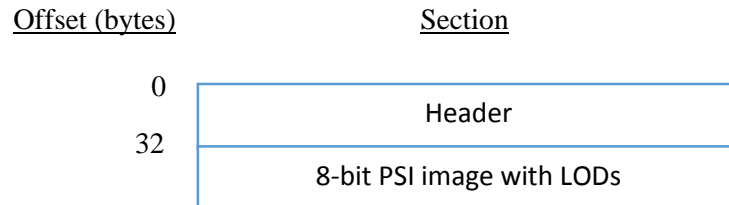


Fig. 1

Structure of PHD header:

```
struct sPHDHeader
{
    char Signature[64];           // Filled with zeroes
}
```

Dimensions of decal's PSI image are limited to those sizes: 16, 32, 64, 128, 256, etc. If input image has different dimensions then it should be rescaled and upscale target should be set to original image size. If decal has wrong dimensions then it can cause partial game graphics corruption or wrong appearance of decal.

Smallest LOD in PSI image should have at least one side equal to 8.

Number of LODs and their size can be calculated like that:

```
int a = ImageWidth;
int b = ImageHeight;
int LODCount = 0;
int LODSize = 0;
while (a > 8 && b > 8)
{
    a /= 2;
    b /= 2;
    LODSize += (a * b);
    LODCount++;
}
```

Dimensions of specific LOD can be calculated like that:

```
int LODWidth = ImageWidth >> LODNumber;
int LODHeight = ImageHeight >> LODNumber;
```

2 Example

Structure of 64*64 "{biohaz}" PHD with 3 LODs is shown on fig. 2. Graphical representation is shown on fig. 3.

<u>Offset (bytes)</u>	<u>Section</u>
0	PHD header
64	PSI image header
96	Palette
1120	Image bitmap (64*64)
5216	LOD 1 bitmap (32*32)
6240	LOD 2 bitmap (16*16)
6496	LOD 3 bitmap (8*8)
6560	

Fig. 2 – Example PHD file structure

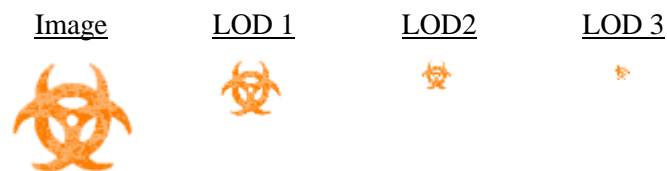


Fig. 3 – Graphical representation