Revolution

Texture Palette Library (TPL)

Version 1.00

Texture Palette Library (TPL)

Version 1.00

Contents

Code Examples

Figures

Revision History

Revision No.	Date Revised	Items (Chapter)	Description	Revised By
1.00	3/1/2006	-	First release by Nintendo of America, Inc.	-

1 Introduction

The following is a description of the Texture Palette Library (TPL).

The Revolution SDK does not provide the Character Pipeline SDK that was available with the Dolphin SDK. However, the TPL format that was part of the SDK was very versatile and was used in the sample demo for the GX library, so a smaller version of the library is provided to access the TPL format.

Using this library provides easy access to previously created TPL format files and the ability to graphically render them.

See the TPL library function reference for details on the functions and structures.

2 TPL Format

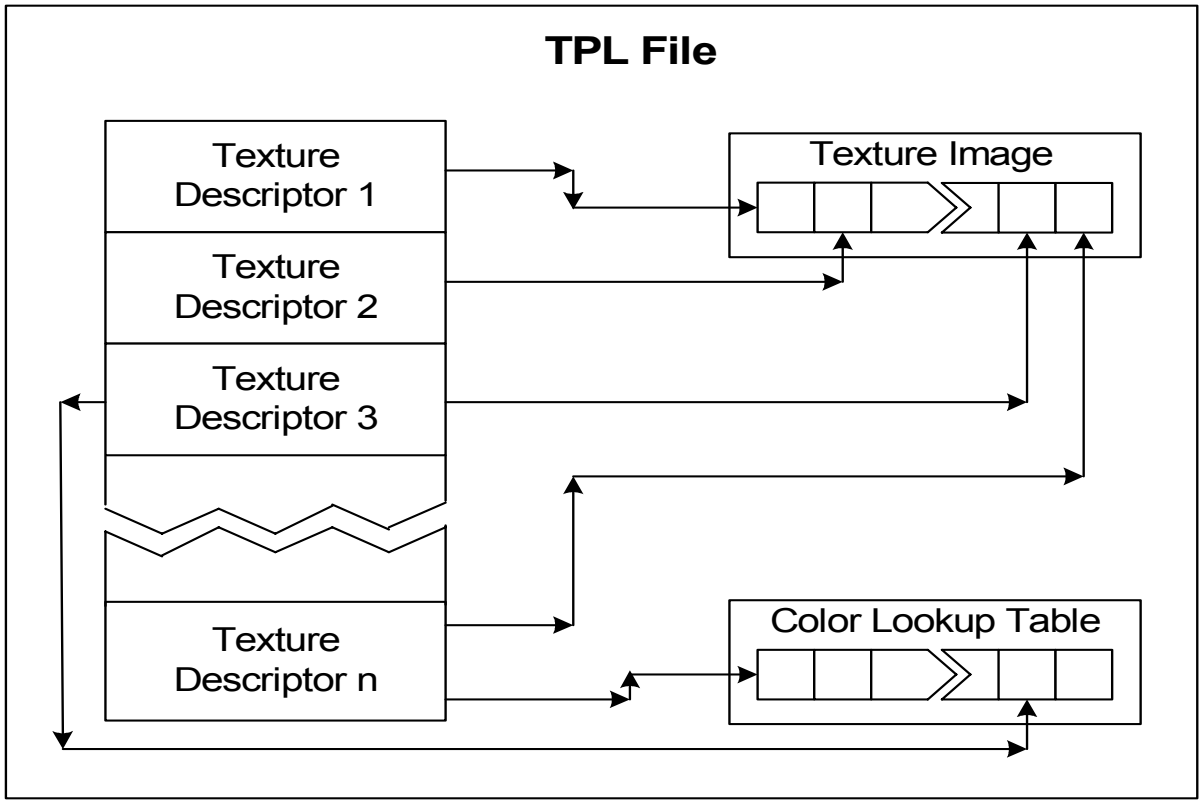
The TPL format and library are provided to offer a way to store and access simple textures. The library tries to remove many of the format problems so that any of the various texture formats provided for GameCube can also be used in consistent manner.

The TPL library obtains information related to individual textures from the palettes that are read from the disc and extracted to memory and provides basic features to load textures to the hardware to use for geometry rendering. The library supports true color textures and color index textures.

3 Texture Palettes in Memory

When the texture palette file is loaded to memory and extracted, it is simply expressed as a list of texture descriptors. Texture descriptors maintain pointers to the texture images and, if required, pointers to color look-up tables (CLUT).

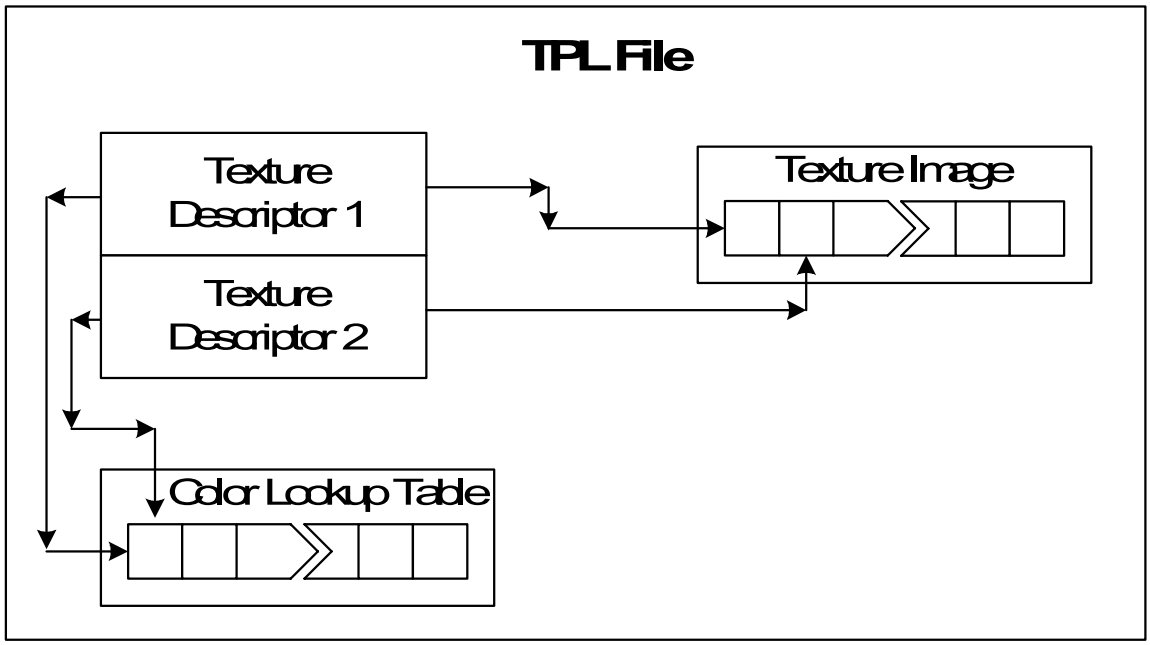
Figure 1 - Texture Palettes in Memory



4 Making CLUT into Instances in the Texture Palette

Texure images and CLUT are referenced via pointers, so these may be made into instances in the texture palette. For example, instances of textures sharing a CLUT or a single texture using multiple CLUTs are possible.

Figure 2 - Making CLUT into Instances in the Texture Palette



5 Obtaining Texture Data via GXTexObj and GXTlutObj

In addition to providing texture data via the texture descriptors, the Texture Palette library also provides two functions to directly initialize `GXTexObj` and `GXTlutObj`. These functions simple look at the texture descriptors and initialize the specified GX object.

6 Simple Utility

The Character Pipeline SDK was designed to automatically allocate memory from within the library and automatically read from the disk during TPL file extraction. To provide the same convenience, the following utility function is registered as an inline function in the header.

Code 1 - Simple Utility

```
void TPLGetPalette ( TPLPalettePtr *pal, char *name )
void TPLReleasePalette ( TPLPalettePtr *pal )
```

Automatic file extraction is made possible by calling `OSAlloc()` and `DVDRead()` internally.