NAME

xgl_context_set_pixel – sets the color value of a specified pixel

SYNOPSIS

#include <xgl/xgl.h>

```
void  xgl_context_set_pixel (
        Xgl_ctx       ctx,
        Xgl_pt_i2d    *position,
        Xgl_color     *value );
```

DESCRIPTION

This operator sets the color value of a pixel located at the position given by *position* in a specified buffer of the Raster associated with the Context *ctx*. The buffer is specified by the Context attribute **XGL_CTX_RENDER_BUFFER**(3)**.** The color value that is set is specified by the parameter *value*.

The Context attributes **XGL_CTX_ROP**(3) and **XGL_CTX_PLANE_MASK**(3) are used to control the ROP operation realized when writing the pixel to the image buffer, and the *plane mask* is used to limit the drawing operation to a given number of planes.

When setting a pixel to a Z Buffer, the value is set at *position*. Specifically, the Z mask (specified by **XGL_3D_CTX_Z_BUFFER_WRITE_MASK**(3)) and the Z comparison function (specified by **XGL_3D_CTX_Z_BUFFER_COMP_METHOD**(3)) are ignored.

When writing to an image buffer, if the color types of the Raster associated with the Context and underlying hardware match, no color conversion is done. If they don't match, a color conversion is done, using the Color Map object associated with the Device attached to the Context, so that the actual information written into the Device matches the hardware capabilities. The Color Map object associated with the Device can be controlled by the Raster attribute **XGL_DEV_COLOR_MAP**(3)**.**

Note that to have accurate comparisons, an application willing to compare pixel values written to an image buffer using xgl_context_set_pixel with values obtained by reading the pixels from the image buffer using **xgl_context_get_pixel**(3)**,** should avoid any color conversion.

RETURN VALUE

Nothing is returned.

SEE ALSO

xgl_context_set_multi_pixel(3)
xgl_context_get_pixel(3)
xgl_context_set_pixel_row(3)
XGL_3D_CTX_HLHSR_MODE(3)
XGL_3D_CTX_Z_BUFFER_COMP_METHOD(3)
XGL_3D_CTX_Z_BUFFER_WRITE_MASK(3)
XGL_CTX_PLANE_MASK(3)
XGL_CTX_RENDER_BUFFER(3)
XGL_CTX_ROP(3)
XGL_DEV_COLOR_MAP(3)
XGL_DEV_COLOR_TYPE(3)

NOTES

When writing into an image buffer, 4-bit and 8-bit Indexed (**XGL_DEV_COLOR_TYPE**(3) is XGL_COLOR_INDEX) Memory Rasters store their pixel values as application-defined color values (that is, the index stored in the Memory Raster is exactly that specified by the *value* parameter of the function call).

This operation on a Z buffer is supported on a 3D Context only. During this operation, **XGL_3D_CTX_HLHSR_MODE**(3) should be set to XGL_HLHSR_Z_BUFFER. The Z buffer is created when the XGL_3D_CTX_HLHSR_MODE is set to XGL_HLHSR_Z_BUFFER for the first time.

XGL_CTX_RENDER_BUFFER(3) is a logical OR of XGL_RENDER_DRAW_BUFFER, XGL_RENDER_DISPLAY_BUFFER, and XGL_RENDER_Z_BUFFER. In order for the operation to be performed on a Z-buffer, the application should only use XGL_RENDER_Z_BUFFER. This results in operation on the selected image buffer and the ignoring of the Z-buffer.