NAME

xil_set_pixel, xil_get_pixel – set or get the value of a particular pixel in an image

SYNOPSIS

```
#include <xil/xil.h>

void xil_set_pixel ( XilImage image,
        unsigned int x,
        unsigned int y,
        float *pixel_values);

void xil_get_pixel ( XilImage image,
        unsigned int x,
        unsigned int y,
        float *pixel_values);
```

DESCRIPTION

xil_set_pixel () sets the value of a particular pixel in an *image. x* and *y* indicate the position of the pixel to be set or read, and *pixel_values* is an array of floats specifying the value to set for each band of the image. Note that the user must allocate and free the space for this array. Pixel coordinates are located with respect to the upper left corner of the image (0,0) whether it is a parent or a child image.

For XIL_BIT images, values below 0.5 cause the pixel to be set to 0, and values 0.5 and above cause the pixel to be set to 1. For XIL_BYTE images, values below 0.5 cause the pixel to be set to 0, values of 254.5 and above cause the pixel to be set to 255, and all values in between are rounded to the nearest integer. For XIL_SHORT images, values below -32768.5 cause the pixel to be set to -32768, values of 32766.5 and above cause the pixel to be set to 32767, and all values in between are rounded to the nearest integer.

xil_get_pixel () gets the value of a particular pixel in an image, and writes a vector of the pixel band values into the user-supplied buffer *pixel_values.* The pixel values are cast from whatever data type they may be into floats.

ROI Behavior

The image ROI is ignored for these operations.

ERRORS

For a complete list of XIL error messages by number, consult Appendix B of the *XIL Programmer's Guide.*

EXAMPLES

Get the vector of data values out of a 5-banded XIL_BYTE image for the pixel located at (100,42), and add 1.0 to each value:

```
XilImage image;
unsigned int i;
float* pixel_values;

pixel_values = (float *) malloc (5 * sizeof(float));     /* allocate pixel values buffer */
xil_get_pixel (image, 100, 42, pixel_values);            /* get current values of the pixel */
for (i = 0; i < 5; i++)                                  /* increment values by 1 */
   pixel_values[i] = pixel_values[i] + 1.0;
xil_set_pixel (image, 100, 42, pixel_values);            /* replace values in the pixel */
```

SEE ALSO **xil_set_value**(3)