

Supplement to
Digital Design: An Embedded Systems Approach Using VHDL
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ERRATA FOR FIRST PRINTING

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ERRATA FOR CHAPTER 3

- Change Exercise 3.21 to read:

We have shown that addition of two n -bit unsigned binary numbers requires $n + 1$ bits for the result to be represented without overflow. Show that addition of three n -bit unsigned binary numbers requires $n + 2$ bits.

- Change Exercise 3.22 to read:

Write a VHDL model of a circuit that adds three 12-bit unsigned binary numbers to produce a 14-bit result with no overflow detection.

- Change Exercise 3.61 to read:

Write a VHDL entity and architecture for a component that calculates the square of a signed fixed-point number with 4 pre-binary-point and 6 post-binary-point bits. The result is unsigned, with 8 pre-binary-point and 6 post-binary-point bits.

ERRATA FOR CHAPTER 5

- In Figure 5.16, change the label “ren2” to “en2”.

- Add the following sentence to the end of Exercise 5.20:

Assume that the two port share a common clock signal.

ERRATA FOR CHAPTER 6

- In the caption for Figure 6.11, change “GAL220V10” to “GAL22V10”.

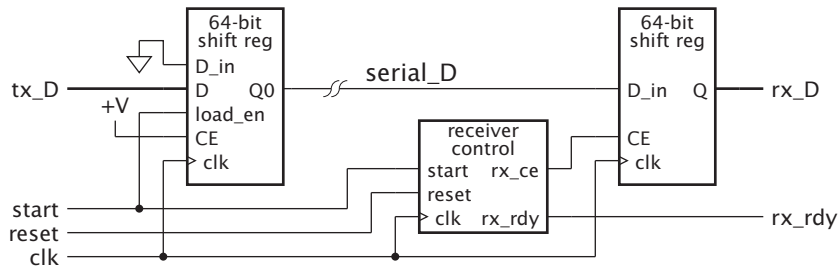
ERRATA FOR CHAPTER 7

- In the solution for Example 7.10, code is missing from the process for the data memory to set data_ack_i to 0. The corrected process is:

```
DMem : process (clk) is
begin
    if rising_edge(clk) then
        if data_cyc_o = '1' and data_stb_o = '1' then
            if data_we_o = '1' then
                data_RAM(to_integer(data_adr_o)) <= data_dat_o;
                data_dat_i <= data_dat_o;
                data_ack_i <= '1';
            else
                data_dat_i <= data_RAM(to_integer(data_adr_o));
                data_ack_i <= '1';
            end if;
        else
            data_ack_i <= '0';
        end if;
    end if;
end process DMem;
```

ERRATA FOR CHAPTER 8

- In Figure 8.32, the connection dot is missing on the clk signal for the connection to the shift register at the left of the diagram. The diagram should be corrected as follows:



ERRATA FOR CHAPTER 9

- Change the last sentence of Exercise 9.9 to:

The software should maintain four images in memory: one being acquired from the camera, one being read by the accelerator, one being written by the accelerator, and one undergoing post-detection analysis.

ERRATA FOR CHAPTER 10

- In Figure 10.1, add the text “H/W Integration” to the blank grey box.

