21.9.4 Square Test-Pattern Generator:

A square test-pattern generator produces a screen as follows:

- A square lie on the middle of the screen.

- The side of the square can be 16, 32, 64, or 128 pixels and can be selected by switches.

- The color of the square can be set by switches.

- The background displays the complement color. The complement color of (r, g, b) is (1111 – r, 1111 – g, 1111 – b)

Design the new circuit, replace the bar test-pattern generator in the basic video controller demo and verify its operation.